The Architects' JOURNAL for November 15, 1956

THE ARCHITECTS' JOURNAL

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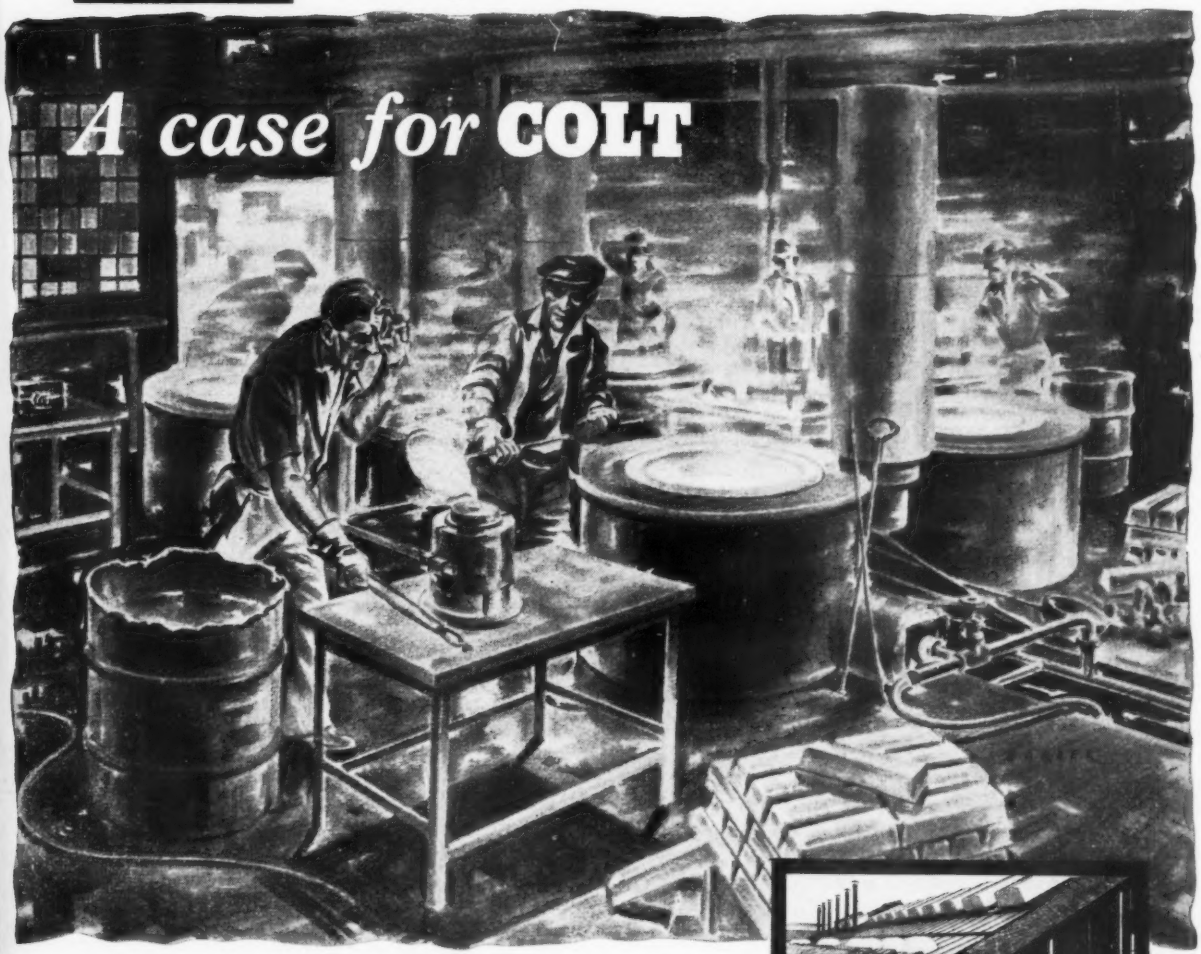
★ A glossary of abbreviations of Government Departments and Societies and Committees of all kinds, together with their full address and telephone numbers. The glossary is published in two parts—A to Ig one week, Ih to Z the next. In all cases where the town is not mentioned the word LONDON is implicit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

AA	Architectural Association, 34/6, Bedford Square, W.C.1.	Museum 0974
AAI	Association of Art Institutions. Secy.: W. Marlborough Whitehead, "Dyneley," Castle Hill Avenue, Berkhampstead, Herts.	
ABS	Architects' Benevolent Society. 66, Portland Place, W.1.	Langham 5721
ABT	Association of Building Technicians. 1, Ashley Place, S.W.1.	Victoria 0447–8
ACGB	Arts Council of Great Britain. 4, St. James' Square, S.W.1.	Whitehall 9737
ADA	Aluminium Development Association. 33, Grosvenor Street, W.1.	Mayfair 7503/8
ARCUK	Architects' Registration Council. 78, Wimpole Street, W.1.	Welbeck 2915
BAE	Board of Architectural Education. 66, Portland Place, W.1.	Langham 5721
BATC	Building Apprenticeship and Training Council. Lambeth Bridge House, S.E.1.	Reliance 7611, Ext. 1706
BC	Building Centre. 26, Store Street, Tottenham Court Road, W.C.1.	Museum 5400
BCC	British Colour Council. 13, Portman Square, W.1.	Welbeck 4185
BCCF	British Cast Concrete Federation. 105, Uxbridge Road, Ealing, W.5.	Ealing 9621
BCIRA	British Cast Iron Research Association. Alvechurch, Birmingham.	Redditch 716
BDA	British Door Association. 10, The Boltons, S.W.10.	Fremantle 8494
BEDA	British Electrical Development Association. 2, Savoy Hill, W.C.2.	Temple Bar 9434
BIA	British Ironfounders' Association. 145, Vincent Street, Glasgow, C2.	Glasgow Central 2891
BID	Building Industries Distributors. 52, High Holborn, W.C.1.	Chancery 7772
BINC	Building Industries National Council. 11, Weymouth Street, W.1.	Langham 2785
BOT	Board of Trade. Whitehall Gardens, Horseguards Avenue, Whitehall, S.W.1.	Trafalgar 8855
BRS	Building Research Station. Bucknalls Lane, Watford.	Garston 2246
BSA	Building Societies Association. 14, Park Street, W.1.	Mayfair 0515
BSI	British Standards Institution. British Standards House, 2, Park St., W.1.	Mayfair 9000
BTE	Building Trades Exhibition. 32, Millbank, S.W.1.	Tate Gallery 8134
CABAS	City and Borough Architects Society. C/o Johnson Blackett, F.R.I.B.A., Civic Centre, Newport, Mon.	Newport 65491
CAS	County Architects' Society. C/o F. R. Steele, F.R.I.B.A., County Hall, Chichester.	Chichester 3001
CCA	Cement and Concrete Association. 52, Grosvenor Gardens, S.W.1.	Sloane 5255
CCP	Council for Codes of Practice. Lambeth Bridge House, S.E.1.	Reliance 7611 Ext. 1284
CDA	Copper Development Association. Kendals Hall, Radlett, Herts.	Radlett 5616
CIAM	Congrès Internationaux d'Architecture Moderne. Doldertal, 7, Zurich, Switzerland.	
COID	Council of Industrial Design. 28, Haymarket, S.W.1.	Trafalgar 8000
CPRE	Council for the Preservation of Rural England. 4, Hobart Place, S.W.1.	Sloane 4280
CUC	Coal Utilization Council. 3, Upper Belgrave Street, S.W.1.	Sloane 9116
CVE	Council for Visual Education. 13, Suffolk Street, Haymarket, S.W.1.	Reading 72255
DGW	Directorate General of Works, Ministry of Works, Lambeth Bridge House, S.E.1.	Reliance 7611
DIA	Design and Industries Association. 13, Suffolk Street, S.W.1.	Whitehall 0540
DPT	Department of Overseas Trade. Horseguards Avenue, Whitehall, S.W.1.	Trafalgar 8855
EJMA	English Joinery Manufacturers' Association (Incorporated). Sackville House, 40, Piccadilly, W.1.	Regent 4448
EPNS	English Place-Name Society. 7, Selwyn Gardens, Cambridge.	
FAS	Faculty of Architects and Surveyors. 68, Gloucester Place, W.1.	Welbeck 9966
FASS	Federation of Association of Specialists and Sub-Contractors, Artillery House, Artillery Row, S.W.1.	Abbey 7232
FBBDO	Fibre Building Board Development Organization, Ltd. (Fidor), 47, Princes Gate, Kensington, S.W.7.	Kensington 4577
FBI	Federation of British Industries. 21, Tothill Street, S.W.1.	Whitehall 6711
FC	Forestry Commission. 25, Savile Row, W.1.	Regent 0221
FCMI	Federation of Coated Macadam Industries. 37, Chester Square, S.W.1.	Sloane 1002
FDMA	The Flush Door Manufacturers Association Ltd., Trowell, Nottingham.	Ilkeston 623
FLD	Friends of the Lake District. Pennington House, nr. Ulverston, Lancs.	Ulverston 201
FMB	Federation of Master Builders. 26, Great Ormond Street, Holborn, W.C.1.	Chancery 7583
FPC	The Federation of Painting Contractors, St. Stephen's House, S.W.1.	Whitehall 3902
FRHB	Federation of Registered House Builders. 82, New Cavendish Street, W.1.	Langham 4341
GBPA	Gypsum Building Products Association, 11, Ironmonger Lane, E.C.2.	Monarch 8888
GC	Gas Council. 1, Grosvenor Place, S.W.1.	Sloane 4554
GG	Georgian Group. 2, Chester Street, S.W.1.	Belgravia 3081
HC	Housing Centre. 13, Suffolk Street, Pall Mall, S.W.1.	Whitehall 2881
IAAS	Incorporated Association of Architects and Surveyors. 29, Belgrave Square, S.W.1.	Belgravia 3755
ICA	Institute of Contemporary Arts. 17–18, Dover Street, Piccadilly, W.1.	Grosvenor 6186
ICE	Institution of Civil Engineers. 1, Great George Street, S.W.1.	Whitehall 4577
IEE	Institution of Electrical Engineers. Savoy Place, Victoria Embankment, W.C.2.	Temple Bar 7676
IES	Illuminating Engineering Society. 32, Victoria Street, S.W.1.	Abbey 5215
IGE	Institution of Gas Engineers. 17, Grosvenor Crescent, S.W.1.	Sloane 8266

Problem No. 5 Intense process heat

A case for COLT



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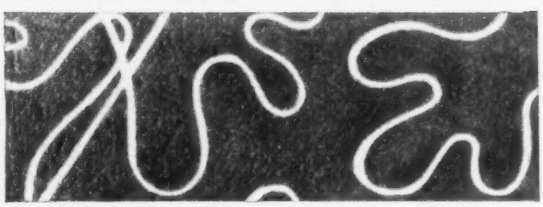

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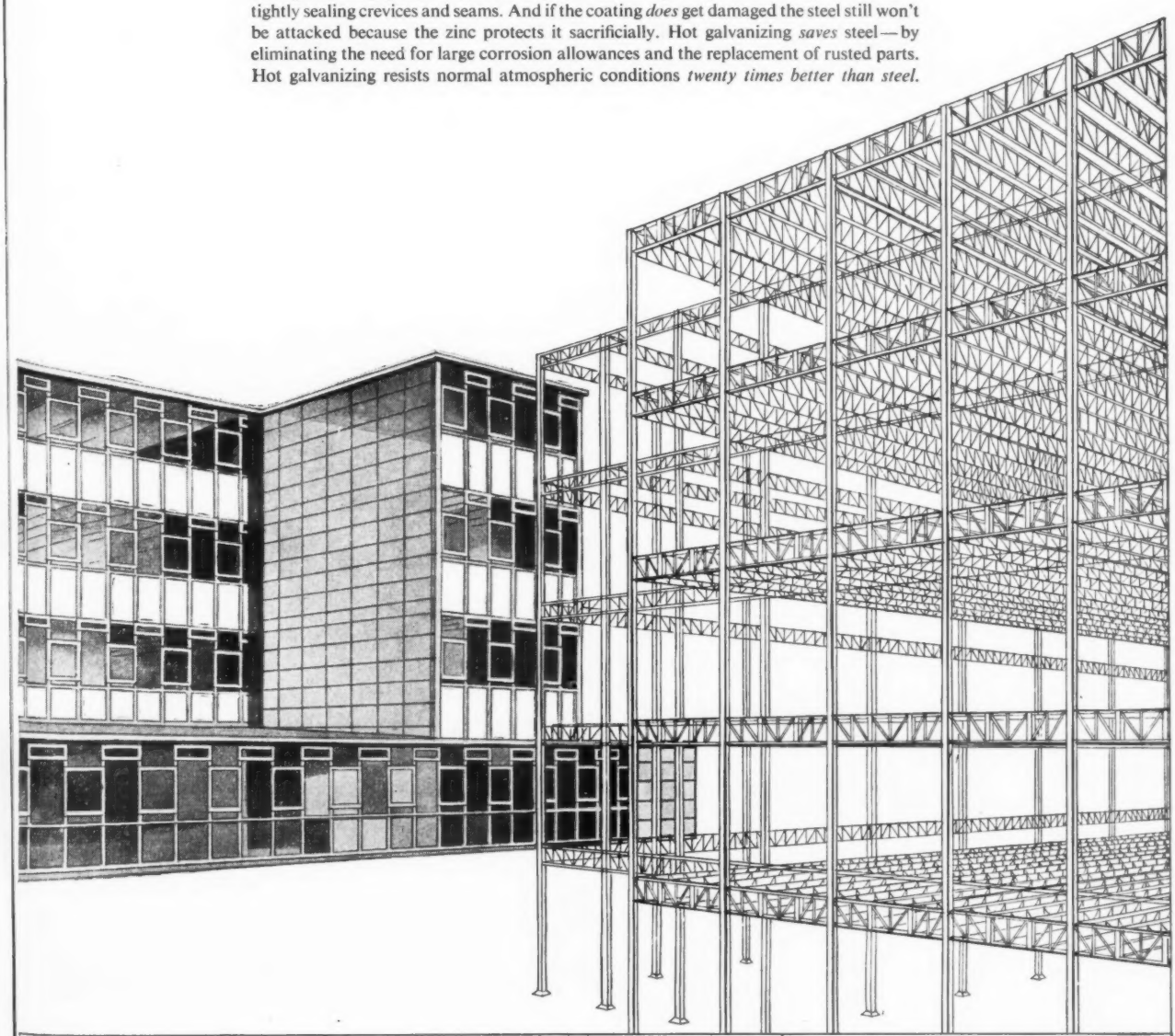

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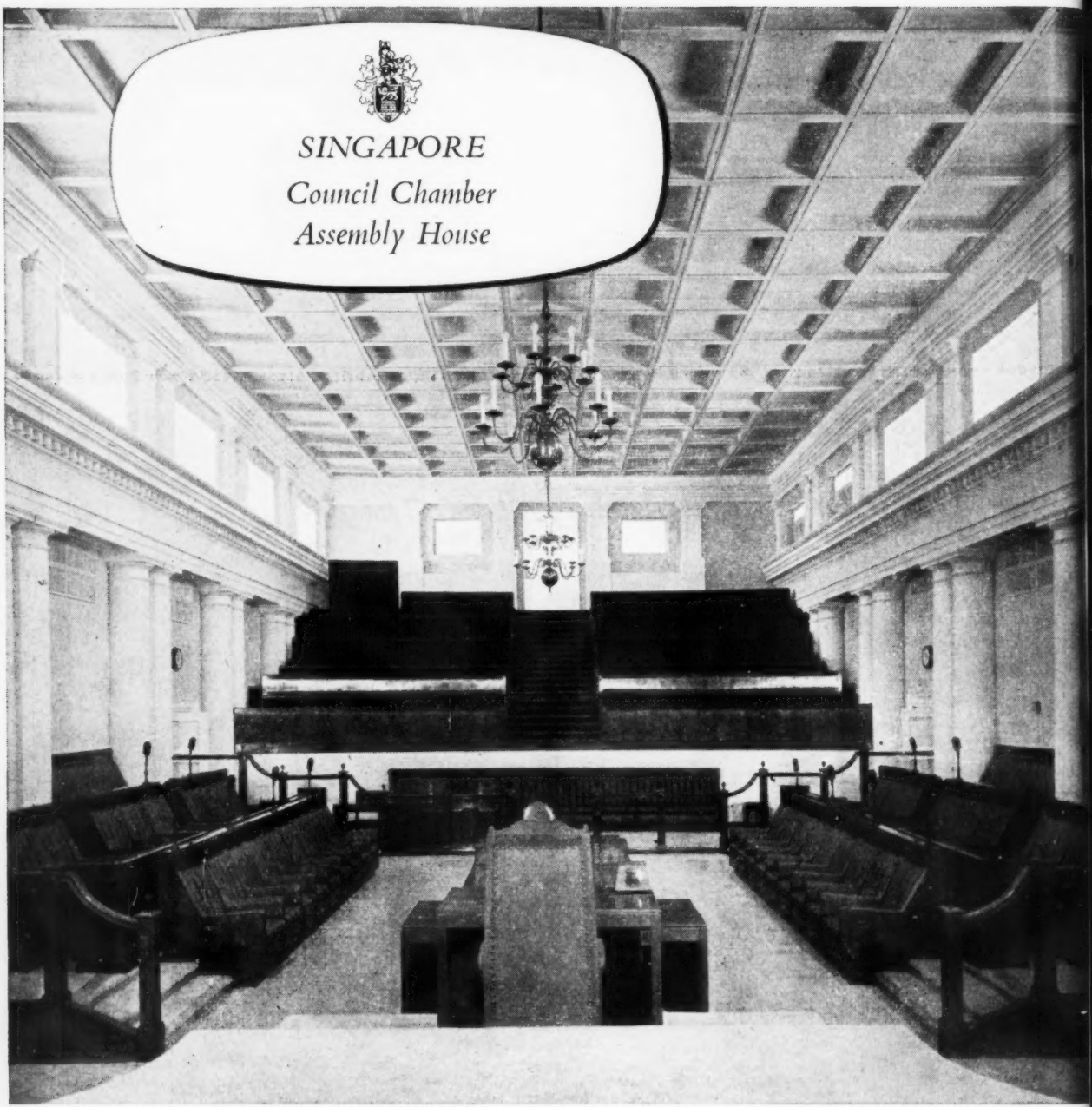

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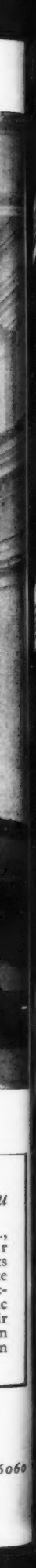

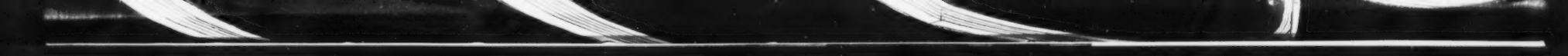


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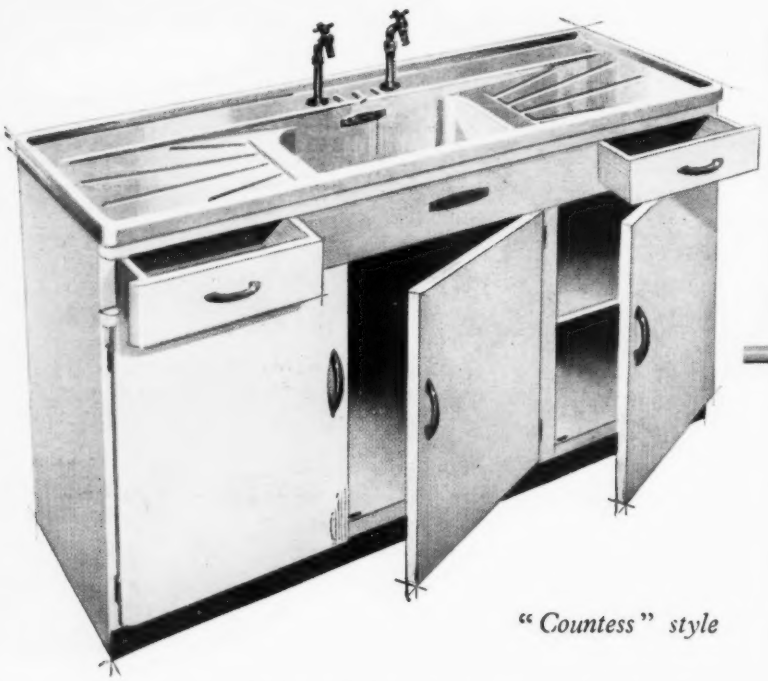
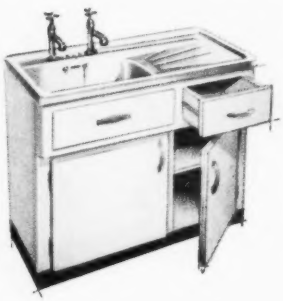
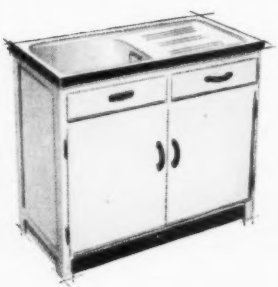


"Countess" style

"Duchess" style



"Princess" style



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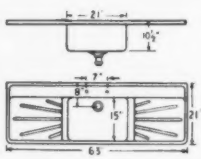

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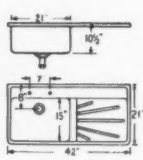

SPECIFICATIONS

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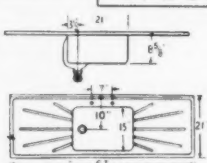

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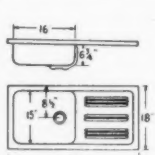

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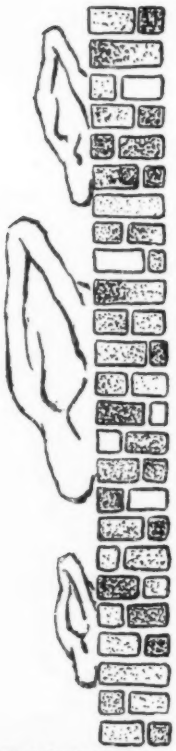

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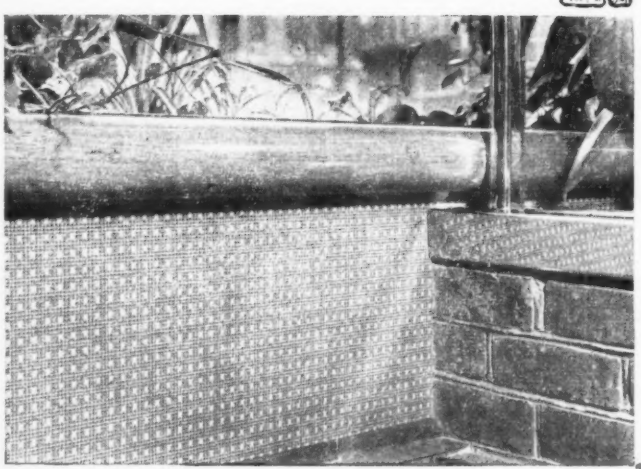

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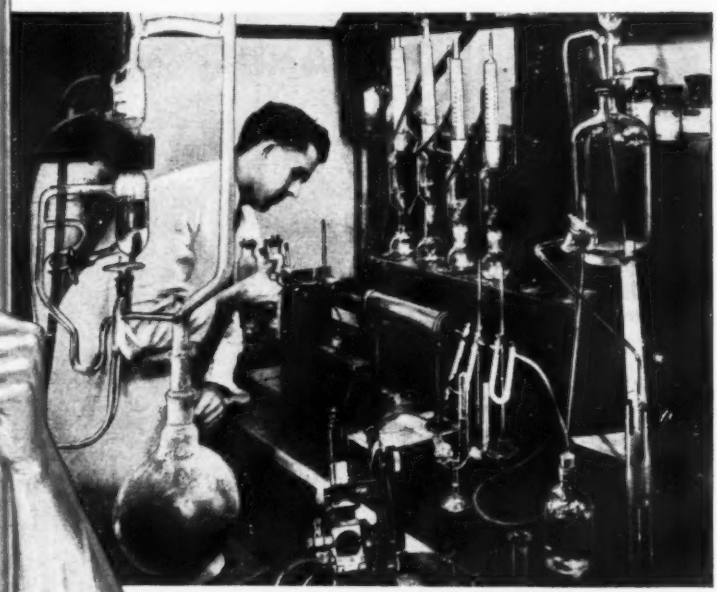

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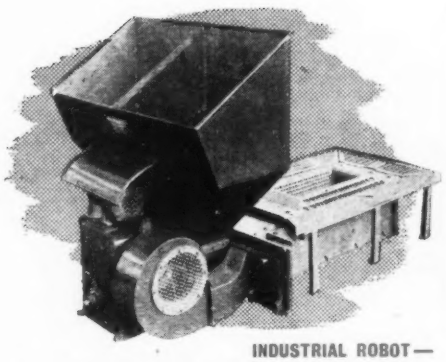

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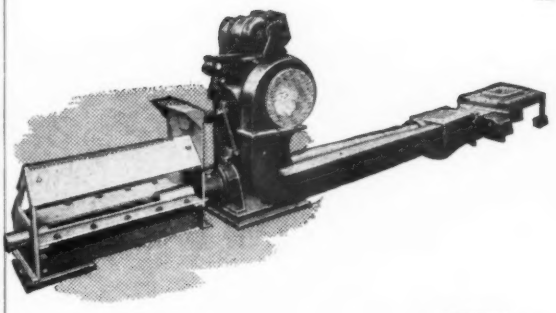

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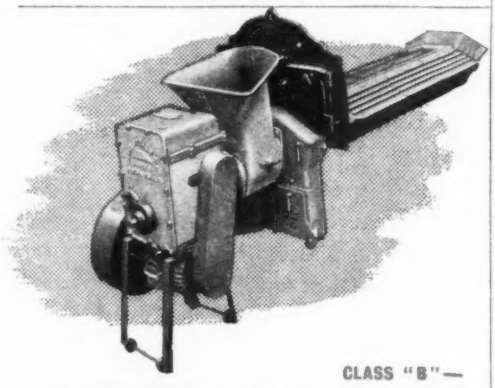

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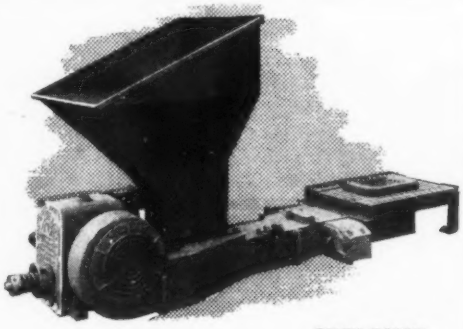
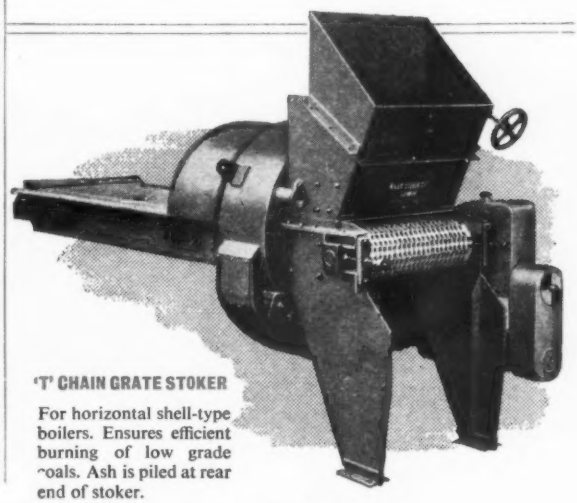


RILEY ROBOT—

Hopper feed. Suitable for sectional boilers in domestic hot water or space heating systems—and vertical boilers for steam-raising.



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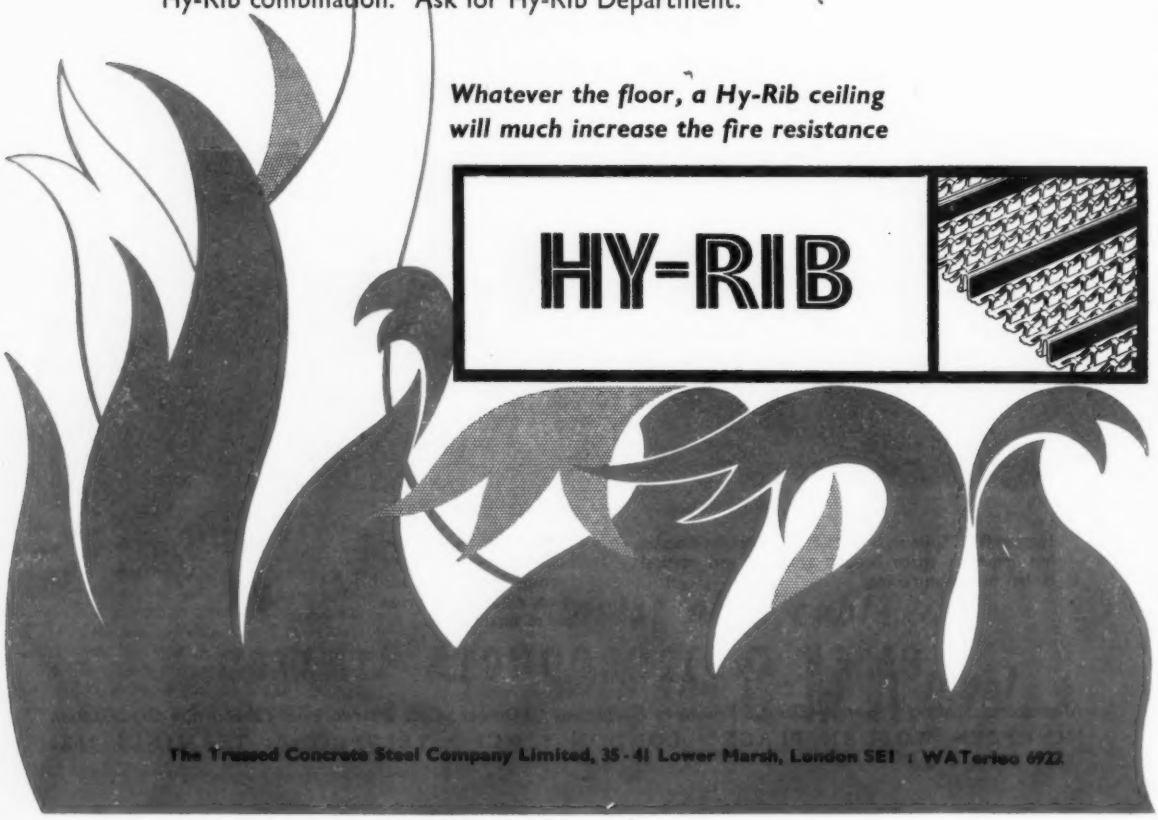

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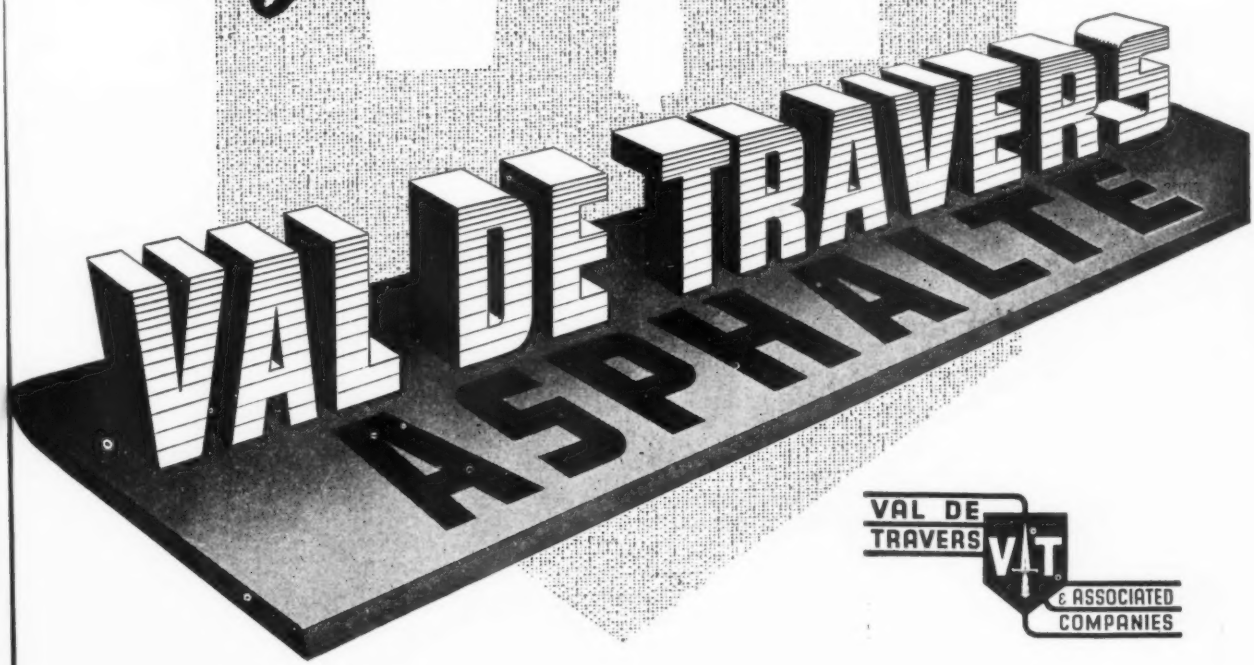

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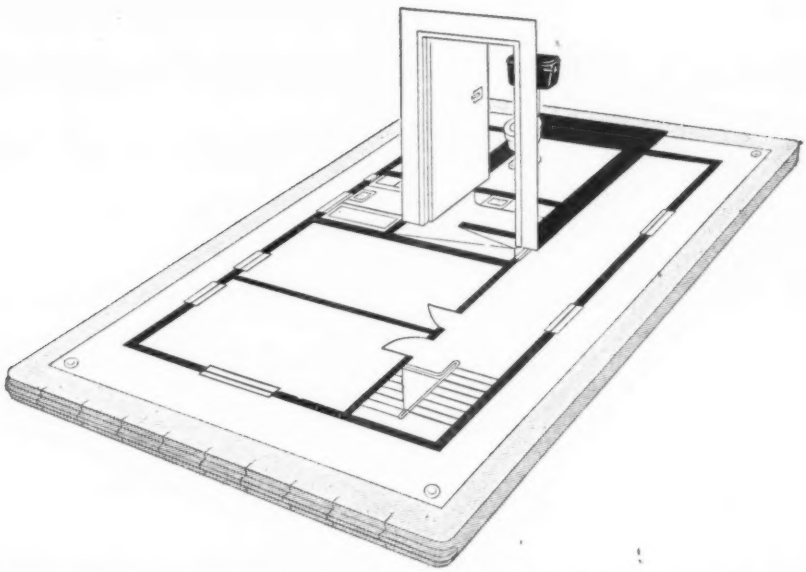

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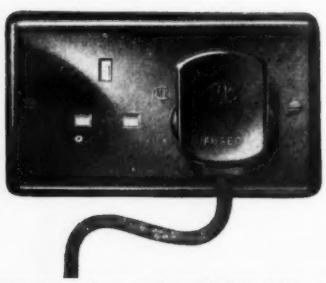

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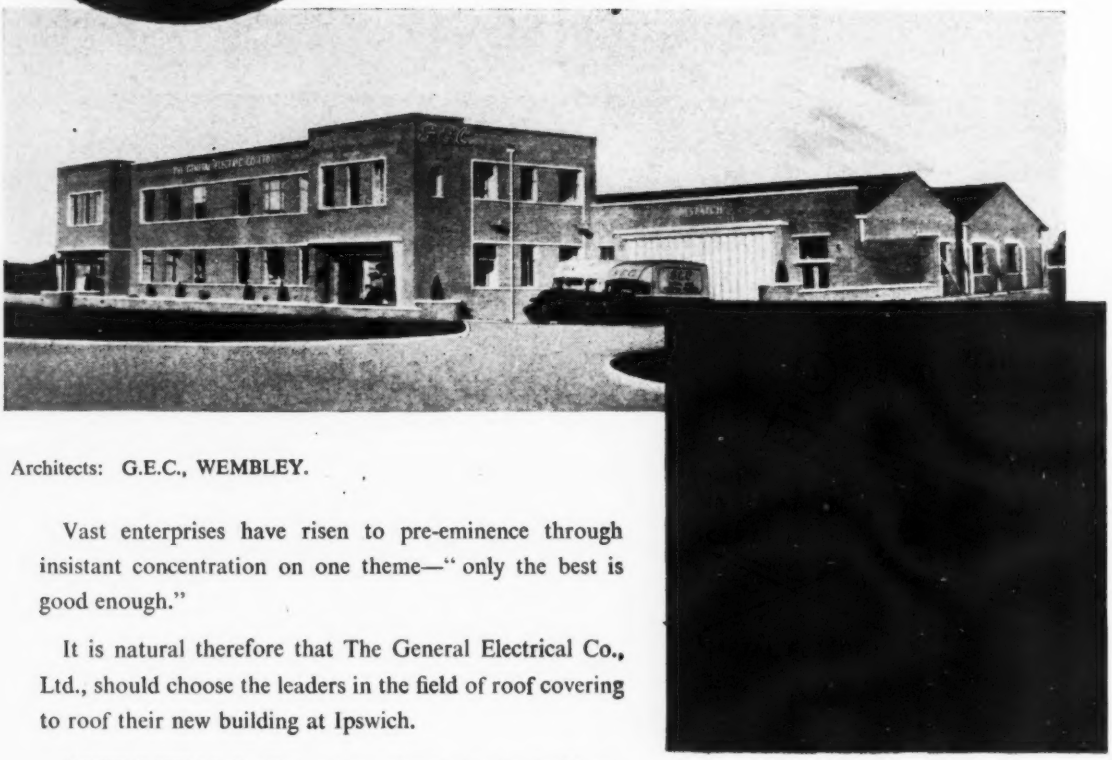

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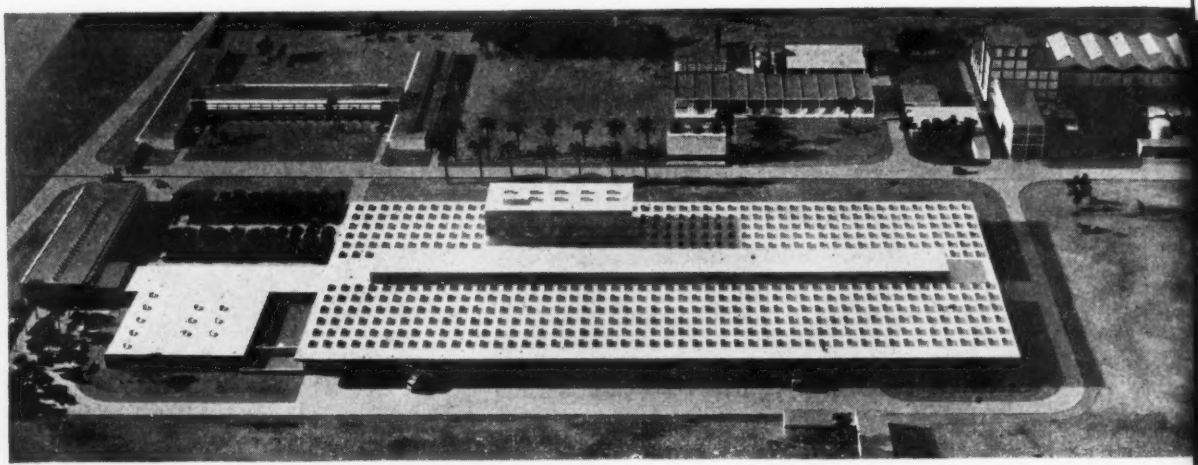

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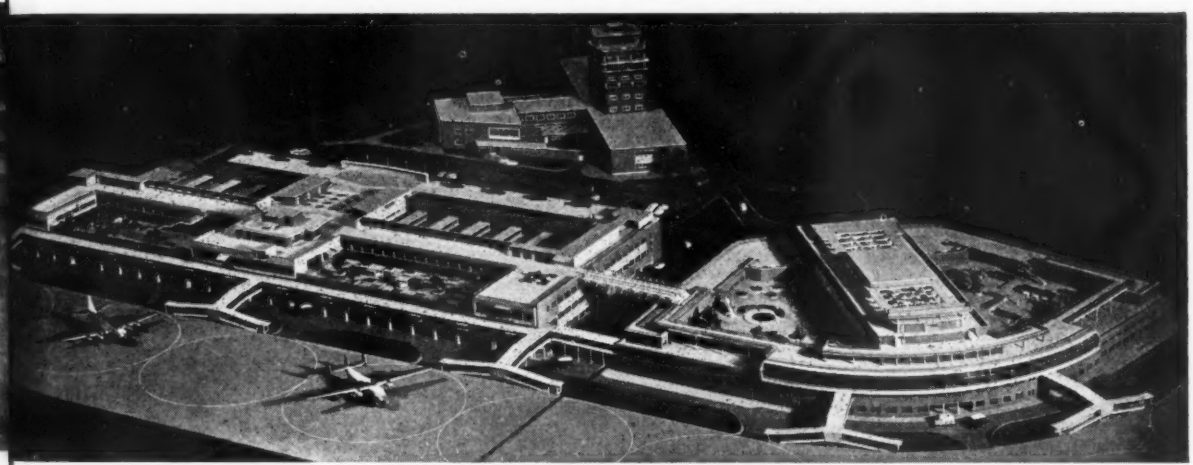

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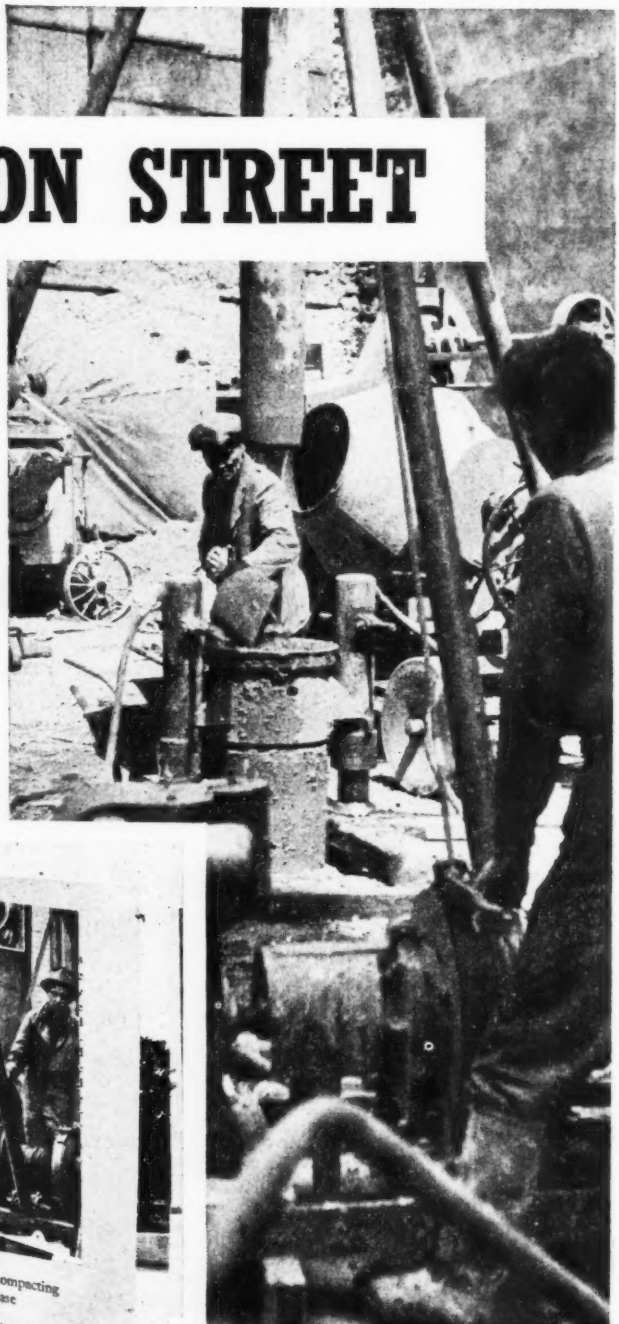

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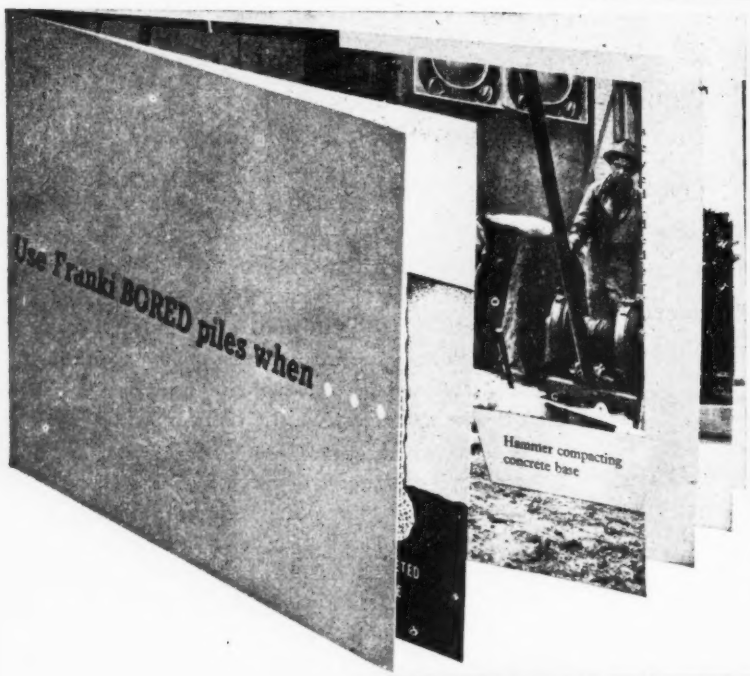

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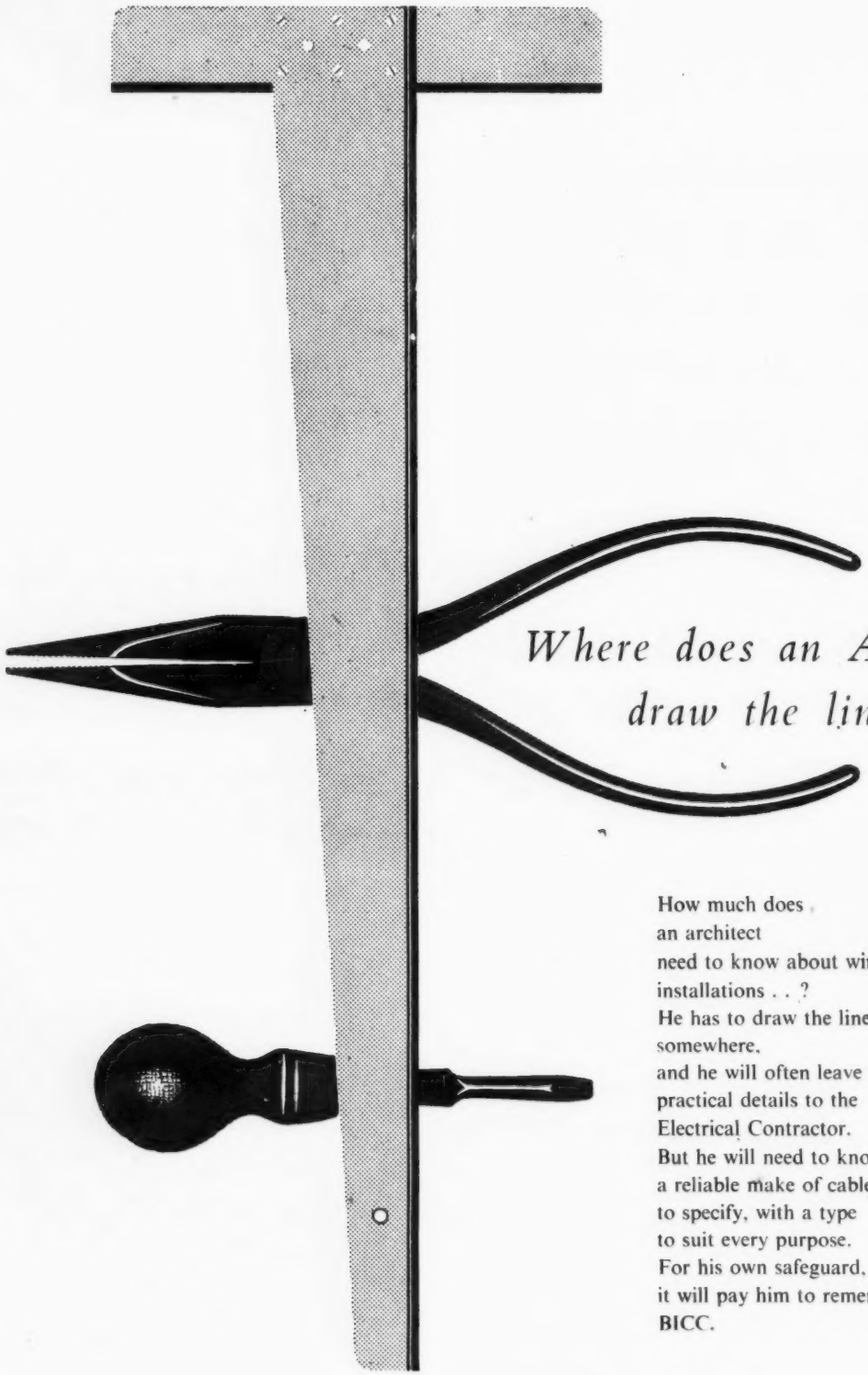

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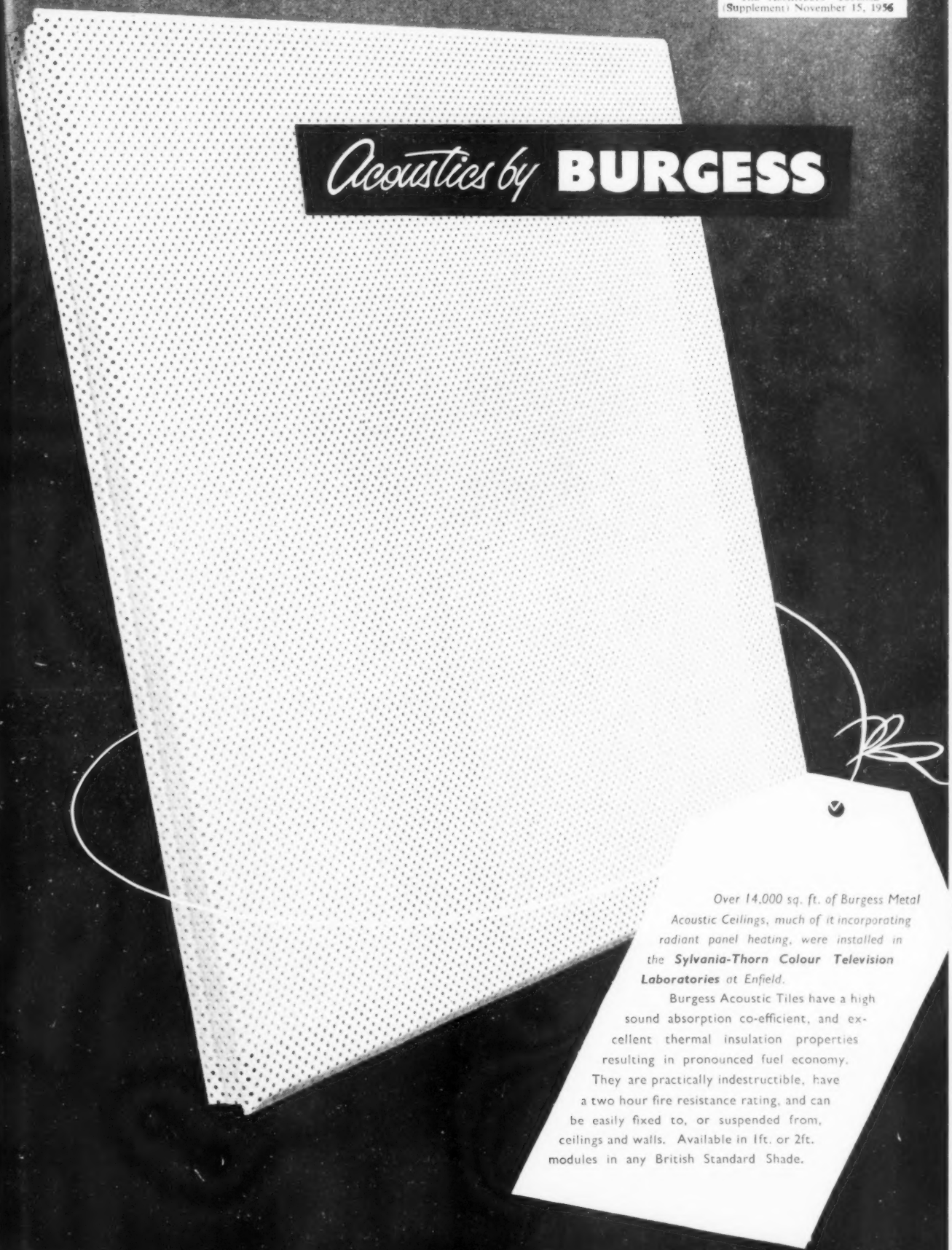

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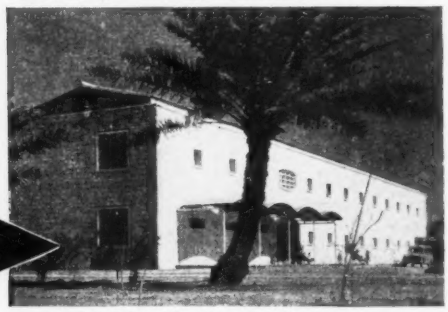

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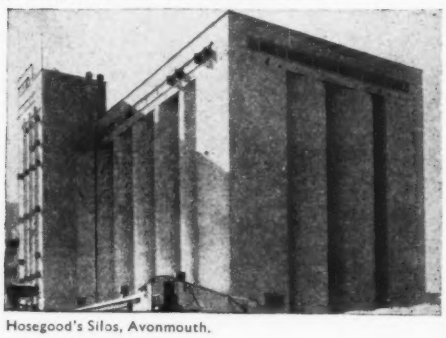
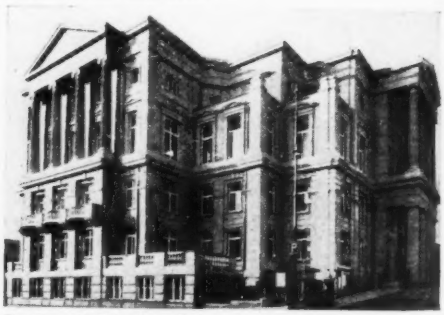
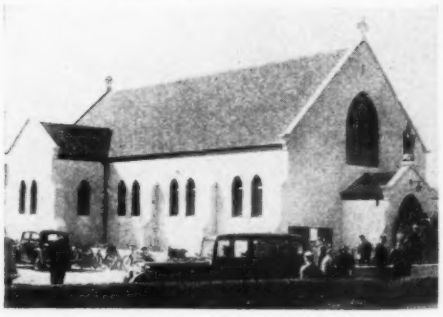


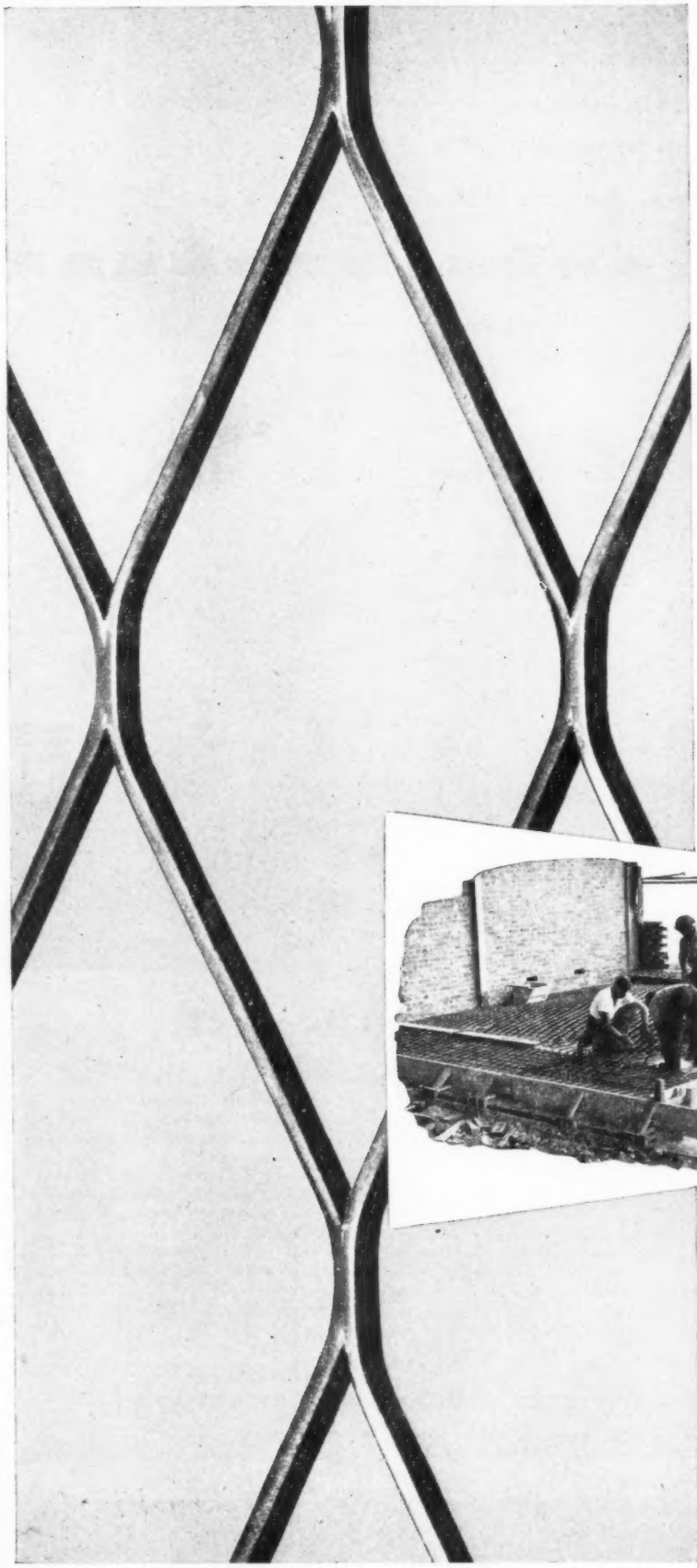
Hosegood's Silos, Avonmouth.



The Town Hall Brighton, Sussex.



St. Patrick's Church, Jersey.



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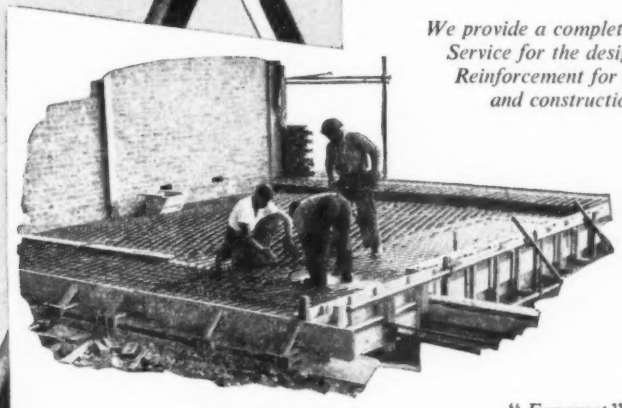

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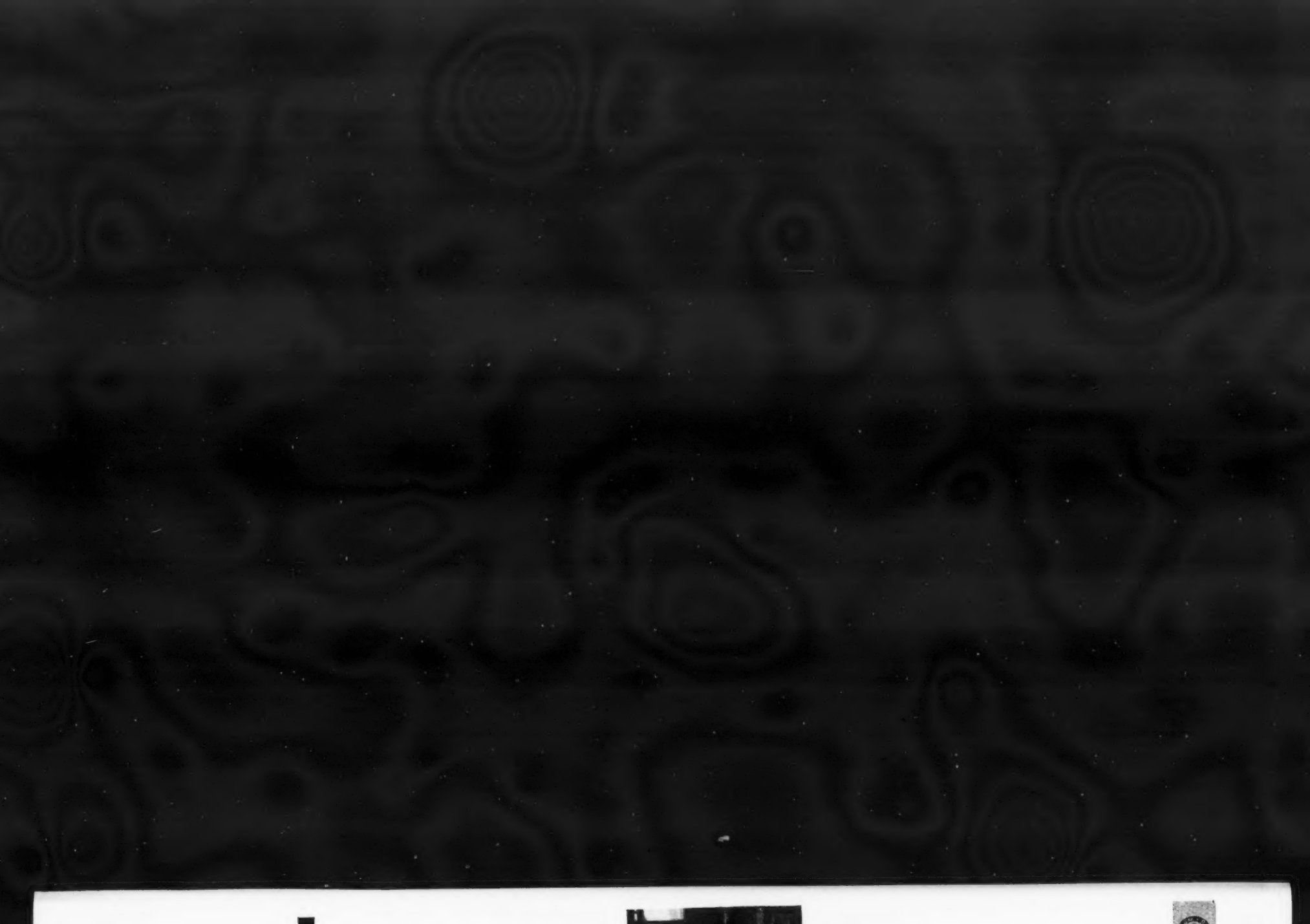

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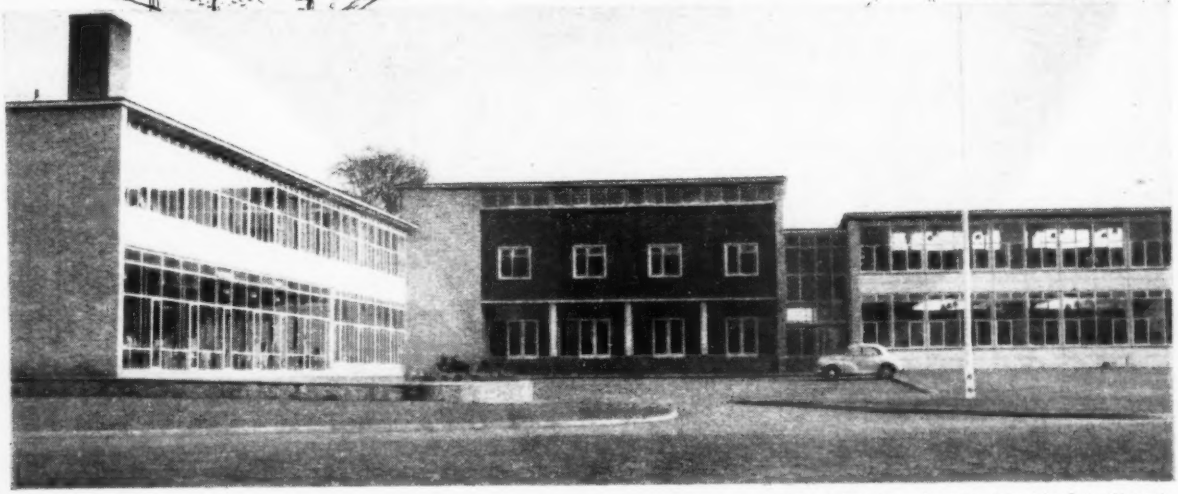

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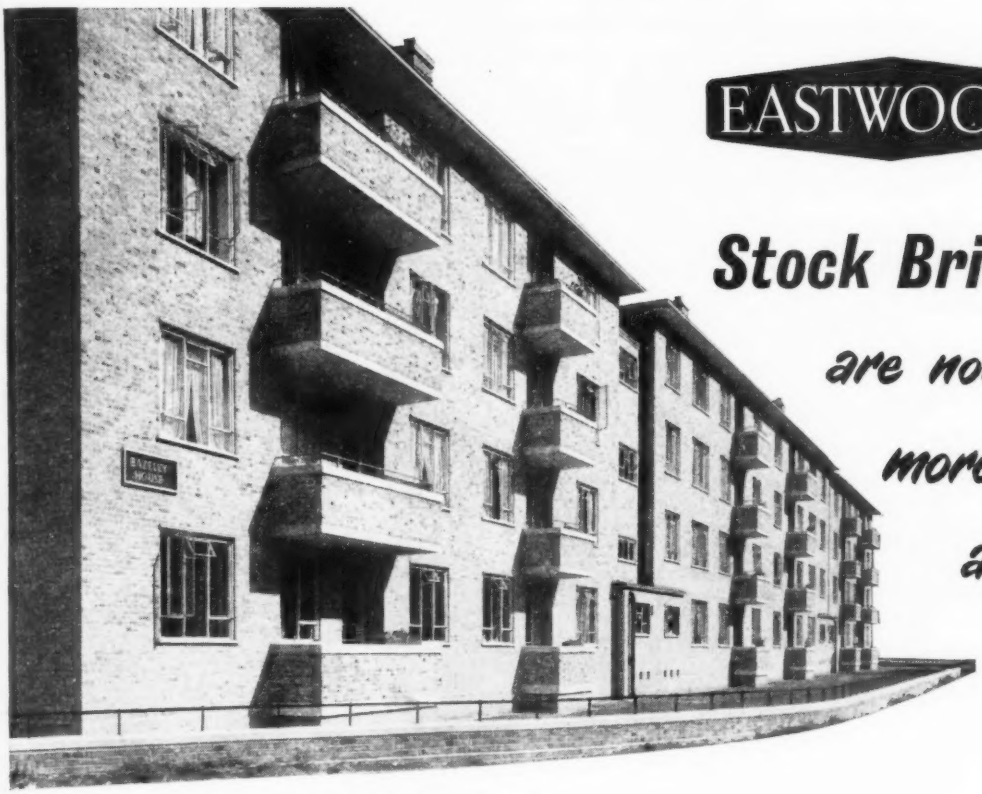

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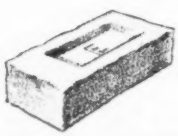

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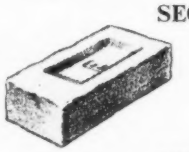
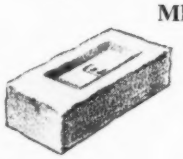
Their mellow warm colour make these bricks very suitable for special architectural features.

SECOND HARD STOCKS



An economical, reliable and well burned brick of varying colour and slight irregularity in shape, the well-known "London" Stock is in great demand for both facing and foundation work.

MILD STOCK FACINGS



Ideally suited for use as facings for schools, factories and housing schemes. Mild Stocks are fairly hard bricks with faces of good medium yellow colour.
They are of regular shape, fast in colour and strengthen with age.

Prompt Delivery from Works to Your Site

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EA8284

Double the strength at half the cost using 'Aerolite' 300

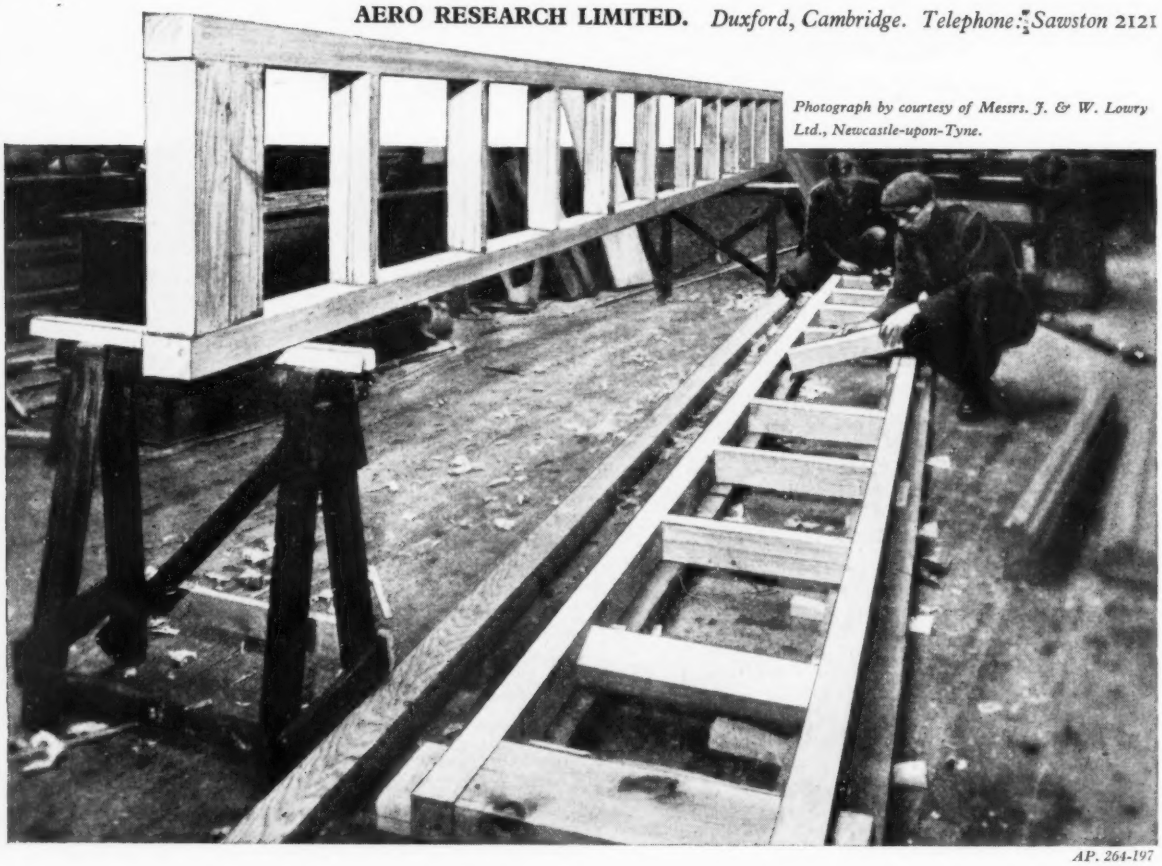
The efficiency of an ' Aerolite ' glued joint is far higher than can be obtained by using mechanical connectors. This view of a box beam under construction shows how the simple butt joints, glued on end grain with ' Aerolite ' 300, support the weight over the full span. Structures made in this way maintain better alignment and are less liable to sag. They can be constructed in the joinery shop and, being light in weight, are easily handled on the site. These advantages have enabled builders to halve their costs in comparison with structures made from heavier materials.

' Aerolite ' 300 synthetic resin glue is available with an extensive range of hardeners. It is unaffected by heat, moisture and bacteriological attack and hardens rapidly at normal shop temperatures. ' Aerolite ' 306, the powder form of the resin, has a shelf life of over two years and can be obtained through builders' merchants in 2 lb., 4 lb., 7 lb. tins and in larger quantities if required. Detailed technical information will be sent gladly upon request.

'Aerolite' glues for wood

'Aerolite' is a registered trade name

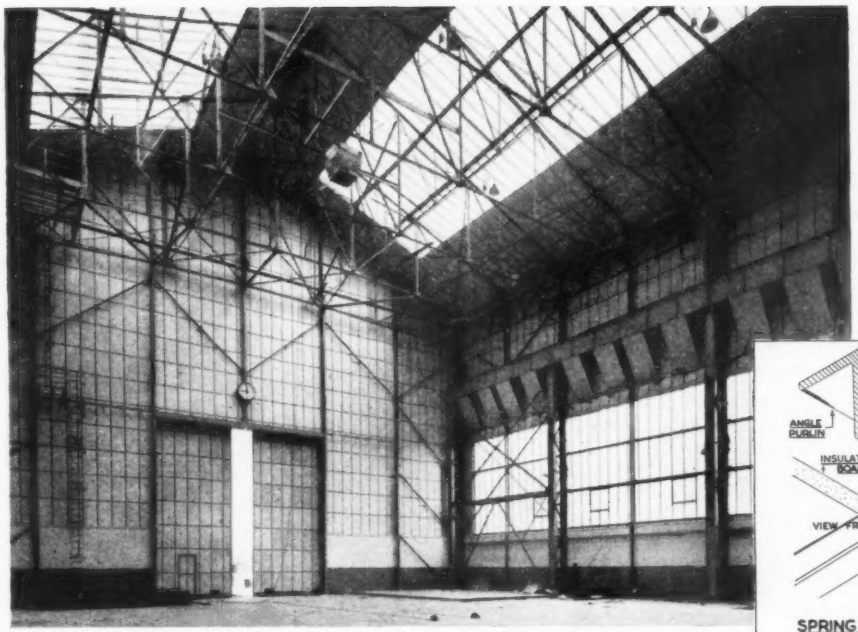
AERO RESEARCH LIMITED. *Duxford, Cambridge. Telephone: Sawston 2121*



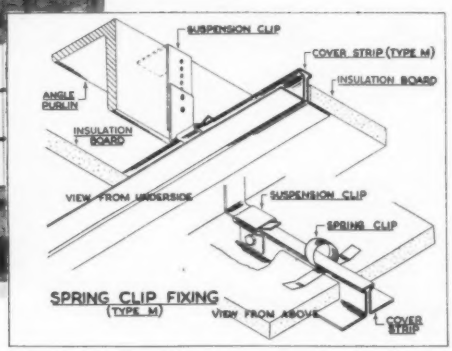
Photograph by courtesy of Messrs. J. & W. Lowry Ltd., Newcastle-upon-Tyne.

AP. 264-197

Insulation pays for itself



The photograph shows roof and vertical lining fixed by means of our Type M Spring Clip Fixing to the factory at John Brown & Co. of Clydebank.



Architects: Messrs. Wylie Shanks & Wylie, Glasgow C.2.

That Structural Insulation is paid for in a short time by fuel saving is now widely recognized; but that a properly insulated building normally costs less to construct is not, perhaps, so widely appreciated. The reason is, of course, that an insulated building needs fewer and smaller boilers, radiators, heating units, etc., and the money saved on these exceeds the installed cost of the insulation.

Pioneers of Structural Insulation, and the originators of metal fixing, we offer the most practical and economical solution of all lining problems. Because we supply and fix complete, our undivided responsibility guarantees a good job.

Our advice on insulation is at your service and our booklet " Structural Insulation " will be sent on request.

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TENTEST FIBRE BOARD CO. LTD

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ALSO AT BELFAST

ACCREDITED FIXING AGENTS:—

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Durable, hard-surfaced NEOCAST is hardboard PLUS. It offers an excellent surface for paint, enamel, varnish and cellulose finishes, and is ideal for natural clear polishing.

It can be cleanly and easily worked with ordinary carpenters' tools, and just as easily fixed by normal woodworking methods. Its fine, smooth surface will very readily adapt itself to curves and bends and its smooth, clean-cut edges meet perfectly without the need for cover strips or joint mouldings.

NEOCAST, of $\frac{1}{8}$" (3·5mm.) standard thickness, in these patterns:

1. PKP. Tiled (3¼in. tiles) 6′ 9¼″ × 4′ 3″
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4. PKC. Narrow Reed (⅜″ reeds) 7′ 5″ × 4′ 3″
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patterned hardboard gives you maximum scope

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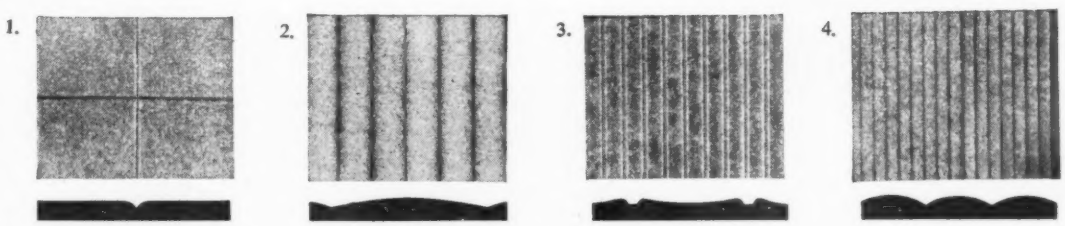
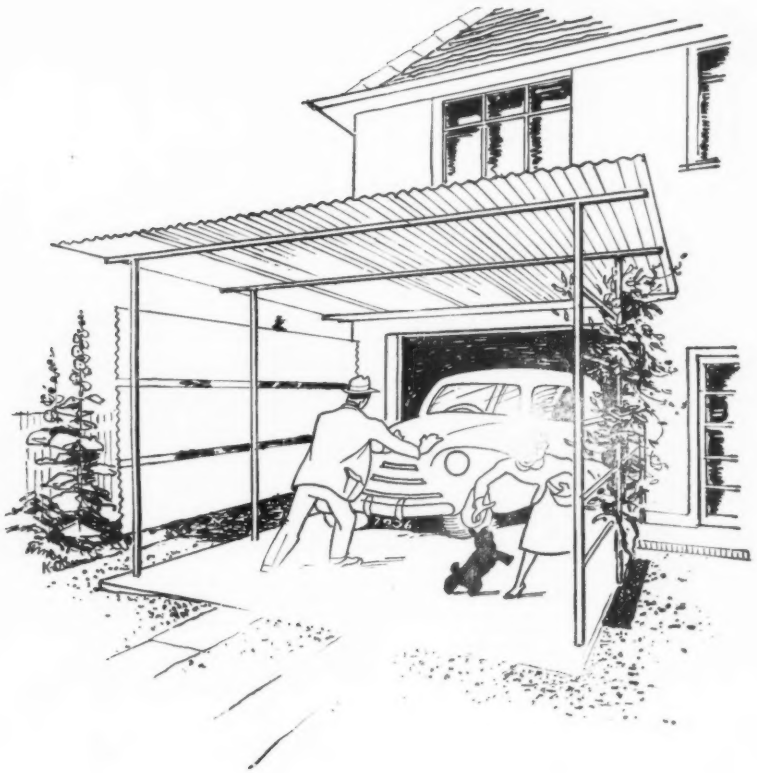
ALL CROSS-SECTIONS ARE ACTUAL SIZE



that's a light idea



"UNDULITE,"* the translucent building material, cuts costs because it's lighter

A covered car-wash, built on to the garage, may be the car-owner's dream of utopia — but with "UNDULITE," it's a very practical and inexpensive idea. "UNDULITE" is a translucent corrugated plastic sheeting, reinforced with fibreglass. It's so light and easy to handle that man-hours are cut to a minimum and the simplest framework gives adequate support. "UNDULITE" and a little imagination will provide an effective answer to hundreds of building problems. It's tremendously strong, durable and shatterproof. Use it for roofing, skylights, wall lights, panels and partitions.

Use it to let the daylight into farm buildings, factories, shops and office buildings.

light, strong and easy to handle—

"UNDULITE"

made by **Ashdowns**

"UNDULITE" is made in standard sized sheets to nest with standard pitches of other materials, and it can be cut, sawn, drilled, clipped or even nailed with ordinary tools to suit your particular requirements. For further details, please write for a copy of our illustrated folder. *Delivery of standard profiles ex. stock.* Send for free samples now. Before use it is always advisable to consult your local bye-laws.

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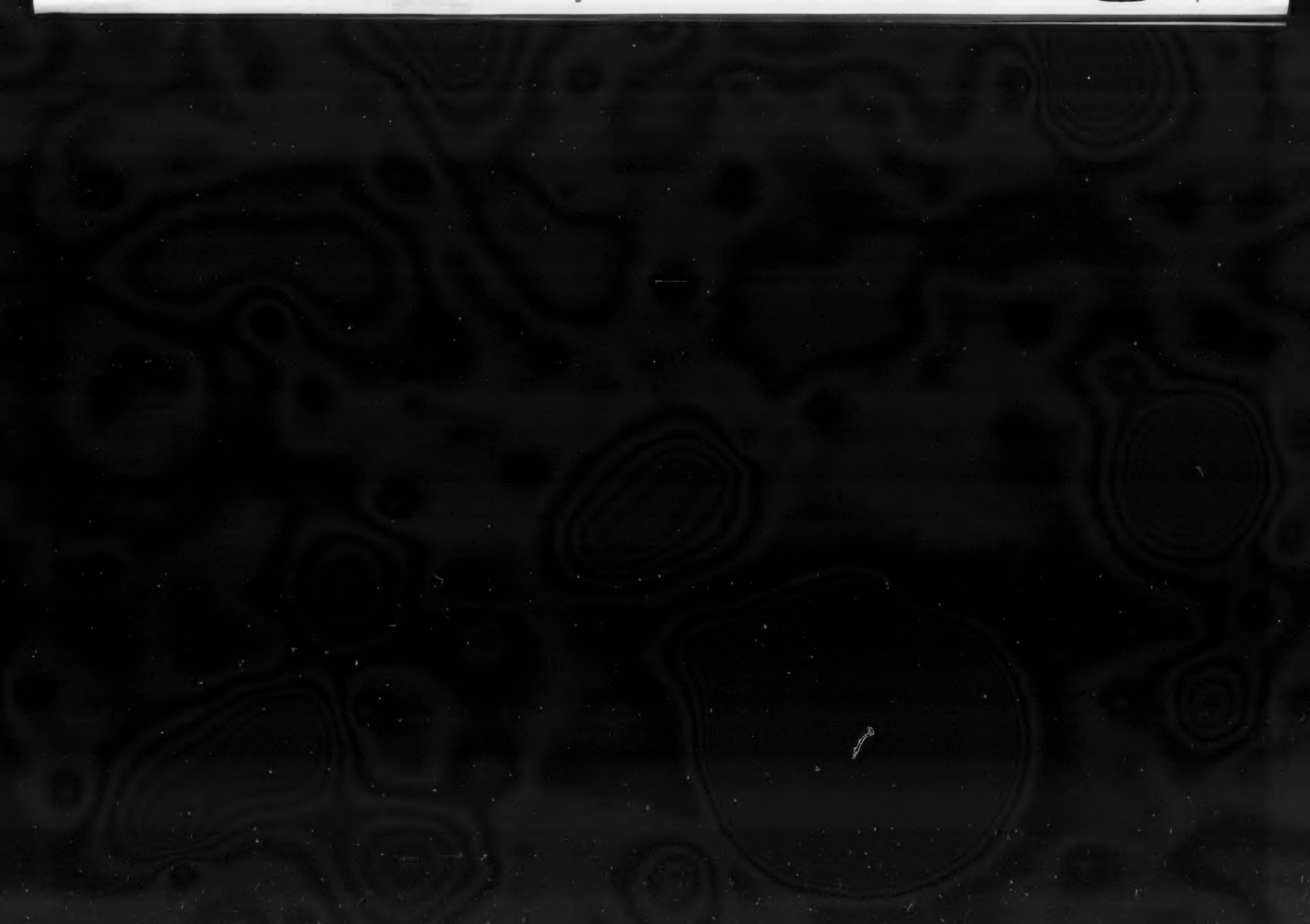
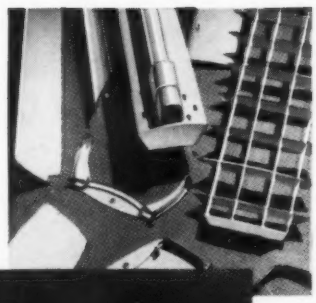


New readers

start here...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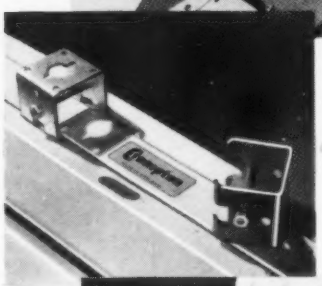
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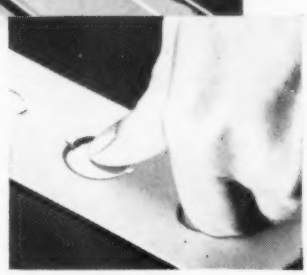
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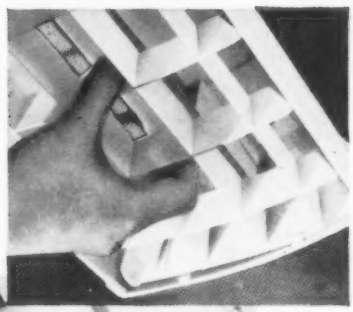
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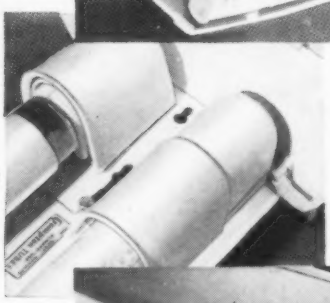
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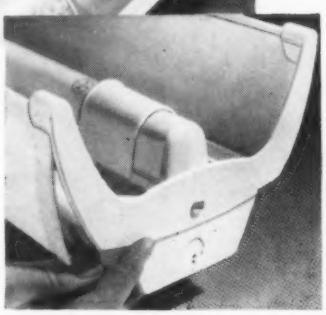
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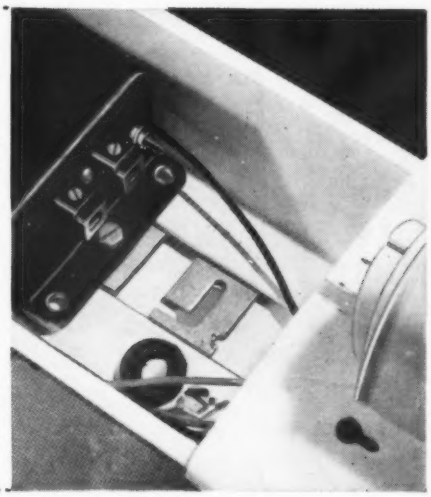
. . . all these points are equally important

1. Wide variety from a few standardised parts.
2. Universal fixings at any centres.
3. 'Push-outs' instead of 'knock-outs' for cable entry.
4. Louvres lifted in and out—and lamps changed—from one end only.
5. 'Push-in' lampholders. No twisting to lock tubes.
6. 12 types of reflectors, louvres and diffusers quickly interchanged.

Each feature results from continuous analysis of customers' suggestions over fifteen years of fluorescent lighting developments.

In all essentials 'NEW-RANGE' is designed by its users.

Take Fixings. Everything necessary for fixing to conduit or chain suspension or direct to ceiling is included in each pack. Any fixing centres can be used with the sliding hangers. Close ceiling fixing at alternative fixed centres allows room for adjusting alignment before finally tightening the built-in 'slip-fix'. 'Push-outs' replace troublesome 'knock-outs'. Lamps are readily inserted in the 'push-in' lampholders. To the standard channels are attached all the various fittings required for a complete job. All this means time and money saved on competitive estimates. Oh, and 'Permawhite' finish is perfect!



For easy installation, adaptability in service, simplicity of maintenance . . . it's

Crompton *'New-Range' Fluorescent Fittings*

BY APPOINTMENT TO HER MAJESTY THE QUEEN MANUFACTURERS OF ELECTRIC LAMPS

CROMPTON PARKINSON LTD.,
CROMPTON HOUSE, ALDWYCH, LONDON, W.C.2. TELEPHONE: CHANCERY 3333. TELEGRAMS: CROMPARK ESTRAND LONDON

ELECTRICAL EQUIPMENT

THE FASTEST SCAFFOLDING

No nuts! No bolts! No Pins! No clips! And no tools needed! Mills Self-Lock frames just slot into one another — they can only be put up the right way. They are made of high-grade light-weight steel tube (the standard 5′ x 2′ frame weighs only 24½ lb.) and are easy to handle. A TWENTY FOOT TOWER CAN BE ERECTED IN JUST 3 MINUTES.

THE SAFEST AND THE

There's nothing to lose, nothing to work loose, no fastening devices to forget to tighten up. All load is taken on the upright members and the structure remains rigid under strains far in excess of those encountered during normal working conditions.

MOST ECONOMICAL IS

Lowest-ever labour costs!
Even the biggest job needs only a two-man team; one to handle the frames and one to put them in position. The scaffolding is self-aligning; frames stack compactly and transport conveniently.

THE NEW MILLS

MILLS SCAFFOLD CO. LTD., (*A subsidiary of Guest, Keen & Nettlefolds Ltd.*) TRUSSLEY WO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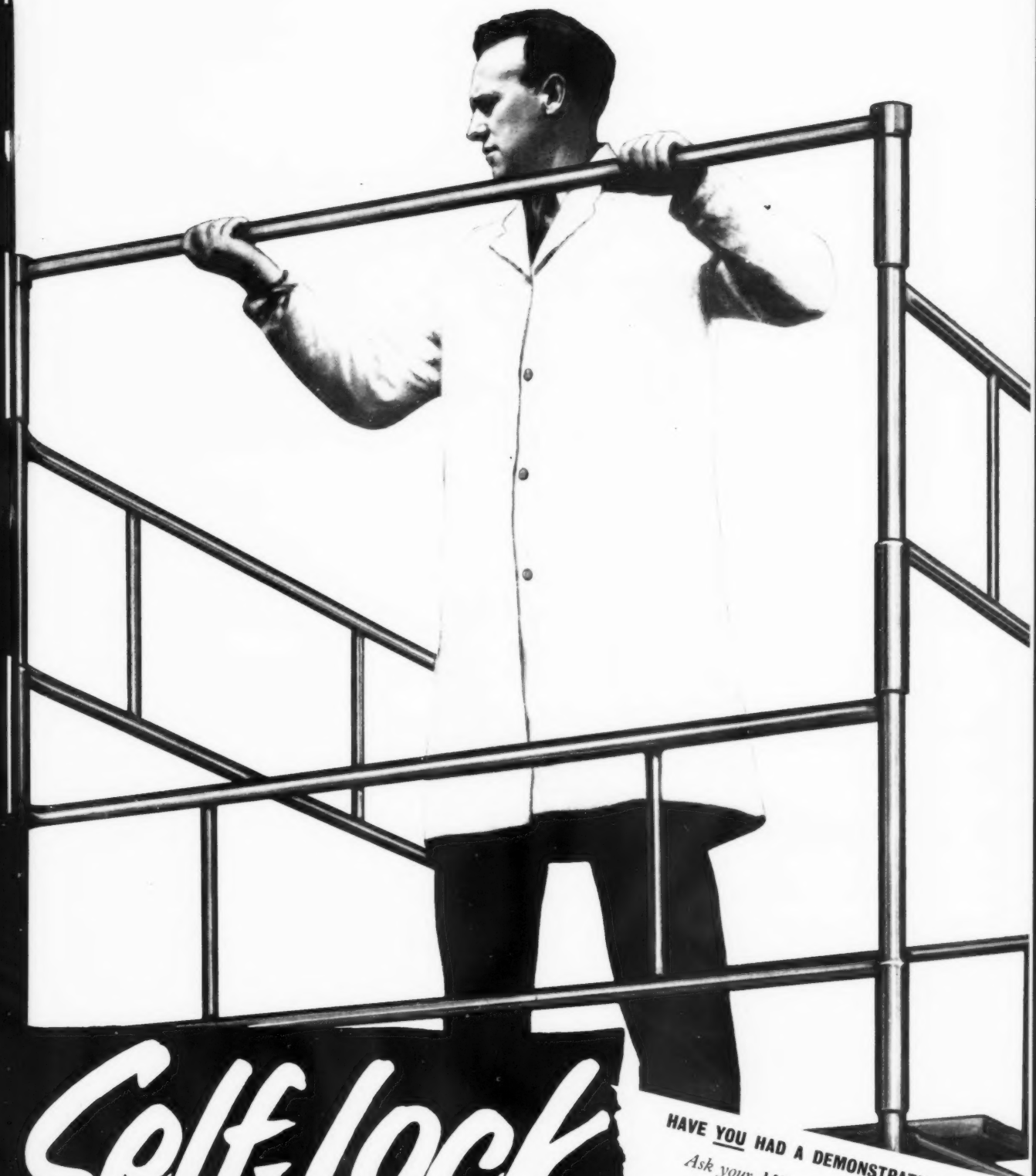
SYSTEM IN THE WORLD



Self-Lock

MADE UNDER JAGIEL PATENTS

HAVE YOU HAD A DEMONSTRATION YET?

Ask your Mills representative to call and demonstrate this new scaffolding with a model on your own desk.

HERSMITH GROVE, LONDON, W.6. Telephone: RIVERSIDE 3011 (10 lines)

—BUT IT'S THE SAME EAR THAT LISTENS

There are still some delightful spots where it is possible to listen in idle contemplation to the swish of the bird on the wing, but the sounds of modern-day machines may yet split the air with piercing screams and so shatter the moment of peace and quiet.

The ear can receive many damaging noises every hour, both in the factory and in the street, yet we wrongly accept them without concern.

Noise is a major problem today and John Dale are fighting this battle every day with all their technical and scientific resources. It is the battle of acoustics.

John Dale offer a comprehensive Acoustical Advice Service to help you in your fight against noise.

Research Laboratory · Mobile Survey Unit · Analyses and Reports · Designing · Installation.

The problem of noise needs a scientific approach today. We offer you this Service and ask you to consult us before taking any firm decisions in matters concerning acoustics.

JOHN DALE

Leaflets on various treatments are available on request.

ACOUSTICS DIVISION

DHB/2560A • JOHN DALE LIMITED · NEW SOUTHGATE · LONDON N.11 · Telephone: ENTerprise 1272

Meeching Court Flats, Newhaven. Architects: Lionel H. Fewster & Partners. Partner-in-charge: E. W. Gamble, F.R.I.C.S. Engineer & Surveyor: A. E. Motyer, A.M.I.C.E., M.I.Mun.E. Contractors: Brighton Contractors Limited.

STANDARD WINDOWS FOR ECONOMY
in Newhaven Council Flats

It is appropriate that one of the first buildings you see as you disembark from the Dieppe/Newhaven steamer should be a first-class example of the native genius for compromise.

Designing Meeching Court Flats for the Newhaven Urban District Council posed the architects a pretty problem of how to reconcile two irreconcilables. On the one hand was the usual current requirement of Public Authority building—stringent economy. On the other hand the site has a commanding hillside position overlooking Newhaven Harbour, which must be to many overseas visitors their first close-up sight of England—so Meeching Court is a 'shop window', not only for Newhaven, but for the whole country. In the middle of a picturesque huddle of existing building with a fascinating interplay of textures—age-mellowed brick, knapped flint, and timber—an essay in the modern manner would obviously be out of place.

Detail of window grouping—North elevation

The architects' answer lay in careful conformation of the building to the contours of the site and ingenious detailing—especially as regards the placing and grouping of the windows. All the windows are standard types manufactured by Williams & Williams, but any possible feeling of monotony has been avoided by skilful combining of 1′ 8″ and 2′ ('Z') module windows, the effective but restrained use of concrete subframes and mildly decorative brickwork. Visual emphasis is given to the staircases by the use of Williams & Williams 'Wallspan' partly fixed glazed, partly filled by 1′ 8″ module opening lights. The 'Wallspan' is fixed directly to the sides of the reinforced concrete stair slabs.

H. P. BUCKINGHAM

Passing the Buck

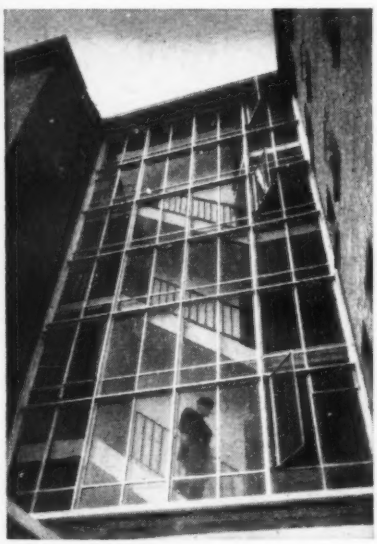
Last month Crawley New Town said goodbye to Mr. H. P. Buckingham who has been Area Manager for the district since Williams & Williams office was opened there in 1954. His place has been taken by Mr. H. G. Randel.

'Buck' goes to Bristol as Divisional Sales Manager to replace Mr. E. P. Butler who is going overseas.

Another candidate for foreign travel is Mr. W. Littlewood of Leeds who is bound for the U.S.A. Mr. W. Brindley becomes Area Manager in his stead.

H. G. RANDEL

W. BRINDLEY

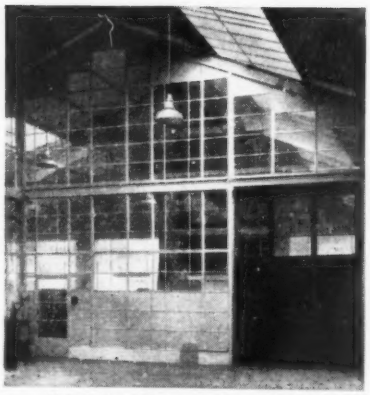


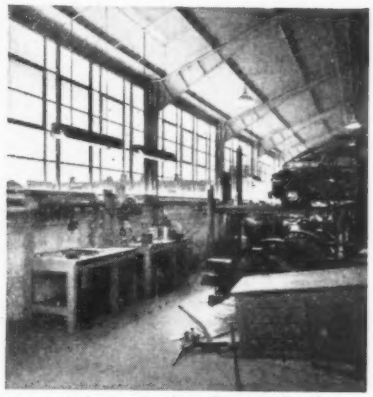
The 'Wallspan' cladding on one of the staircases.

COMBATING CORROSION

A seaside situation such as this imposes severe strain on the corrosion resistance of all metallic components used. Ideally we would recommend that the windows in such a building should be aluminium. Unfortunately the budget in this case would not run to the additional expense involved, so yet again a compromise was reached. Hot dip galvanized steel windows were supplied and these have been treated after installation with aluminium paint. This serves two purposes.

It makes for a similar overall appearance between the windows and the 'Wallspan' and also gives a very real additional protection against the salt-laden atmosphere. The difficulty with this procedure as against using aluminium windows is that the efficiency of the paint film may be affected by surface damage while the oxide layer on a solid aluminium section would automatically renew itself. Also, of course, the paint will need to be renewed periodically.





Vehicle Repair Shop. Southern Electricity Board, Reading. Architect: Southern Electricity Board. Windows and Patent Glazing by Williams & Williams.

INGENIOUS USE OF STANDARD SASH

Standard Industrial Sash—despite its very real economic advantages—tends to be regarded as something of a Cinderella among standard windows. It is all the more interesting then to see how effectively it has been used in this contract, not only for the continuous fenestration but also fixed direct to the structural steelwork to form glazed internal partitioning.

The photograph (1) shows how this has been carried out, using standard 'T' form coupling members to join the component sashes together. The glazed door was also manufactured by Williams & Williams.

Note the excellent lighting provided by a continuous run of Standard Sash in the sidewalls combined with Aluminex Patent Glazing in the roof.

FOO—3—4

—the TOUGHEST PAINT of all

For longer life—even three years longer than the finest pre-war enamels, harder wear and damage resistance, nothing compares with FOO-3-4 Synthetic Enamel. This hard drying paint withstands hot water, disinfectants, dilute acids, alkalis, steam, grease, etc. FOO-3-4 is ideal for hospitals, factories, schools, offices —anywhere where bright appearance, hygienic cleanliness and strong wearability are essential. It is available in many attractive modern colours, all of which are fast and permanent and can be washed and scrubbed without damage to the surface. Its competitive price gives it a lower cost per year of effective service than any other material. Write or 'phone now for test panels to:

DONALD MACPHERSON & CO. LTD.

ALBION ST., MANCHESTER 1, And MITCHAM, LONDON.

ALSO AT BIRMINGHAM, BELFAST, GLASGOW, NEWPORT (MON.) AND DUBLIN.

HOW DOES IT WORK?

"The microphone? My dear Broadbent, we are not guest artists: we are guests."

"Can't I tell the audience about Mineral Wool?" *"No, Broadbent."*

"How it is cutting out unwanted noise at Pinewood, Highbury, Brighton, Ealing, Manchester, Twickenham, Wembley, Welwyn, Lime Grove, Wood Green, Birmingham?"

"No, Broadbent". "Why can't I?"

"In the first place—the microphone is switched off. In the second . . ."

"Well?"

"Unwanted noise, my dear fellow".

"JONES!"

"Never mind, Broadbent. If they're interested—they'll fill in the coupon."

To: Messrs. **JONES & BROADBENT LTD**
PERREN STREET, LONDON, N.W.5

Please send without obligation your Technical Data Sheets giving full details of **J & B INSULATION.**

NAME _____

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w''.

lf

A.J.

Not Lionel?

Yes Lionel. Cut him off with a shilling. Signed the codicil yesterday.

Whatever for?

Treachery! Ingratitude! Patricide! Mind you I blame that Hargreaves girl.

What's up?

Mildred and I gave 'em five hundred when they married—pounds mark you—to set 'em up. What do they do with it?

T.V. huh? New car? Racin'?

No—glass. Right throughout the house. Cellar to garret. Mirrors, screens, bathroom walls, table tops, kitchen—everything. Call it their dream home.

Reed Millican?*

Precisely. Lurking at Newcastle waiting to pounce on young fools and their money. But they'll get no more out of me. Not a penny!

Where there's a will . . . eh?

AJ

THE ARCHITECTS' JOURNAL

No. 3220 Vol. 124 November 15, 1956

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

Subscription rates: by post in the U.K. or abroad, £2 10s. 0d. per annum. Single copies, 1s.; post free 1s. 3d. Special numbers are included in Subscriptions; single copies, 2s.; post free, 2s. 3d. Back numbers more than 12 months old (when available), double price. Half-yearly volumes can be bound complete with index in cloth cases for 30s.; carriage, 1s. extra.

NOT QUITE ARCHITECTURE

ABOVE MY BELT

They say that advertising, like the Olympic Games, shows Western Culture with its hair down and its fangs bared. Certainly it would have been hard to find a more succinct anthology of disagreeable national characteristics than were exhibited in a recent West-End showing of prize-winning films from the International Screen Advertising Services festival held at Cannes in September.

*

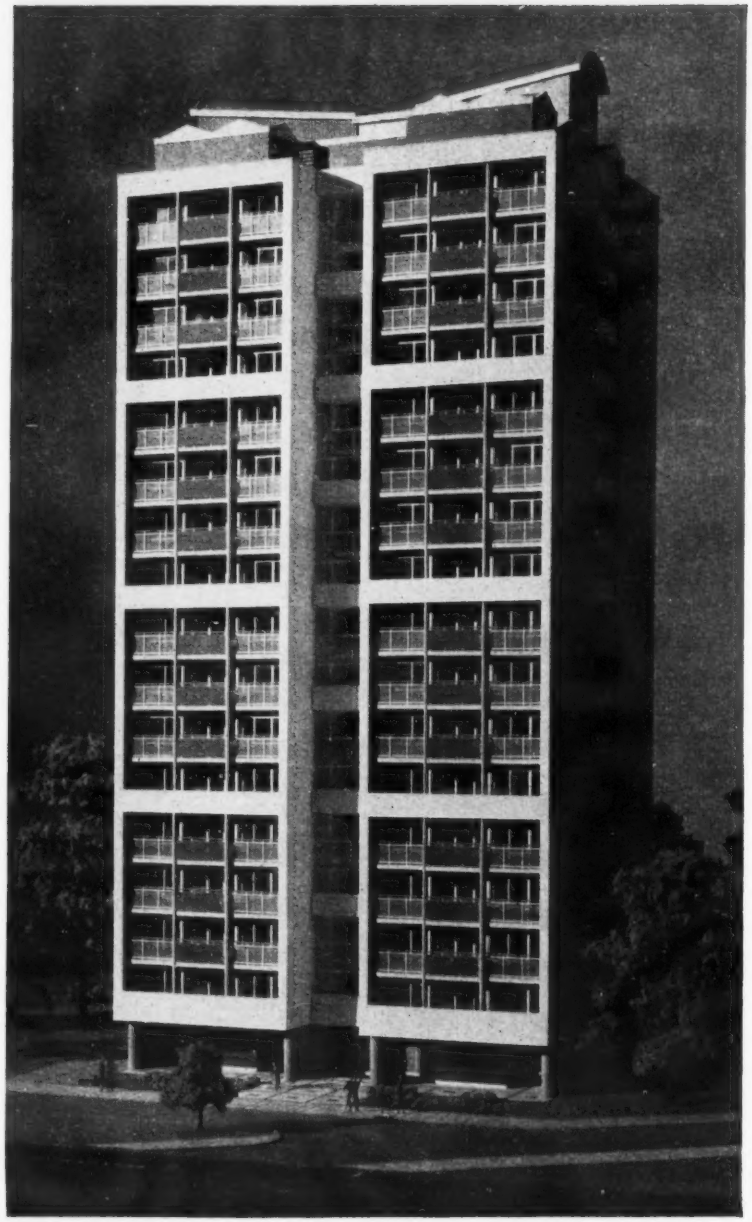
Everywhere one's worst hopes were confirmed. The Dutch films oozed suburban virtue; even the exteriors were as spic-'n-spandy as a mortician's parlour; every glass shone with silicone, every loose end had been pinned up and permed. The French were as unredeemably twee as ever, with platoons of candle-carrying toddlers in pyjamas pouring down some vast Beaux-Arts stairway to greet *la dernière née*—a Renault Dauphine. The Germans were creepy; a commentary rich with baritone emotion purring "Das ist das Wunderbar" as a P*rs*l-washed dishcloth aviated through a house dispensing unearthly radiance and light. And the British? They were *Looking in on the Navy* and running so true to form that one felt quite deprived at not being offered a fade-out shot of Donald Sinden clinging to an upturned boat.

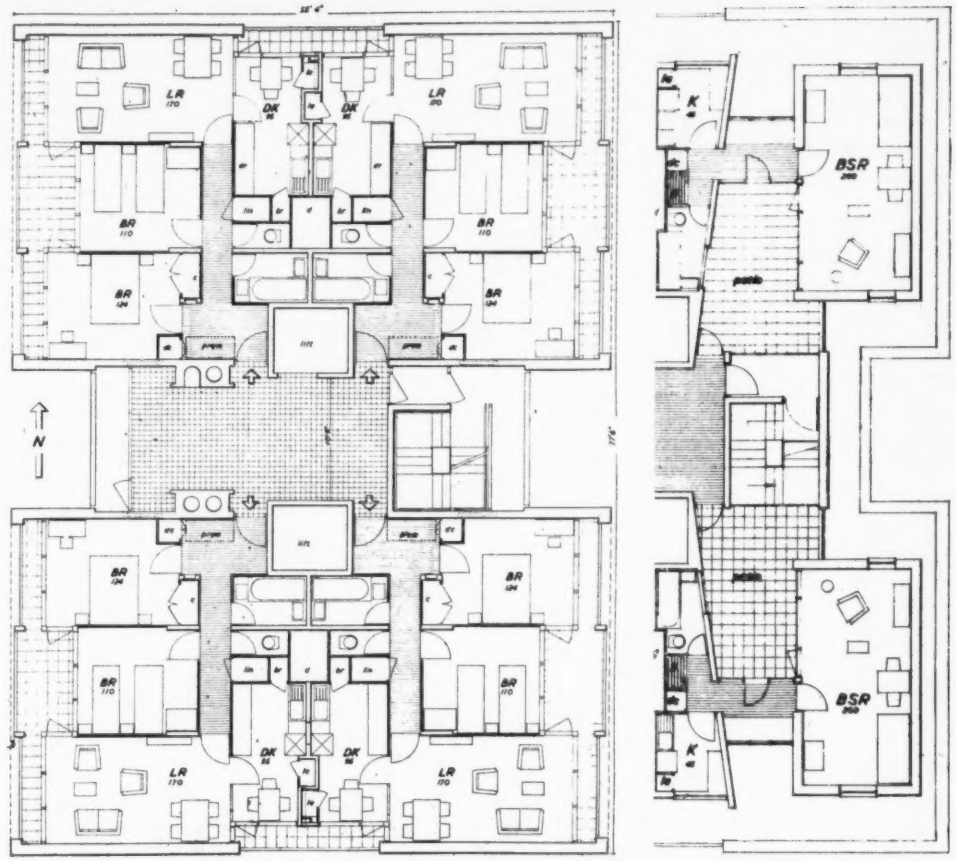
*

Still, advertising, if good, must be aimed at a point slightly below the belt of a very specific audience.

*

For this reason, though, one wonders how meaningful were the prize-decisions





Freeing the Skyline

This eighteen-storey point block of flats has been designed in the Housing Division of the LCC, and was described by the LCC's Principal Housing Architect, H. J. Whitfield Lewis, in a talk he gave to the Housing Centre last week. It is to be sited in the Brandon Estate, South London, which is the first large area where the LCC are adopting a policy of repair and conversion as well as rebuilding. Some pleasant early-Victorian housing is being preserved, and to ensure that the overall density of 136 persons to the acre is maintained, the low density of the preserved housing is compensated for by introducing point blocks to a local density of 170 persons to the acre at one end of the site where it overlooks an enlarged Kennington Park. In a talk which by its breadth and expertise ably demonstrated not only his great ability, but also that of the brilliant team he has built up in the short six years since his appointment, Whitfield Lewis described the significant developments in recent LCC housing. The concessions as regards fire precautions, and the apparent extravagance of recessed balconies (which, in fact, means a saving in running costs, as all maintenance can be executed from the balconies), shown in the point block here, are two small details which demonstrate the resourcefulness of this world-leading architects' department.

of a nine-language jury, if the sole standard of judgment was—as alleged—sales impact alone. How could fifteen top executives in the hot-house atmosphere of Cannes really form any estimate of the impact of the Grand-Prix winner under the tin roofs of Ashanti. For—amazing as it may seem—the top prize was scooped for Britain by a film made for—of all people—Old Mother Barclay, and intended to persuade West African farmers to put their money in Barclay DCO, instead of holes in the ground.

*

Titled in pidgin *Put Una Money for There* it was as pretty as paint, chirpy as a bird and slick as old nick. It would obviously lay them in the aisles at the Paris-Pullman and other plush palaces of the Espresso Belt, but how it would strike retired sergeants of the West African Rifles seems very much another question. Obviously, it tickled the jury's fancy, and they voted it the greatest. Me too, but I can't say I went all the way with them on the whole programme. I put ticks against five films only out of nineteen, and they were, apart from Persil and Barclay, a tiny TV spot for American Ford, so good that it defies description; a cartoon for German Coca-Cola with a creepy little jingle *Mach mal Paus—e, Coca-Co—la* that only a nation of close-harmonists could have got their tonsils round, and an ear-battering, eye-blacking abstract effort on behalf of *Gaines Scandale*—of all things.

*

And this raises a major mystery of supra-national import. Obviously you sell condensed milk with pictures of cows, foodstuffs with kitchen comedy, patent foods with babies, coffee with scenes of sociability, and so forth. But how come you sell suspender belts with geometrical abstractions and sound-tracks stiff with gimmicks? Not just the French either. There was an English offering for *Little X* as well, with animated patterns and a music score smarting with new noises. Presumably the lads know what they are up to, aiming *above* the belt like this, but even with one's imagination at dual-stretch it's difficult to see the connection. Perhaps some lady reader will put una suggestion for here?

*

Of course, if you try to imagine *realistic* selling methods for this class of product it is easy to see certain difficulties. . . . But only for the English industry, not for the French one which has made such admirable use of Brigitte Bardot, Martine Carole and all those.

REYNER BANHAM

The Editors

AJ RESEARCH FELLOWSHIPS

ONE of the misfortunes of architectural practice in this country is the way in which teaching, research and practice are largely kept separate and apart. It was to draw attention to this, and to a very small degree mitigate it that we instituted the AJ Research Board last year, and asked it to award annually the sum of £1,000 for research " which will be of direct benefit to the architect in practice." Whenever possible the holder was to be attached to the Architectural Association, or the Liverpool or Edinburgh Schools of Architecture, and in order that there should be no misunderstanding of the meaning of " research " in the above context, the Board decided that the work would be " particularly concerned with the organization of existing knowledge for practical application by the profession."

On January 5, this year, we announced that the Board had awarded its first Fellowship, on the subject of *Information for the architect: what does he need and where will it come from*, to Michael Ventris. It had been the hope of the Board that this first Fellowship would suggest the title and determine the priorities of subsequent fellowships. Since Michael Ventris's tragic death, the Board has decided to do two things : first, to re-advertise the original Fellowship, in order that someone may complete the work Michael Ventris began; and second, in order that the tempo of the Board's work should not be unduly slowed down, to advertise a second Fellowship, also for £1,000, at the same time. The choice of subject for study is in this instance left open to the applicants, although four suggestions have been put forward by the Board. (See page 692).

RENT REVISION

Neither political party has a particularly good record as regards rent control, but the present Government does, perhaps, merit some congratulation on being brave enough to take some action, however belated. The return to a relatively free market in housing may go some way towards reducing under-occupancy of dwellings, but it will only emphasise the fact that too many of the privately-owned and rented spec houses will be considered sub-standard before their structural life is over.

PORTUGUESE ARCHITECTURE

By working most of the night, the Building Centre staff managed to erect a neat little exhibition of Portuguese architecture a mere 20 hours after the packing cases left London Docks—a familiar hazard to those used to organizing exhibitions from abroad. The result is worth the nervous strain. The usual panels of photographs and plans are prettily strung up on stark, high-jump-type posts and crossbars, and intermingled with the screens are tables topped with brightly coloured and patterned ceramic tiles and a display of Portuguese building materials —cork, local marbles and so forth. The buildings are modern, if often rather obviously derivative, and largely executed in concrete of a coarseness which suggests a shortage of steel.

*

Two of the buildings on which one would like more information are the *brise soleil*-faced housing in Lisbon by Pessoa, Manta and Gandara, and the great circular, concrete-domed sports stadium at Oporto by J. C. Loureiro. The Portuguese ambassador, Senhor Pedro Pereira, who opened the exhibition, commented on the designs in a pleasantly frank and forceful way, his judgment of functional design no doubt improved by the fact that he is a great yachtsman. His 50-ton schooner was fifth, ASTRAGAL believes, in the recent Torbay-Lisbon race. At any rate, before he'd finished examining the exhibition he and AA President Gontran Goulden were happily exchanging photographs of their beloved boats. And when architect-sailor Edward Playne started explaining rigging details to Goulden and other enthusiasts gathered round, an envious ASTRAGAL quietly stole away. . . .

HAND OR FOOT?

Also at the BC last week was the AGM of the Modular Society and an informal display of members' products. The meeting passed off quietly enough, except for the rather remarkable statement by one member that it was better to do something *wrong* than nothing at all (applause). ASTRAGAL, who sees no reason, given hard work and *co-operation* between BRS, BSI and the Modular Society (instead of criticism and special pleading by the last-named) why the *right* answer to modular co-ordination should not be found, was intrigued to see that, apart from some perforated 8-in. bricks, none of the exhibitors appeared to have ventured to emphasize any connection between their products and a four-inch module.

WHAT EVERY WOMAN KNOWS

" This," said Elizabeth Gundrey, with a quick ear for the latest American colloquialism, " would be some house." She was telling *News Chronicle* readers about her dream house—the sort of place, apparently, that only a housewife could design. No mere architect, she implied, would think of specifying the " fifty extras " she would like to see in every home. They included dripshelves for pans, coved skirtings, heated towel rails and so forth. Is Miss Gundrey really so ignorant about that supreme fact of life called money? The fault, dear Madam, lies not in our ARIBA's but in our clients' budgets.

*

The faults in this article lie in the well-known woman's-page fixation that the distaff side care only for commodity, and don't give a fig for firmness, nor more than a spud for delight. The same fixation appears to grip our best-publicized wife-of-an-architect, Miss Jeanne Heal, who has lately been conducting a feature on BBC Woman's Hour, called " Castle in the Air." Listeners to this programme are invited to fill in periodical questionnaires, published in the *Radio Times*, about the interior appointments of an imaginary house. This not-very-edifying edifice (see opposite page) is a piece of Welwyn-Georgian with shutters, pediment and semi-circular portice. The BBC did not expect the elevation to become a point of issue in the questionnaires, but my distaff spy reports that Miss Heal has lately been asking listeners to stop complaining about the house and concentrate on the things they are *supposed* to be interested in.

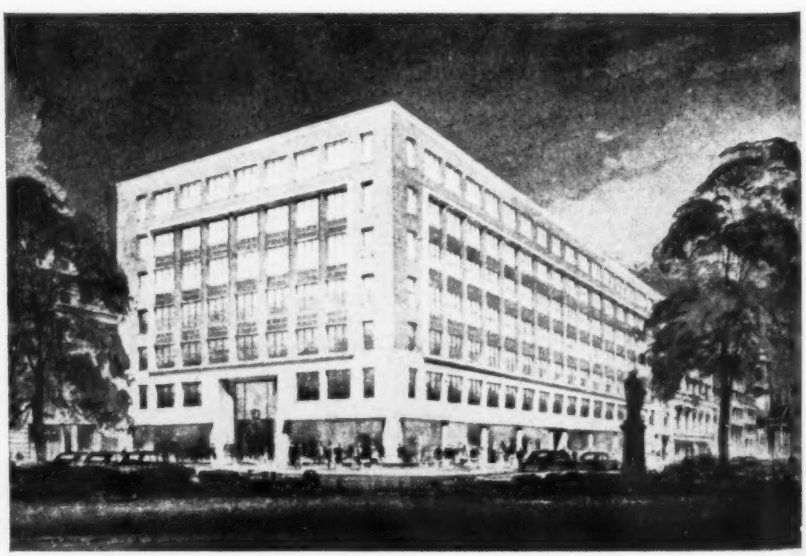
*

Good work, girls! Don't hesitate to pile on the agony; the plan alone should give you plenty of material, never mind the elevations.

IT'S GLOSSIER INSIDE

Since we have joined the ladies, let us take a look at Vogue House, whose

What Vogue is coming to. (See " It's Glossier Inside ").



exterior perspectives (recently unveiled) suggest that our beloved and glossy contemporary doesn't mind the elevations either. ASTRAGAL is not concerned here with whether this is a good building or a bad building: it conforms, as you will see from the picture, to what we must now recognize as a kind of Big Business Vernacular. But it is not at all the sort of building one would expect anything quite so smart, high-pressure, and international as Condé-Nast publications to inhabit, any more than Haymarket House is quite the sort of building one would expect the COID to live in.

*

However, the interiors for Vogue House will, I understand, be the work of an architectural partnership which is quite as smart, high-pressure, etc., as Condé-Nast. And since Dame Audrey Withers and her minions will be on the inside, looking in, as they work, they should feel perfectly at home, sitting in their mink-lined executive chairs and dictating prose " of considerable nude " —I quote from *Vogue* herself— " beauty " into their rhinestone Grundigs. . . .

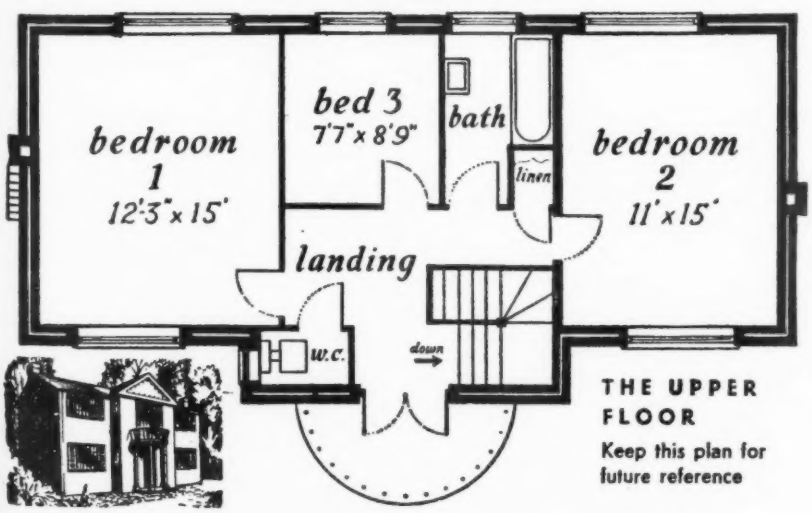
Temporary wirescape at Ham. See last note.

IT'S BETTER TO BE NON-U

" So far as heating is concerned the more non-U the better," said David Renton, Parliamentary Secretary to the Ministry of Fuel and Power, when he launched a new booklet—if you will forgive the phrase—called *Building for Warmth** at the Building Centre. This booklet is the joint effort of those mortal foes BEDA, CUC and the Gas Council. It was the suggestion of the Ridley Committee that they might at least get together in publicizing insulation, and three years ago they produced their first booklet which was on how to insulate *old* houses (*Make your House Cosier in Winter*). This one is about *new* houses, and ASTRAGAL for one was relieved to find that the note of whimsicality and the funny pictures have disappeared, and that heat transmission figures have taken their place.

*Obtainable from BEDA, CUC or Gas Council.

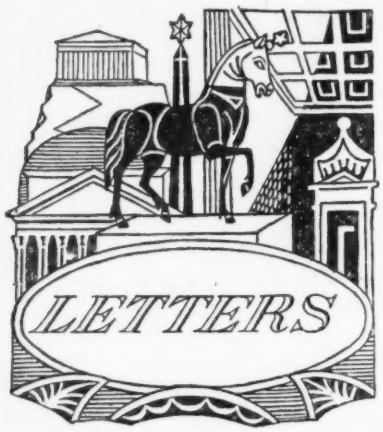
The Radio Times *house. See "What Every Woman Knows."*



TEDDY BOYS PICK NICKS

Teddy boys won't leave it alone, and insurance companies won't touch it (because it is " unprotected art "); so Keith Godwin's symbol of home making, at Eric Lyon's " Parkley's " estate, Ham Common, has become something of an embarrassment to the estate's developers. Just before Guy Fawkes night they thought it politic to make her a prisoner. The unknown vandals would be glad to learn that the cage is not to stay for long. Suitable hazards are being devised, but local residents (who are torn between giving loyalty to their community and acquiring ammunition for their rating appeals) are wondering if the subtleties of carefully-placed shrubs and shin-high railings will be understood by the homing rock 'n' rollers. And do not think, Alert Reader, that the most obvious solution has been overlooked: there is, in fact, one very serious objection to it. The sculptor's work would be open to misinterpretation if even the smallest and most abstract-looking minefield encompassed it.

ASTRAGAL



C. D. Woodward, Publicity Dept., B.S.I.

Cleeve Barr, A.R.I.B.A.

G. E. Lloyd, Director of Bow Slate and Enamel Co.

C. R. Vinycombe

Erno Goldfinger, L.R.I.B.A.

Eric de Maré, A.R.I.B.A.

The BSI Explains

SIR,—In your issue of October 25 there were three references to British Standards which call for explanation and comment.

1. *Metal Windows* (B.S.1422). Unfortunately, the lower of the two diagrams which you reproduced on page 588 is not of the new steel sill section shown in the revised standard but a section of a sub-sill—a quite different fitting. Some of your readers will certainly have been mystified by the juxtaposition of these two diagrams. For a true comparison of the new and old sills your readers are advised to see page 17 of B.S.1422.

The point about the new, simplified sill is that it may be fixed directly to a steel window frame without any form of surround, for example, when the frame is built directly into masonry, or when a fixing bracket is provided. The original sill is extended and has provision for fixing a window board to it.

2. *Lavatory Basins* (B.S.1329). The purpose of this (and other standards) is to standardize and therefore effect simplified and more economic manufacture. The requirement in this standard that the edge scroll in metal basins is to be not less than 2½ in. deep does not, in actual fact, limit the design but merely fixes overall dimensions in the framework of which a manufacturer is quite free to have any shape he likes. It is very unlikely that manufacturers would be prepared to make individual designs because of the high cost involved in retooling. The 2½ in. depth was agreed on by both fireclay and metal basin manufacturers in order that a constant fixing height of 31 in. could be maintained using the normal stock leg-type supports; this decision was ratified at the highest technical level in BSI.

3. *Sinks* (B.S.1244). About this revision you comment "As with most British Standards this one appears to codify existing practice and, as usual, one longs for the day when the idea of standardization will be sufficiently accepted for British Standards to lead rather than follow the manufacturers."

It is, Sir, in the nature of things that standards are apt to follow existing practice. The whole concept of British Standards is that they should be widely acceptable to manufacturers and users and not be innovations derived from personal preferences foisted on to an unwilling industry. In those fields, however, where BSI *can* give a lead, it certainly does its best to foster the inclusion of the most acceptable features of developing design as a means of persuading industry to give up unnecessary diversity and therefore reducing basic components.

C. DOUGLAS WOODWARD.

London.

Best Thing Done By AJ

SIR,—I think that the cost study by Stillman and Eastwick-Field, in the JOURNAL for October 5, is the best thing you have done so far on cost investigation. It is very good because the facts are presented simply in terms of components, in which one tends to think architecturally, and not in terms of trades. I am sure that if architects could have this kind of information easily made available by their quantity surveyors as a matter of routine it would be a great aid in designing and would help to keep the costs of building down and to provide value for money—not only because the architect would have the possibility of knowing the cost implications of given decisions on a particular job—but because by constantly thinking in these terms, of priced components, he would more rapidly acquire a sense of economic values.

The only suggestion I would make is that in addition to making available the costs of elements in themselves the price of elements should also be broken down in terms of feet super of floor area. This would also permit the architect, and the client on his advice, to decide as between increasing or decreasing the total floor area as against adding or omitting elements in themselves.

CLEEVE BARR.

London.

It's A Bit Thick

SIR,—Mr. Grant, in the "Industry" page, October 25, asks our industry why the BSI has increased the minimum thickness of slate sills from 1 in. to 1¼ in. We can only say that our particular unit of the industry does not know and would be only too glad to read BSI's reply. We have been making 1-in. sills for the last twenty years and, although we make standard thickness up to 2 in. and thicker if required, 1 in. is by far the most common, particularly since the war, and we could easily fill one of your pages with a list of jobs where this thickness has been used.

The BSI is a body with very considerable authority and we are sure that many architects will, for safety's sake, adopt the new standard thickness. We are equally sure, however, that 1 in. is perfectly adequate and we can only deplore a new standard which is not based on currently established practice and in which we can see neither rhyme nor reason.

Like other members of our industry, we can quite easily work to the new standard, but, at a time when everyone is trying so hard to keep costs down, we do not want to be saddled with 25 per cent. extra material in our sills when we are convinced that it is utterly unnecessary.

G. E. LLOYD.

London.

Turn It Sideways

SIR,—Preparing to strike camp I have dissected over fifty of the issues of the AJ for the past year and I have come to the following conclusions which may be of constructive value.

THE ARCHITECTS' JOURNAL is not a bill of quantities, an early Victorian novel or a daily paper, and the double- and triple-column letterpress of these productions is out of place in a periodical of architectural literacy.

I put forward the principle of the barrister's Brief: "long lines for easy reading"; that is to say, the editorial and descriptive matter should be printed right across the page. This typographical system is especially applicable to the weekly Cost Analyses which would be easier to follow if rearranged on a horizontal layout than the present tabular (vertical) vocabulary of elements, leaving, of course, the right-hand vertical cost column.

Now to cheapen production costs and lower the publishing price by a halfpenny and assist the weekly dissector and archivist—(A year's issue means a field day!)

For a journal which is intended, literally, to be torn up as soon as it is read, a buff, printed, 18 lb. cover is an expensive superfluity; while the gum which secures it to the folios is a positive disadvantage to the dissector with its end-product of ragged filing edges. And let the AJ be stapled on one of its short sides (top or bottom) with a saving of one staple and the letterpress turned round to suit. Result: better for reading, better for reproduction of photographs and drawings, no need to suffer a squint view of the Japanese Pavilion [September 27], and cheaper.

Last, the advertising material could well be printed on a non-calendered paper as this would facilitate composing.

Let the AJ become, not a Summary of Evidence, but Counsel's Brief.

C. R. VINYCOMB.

P.S.—Two staples require a loop, for ease of extraction.

[We are grateful to Mr. Vinycomb for his constructive criticism. All his suggestions, save the last, have been considered by us and rejected—largely on practical grounds. We would be pleased to receive further criticism from readers who file the JOURNAL. —EDS.]

No Long Felt Guarantee

SIR,—On July 1 the members of the Building Felt Contractors' Advisory Board decided that they would no longer give a ten to twenty year guarantee as previously, but would restrict it to twelve months.

Is one to understand that there have been so many complaints about felt roofing that the companies no longer see their way to give a reasonable guarantee? Have they changed their specifications so that inferior materials are now used which no longer warrant the guarantee we were used to?

ERNO GOLDFINGER.

London.

Ma, Pa And Us

SIR,—I have not read Mr. Rattray Taylor's article in the *Architects' Year Book* (AJ: October 18) but I have read, and been impressed by, his book, *Sex in History*. I have also read and been impressed by the following: Briffault's classic three-volume work *The Mothers* (far more important than *The Golden Bough*, though hardly known); Simone de Beauvoir's *The Second Sex;* Robert Graves's *The White Goddess, King Jesus* and *The Nazarene Gospel Restored.*

As a result I feel sure that Mr. Taylor has turned the turf below which, deep down, lies something of profound importance to society and to architecture. We are now dominated by the puritanical father figure, and everything in modern life, including building, shows it—a thoroughly morbid, unbalanced and dangerous state.

After all, Ma and Pa, and our attitudes towards them, affect everything we do—including building. Serious study on the relationship between modern depth psychology, anthropology, sociology, history (inevitably including religion), architecture and, above all, finance and economics, might produce some surprising and fertile revelations. As that fascinating article by Julius Posener in the October issue of the *Architectural Review* states: "One cannot deny that whatever is done in architecture has symbolic meaning . . . Architecture shares this symbolic character with all art and, beyond, with every activity of the mind, not excluding science nor, indeed, technique."

ERIC DE MARE.

London.

NEWS

IAAS

"Largest of its Kind"

"On you depends a future worthy of our past," said Derek Walker Smith, parliamentary secretary to the Board of Trade, when proposing a toast to the IAAS at the lunch given by the London and Home Counties Branch of the Association. He described the IAAS as the largest of its kind in this country or the Commonwealth. His request to the assembly not to drink the toast until Mrs. Bentwich, the chairman of the LCC, had proposed the health of the London Branch, was ignored by the Toastmaster, and after some false starts and anxious looks everyone rose and drank the toast.

Mrs. Bentwich then rose, and after apologising for her lack of experience as an after-luncheon speaker (the only funny stories she knew, she stated, were not fit for men to hear) described her council's gratitude for the work architects were doing in putting up buildings "of which we are enormously proud." Most of the buildings, she said, showed some of the idiom in which we lived and not too much of the past. She was very proud of the LCC schools in particular.

Lt.-Col. A. E. Henson, the President of the IAAS, replied to both toasts. He described himself as a founder member of the IAAS, which was formed in 1926. He complained that architects were not accepted as much as they should be and that architects had not succeeded in impressing on the public the importance of their work. "We have not been united enough as regards encroachments," he said, ". . . and are not loud enough in Parliament or in the Press."

F. J. Meekins, the branch chairman, then proposed the toast, "The professions, arts and sciences," a title which he had altered from the normal toast, "the guests," because "it enables me to roam about more freely than a stereotyped title."

In reply, Sir Thomas P. Bennett said that a man chooses a profession for three reasons: first, because he wants to practice that above all others; second, because he hopes that he has some talent for it; and, third, because he hopes to have some remuneration. Remuneration, he emphasised, has some place in the most altruistic mind. The trend of taxation, he said, is one of the causes why people enter into speculation rather than the professional side of life. It is the duty of the professions to give advice, but one cannot properly advise if one is oneself partaking in business. At one time architects were concerned only with building for prestige purposes without emphasis on cost. The only criteria was whether the building was worthy of the borough or company for whom it was built. Now architects were building for society at large. He thought that the legislation machinery takes too long to work, and instanced the London building legislation as needing very serious overhaul.

LMBA

Education Conference

A correspondent writes:—

Every year the LMBA holds an educational conference. Last year "education for management" was the subject, but on Wednesday, November 7, at the Ironmongers' Hall a smaller gathering discussed craft training. The delegates—mainly technical college staffs, builders and builders' training officers—send in their questions *before* the conference, then get up and speak about them on the day. Contributions were quiet, no one got heated and fundamental ideas remained concealed beneath sober, pragmatic discussion. K. C. F. Foster, president of the LMBA, was in the chair.

To lead off, the City and Guilds craft examinations came up for criticism because there was too much written work and it was "too theoretical." Apparently an apprentice could just manage the final certificate examination, with two evenings a week study, but if he wanted the "Full Technological Certificate" he had to do three evenings. This discussion led to a consideration of the problem of an apprentice's educational standard, at which an LCC speaker got up "without apology" to ride his "same old hobby horse." He said that a nominally two years' course often overflowed into three with a high wastage rate because the apprentices were not quite up to it. There should, he suggested, be a preliminary course on general subjects first. Some member of the conference denied that the wastage rate was high, others claimed that wastage occurred in *any* training course, and that there were usually sound reasons for a default.

Opinions were divided on the preliminary course. One speaker felt that apprentices would not take to school work all over again—they needed something to "arouse their interest afresh" after leaving school; another thought that the preliminary course of general education should go hand in hand with the first craft course. This idea was immediately contested, and led to a description of Continental practice. At full-time, apprentice-training centres such as the Centres d'Apprentissages in France, the apprentice spends one year on leaving school. The conference was told that there is a very careful selection during a five weeks' probationary period by "psychotechnicians." (Laughter.)

From France, the discussion moved to Bristol and Salford, the two places where schemes of "block release" are being tried. Instead of going to school one or two days a week—"always inconvenient days for the employer"—the apprentice here spends fourteen days, three times a year, at a technical school.

By this time, several criticisms had been made of the City and Guilds syllabus, so the representative of that Institute rose to its defence. He said the Institute had "completely overhauled the syllabus at the end of the war, and that since that time the number of apprentices taking courses had increased by six times the pre-war figure. Employers, he said, had taken much more interest in training than ever before. The syllabus "might be a little moth-eaten" now, but it had served a transitional period, and was to be revised again.

Another speaker reminded the meeting that while there were now 600,000 school-leavers a year, in 1962 there would be 860,000—a bulge we must plan for now. Later, the same speaker, quoting the figure of £17 million raised annually by the industry for paid holidays, said "we must bear the cost of training; and re-establish apprentice master schemes."

One of the main topics of the afternoon was about keeping up to date with technical advances. One teacher said that his school kept in touch through its part-time lecturers, who worked in industry. Another spoke enthusiastically about his school's demonstrations of new methods, and a third mentioned films. One die-hard, a former carpenter, who spoke feelingly of the old craftsmanship and doubted whether new advances were "advances," was gently reminded from the platform that few of our buildings could now be tailor-made. A following speaker asked whether advertising-free data sheets could not be produced—"like those that are produced for architects." He was reminded of the Building Centre's monthly list of new materials and of the Stationery Office publications.

Discussion then returned to questions of the age at which boys should leave school, employers' responsibilities, disciplinary action and the high proportion of apprentices who enter the carpentry trade.

Allan Gwynne-Jones's painting of C. H. Aslin, P.P.R.I.B.A., was unveiled at 66, Portland Place, last week.

DIARY

Library Group Meeting. Talk by Priscilla Metcalf on Balmes House, Hackney. At the RIBA, 66, Portland Place, W.1. 6 p.m.
NOVEMBER 19

Picasso, himself. Exhibition at the ICA, 17-18, Dover Street, W.1. Monday to Friday 10 a.m.—6 p.m., Saturday 10 a.m.—1 pm. Admission free to members, 2s. to guests
until DECEMBER 8

Is Teamwork in the Arts Possible? Talk by Jerome Mellquist. At the ICA, 17-18, Dover Street, W.1. 8.15 p.m. Members 1s. 6d.; guests 3s.
NOVEMBER 29

Keypoints in Planning. TCPA National Conference at County Hall, S.E.1. Applications and enquiries to the Secretary, TCPA, 28, King Street, W.C.2.
NOVEMBER 29 AND 30

Some of the members of the AJ Research Board. Reading clockwise: W. A. Allen, superintending architect at BRS; S. A. W. Johnson-Marshall, architect in private practice; Anthony Pott, chief architect of MOE; Richard Llewelyn Davies, director of the Division for Architectural Studies of the Nuffield Foundation; Michael Pattrick, principal of the AA School; W. A. Henderson and C. C. Handisyde, both architects in private practice. There are four other members of the Board: Robert Gardner-Medwin and Robert H. Matthew, Professors of Architecture at Liverpool and Edinburgh Universities respectively, and the ex-officio members, the AJ's Editor and Technical Editor.

The AJ Research Board offers two £1,000 Fellowships

Following the death of Michael Ventris, O.B.E., the holder of their first Research Fellowship, the AJ Research Board have two announcements to make. First, that they are re-advertising their first Fellowship on *Information for the Architect: what does he need and where will it come from?*; second, that they are also advertising a new Fellowship on a subject which is left to the choice of applicants. The advertisement announcing these two Fellowships, both of which are to the value of £1,000, may be seen on page 108 of this issue.

The successful applicant for the first Fellowship will not be starting quite from scratch. Before he died Michael Ventris was able to complete one report. For the sake of its intrinsic interest, but also so that prospective applicants for the new Fellowship will have an opportunity of judging progress to date, we are printing this report in the Technical Section of the JOURNAL. The first instalment appears on the opposite page.

The first criterion for any subject for the second Fellowship is that its study must directly benefit the architect in practice.

Common sense will add that it must be capable of being profitably studied by one man in the period of one year. Applications will be assessed jointly on the urgency and importance of the subject to the profession, on the qualifications of the applicant to study it, and on the feasibility of the plan he (or she) may suggest—for this last will be an essential part of any application.

The Board have agreed on four possible subjects to give an idea of the sort of thing they have in mind. Applicants choosing one of them will not get prior consideration over those who put forward suggestions of their own. These subjects are : influence on design of building contractors' equipment; the layman's reaction to architectural style; the effect of rules and regulations other than building law on design in cities; the effect of engineering services on design.

The first of these two Fellowships is open only to architects who have had at least three years' practical experience after qualifying. But the second is open both to architects (who are not required to have had a specified period of experience), and to those who hold " an academic or professional qualification of equivalent standing." This definition could well give rise to much heart-searching about what qualifications *are* of equal standing to the architect's; but the Board put a liberal interpretation on this. They would not, for instance, disqualify any qualified member of the building team (including the qualified builder), and the intention of the clause is merely to underline the fact that the study itself is to conform to a recognised academic standard.

AJ RESEARCH BOARD

Information for the architect

Before he was killed in a motor accident last September, the AJ's first Research Fellow, Michael Ventris, OBE, had been able to carry out the first part of his programme. This consisted of a series of visits to the main producers of architects' information—BRS, the Building Centre, MOW, etc.—and to the offices of some two dozen architects, public and private, large and small, in London and in the provinces, all of whom were known to be interested in the problem of handling information. To the architects he put two questions:

1. What methods do you use for filing, processing, indexing and disseminating information in your office ?
2. What criticisms do you have of the form and content of information which comes into the office from outside sources ?

Being an exceedingly methodical person he systematically recorded their answers, collated them and finally summarized them in a report which he delivered to the AJ Research Board last July.

It is the wish of the AJ Research Board that the substance of this report should be printed in the JOURNAL. First, because it is in itself a useful document, second because they hope that its publication will help those who are thinking of applying for the Fellowship (see editorial on page 687 and advertisement on page 108). To these reasons we, the Editors, add a third: namely that its publication enables us to pay a practical tribute to the memory of a great man.

The original title of the report was " The Information Centre in a Larger Architect's Office." We have changed this to " The Handling of Architects' Information," partly because he does, from time to time, refer to the handling of information in the *smaller* office; but chiefly because we want to make it clear that this is essentially a report on what architects are doing: such recommendations as the author makes in the course of the text relate to current practice in information supply and handling: he had not passed to the stage of offering *fundamental* criticisms: of asking such questions, for instance, as what each class of information is for and what, therefore, ought to be its form and content.

technical section

THE HANDLING OF ARCHITECTS INFORMATION: 1

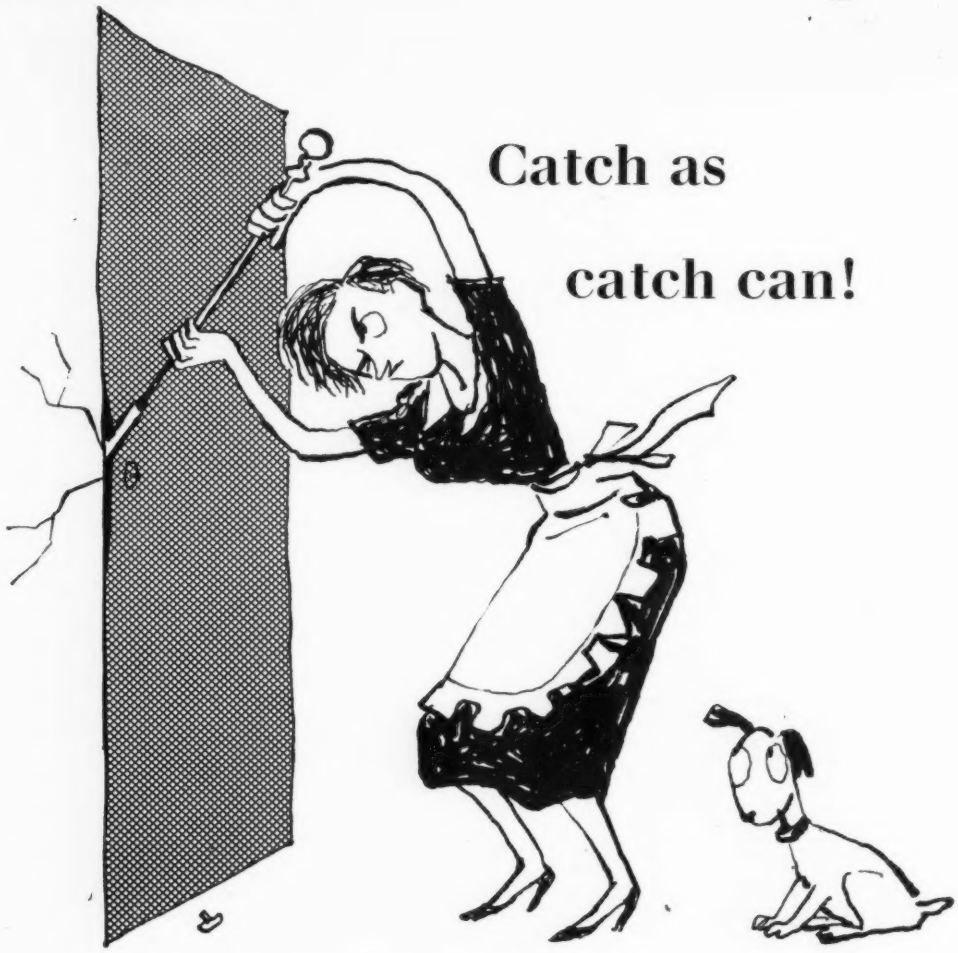
introductory and the handling of trade literature

The author, the late Michael Ventris, O.B.E., begins by discussing the scope of information and by remarking that architects do not customarily include in this, information arising from their jobs. He writes of the help the American Institute of Architects gives to its members in information handling, and asks whether English architects would like the RIBA to do the same. Dividing architects' offices into five main types, he suggests that the employment of a full-time librarian becomes economic when the number of qualified architects reaches fourteen. This number, in his view, marks the division between the " small " and the " large " office, and he outlines the function of the kind of " information room " which the latter can afford. He then begins the report proper* with a consideration of trade literature. He records how it is processed, classified and stored and how it is indexed for use, but he is not concerned with its intrinsic value—or worthlessness. We also append to this section a paragraph on cost information.

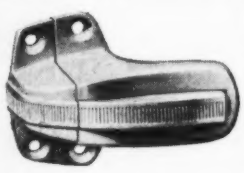
* The main sections of the report are divided into sections. These we have kept, together with their cross references. This means that readers will keep stumbling on references to sections which have appeared or are due to appear in other issues of the JOURNAL. This is a nuisance, but it will all come right when they file the sections together—as we hope they will.

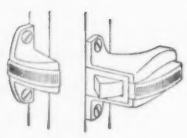
An office library or information room consists largely of manufacturers' literature, samples, books, pamphlets and periodicals. These in fact constitute a major part of the office's printed and written records, but they exclude the drawings, correspondence and other files relating to *current* design projects and activities. When the latter have ceased to be current, it may be that they are merely stored away as dead matter ; but to the extent that data and experience can be extracted from them for future use they must be considered as a source of " information." The form in which current job files and records are maintained therefore has some relevance to the organization of a more complex Information Room, and this will be touched on in a later article. I am not, however, competent to begin a discussion on the problems of overall organization and record-keeping in different types and size of office: many aspects of these have been discussed in the AJ series on Costs during the last two years, or can be found in books on professional practice and on general business management. There seems, incidentally, to be a feeling that too little detailed guidance is given to private and public offices by such books on the methods and forms best suited to the complexities of present-day practice. Each office has to work out its own solution as best it can. The American Institute of Architects issues a frequently revised *Handbook of Architectural Practice*, publishes its own filing systems for manufacturers' literature and periodical cuttings, and supplies the profession with a large number of standard forms for all kinds of job records and correspondence. It would be valuable to have the profession's views on whether the RIBA might usefully prepare material for such an official handbook, which would deal with organization and procedure as well as with the problems of information-handling sketched in this article.

In large organizations the way in which information records are kept must tie in with the organization of the office's records in general ; someone will have the job of *records administrator*, and will plan the format and scope of all the office's files, will fix a policy for the retention or throwing away of papers, and will prepare and apply a *manual of filing* operations (see



Catch as catch can!





Yes, she's caught all right—on the wrong side of the larder door. But what's the good of relying on a cupboard catch that catches the user as well as the door? When this happens it's time to show a little cupboard love and fit a neat positive-acting Yale catch that will permit the door to open as surely as it closes. Such as this one :

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technical section

Section 73G) which will also include the operating instructions for the Information Room: the present article may supply a skeleton for this.

Various types of library and information room

The amount of time and space given to the filing, storing, indexing and analysing of information will inevitably vary enormously with the size of the office. One can probably distinguish five different degrees of complexity:

(*a*) The lone architect (or one of the principals in a small office) keeps the information materials in order himself, perhaps with some help in filing from a secretary or office boy.

(*b*) The library is the part-time responsibility of one of the assistants, probably one who is more interested in building technique or in organization than in design. These first two set-ups, which have no full-time librarian, characterize what I will refer to in this article as the "small office." In its simplest state the library contents of such a small office might consist of a drawer or two of manufacturers' pamphlets filed in some simple classification; a cupboard full of unsorted samples; trade catalogues and books arranged on shelves in rough groups; one or two periodicals kept in piles but not cut up; and obsolete job drawings and job files stored away without any form of analysis or indexing. Admittedly, many small offices may be able to operate reasonably effectively without any more complicated organization of their information. The present article sets out to examine the methods which may be necessary in larger offices, and I must therefore apologize if many of them seem beyond the reach of a large proportion of architects. At the end of Part II, I will give a summary of the various Information Room operations which have been discussed, and those which the small office can probably undertake are distinguished by an asterisk.

(*c*) A full-time *librarian* is employed, perhaps with assistants. Except in the largest organizations, unqualified staff without specialist training in building technique or in librarianship can do the job provided they are intelligent and meticulous; but it may take some time before they are familiar enough with the work of the office to act as information officers rather than merely as filing clerks.

(*d*) A full-time *architect-librarian* is employed, perhaps with assistants. He may also be called a *research architect*, though his job is really the processing of information rather than its creation. Most larger offices engaged in development work have an understandable prejudice against an architect being employed full-time on information: it implies a renunciation on his part of the normal functions of an architect. They would prefer to see the library (or *Information & Materials Section*) run by unqualified staff working under the guidance of architects (perhaps in a *Development & Research Group*) themselves actively engaged in design work. The need to keep an Information Centre "live" and in close touch with its users is especially difficult to fulfil in the case of libraries and research organizations which supply information by letter or telephone, however willing they are to help.

(*e*) In a very large office there may be an approach to the most complicated type of American organization, with job records in the Administrative Section, cost records in the Estimating Department, trade literature in the Specification Room, other literature in the Library, and a separate Plan Room and Samples Room —with separate information staff to each. I have only found this degree of organization in one office in this country.

Cost and space

I have found some indication that a full-time librarian is thought to begin to become economic and time-saving when the number of qualified architects reaches the neighbourhood of 14; he or she may need an extra assistant when the number rises over 50, and another for every 100 more. Salaries, overheads, purchases and printing costs for an Information Room are likely to run to about £1,000 for each member of its staff. The information records of the *small* office need take up little usable floor space, but a full-time librarian needs a compact room which can preferably be locked when he is out: one should probably allow 150 ft.^{2} per member of its staff, more if study tables are provided.

Function of an office information room

In large architects' offices the Information Room renders much the same services as are provided in industrial concerns by information officers, whose corporate body in this country is ASLIB (Association of Special Libraries and Information Bureaux). ASLIB has not produced any specialized study of the problems of architects' or builders' information services, but much general information on documentation, library practice, classification systems and mechanical aids can be found in the publications of ASLIB and other organizations which are listed in the bibliography at the end of Part II.

A full-scale Information Room would have the following functions:

1. To receive all forms of information from outside, subscribed or unsolicited, and to retain and file such of it as is likely to be useful.
2. To circulate and lend them through the office.
3. To hold directory information on contractors, consultants, etc.
4. To write away for new information known to be available.
5. To keep existing information up-to-date.
6. To find information in the library when needed by the architects; making the necessary indexes to help locate it.
7. To act as a channel for enquiries to outside organizations.
8. To undertake the collation of information on specific subjects.
9. To keep such records of past jobs, development work or research as may be useful on new jobs.

technical section

10. To hold stocks of standard drawings, specifications and information books.
11. To ensure that the existence of new information is adequately advertised round the office.
12. To supply data for public relations and for exchange with other bodies.

These functions can be satisfied in very similar ways in private and in public offices; but in the latter administrative procedure may make it difficult for the architects to plan their records in the best way to suit themselves, and where bulk purchasing arrangements are in force the records for manufacturers' products will be more complex.

In offices which employ their own specialists, their own information sources can generally be included in the architects' library. The extent to which quantity surveyors' information can be included is discussed in Section 19.

There are two special types of office which are not specially catered for in this article:

(*a*) The office attached to a private company, where the link with the "client," both as regards his planning requirements and his finance, is particularly close.

(*b*) The architects' office attached to a large firm of contractors, a possible anticipation of the building team of the future. Here the architects' own immediate library dwindles to a minimum, since their sources of information lie mostly in the other departments of the firm: on costs in the Estimating Department, on products in the Central Buying Department, on building technique in the Research and Development Section, and so on.

Limitations of an information room

If an office is too small to employ a full-time librarian, or to do more than a minimum amount of filing and indexing, does it mean that it cannot produce as good architecture, in its own field, as the larger offices? Almost certainly not. There is evidently a danger in assuming that the only useful information is on paper, and that if it is filed it will in fact be used. A large number of small offices doing good work believe firmly in the principle of going out for up-to-date information, when it is needed, to the right *man*, either in industry, in the research organizations or among their colleagues; they believe that a reliable but selective memory and a wide professional experience cannot be replaced by any amount of analytical records. This is a healthy attitude, and resistance to increased paper-work is very understandable in a profession which is already neurotic about the dwindling openings for the expression of its creative and artistic talents. In a larger office the duplication of effort involved in such an approach becomes uneconomic; but in the largest offices of all even the best Information Room may get bogged down. If the architects have to go up and down stairs, or outdoors, to reach it, or if it is slow in delivering the goods, the architects will revert to individualistic methods of collecting and storing information. The same will happen in offices where teamwork is poor, and staff are unwilling to pool their private hoards.

In the not-too-large office (in the range of 20-50 architects) a centrally located and efficiently run Information Room is greatly appreciated; it ensures continuity of experience and uniform sharing of information through the office, and a sense of relief to the individual architect that he does not have to shoulder the constant burden of keeping his own information files up-to-date.

PART I: THE HANDLING OF TRADE LITERATURE

1. Trade literature may arrive in the office in a variety of ways:

(*a*) Unsolicited delivery through the post.

(*b*) Left by travellers. The librarian can usefully act as first line of defence against visiting salesmen, particularly if near the reception desk.

(*c*) Written for by the librarian using the enquiry forms enclosed in periodicals. Extensive sets can also be obtained from the Building Centre on demand.

(*d*) Written for by office staff for a particular job. In some offices all such requests are canalized through the librarian; otherwise catalogues should preferably be given to the librarian on arrival for indexing and booking-out. The same applies to material received at home or at exhibitions, etc.

(*e*) Written for by the librarian on a standard enquiry form to check whether a catalogue more than, say, two years old, is still the latest issue.

Offices which want to reduce their paper-work will be chary of doing anything to provoke a deluge of catalogues; large offices doing work in the public eye will get it anyway.

2. Some offices may paste periodical references to new trade products (such as "The Industry," "Mosaics," etc.) into a looseleaf *products information book* arranged in the same classification as trade literature, as a basis for informing the staff or asking for fuller literature; this might be combined with price lists.

3. Some offices subscribe to a trade literature distribution service such as *Classifile* or *Specifile*, though their coverage is so small that they do not replace other sets of trade literature files. There is a widespread desire to see existing or new distribution services expanded to provide a British equivalent of the 6 volumes of Sweet's Catalogue, for which the Architect's Standard Catalogue is an inadequate substitute. Even Sweet's, though, does not entirely eliminate the need for separate catalogues.

4. The MOW Library Bulletin includes a fortnightly list of new trade catalogues, for the information of its regional libraries and of outside architects. This list is being presented in such a way as to give a complete list of the MOW's holdings by November 1957, which can be indexed on cards by cutting up the previous two years' Bulletins. The Bulletin may be used as a check on new products, but few architects' offices are likely to go to the trouble of cutting it up.

Processing of trade literature

5. On arrival, literature is marked with a stamp

technical section

Filing equipment

Michael Ventris prepared the following definitions of the different kinds of storage and stationery items mentioned in his report and illustrated all but two of them (K and P) with his own drawings.

a

(*a*) FOLDER: *a sheet of manilla paper olded in two, holding loose papers.*

b

(*b*) WALLET: *a large expandable envelope or holding loose papers.*

c

(*c*) BINDER: *a stiff folder holding holed paper on prongs.*

d

(*d*) SPRING-BACK BINDER: *book holding unholed paper under pressure.*

e

(*e*) LOOSE-LEAF BINDER: *book holding holed paper on openable rings.*

f

(*f*) BOX-FILE: *a cardboard box (3 in. × 14½ in. × 10½ in. for foolscap), preferably with spring clip and stiff subdivision sheets.*

g

(*g*) VERTICAL FILING CABINET: *a set of metal drawers holding folders, wallets or binders in a vertical position.*

containing the name of the office, the word LIBRARY, and space for (*a*) classification, (*b*) date of receipt, (*c*) copy number, if necessary: this stamp will be in wide use in the library for other things. Thin trade pamphlets are stamped on the front cover in the top right corner: a blank space for the "architect's own classification" should out of courtesy be left by manufacturers even where they conform to some numbering system of their own—and the same applies equally to all other publishers of information sheets and articles intended for filing. Stiff catalogues in book form will be stamped on the first inside page and only the classification lettered on the spine. On dark surfaces it may be necessary to use white ink, or to stick or clip on labels or tags on shiny surfaces: this problem applies to other books in the library as well. The literature is then indexed (Section 17).

6. Send a standard protest card to the manufacturer if the sizes do not conform to BSS 1311:1955 (11 in. × 8½ in. or 8½ in. × 5½ in.), for which templates can be drawn on the wall.

7. Some offices write to ask for price lists to accompany all trade literature; these may be filed with the literature, or in separate files, or combined with other data on products (Section 2), or passed to the QS: several copies may be asked for.

8. Some offices ask manufacturers to fill up a questionnaire on products (including data not generally included in catalogues, names of local representatives and suppliers, delivery periods, etc.), from which the library prepares a book of *technical record sheets*. A complete set of such sheets, duplicating the trade literature, is probably superfluous: the results of such initial enquiries can be entered on the "*shelf list*" cards for trade literature (Section 17b).

9. The librarian may prepare a weekly bulletin of new catalogues received; this may have little propaganda value by itself, and in a smaller office it is more informative to circulate the catalogues themselves.

Storage of trade literature

10. It is almost universal practice to divide manufacturers' literature into 2 groups: (*a*) thin pamphlets, (*b*) book catalogues.

11. Three chief methods of storing thin trade pamphlets are used: (*a*) An open wall-shelving slotted to take adjustable vertical divisions (or horizontal divisions if the pamphlets lie flat), dividing the space into narrow pigeon-holes. The system takes up only a shallow depth, and it is quiet; but it is difficult to clean, to lock up, to expand for the insertion of new material, or to remove sections in a cohesive file, or to combine cuttings with them.

(*b*) In box-files (about 10s. each). These are cheaper and quieter than filing cabinets, and stick out less; but a box-file completely filled becomes rather heavy and difficult to thumb through, and its borrowing removes an inconveniently large section of material.

(*c*) The best and most widely-used system of storing trade pamphlets is in vertical filing cabinets, in which the drawers are provided with a continuous concertina

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First impressions

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technical section

Filing equipment continued

h

(*h*) FILING UNIT: *a portable metal box instead of a filing drawer.*

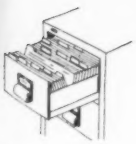
i

(*i*) DISTRIBUTOR: (*collator or sorter*): *a portable box with divisions for preliminary sorting.* (*These two may be on wheels.*)

j

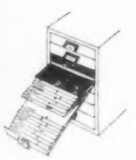
(*j*) INDEX NOTE-BOOK: *a notebook with pages for each number or letter, with thumb-index cut down outer margin.*

(*k*) SPRING-BACK *or* LOOSE-LEAF INDEX BOOK, *in which new entries can be inserted at any point.*



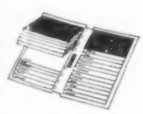
l

(*l*) CARD INDEX: *a drawer-full of cards or stiff slips in alternative sizes* (3 *in.* × 5 *in.*, 4 *in.* × 6 *in. or* 5 *in.* × 8 *in.*), *subdivided by* guide cards *with upstanding tabs, available in* 3 *or* 5 *alternative positions and blank, numbered, lettered or with insertable titles.*



m

(*m*) VISIBLE RECORD TRAY: *thin drawer containing an array of overlapping cards or sheets, on which the titles are visible without thumbing; made in same sizes as index cards or up to foolscap size. Visible indexes are immeasurably quicker and easier to use than "blind" index cards, but take up more room and cost about* 10 *times as much. They may be worth it for a few frequently-used records.* (*Roneodex, Kardex, Shannovue.*)



n

(*n*) VISIBLE RECORD BOOK: *a similar array, or set of arrays, in book form.* (*Shannoleaf, etc.*)

o

(*o*) VISIBLE STRIP INDEX: *short entries of* 1-3 *lines inserted as separate strips into a frame, which is assembled in book form or on a free-standing radial stand.* (*Linedex, Stripdex, Chaindex.*)

(*p*) CHARTING SYSTEM: *adjustable wall display for tabular data and progressing* (*Graphdex, Cardograph*): *in Schedugraph the progress display is combined with a visible record card for other information.*

of interlocking pockets. The upper spine of each pocket allows a celluloid-protected title to be inserted, visible without thumbing, as well as a variety of coloured signals to indicate action required, items borrowed, etc. The pamphlets themselves are kept in folders dropped into the pockets. If ordinary folders or binders are inserted directly into filing cabinet drawers, which is the cheaper solution, they will sag and become dog-eared; but this can be improved by adding a number of stiff cardboard dividers. Spare metal chassis and concertina can be bought for modifying an existing cabinet. Some small offices manage with only one drawerful of trade pamphlets, and few of the largest will need more than 12. Libraries which keep a wide cover of manufacturers' literature for directory purposes will fill more space, reaching 44 drawers at the Building Centre and 64 at MOW. A fully-equipped four-drawer unit costs about £40.

Classification of trade literature

12. The purpose of classification is to give each item of printed information a symbol by which it can be simply filed and found again in one place and one place only. Detailed systems for achieving this end are the subject of continuous debate by librarians and documentalists, but broadly speaking there are four main methods of arranging items of information:

(*a*) In natural alphabetical sequence, either of the normal English names of the things or operations involved (such as *Acoustics—Adhesives—Airports—Aluminium*, etc.), or of the names of people or places.

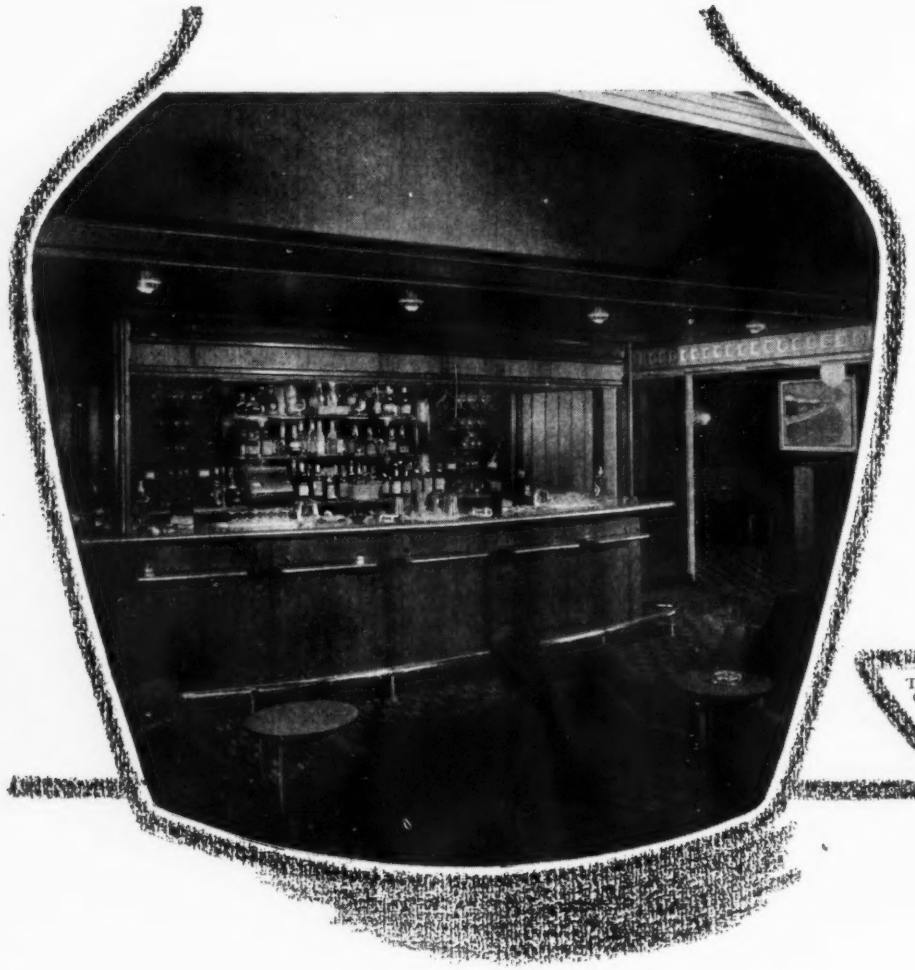
(*b*) In natural numerical sequence, such as dates or consecutive receipt numbers.

(*c*) By a pre-planned system of numbers or letters which are intended to cover a given subject according to some logical grouping of ideas or operations. It is also possible to arrange the subject headings in a logical non-alphabetical order *without* replacing them by numbers (e.g. *Limes—Plasters—Cements*, etc.), but this puts a heavy strain on filing clerks who do not know the classification backwards. The system of numbers should always have English key words added, on the titles of files and pigeon-holes (and on information sheets), to help orientate the user: the principle to follow being "file away by numbers, find by names."

(*d*) By a pre-planned system which is intended to cover not only a given subject but the *whole* of human knowledge. Such a system is the UDC (Universal Decimal Classification), whose sections appropriate to architecture and building are published by the Bouwcentrum, Rotterdam, as the *ABC*. No offices appear to use it for trade literature, though some large libraries use it for books (see Section 23 and Section 54).

The possibility of a single overall classification for all an office's information is discussed in Sections 53-54: such a system will not, of course, apply to an office's current job and administrative records, which will be filed on a variety of different principles to suit the work in hand.

13. Systems which I have found for classifying trade pamphlets are as follows:



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

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technical section

(*a*) By manufacturer's name, either entire or abbreviated to the first three letters. This system is efficient for libraries which hold pamphlets in order to answer individual directory enquiries, but for normal design purposes it has the great disadvantage that alternative products cannot immediately be compared with each other.

(*b*) By consecutive numbers corresponding to the order of first receipt from the firm. This has all the disadvantages of (*a*), with the need of an additional index before even the manufacturer can be located.

(*c*) According to a fixed alphabetical list of items, which can be drawn up from such indexes as that to *Specification*. The MOW Library Bulletin indexes trade literature on a similar system, but adding numbers (e.g. 101—*Abattoir equipment*, 102—*Abrasives*, etc.).

(*d*) According to specification trade headings corresponding to those in BSS 685, *Specification*, *Architect's Standard Catalogue*, etc. ; each being numbered and subdivided.

(*e*) On some system of logical subdivision worked out by the office ; this might run from A for *preliminaries* to F for *furnishings*.

(*f*) On a subdivision by *elements*, designed to correspond with cost breakdowns published in the Press or by MOE or calculated in the office. The choice of elements needs careful thought: for instance if "*decorations*" are not included as a separate item an arbitrary place must be chosen under which to file information on *Paints*.

(*g*) By Bruce Martin's *Table for the co-ordination of building material* used for modular co-ordination studies at BSI ; first published in AJ, January 13, 1955, and since somewhat modified. The Brisch Building Classification, designed for the sheets of the *Modular Catalogue*, gives numbers to the headings of the *Table*, and adds further sections for *trade operations*, *properties*, *building types* and *builder's plant* ; but it does not seem ideal either for arranging trade literature or general information materials (see also Section 54).

(*h*) By the 45 numbers (further subdivided by letters) of the AJ Information Sheets, by which *Electric Water Heaters*, for example, are filed under 32 D. An alphabetical index to the AJ Sheets is periodically published, combining manufacturer's names, trade names and English products words ; and this can serve as the *subject word index* to the classification (Section 17a), with the help of Sheet 1.A1 which gives a synoptic chart of the system. The largest number of offices appear to use this system, which has the advantage that the AJ Information Sheets can be filed directly with the corresponding pamphlets, if necessary in a second copy additional to the bound sets.

(*i*) Note also the "*Standard Filing System* for filing information on the materials, appliances and equipment employed in construction and related activities," published as Doc. No. 172a of the American Institute of Architects. This does not correspond to the classification of Sweet's Catalogue, nor do Sweet's abridged catalogues all have the same breakdown.

Filing of trade pamphlets

14. Where the AJ Information Sheet classification is used, each pamphlet is marked on receipt simply with a number and letter, *e.g.* 32 D: but a further letter or number may be added to distinguish different manufacturers. With the addition of the date of receipt, this "call number" may be sufficient to identify the particular pamphlet in a loans book (*e.g.* 32D/G/10.5.56). The pamphlets are filed in folders, on the outside of which the subject classification and key word are lettered, together with a list of manufacturers included; and a note if information on the same products is available in omnibus pamphlets filed elsewhere, or in catalogues on the shelving, or in the form of samples. Where the material in a given folder exceeds a given bulk (say 12 pamphlets) the folder should be subdivided: two or more folders can of course be kept in the same classified pocket.

Lending

15. Various methods of lending derived from library practice can be used. These must allow for borrowing either an individual pamphlet or a whole folder.

(*a*) A distinctive card or card pocket may be attached in the position of the actual item which has been removed, recording the borrower's name, number of the item and date. The date may be shown by means of a coloured signal to act as a "tickler" when the item has been out a given length of time. Each member of the staff may be allotted a certain number of cards with his name on for use in this way.

(*b*) A similar card may be attached to the corresponding entry in the shelf list (Section 17b), etc.

Except in very large offices such methods of booking out library material are unnecessarily complicated; and it will often be enough for the librarian to keep a book in which all loans are recorded consecutively within a few simple categories (*e.g.* trade literature/samples/books/periodicals/etc.). It is difficult for the librarian to keep track of material if the borrower passes it on to a third party without telling him, and unless there are agreed pigeon-holes for borrowed material in each drawing office from which the librarian can reclaim it at short notice.

Trade catalogues in book form

16. These are shelved in the same classification as the pamphlets. It may be necessary to adopt a "comprehensive" section for omnibus catalogues and for *Specification*, *Architect's Standard Catalogue*, etc. A small office may not need more than 5 ft. run of book catalogues, but a large Information Room may need 30 ft.; the Building Centre keeps 18 ft., MOW 70 ft.

Indexing of trade literature

17. Where a large amount of trade literature is filed under elements or AJ Information Sheet numbers, it may be necessary to keep 5 indexes.

(*a*) A book or strip index of English words, alphabetically arranged, giving the classification numbers under which information can be found, *e.g.*:

They've got it there, we can have it here!

Scene in a Canadian Home—time, mid-winter. Double-glazed windows are a recognised feature of every modern home in Canada and the United States. That's why they're always cosy and warm while we shiver in a much less extreme climate and waste our costly, precious fuel in trying to combat our bitter brand of penetrating cold. The effective way of increasing winter warmth and cutting rising fuel bills, is to fit Pilkington's

'INSULIGHT' DOUBLE GLAZING UNITS

Write for full details to Pilkington Brothers Limited, St. Helens, Lancs. (Tel: St. Helens 4001) or Selwyn House, Cleveland Row, St. James's, London, S.W.1. (Tel: WHItehall 5672-6). Supplies are available through the usual trade channels.

'INSULIGHT' IS A REGISTERED TRADE MARK OF PILKINGTON BROTHERS LIMITED

technical section

Aluminium 10 B
Angle beads 26 J
Asbestos 22 D

This can be combined with the subject word index for classifications of other materials (*e.g.* cuttings, books) if these are different; if each entry is expanded to a separate card, subject references to such things as official publications, BRS Building Digests, etc., can be added (see Sections 53 and 54).

(*b*) A card for each pamphlet (or set of pamphlets) arranged in the same order as in the drawers, *e.g.*:

32 B Water heating/units/solid fuel.
1 TAYCO Robert Taylor & Co. received 12.5.56.

This corresponds to the " shelf list " of a library's book stocks. It is superfluous in the small office, but in a large library it can be expanded to contain information on the names of local representatives and suppliers, prices, delivery periods, jobs on which used, and comments derived from a questionnaire to job captains on completion and from maintenance—including black-listing if necessary. The existence of catalogue books or samples for the same products can be noted on the same cards, or on cards of a different colour kept in the same order.

(*c*) A card for each manufacturer's name, under which are listed the different products which he makes and the numbers under which they are filed.

(*d*) A book or strip index of *trade names*. Incomplete lists of these are included in a number of different directories and yearbooks.

(*e*) A card index of manufacturers', suppliers' and sub-contractors' addresses, if these are not included in (*c*).

In the London area, information under (*c*), (*d*), (*e*) can be obtained on the telephone from the fairly full records kept by the Building Centre. Elsewhere they may need to be supplemented by a fairly extensive holding of directories and yearbooks, including the GPO classified directories for London and other areas. Use can also be made of the Building Centre's series of classified information sheets which list manufacturers of a given product and include a short bibliography of BRS Digests, etc., on the same subject. The Bulding Centre does not, as yet, publish a classified catalogue cross-indexed under products, manufacturers and trade names, such as the excellent catalogue of the Swiss Baumuster Centrale in Zürich.

Samples

18. Samples are a perennial headache. They are hard to keep clean and tidy, and many small offices relegate them in despair to a dark cupboard or out-house. The need for samples varies widely with the nature of the work. Many offices keep only a minimum of basic small samples such as glass, tiles, timbers, floor finishes and paints, and collect others only for the duration of particular jobs. Offices specializing in high quality interior work will need to keep a larger selection of materials for discussion with the client and for design purposes; public offices operating bulk purchase arrangements or development work will try to keep samples or mock-ups of the items involved, and where alternative tenders for such things as ironmongery are required then numbered display boards are useful to visiting contractors. The latter are also useful for the staff, together with sets of wood and metal sections of different size as a " scale " check in detailing.

A general criticism of samples is that they are frequently too small to give an adequate idea of the material; bricks on the other hand are penalizingly bulky and heavy.

Samples should be labelled by the manufacturer; or at least provision should be left by him for sticking or tying on a permanent label. The architects' label should state the name of the product and manufacturer, the date of receipt and the classification number. Where the number of samples is small, it is neatest to keep them in drawers or in cardboard boxes of about shoe-box size. Larger numbers will be kept on shelves, the shallower and more closely-divided the better.

Cost information

19. The majority of offices regard the analysis, storing and provision of information on building costs as the province of the quantity surveyor. He may work in a separate building and a separate department, and his records may in that case be regarded as completely divorced from the architects' Information Centre. If the latter does keep cost information, it may have to deal with the following different items (just how useful they all are is of course another question):

(*a*) *" Theoretical " or " strategic " cost information of a general kind*

Current prices and rates filed from the journals.
Laxton's or Spon's price books.
Cost analyses published by journals and organizations.
Cube or square foot prices published by journals and organizations.
Notices of changes in current prices and rates, which may be passed on in internal bulletins.

(*b*) *" Tactical " cost information*

Subcontractors' and suppliers' quotations, of which extra copies (especially if competitive for the same items) may be filed under product headings (see Sections 2 and 63).

Analyses of alternative prices for structures, details, elements or products prepared by consultants, architects or quantity surveyors, of which extra copies may be similarly filed.

Priced bills of quantities (likely to remain with the job files).
Record of tenders received (Section 64).

(*c*) *Records of completed jobs*

Client/contractor and client/architect accounts, including certificates and variation orders (likely to remain with the job files). These may include progress charts or running financial statements showing the rate of spending (for examples see AJ for 19 May, 1955, pp. 675 and 678).

Final statement of cost of job in main contract and sub-contracts entered on job history sheet (Section 56 c), and including cost per ft.^{2}, per ft.^{3}, by the storey enclosure method, or cost analysis for guidance in the preparation of cost plans for future jobs.

Information on the office's own costs in running a job is discussed in Sections 57 to 59.

building illustrated

Laboratories at Enfield, Middlesex

LABORATORIES

in GREAT CAMBRIDGE ROAD, ENFIELD, MIDDLESEX
designed by G. A. JELLICOE and PARTNERS; partner-in-charge ALAN BALLANTYNE
assistants A. M. HADLEY and D. S. SINCLAIR: consultants (structural) OVE ARUP
and PARTNERS: (heating) J. C. KNIGHT; quantity surveyors H. J. VENNING and PARTNERS

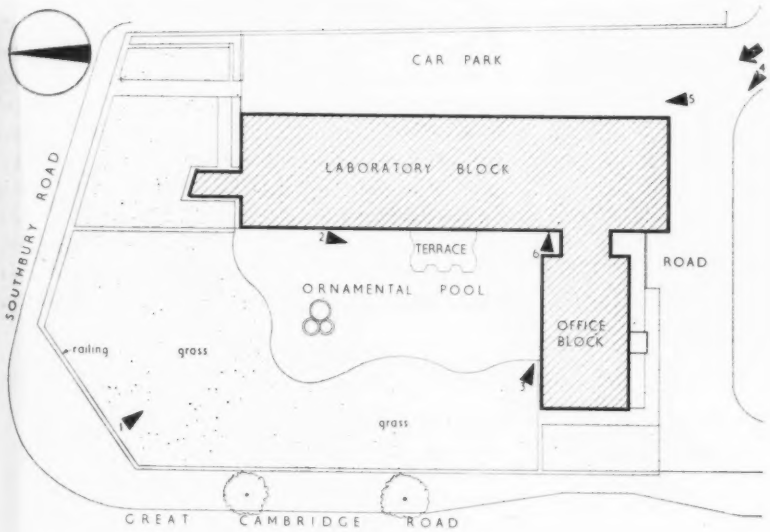
The urgent need for scientific and industrial research has resulted in a national policy of intense laboratory building and many architects are being faced with the difficult problems raised by this sort of work. The building illustrated in this article is the first in this country to be devoted to coloured television, and is also the first building entirely devoted to research to be analysed in the JOURNAL. A model of this building was exhibited at the Salon de Paris, 1956, Exposition de l'Architecture Monumental, and gained a First Medal.

Viewpoint 1: general view of the building from the north, with the laboratories on the left and the offices on the right.

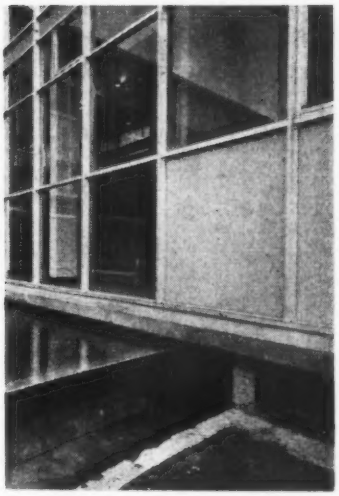
building illustrated

Viewpoint 2: night view of the office block. The site is at the junction of important main roads, and the opportunity has been taken to use the building for advertisement by elaborate external colour floodlighting of pool and building, and internal lighting of the main staircase and well. All light fittings were supplied by the client.

building illustrated



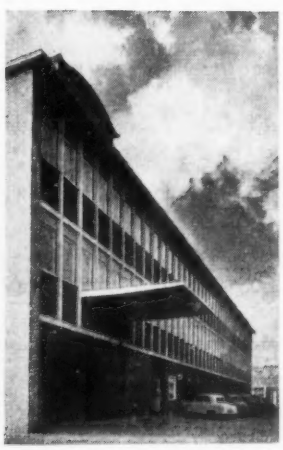
Key plan showing photographic viewpoint

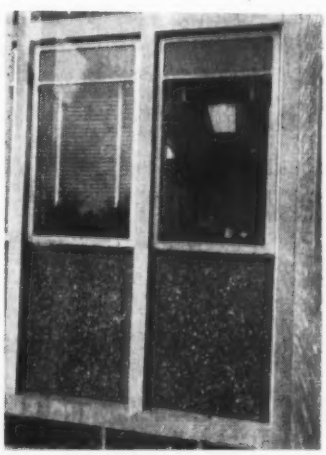


LABORATORIES

at ENFIELD, MIDDLESEX

designed by G. A. JELLICOE and PARTNERS

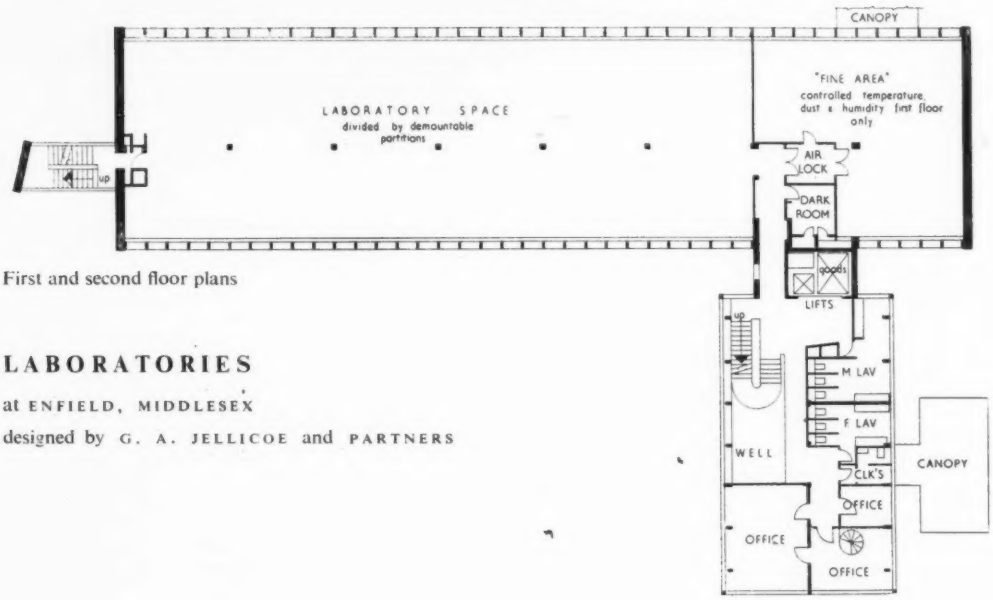




Top, right (viewpoint 3): close-up of the junction of the pool and the office block. The pool walls and spillway are monolithic with the black upstand wall beneath the sill and separated from the ground beam behind this by asphalt tanking. To the right of the spillway the wall beneath the sill is the exposed ground beam carrying the cantilevered floor slab which forms the sill for the curtain walling. Above, left (viewpoint 4): general view of the building from the south-east. The client required a canopy to the entrance for the offices on the left to be large enough to cover the occupants of two cars whilst alighting. This canopy is suspended from beams which are cantilevered from the first floor slab. The end wall to the laboratory block is 18 in. brickwork acting as a stiffener to the r.c. structure. The door and roller shutter in this wall are to the calorifier and refrigeration plant room. Above, centre (viewpoint 5): east elevation of the laboratory block with double doors (and canopy over) to the stores and unpacking room. The door to the right of this is the main staff entrance. The canopy cantilevers 13 ft. and is painted fair-faced r.c. with an R.S.J. cast-in to support a 2-ton hoist. The canopy is an extension of the first floor slab in the form of an 11-in. upstand beam which is behind the pre-cast facing slabs here used as permanent shuttering. 13½ in. solid brickwork below the canopy is faced with blue pressed engineering brick. Above right (viewpoint 6): close-up of cladding to the laboratory block. 12-in. × 6-in. r.c. cols. at 4 ft. 0 in. c/c and 8-in. pot floor edges are clad with artificial Portland stone. Below sill, facing slabs are of 2-in. pre-cast concrete with an exposed aggregate of Genoa marble. External sill is slate with aluminium alloy fixed lights above. Immediately above the sill in the bottom rail of each window small screwed cover plates prevent driving rain from entering weep holes which drain a condensation channel between the fixed light and internal opening light.

building illustrated

Air-conditioning plant for the laboratories and plenum ventilation plant and heater batteries for the offices are housed in this two-deck fan chamber, fresh air being drawn through inlets before passing through filters. In the case of air conditioning for the "fine" area, this forms the first stage only, the air also passing through "sub-micron" canister-type filters. Roofs, other than the shell concrete over the fan house, are of hollow pot construction finished with asphalt and white spar chips on screed and woodwool. Small ventilators are built in to assist moisture trapped below asphalt to escape. Part of the roof is paved for external experiments.

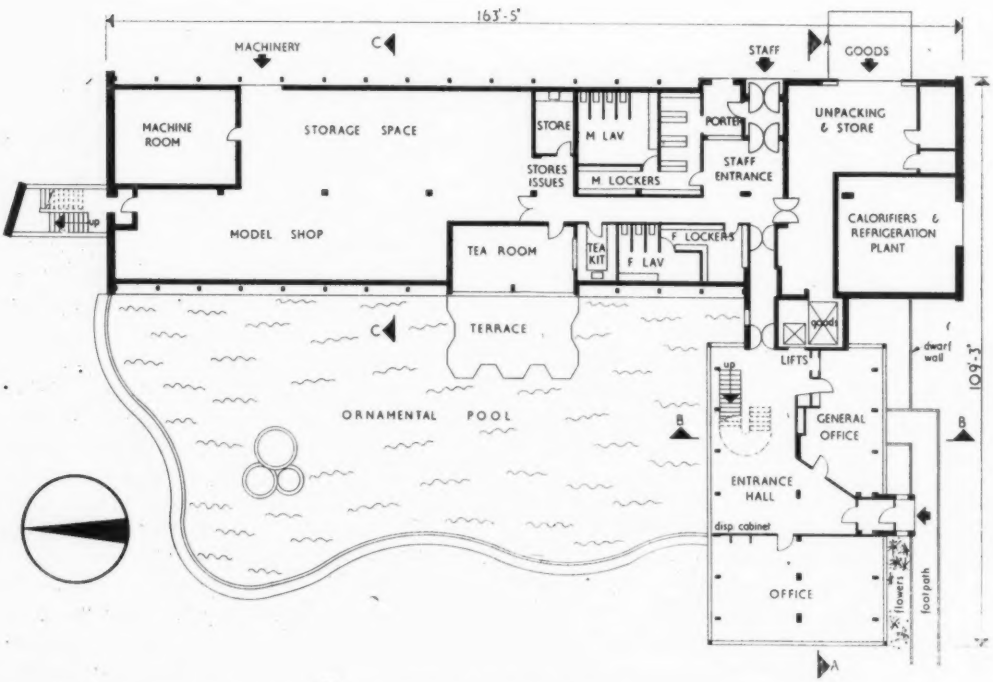


First and second floor plans

LABORATORIES

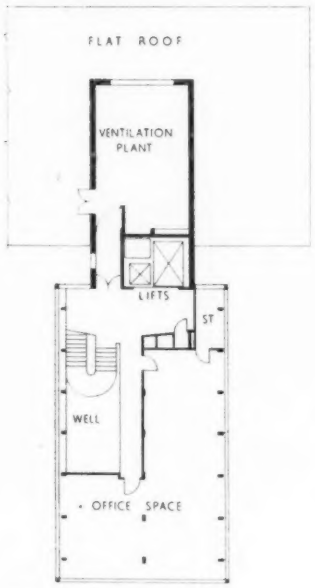
at ENFIELD, MIDDLESEX

designed by G. A. JELLICOE and PARTNERS

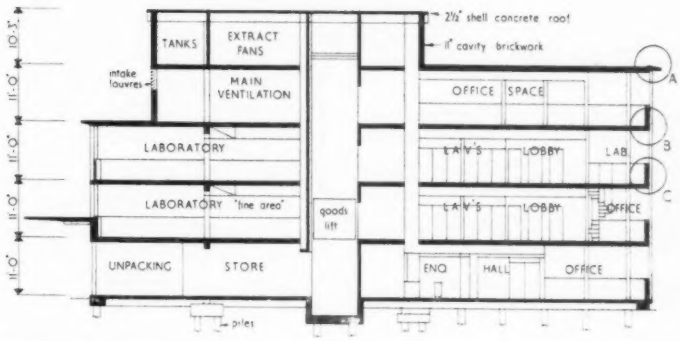


Ground floor plan [Scale: $\frac{1}{32}$" = 1' 0"] (Sections B-B and C-C on page 706)

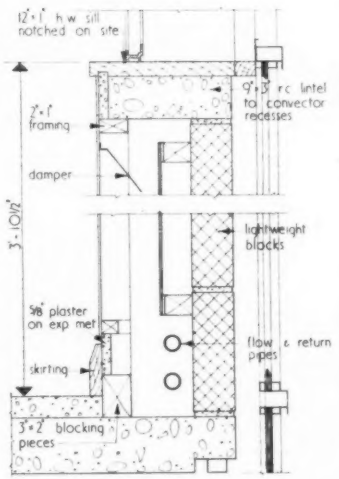
building illustrated



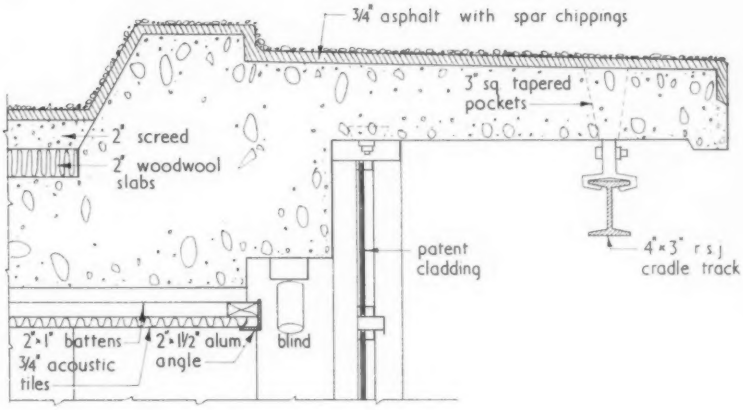
Third floor plan

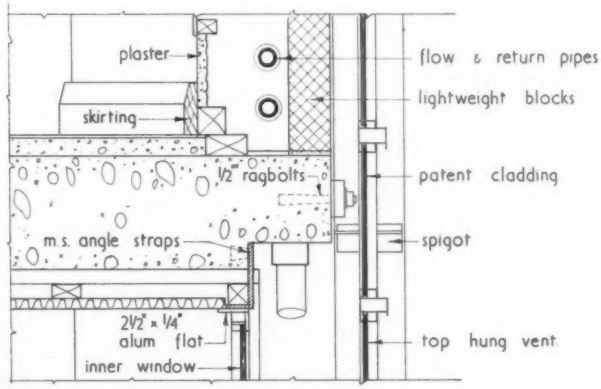


Section A-A [Scale: $\frac{1}{32}$" = 1' 0"]

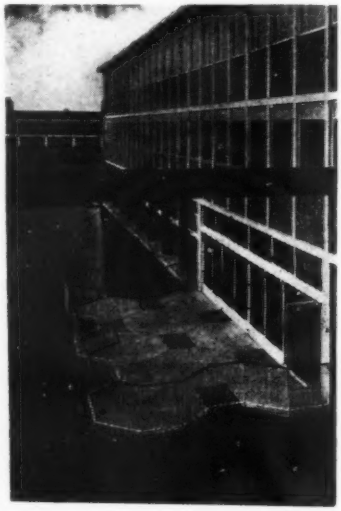


Detail at C [Scale: 1" = 1' 0"]



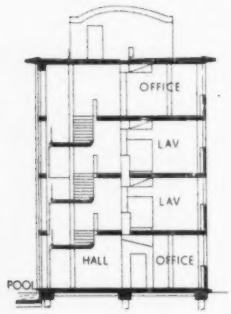


Details at A and B [Scale: 1" = 1' 0"]

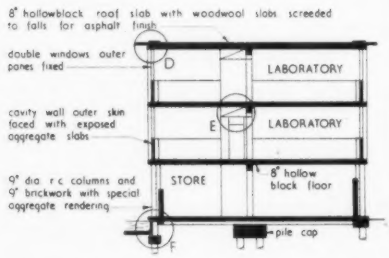


Left: the pool provides cooling water for the refrigeration plant and laboratories and is a source of low-grade heat for heat pump operation. The terrace, which can be used in the summer as an extension to the tea room, is a roof to the pits which house the fountain pumps and colour-change equipment for floodlighting.

building illustrated

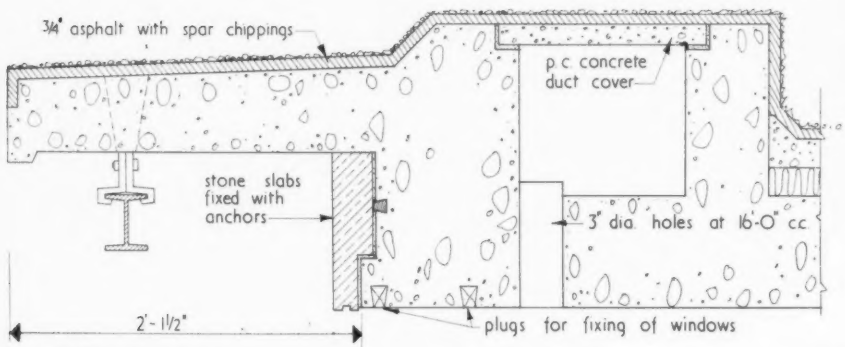


Section B-B [Scale: $\frac{1}{32}$" = 1' 0"]

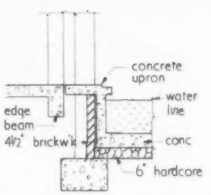


Section C-C

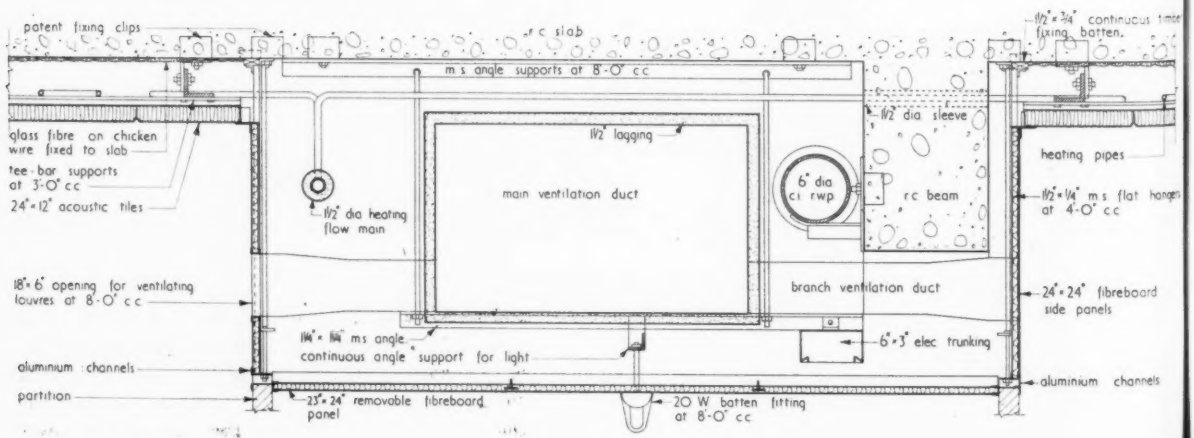
Right: eaves detail of the laboratory block. Internal windows of the double glazing are opening lights to allow for internal cleaning. External fixed lights are cleaned from a cradle suspended from the continuous 4 in. × 3 in. r.s.j. which is carried by the in-situ concrete eaves. Below right: close up of the junction between the eaves of the laboratory block and the external wall of the two-storey plant room. Running vertically through the entire building, and including separated foundations, there is a ½-in. expansion joint which can be seen in the brickwork on the left. This is filled with a sugar cane fibre board with an external mastic pointing. Facing bricks are yellow sand-faced wire-cut. White spar chips are used as a roof finish to reduce solar heat transmission and paving is provided within the upstand around the perimeter of the roofs for window cleaner's carrying a cradle.



Detail at D [Scale: 1" = 1' 0"]

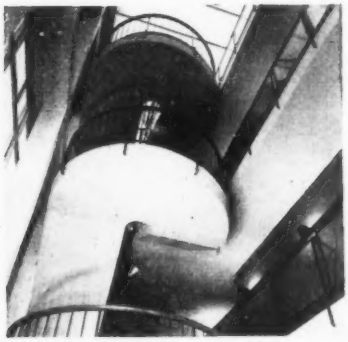


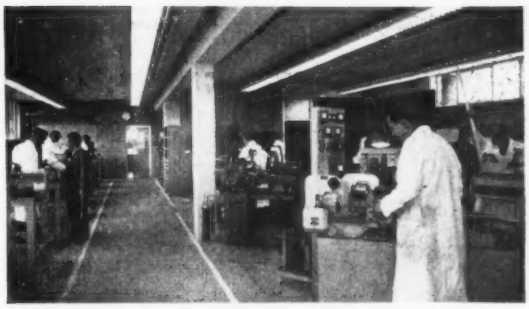
Detail at F, handed [Scale: ½" = 1' 0"]

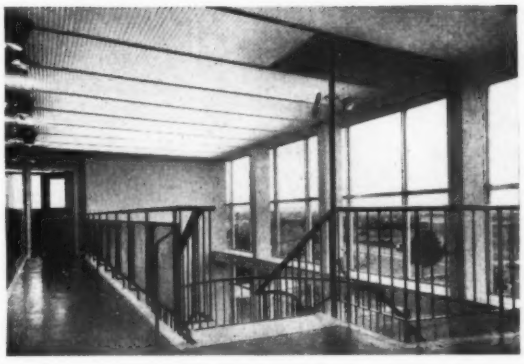


Details at E [Scale: ½" = 1' 0"]

building illustrated

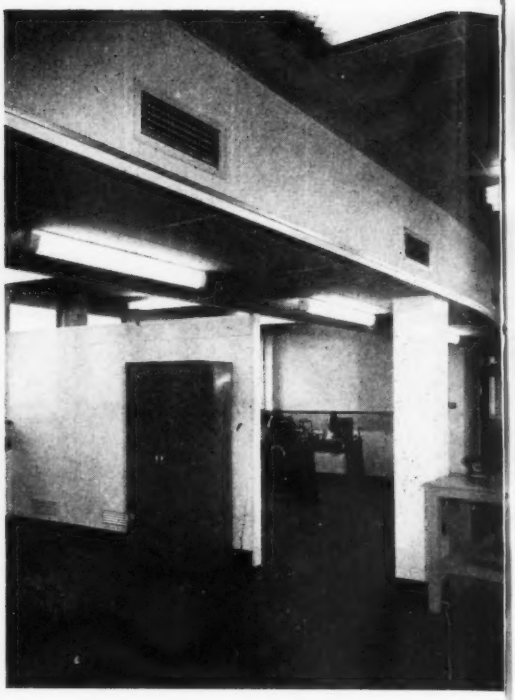






Top right: the machine shop on the ground floor of the laboratory block has a 9-in. concrete floor which floats independently of the main structure to isolate machine vibrations from the laboratories above. Walls are finished with red cement glaze applied straight to the brickwork and the ceiling is sprayed with pale blue vermiculite render to give fire grading and absorb some sound. Right: main staircase in the entrance hall. This is an r.c. double cranked slab spanning from floor to floor without intermediate support. Treads are pre-cast white terrazzo with a non-slip mosaic nosing and risers are precast black terrazzo. Fascia and soffit of the concrete carriage are plastered and painted light grey. Main handrail supports are 1 in. diameter mild steel at 2 ft. 6 in. c/c with ½ in. diameter mild steel intermediate bars carried by 1½ in. × ¼ in. bottom rail and 1¼ in. × ⅜ in. core rail. Handrail is ex. 3 in. × 2 in. afrormosia. Black risers are used to obviate rubber toe marks. Above: main supports for balustrades to landings are of 1 in. diameter mild steel bar carrying the core and handrails and a welded frame of 1 in. × 1 in. × ¼ in. mild steel angle with ¼ in. obscured wire cast glass bedded in washleather and beaded in with ½ in. × ½ in. square metal fixing bead. Wall at the rear of the landing on the extreme right is painted a vivid orange. (*House & Garden* "Flame.") Right: laboratory on the first floor. Fume cupboards and laboratory benching were first designed by the architects and then put out to a specialist sub-contractor who detailed, made and fixed them. Between the double glazing, venetian blinds are provided to limit solar radiation effects and reduce the refrigeration load of the air conditioning plant to reasonable proportions under peak conditions. The blinds are fixed to a glazed-in plate the reverse side of which can be seen at the head of the window. Fume cupboard extracts are taken through this plate where required. Below right: the false ceiling above the main staircase is of 3 ft. wide corrugated plastic sheets supported by small aluminium tracks carried by hangers. Above the ceiling between the external and extreme left-hand wall are slung tension wires from which are suspended fluorescent tubes of various colours. By removing the section of the ceiling above the landing the tubes can be drawn along the wires and replaced. Lighting fittings were supplied by the client and fixed by the electrical sub-contractor. Obscured glass panels to balustrades on the left are provided to give a sense of security

technical section



Above left: enquiry counter off the main entrance hall. The flooring to the hall is of tiles made of Sicilian white and Carrara marble chippings set in a yellow matrix and costing 78s. 6d. a sq. yd. Walls are panelled with ply veneered with Indian silver grey wood, French polished. The r.c. column is finished with ¾ in. square dark-green glazed mosaic. Main entrance doors are double swing polished aluminium and glazed with ¼ in. polished plate. Above right: laboratories on the first and second floors have heated acoustic ceilings operating in conjunction with air conditioning which is fed to the rooms by main trunking concealed in the dropped ceiling running along the centre of the block. Grilles are at 8 ft. c/c. The return air from the rooms is discharged through gratings in the corridor partition units and then extracted through a ceiling grille and returned to the fan chamber. Sheet steel partition units can be erected at 4 ft. c/c at right angles to the external wall. Normally units are also erected parallel to the external wall under the edges of the dropped ceiling, thus forming an internal corridor. Left : double glazing on the first and second floor of the office block is used to increase thermal efficiency and to give some sound insulation from traffic on the main road below. Internal glazing is of standard steel section—externally aluminium alloy curtain walling.

analysis

LABORATORIES

at ENFIELD, MIDDLESEX
designed by G. A. JELLICOE and PARTNERS

CLIENT'S BRIEF: his stated requirements

Sylvania-Thorn Colour Television Laboratories Limited is a company jointly owned by Sylvania Electric Products Inc. and Thorn Electrical Industries Ltd. It was formed in 1954 to work in conjunction with the Sylvania Research Center, New York, on the problems of research and development of colour television. The initial programme was broadened to include research in the new field of semi-conductors, and it was visualised that from time to time the work of the laboratory would be expanded in directions as yet undecided.

The clients policy was therefore not to attempt to draw up a rigid list of requirements for the building, but to arrive at them by a series of discussions with the architects and consultants. This co-operation extended throughout the planning and detail stages of the work, and proved invaluable for the co-ordination of the many problems in a specialised laboratory.

Among the stipulated requirements was the question of speed. The development teams of scientists being assembled could not properly start work until the facilities of the building were provided, and an initial target was set of 18 months, from the appointment of the architects to the occupation of the building by the clients. (This was achieved in 21 months, although the building was not finally completed for 24 months from September, 1954.)

Accommodation was required for 150 people including approximately 50 trained scientists. On the basis of 200 sq. ft. gross area per person, this led to a total floor area of 30,000 sq. ft. Of this it was thought that approximately 12,500 sq. ft. should be laboratory space. Activities were likely to be in the general field of electronic engineering and physics, with only a small provision for chemistry and metallurgy. Special requirements in relation to the laboratory space were a dust free atmosphere, strict temperature and humidity control, reduction of noise from traffic and internal sources, such as workshop machinery and lifts, and utmost flexibility in the arrangements for laboratory services and the partitioning of rooms.

Administration offices were required to be separate from the laboratories, yet closely related to them.

Additional facilities to be provided were a workshop for about 20 men, goods reception and storage areas, a tea room with kitchen (a main canteen is being built on the adjacent Ferguson radio site) and lavatories and locker rooms for both sexes.

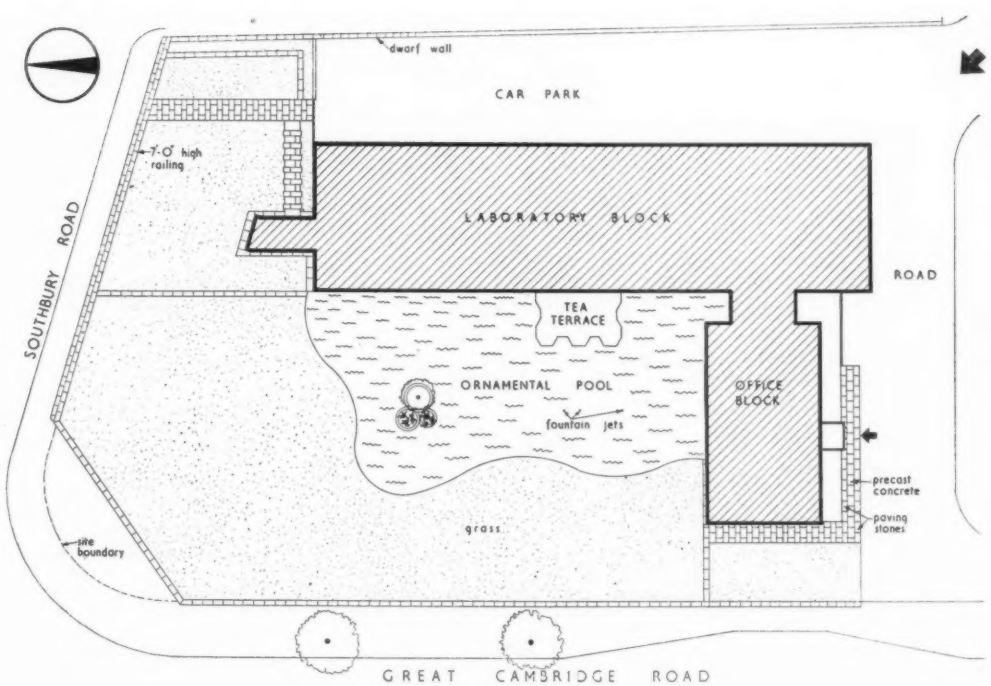
A main consideration was also that the building should not be too costly, either initially or for future maintenance.

SITE: topography, surroundings, access, planting

Area of site, 0·923 acres. The site is located at the junction of two trunk roads (the Great Cambridge Road A10 and Southbury Road A110) and forms part of a large area being developed by Thorn Electrical Industries. It was suspected that the land might be "made up" and investigation revealed that the site had at one time been excavated for brickmaking purposes and subsequently filled in with spoil from the Piccadilly Line Underground extensions. The site was reasonably flat but covered with scrub. The district is essentially industrial but main elevation of the building faces small terraced houses. The MOT did not permit vehicle access from either of the trunk roads and pedestrian access was only permitted from Southbury Road. Roads serving the building form part of the main development area. The area was completely cleared and a planting layout will provide colour and texture

PLAN: general appreciation and relation of units

The requirements of the building were divided broadly into two parts—the laboratories with their ancillary services, and the office administration block. These are linked by a third element of vertical circulation, expressed by the tower containing the lifts. The laboratory floors were planned as unrestricted space on a 4-ft module, with main ventilation trunking suspended centrally above the corridor space, giving room depths of 12 ft. and 20 ft. on either side. Services are contained in horizontal ducts below window level, with grouped outlets every 8 ft. Ground floor plant rooms and machinery shops are located below the laboratories on an independent slab isolated structurally from the main frame. Offices were planned for requirements which are not likely to be affected by changes in the objectives of research. The reception area was intended to be interesting and even dramatic. The manager had to be located centrally, but yet isolated to a certain extent from the rest of the working areas, as he frequently receives visitors, many of them from abroad. The site being on the corner of a main road junction, and visible to passing traffic, the



Site plan

analysis

building was arranged in the form of an L, with the laboratory as the long north-south arm, and the shorter office block on the east-west axis.

MAIN CONSTRUCTION:

general appreciation

The whole building is of reinforced concrete frame construction, supported on piles, with hollow pot floors and roof. The 4-ft. module reading externally on the laboratory block was dictated by the flexible partitioning whilst internally, column centres are increased to 20 ft. connected by a spine beam to allow maximum unobstructed space. The office block has its columns set back from the face of the floor slabs so that the whole could be encased by continuous curtain walling and at the same time provide space in front of the columns for the pipes feeding the convectors. The eaves of the roof of both offices and laboratories project to give support to a permanent cradle track for window cleaning, as the basic maintenance consists of washing only. This consideration led to the selection of aluminium external windows throughout the upper floors. The offices and lift shaft are separated from the laboratories by a continuous expansion joint and also have a 6-hour firebreak between them.

cost per sq. ft.	s	d
preliminaries and insurance	6	9½
contingencies	1	7¾

STRUCTURAL ELEMENTS

Work below ground floor level: foundation type, basement	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Piles	General	154 38 ft. long by 16 in. diameter rc piles, carrying pile caps linked in both directions by rc ground beams		Site investigation showed average of 19 ft. of made-up ground above ballast and brown clay. Blue clay at approx. 27 ft. down. The piling sub-contract was completed in 6 weeks. Capping strips and ground beams to piles below office block and north stair, which are exposed above finished ground level were shuttered and painted with bitumen		
Ground floor slabs	Offices and north stair	6-in. rc slab on 6-in. hardcore		The edges are cantilevered beyond the capping strips and formed to receive sill members of curtain walling		
	Model shop, machine and plant rooms	9-in. independent r.c. floating slab on 6-in. hardcore		Isolation of slab to prevent structure-borne vibration from reaching the laboratories above		
	Laboratory block elsewhere	7-in. rc slab on 6-in. hardcore		Increase in thickness due to increased span between capping strips		
				work below ground floor level	**5**	**11¾**

External wall and facings	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Facing bricks	North and south gable walls, laboratory block and north stair	18-in. load-bearing brickwork	"Golden" sand-faced wirecut facing bricks	End walls act as stiffeners to the rc structure. Yellow brick chosen in relation to general colour scheme		
	Lift well	4½-in. brick outer skin	As above	Bricks bonded to r.c. wall by copper wire ties		
	Upper floor plant rooms	11-in. brick cavity wall	As above	Wall is self-supporting as shell roof is carried on r.c. frame		
	Staff and goods entrance. Wall to car park	13½-in. solid brick faced with blue pressed engineering bricks		Colour change to accentuate entrances		
Rendered brickwork	Laboratory block and ground floor	Non-load bearing 9-in. common brickwork	Special aggregate rendering	Reddish colour to give recession and emphasize dissociation of ground floor from upper floor structure. Glass aggregate of rendering gives sparkle in sunlight or floodlighting		
Rendered columns	As above	R.c. columns 1-in. vermiculite backing to rendering	As above	Black rendering to diminish apparent thickness of columns		
Cavity panels	Laboratory block, 1st and 2nd floors	2-in. thick precast concrete slabs thickened to 4 in. at edges as outer skin	Exposed Genoa marble aggregate	Rich green-grey colour, particularly when wet. 4-in. foamed concrete blocks as inner skin		
Stone facings	R.c. columns and edges of floor slabs. Laboratory block 1st and 2nd floors	Artificial Portland stone		It was considered that exposed in situ concrete does not weather satisfactorily, unless special aggregates are used, involving applied treatment to expose them		
Curtain walling, offices and north stair	See under windows and glazing					
				external walls and facings	**4**	**4**

Frame or load-bearing element	*Location*	*Materials*	*Beam spans and column grids*	*Reasons and comments*
Beam and column	Laboratory block	Reinforced concrete		
	External columns, ground floor		12 in. by 9 in. at 8-ft. c/c	Edge beams are contained within floor slab thickness of 8 in. Upstand beams occur only where column spacing is increased to 12 ft.
	Upper floors	Reinforced concrete	12 in. by 6 in. at 4 ft. c/c	Column spacing on upper floors was determined by partition module
	Internal columns		12 in. by 12 in. at 20 ft. c/c	26 in. by 12 in. spine beams span between columns. Maximum economic span without increasing column size or beam depth, which would have interfered with partition layouts and ventilation trunking

analysis

Frame or load-bearing element: continued	*Location*	*Materials*	*Beam spans and column grid*	*Reasons and comments*	s	d
	External columns. Internal columns	R.c.	12 in. by 6 in. at 8 ft. c/c	To standardize shuttering profiles		
	Ground floor		15 in. by 8 in. at 8 ft. c/c	All beams within the office block are contained in the 8-in. thick slab		
	Upper floors		12 in. by 6 in. at 8 ft. c/c	Structural duct 3 ft. 2 in. by 2 ft. 10 in. overall has 4-in. r.c. walls		
	Lift well		6½-in. thick walls increased to 9 in. adjacent to laboratory	6-hour fire break (see structural fire precautions)		

Upper floor construction	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Hollow pot construction	All floors	6-in. thick hollow pots with 2-in. r.c. structural topping 8-in. thick solid ribs between pots	1½-in. vermiculite screed with 1-in. cement sand topping	Layout of pots in laboratory floors was determined by spacing of bolt fixings (500 per floor) for suspended heated ceilings and duct casings		
Solid slabs	Staircase landings	8-in. solid r.c.		Main staircase spans from floor to floor out of a cantilevered slab. Hollow pot construction would have been too weak for this area		
	Main entrance canopy	24 ft. by 14 ft. r.c. slab 3 in. thick at leading edge increasing to 8 in. at back edge, suspended from beams cantilevered from first floor slab	Fairfaced concrete, painted	Client required a canopy large enough to shelter occupants alighting from two cars		
	Goods entrance canopy	15 ft. 6 in. by 13 ft. r.c. slab 3 in. thick at leading edge increasing to 8 in. at back edge	Fairfaced concrete, painted	This canopy is cantilevered 13 ft. from the top edge of an upstand beam over the 12 ft. wide goods entrance. A r.s.j. is cast in to support a 2-ton hoist for unloading of heavy goods		
				frame and upper floor construction	**6**	**7½**

Staircases	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Main staircase, floor to floor. 11 ft. 14 risers to half-landing, 6 risers to landing, etc.	Entrance hall and office block	Reinforced concrete in situ. Plaster soffit to slab painted light grey	Precast terrazzo and risers in situ terrazzo semi-circular half-landings	Stair is designed as a cranked dog leg slab, and spans from floor to floor without intermediate support. Intention was to provide the effect of half-landings floating above each other within the entrance hall space		
North staircase. floor to floor. 11 ft. 10 risers to ½ landing, 18 risers to landing, etc.	Laboratory block	*In situ* r.c. carriage and treads	Black granolithic treads and risers with white carborundum nosing tiles. Fairface concrete sides and soffit of treads painted white, carriage painted blue	This is an emergency escape stair and is positioned to avoid interruption of main laboratory space. Raked north wall on future building line after widening of Southbury Road		
Spiral stair	Office block demonstration room	Precast r.c. treads with dark grey granolithic finish cast in. Threaded to 3 in. diameter steel column with r.c. filling bonded into floor slabs. Top landing cast *in situ*	Balustrade upright connects two treads and acts as a spacer between them	The offices on 1st and 2nd floors are designed " en suite " and the spiral stair gives vertical circulation between them independent of main staircase. This staircase will be illustrated as a Working Detail in next week's JOURNAL		
				staircases	**1**	**5½**

Roof construction	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Hollow pot	Laboratory and office block roofs	Identical to upper floor construction with reduction in reinforcement due to lighter super-imposed loading. Upstand edge beam ties tops of columns and from it is cantilevered eaves slab supporting cradle track for window cleaning	2-in. wood-wool, 1½-in. cement/sand screed, ¾ in. asphalt and white spar chips	Part of the laboratory roof is paved and strengthened for open air experiments. Guard rail round this area is provided to meet Factory Act requirements. Roof is ventilated below asphalt level to assist escape of trapped moisture in screeds and insulation		
Concrete shell roof	Plant rooms and tank room roof	3 in. thick r.c. shell with 6½ in. thick edge beams	¾-in. asphalt	Elegance of shell shape at highest point of building contrasts with flat roofs elsewhere		
				roof construction	**4**	**3¼**

Roof lights	*Location*	*Materials*	*Finish*	*Reasons and comments*		
36-in. square cast glass dome lights	In shell roof over plant and tank rooms		Permanent ventilation is provided by these lights	Maximum available wall space required to allow flexibility for fixing pipe runs, junction boxes, etc.		
				roof lights		**½**

Windows	*Location*	*Materials*	*Finish*	*Reason and comments*
Curtain walling	Office block and north stair	Mullions, transomes and opening lights of extruded aluminium alloy sections	Alloy polished	Curtain walling selected as most suitable form of glazing to 44-ft. high entrance hall, and as contrast to laboratory block

analysis

Windows: continued	*Location*	*Materials*	*Finish*	*Reasons and comments*	s	d
Internal window skin to form double glazing	Manager's suite in office block	Standard steel sections	Painted. Double glazing for thermal insulation and noise reduction			
Double glazing	Laboratory block	External fixed lights of extruded aluminium alloy	Painted	Inner windows in laboratory opened for cleaning only. Sunblinds operated from rooms and fixed to metal plate glazed into inner window frame		
		Internal pivoted light of steel section	Painted			
Single glazing	Laboratory block ground floor	Steel with centrally pivoted opening lights. Pressed metal sills	Painted	These windows easily accessible from ground level for maintenance painting		
	Tea room	Steel sliding-folding doors	Painted	These open fully to external tea room area to include the terrace to the pool		
				windows	7	1

External doors	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Main entrance doors	Office block	Proprietary aluminium frame doors with ¼ in. plate glass glazing. Double action swing	Polished aluminium	A door type with a clearly defined outline was chosen in relation to finish of curtain walling		
Staff entrance doors	Laboratory block	Plyfaced flush doors with large vision panels. Double action swing	Gloss paint nickel alloy plates	Entrance doors arranged in pairs to form draught lobby		
Fire exit doors		Steel two panel glazed doors	Gloss paint	Outward opening only and fitted with panic bolts		
Goods entrance	Laboratory block	12 ft. wide by 10 ft. high steel sliding-folding doors	Gloss paint	Maximum opening height and width required		
Machinery entrance and Calorifier room entrance	Laboratory block	Steel roller shutters	Gloss paint	Security against fire risks. Not in constant use once machinery installed		
				external doors		5½

Glazing	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Windows and curtain walling	Generally	32-oz. clear sheet, ⅛ in. polished plate		Majority of glazing sizes 12-16 ft. super in frames exceeding 16 ft. super		
	Lavatories	Obscured glass		Privacy		
Curtain walling	Large panels below sill level	½-in. insulated glass cladding	Hammered cathedral facing glass—sulphur yellow glassfibre filling	To give rough texture as contrast to clear sheet glass, yet to present easy surface for cleaning		
	Small panels above window head	As above	Rough cathedral facing glass—archrome blue 40 glassfibre filling	Change in texture to emphasise colour change		
Laboratory external windows	Small fixed panes above transome level	As above	As above	Continuation of colour in office block, and to screen from view blind boxes fixed into inner windows		
Vision panels in internal doors		32 oz. clear sheet				
				glazing	2	0¼

PARTITIONING

Internal partitions	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Permanent wet construction	Offices	3-in. foamed concrete blocks	Plaster generally	Office layout is permanent, although capable of further subdivision on ground and 3rd floors.		
	Laboratory block, ground floor	Non-load bearing 4½-in. and 9-in. common brickwork	Cement glaze generally	Rougher usage generally than in offices and laboratories. Allowance made for wall fixing of workshop equipmentif required		
Demountable	Laboratories	2-in. thick proprietary demountable partitions of sheet steel with glass-wool filling	Stove enamelled off-white. Partitions between corridors and laboratories are unglazed to give greater sense of privacy and avoid distraction to occupants. It was accepted that internal corridors should be lit artificially	Selection of partition module of 4 ft. formed basis of laboratory design. Flexibility of layout of individual rooms within laboratory space, to the changing requirements of research work has one of the clients most important considerations. Any one unit of the system can be removed in 7½ minutes without disturbing a run of partitioning. The fine area on 1st floor of laboratory is divided off from the remainder by a solid block partition, plastered both sides, to provide an air seal for specially treated atmospheric conditions		
				internal partitions	2	7

Screens	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Service counter sliding-folding screen	Tea room kitchen	Metal frame	Decorative p.v.c. cloth	To be more in keeping with domestic atmosphere of tea room than metal roller-shutter or grille. Low cost		
Roller shutters	Stores issue and machine room	Steel frame	Gloss paint	Fire protection and general security		
				screens		1

analysis

					s	d
W.C. doors and partitions	*Location*	*Materials*	*Finish*	*Reasons and comments*		
1½-in. pre-cast terrazzo with 1-in. blockboard doors	Ground floor lavatories	Terrazzo polished doors painted		Rougher usage in workshop area		
¾-in. metal faced plywood doors and partitions	Upper floor lavatories		Gloss paint	Saving in length overall of partition runs. For the use of office and laboratory staff		
				w.c. doors and partitions		3¾
Internal doors	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Flush doors	Generally	1⅜-in. plywood faced	Painted generally, veneered Indian silver greywood in hall, veneered sapele in private offices	Solid cores of compressed straw. This is reputed to counteract pattern staining of hollow cores		
2 ft. 9 in. by 3 ft. 9¼ in. hollow core panels	Laboratory service shelf	1⅜-in. plywood faced	Painted	Hollow cored panels jig drilled for ease in dismantling and erecting. Solid block in centre of panel permits drilling for connection to waste system		
				internal doors		9¾
Ironmongery to internal doors	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Single leaf doors	Generally	Nickel alloy lever furniture and latch (Swedish manufacture)	Satin finish	Quality, appearance and economy		
		British standard 3 lever dead-locks		To permit master keying. At time of ordering, continental furniture spindles did not match British lock sets and continental lock makers could not offer system for use with master key. Some British manufacturers now make locks to take continental furniture		
Two leaf doors	Corridors and entrances	Double or single action floor springs	B.M.A.	For general convenience these allow the door to stand open at 90 deg.		
		Nickel pull handles (Swedish manufacture)	Satin finish			
		Nickel-plated brass push and kicking plates	Satin finish			
				ironmongery to internal doors		10½

FINISHINGS

Floor finishes	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Granolithic	Workshop area, upper plant rooms			Anti-dusting treatment. 8s. per sq. yd.		
Quarry tiles	Calorifier room		Heather brown	Likelihood of oil being spilt on floor. 37s.		
Semi-vitreous ceramic tiles	Lavatories, locker rooms and canteen		Cream	Easy cleaning, hard wearing. 46s.		
Thermoplastic tiles	Laboratories	$\frac{1}{16}$-in. thick		Relative low costs. Insulation against electro-static changes. 23s. and 16s.		
	General office, tea room and landings	⅛-in. thick				
Wood strip	Manager's offices	1-in. muhimbi	Plastic seal	Low moisture movement. 49s.		
Linoleum	Drawing office			Less noisy than thermoplastic tile. 33s. 6d.		
Marble tile	Main entrance hall	Random white Sicilian marble with carrara marble chippings and yellow matrix, similar to matrix used for precast terrazzo treads on main staircase	Polished	Chosen for decorative value and hard wearing properties. 78s. 6d. The high cost of floor finishes other than granolithic and thermoplastic tiles is due to the relatively small areas where they were used		
				floor finishes	4	4
Wall finishes	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Panelling	Main entrance hall and lobby	¾-in. plywood veneered with Indian silver grey wood	French polished	Warmth of material in contrast to marble tile floor and glass curtain wall		
Cement glaze	Lavatories, staff entrance, model shop and calorifier room			Durable surface, easily washed and permanent colour		
Glazed tiles	Kitchen, private lavatories behind fittings	¾-in. square mosaic				
Ceramic tiles	Circular columns in main and staff entrance halls			These columns occur in centre of each entrance hall and are likely to receive hard wear		
Plaster	Elsewhere	Gauged hard plaster on walls. Vermiculite plaster on external columns	Flat oil or emulsion paint			
				wall finishes	3	2½

analysis

Ceiling finishes	*Material*	*Finish*	*Reasons and comments*	s	d
Laboratory space 1st and 2nd floors	Suspended heated acoustic ceiling	24 in. × 1 in. metal tray, with 1 in. glass wool filling, finish stove-enamelled off white. Easily maintained	Background heating elements located in ceiling to reserve space below window sill level for laboratory service runs. Acoustic ceiling in laboratories required by clients		
Ventilation trunking Laboratories and dark room	Suspended fibreboard casing in 24 in. × 24 in. panels	Emulsion paint	This casing also conceals main heating flow pipes feeding ceiling coils, electrical trunking for all lighting, and a suspended R.W. pipe for roof drainage. Lighting fittings are suspended below at 8 ft. ⊕ in. centres.		
Offices, tea room, main entrance hall (ground floor)	Suspended acoustic ceiling. 24-in. sq. and 24-in. × 12-in. metal trays	Glasswool filling stove enamelled finish	Cost approx. 5s. 3d. ft. super fixed		
Model shop, machine room, plant room (ground floor)	Sprayed vermiculite direct on underside of hollow pot floor	Pale blue pigment	Gives fire resistance and sound reduction from machinery noise		
Main entrance hall (3rd floor)	Suspended corrugated plastic with fluorescent tubes above	Translucent	To give overall lighting of staircase well and provide illuminated feature visible from the main road by night		
Elsewhere	Plaster	Distemper	No finish to third floor plant room ceiling or to underside of concrete shell roof		
			ceiling finishes	**3**	**4½**

FITTINGS

Laboratory service shelf	*Location*	*Materials*	*Finish*	*Reasons and comments*
Service taps (gas, air, water)	Laboratory service shelf at 8-ft. intervals. This shelf refers to the block of service pipes under external sills, which will be illustrated as a Working Detail in the JOURNAL for November 22, 1956	High grade casting	Acid resistant plastic. Before the water authority would accept the specially designed water tap, the design had to be modified twice, with delay of 4 months	The taps are fixed to vertical fascia by keyed black plate and back nut. Screwed fixing likely to damage plastic coating. Gas and air taps are standard screw down needle valves. Fittings in the chemistry laboratory have control handles on the bench front
Electricity control panels	Laboratory service shelf at 8-ft. intervals	Plastic switchboards built into 6-in. pressed metal trunking. V.I.R. cables	Black switchboards screwed to continuous service fascia of grey laminated plastic	50 c.p.s. supply to 10 amp. circuit breaker, 3 phase supply and switch and 2 spare 13 amp. plugs. Cables are laid in the trunking above which the window board is hinged for access. The laboratory supplies for each room are grouped to a 25 amp. circuit breaker on a control board on each floor.
Fume cupboards	Chemistry laboratory	Afrormosia frame and sashes	Waxed externally, acid resisting paint internally	The chemistry laboratory furniture which was specially designed includes two fume cupboards (5 ft. × 3 ft. and 3 ft. × 3 ft.). The working tops are slotted on the front edge so that sufficient air and services may pass into the cupboard when the sash is closed
Showcase	Entrance hall	Afrormosia hardwood casing, supported on wrot iron legs, with glass shelves	Wax polish stove enamelled black	Showcase specially designed for display of glass objects used in research work. Shelves are edge lit at back of case, to permit light to travel along them and be transmitted into the glass of objects displayed
			fittings	**2**	**2**

SERVICES, LABORATORIES

	Location	*Materials*	*Finish*	*Reasons and comments*
Low pressure town gas	Laboratory service shelf	Screwed barrel	Painted with identification colour yellow	Laboratory wastes, l.p. gas, l.p. air, tank water and electrical services for 1st floor laboratory originally formed the clients total requirements
Low pressure air	As above	As above	Painted with identification colour white	31 lb. sq. in. pressure
Tank water	As above	Copper pipe with compression fittings, tapped at 8-ft. intervals in laboratories	Painted with identification colour blue	Compression fittings were used so that joints could be made without resource to a flux. Any impurities in pipe might upset experiments involving tank water
Boosted town gas	As above	Screwed barrel	Painted yellow with identification symbol	Services involving 8 additional pipe lines were ordered by the client in mid-June on taking possession of the first floor laboratory and after service shelf framing and the original services had been fixed on the second floor
Oxygen gas and hydrogen gas	As above	Copper pipe with compression fittings	Pressure gauge installed at each outlet valve	
Re-circulated cooling water	As above	Copper pipe with compression fittings	Painted blue with identification symbol	Cooling water is re-circulated from the pool and is filtered before reaching laboratory apparatus
Two bed demineralised water	As above	Polythene pipe with spigot socket-welded joints and flanged and bolted couplers		Polythene pipe was used in 100-ft. coils (weight 21¼ lb.—1¼-in. pipe). Joints were welded outside the shelf and the pipe then "fed in." A welded joint to a 1¼-in. polythene pipe takes approximately 2 to 3 minutes to complete
Mixed bed demineralised water (re-circulated)	As above	Polythene pipe with spigot socket-welded joints and flanged and bolted couplers		These additional services were installed by mid-September
			laboratory services	**2**	**3½**

analysis

SERVICES, WORKSHOP

	Location	*Materials*	*Finish*	*Reasons and comments*	s	d
Low pressure gas	On walls at bench height	Screwed barrel	Decorated with wall and banded with identification colour			
High-pressure air	On walls at bench height	Screwed barrel	Decorated with wall and banded with identification colour	80 lbs./sq. in.		
Electrical services	On walls at bench height	Conduit surface switch 13-amp. socket outlets	Decorated with wall and banded with identification colour	Outlets at 16 ft. intervals		
	In floor screed	Conduit and junction boxes		This power supply is installed for free-standing workshop machinery		

Plumbing external	*Location*	*Materials*	*Finish*	*Reasons and comments*
Rainwater disposal	In vertical ducts and suspended under laboratory roof slabs in horizontal casing	Cast-iron spigot and socket pipes		Flat roofs are laid to fall to a central channel, in which luting flange outlets are connected to the downpipes

Plumbing internal: waste disposal	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Soil wastes, office block	Vertical ducts and suspended under floor slabs in horizontal casings	Cast-iron spigot and socket pipes		One pipe system 1st and 2nd floor. W.C.'s are arranged on internal walls. The anti-syphonage pipes are housed in the casing behind the pans which also accommodate flushing cisterns		
Laboratory wastes	Laboratory service shelf	Polythene pipe with spigot socket welded joints and screwed joints		A waste system which would resist chemical attack was required. Connections for sinks or apparatus are provided at 8 ft. intervals		
	Throughout	Polythene pipes		In the majority of cases connection is made to the system by removing the cap and screwing on polythene deep seal bottle trap with drip cup attachment. The installation of horizontal polythene pipe runs involves provision of layboards throughout their length, as the material available was fairly flexible and was not sufficiently rigid to support itself		
				plumbing, internal	**1**	**3½**

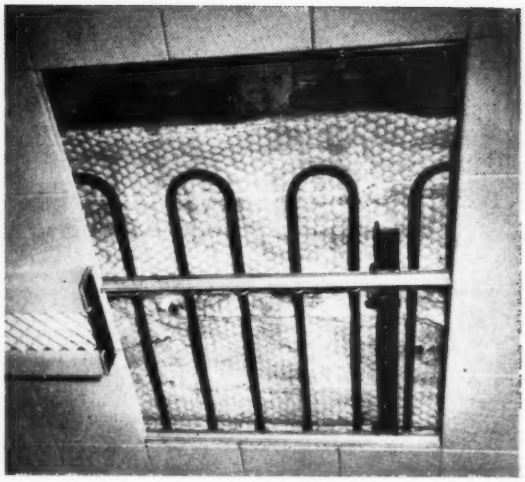
Hot water storage	*Location*	*Materials*	*Capacity*
Domestic supply to grouped lavatory areas	From storage cylinder in ground floor plant room	Copper cylinder	125 gallons

Cold water storage	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Main storage tank	Top floor	3 m. × 2 m. × 2·5 m. pressed steel sectional tank	Non-toxic paint	Finish inside tank selected to avoid contamination of water for laboratory services. The storage capacity provided is 3,000 gallons. At the outset 1,500 gallons was considered to be more than adequate but after the research staff had stated their water requirements the original demand was substantially increased		
Secondary storage tank	Top floor	80-gallon galvanised cistern		To provide uninterrupted supply to tea boiler on ground floor. A safety measure required by the manufacturers		
				cold water storage		**0¾**

Plumbing: sanitary fittings	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Wash basins	Generally	Vitreous china	White glazed	Back to back on horizontal services duct housing supplies, wastes, anti-syphonage pipes		
Ablution fountain	Male lavatory. Ground floor	Fireclay	White glazed	Central column over waste accommodates liquid soap pumps and automatic taps giving 17 seconds water through fine rose spray		
W.C.'s	Generally	Vitreous china. High and low level suites	White glazed	Low level suites ranged against service casing containing water supply, cisterns, overflows, anti-syphonage pipe. Soil pipe suspended below slab		
		Plastic flushing cisterns	Black			
Urinals	Male lavatories	Fireclay	White glazed	Straight back slab with division wings. Impervious black fluted treads		
Drinking fountains	In each lavatory (except private)	Fireclay	White glazed	Fixed back to back on horizontal services duct where available		
				sanitary fittings		**6¼**

analysis

In the laboratory block the need for acoustic treatment, the avoidance of dust traps and the occupation of entire laboratory walls with benching and equipment led to the selection of heated acoustic ceilings. There are 75 ceiling panels covering an area of approximately 11,000 sq. ft. and each panel has an isolating and control valve. All pipework in the laboratory is concealed in ducts or chases and the panels are fed by risers from the flow main at high level on the ground floor. The returns from the panels are taken above the flat roof and there collected into a trunk main dropping to the plant room on the ground floor. It was considered desirable that the fixings for the heating pipes should occur in the ribs rather than in the hollow pots, in view of the weight carried by them. The contractor devised a special tool for the attachment of the bolt fixing to the shuttering after the reinforcement to the ribs had been laid.



Heat exchanger type	*Location*	*Criteria temp. and air change rate*	*Reasons and comments*	s	d
Concealed hot water convectors, fan assisted and individually controlled in entrance hall	Entrance hall. Ground floor lab. block. Ground and third floor office block	System is designed to deal with entire heat load including air interchange (natural ventilation) and maintain 65° F. when 30° F. outside. Automatic temperature control is provided by adjustment of the temperature of the circulating hot water according to changes in the outside weather conditions. The maximum total load of the complete heating installation is 923,000 Btu/hour	Throughout the building heating is by low-pressure hot water with a maximum flow temperature of 180° F., supplied by calorifiers served with steam at 50 p.s.i. from a boiler house on the main factory site. All condensate is collected and returned by gravity. The heating and domestic hot water calorifiers and pumps are housed in a plant room on the ground floor which also contains the refrigeration plant for the air conditioning installation.		
Acoustic heated ceiling in conjunction with air-conditioning	1st and 2nd floor laboratories	Air temp. not exceeding 70° F. and 60 per cent. relative humidity when outside temperature 80° F. dry bulb and 72° F. wet bulb coupled with bright sunshine. 6 air changes per hour, 4 being fresh air	To prevent the ingress of dust and noise to the laboratories all windows are permanently sealed and thus mechanical ventilation is necessitated. A study of the meteorological data and of the possible effects of heat producing equipment led to the decision to employ refrigeration for cooling and dehumidification in the summer. The fine area demanded accurate control over temperature and humidity throughout the year and extreme purity and cleanliness of the air. The refrigeration plant comprises 2 compressors driven by 25-h.p. motors with a shell and tube type condenser and evaporator. This plant is used on "reverse cycle" during autumn and spring for heat pump operation, to provide background heating for the whole building, when artificial cooling is not required. The heating and ventilation of the "fine" area and the use of the heat pump will be described in detail in a later issue of the JOURNAL		
Acoustic heated ceiling in conjunction with air conditioning having an abnormally high standard of dust filtration	"Fine" area of labs	System designed to provide any pre-set condition between 65° F. and 78° F. dry bulb with a relative humidity not exceeding 40 per cent. when outside conditions are at a max. of 80° F. dry bulb and 72° F. wet bulb. Air filtration to remove at least 95 per cent. of all dust particles of 0·5 Micron size or above as demonstrated by Methylene Blue Test. 8 air changes per hour, 6 being fresh air			
Concealed hot water convectors in conjunction with plenum system (air filtration and heating only, no cooling)	1st and 2nd floor offices	65° F. when 30° F. outside, 4 fresh air changes per hour without re-circulation			
			heating and ventilation installation	**16**	**3½**

Drainage: type of system	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Soil and surface systems connected to main sewers	Throughout	Cast-iron pipes under building. Salt glazed ware externally		Separate systems for soil and surface water. No neutralising tanks were provided, as this is carried out in polythene catchpot before laboratory wastes enter the system		
				drainage	**1**	**0**

Lighting fitting types	*Location*	*Illumination level*	*Reasons and comments*
Special 4-ft. twin-tube fluorescent fittings	Laboratories. Offices	25-ft. candles. 22-ft. candles at working level	These fittings were designed specially for the building, after discussion between client, architects and lighting engineers, for use in conjunction with the type of acoustic ceilings selected
4-ft. single-tube fluorescent batten fitting	Laboratory. Corridors		Spaced at 8-ft. centres in relation to layout of suspended ventilation trunking
5-ft. 80-watt single-tube industrial fittings	Model Shop. Machine Room. Storage areas	20-ft. candles	Fittings suspended in model shop from continuous lighting trunking
Lighting column with 60-watt incandescent fittings	Main staircase		2-in. diameter column is supported on brass brackets cast into stair slab. Fittings are interchangeable
Decorative incandescent wall brackets, 100 watt	Staircase landings, Te room		
100-watt incandescent ceiling fittings with globe shade	Lavatories. Locker rooms	12-ft. candles	
Illuminated plastic ceiling	Main entrance hall above stair well		Provision has been made for future conversion to colour change lighting, by installation of lighting tubes at 6-in. centres
Class B fluorescent street lighting	Car park		Fitting designed by clients, with 15-ft. timber standards, is to be used for general lighting of internal roads on adjacent main factory site
			All lighting fittings for the building were supplied by the clients, and their cost was not included in the contract sum. Fittings were installed by the electrical sub-contractor

analysis

				s	d
Wiring and switching types	*Location*	*Materials*	*Reasons and comments*		
Lighting fittings	Laboratories	Asbestos covered cable in 1-in. conduit	Flexible leads pass close to heating coils in the ceiling. Main runs in suspended casing laid in 6 in. × 3 in. metal trunking		
Lighting fittings	Elsewhere	VRI cables in ¾-in. conduit	5-amp. switches in flush plastic cover plates		
Laboratory services		VRI cables laid in 6 in. × 6 in. metal trunking	50 c.p.s. supplied for each laboratory room are grouped to a 25-amp. contact breaker on a control board, so that they can be switched off when the room is empty		
Power supply type	*Location*	*How distributed*	*Reasons and comments*		
	Generally	Main runs throughout from main switchboard to distribution and fuse boards in copper cable	Ease of installation in confined space, particularly where sharp bends are necessary		
			electrical installation	**3**	**8¼**

Lifts	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Passenger lift	Office block	6 persons (900 lbs.), 100 ft. per minute	Overhead motor room	Flat plate shutter gates for both car and landing protection. These open automatically when car stops at floor level		
Goods lift	Office block	20 cwt. 55 ft. per minute	Overhead motor room	Goods lift is entered from unpacking room on ground floor and serves landings in office block on upper floors. Ground floor entrance protected by 3-hour sliding fire door. Size of car was based on maximum dimensions of laboratory benches. Landing and car protection gates operated by hand		
				lifts	**2**	**5¼**

External works	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Pool	In angle formed by elevations to main roads	8-in. reinforced concrete slab on 3-in. blinding on 6-in. hardcore	Serrated leading edge of pool wall and planting drums painted with bituminous paint	The pool was designed to give interest to the landscaping of the site and to act as a mirror of the building. In addition it provides cooling water for the refrigeration plant and the laboratories, through separate recirculating systems, and it is also the source of low-grade heat for the heat pump. Water capacity is 54,000 galls.		
Tea room terrace	Pool	4-in. thick reinforced concrete slab cantilevered from walls of pits below	Black and white granolithic laid in geometric pattern. Wrot iron balustrade with hardwood hand-rail	Terrace is used as summer-time extension to tea room and serves as roof over the pits for the fountain pumps and equipment for the colour-changing of floodlighting		
Roads	Rear and entrance elevations	Reinforced concrete	Tamped	Main access to entrance and car parking area		
Paving	Generally	2-in. thick pre-cast concrete slabs	Smooth	Narrow strip of paving laid under boundary railing to facilitate grass cutting, and to give an appearance of continuity to the street paving		
Fencing and gates	Main road boundaries	7-ft. high round bar railing	Painted dark grey	It was felt that this type of fence suitably painted would not act as a visual barrier to users of the main roads. The one gate is for pedestrian access only		
Fencing and gates	Adjoining owners' boundary	7-ft. high chain link with pre-cast concrete posts on dwarf retaining wall	Untreated	Continuation of fencing type used elsewhere on boundaries of Ferguson Radio site		
Planting	Main area, grass with occasional trees and with large beds for flowering shrubs opposite north end of building and flower beds on south elevation adjacent to main entrance			High proportion of mahonia aquifolium chosen to provide continuous ground cover to unify the planting scheme, particularly in its early years		
Proposed external sign		The client requested that there should be no lettering applied to the building, and accordingly the architects designed a free-standing triangular sign, to be illuminated at night to stand near the north-west corner of the site. Planning permission for this was refused by the local authority on the grounds that " it would provide a distraction to passing motorists and also be detrimental to the amenities of the neighbourhood "				
				external works	**4**	**9**

FIRE

Regulations called for a fire resistance grading of two hours for the laboratory block and of one hour for the office block. The architects' requirement of a maximum structural thickness of 6 in. for the external reinforced concrete columns to that laboratory and office blocks did not comply with model byelaws. The matter was referred to the BRS, who recommended that laboratory columns should be plastered with 1 in. thick reinforced vermiculite plaster, and the office columns with ½ in. vermiculite plaster, to give the required fire protection. This recommendation was accepted by the local authority. A further byelaw requirement was that there should be a 6-hour fire break between the office and laboratory. This was provided by a 9-in. solid reinforced concrete wall at the rear of the lift well, with a 3-hour fire protection to all openings in it

analysis

			s	d
Structural precautions	*Grade of protection apparatus*	*Reasons and comments*		
Fire doors	Provided at openings to goods lift at ground floor to level and connecting passages between office and laboratory at each floor level	Steel doors painted, with three-hour fire resistance		
Fusible link dampers	Provided where ventilation trunking passes through the 9-in. fire division wall	Access provided in trunking for renewal of fusible links		
Fire hoses and extinguishers	Fire fighting apparatus consisted of six 80-ft. " first aid " hose reels, together with hand extinguishers	Down service connections provided adjacent to each fire hose		
Fire alarm system	Automatic fire alarm system installed at each floor of office and laboratory, connected to fire bells inside building and to fire office in main Ferguson Radio factory			

Planning precautions	*Access for fighting*	*Means of escape*	*Reasons and comments*
Access for fire engines along internal roads and car park to east and south of building	Access from South Road to grassed area and pool water is necessary	Fire escape stair at north end of laboratory block	Escape routes are provided to flat roofs of office and laboratory blocks

fire-fighting equipment		**2½**
price per ft. super of floor area	**90**	**11½**

TIME SCHEDULE

Work commenced	*Work completed*	*Type of contract*	*Sketch design commenced*
April, 1955	September, 1956. Total floor area, 30,486 ft. super.	RIBA with quantities. Contract price £138,592	September, 1954

RATIOS

Area of enclosing walls / Total floor area	= 0·79 / 1	Area of windows (including external doors) / Total floor area	= 0·33 / 1
Area of solid wall / Total floor area	= 0·46 / 1	Total roof area / Total floor area	= 0·295 / 1

COST ANALYSIS

This analysis is based on tender cost, as figures for final cost are not yet available. During the progress of the contract, a variety of additional works were authorized by the clients, of which the following were the main items: piled foundations, additional steel reinforcement, demountable partitions for 2nd floor laboratory, acoustic ceilings in offices, fire check doors, increased cold water storage, conversion to heat pump, electrical mains run in pyrotenax, chemistry laboratory fittings, recirculation cooling water system, demineralized water installation and other supplementary services. These items, together with the rising costs of labour and materials during the course of the contract, will probably account for the additional sum of approximately £20,000 to the contract price.

COST COMMENTS

The specialised requirements of the client indicated in the brief are clearly underlined in the " services " group of elements which alone amounts to 23s. 3½d. per ft. super of floor area. In addition the following elements call for comment:

Foundations: Abnormal foundations required due to made-up ground.

Stairs and lifts: High standard of vertical circulation (total of 3 staircases and 2 lifts).

Roof: With a roof to total floor area ratio of 0·3 the overall unit cost is approximately £6 per yard super. This element, however, is typical of those affected by the requirements for low maintenance cost and for flexibility in laboratory design. The roof perimeter carries a window cleaner's cradle, and a return heating duct over the laboratory leaves the wall free for service runs. In addition there is an experimental area on the laboratory roof together with guard rails.

Electrical installation: This figure does not include the cost of fittings which were supplied by the client and fixed by the contractor.

Heating: Note that this does not include the primary source of heat which is tapped from the adjoining parent factory.

This analysis will be of more value when the final cost of the job can be distributed over the various elements, but it can be seen from the items of additional work authorised that the main elements which will be affected are foundations, furniture and fittings and the services.

SITE ORGANIZATION

Site labour and equipment: site labour controlled entirely by site agent through usual leading hands in each trade. Normal building plant only needed—mechanical excavation where possible.

Sub-letting: asphalt, plumbing and glazing.

Job management: each trade scheduled on progress chart, weekly bonus scheme operated, visits to site by head office representatives at least three times a week. Site agent only, regular site meetings held throughout contract when authorities and chief sub-contractors attended. These proved to be very beneficial.

ALUMINIUM AND ALLOYS: WEATHERING AND MAINTENANCE

This Sheet deals with the weathering and maintenance of aluminium and aluminium alloys used in building. Alloy designations are according to British Standards for General Engineering Purposes 1470 to 1477 and 1490.

GENERAL

The durability of aluminium is due to the natural formation of a thin, continuous oxide film which constitutes a surface protection and which is self-healing if damaged. The oxide film may be artificially thickened by the process of anodising and the notes below draw a distinction between anodised and bare surfaces. Notes on anodising are included at the end of the Sheet and reference may also be made to Sheet 41.B1.

This Sheet deals with three types of atmosphere to which aluminium may be exposed in service, namely, rural, industrial and marine. These conditions also occur in combination and some industrial atmospheres are likely to be more severe than others. Industrial/marine conditions are usually the most severe of all. The following alloys, having good weathering properties, are especially suitable for architectural applications.

Sheet and Strip (BS.1470)	Extruded Sections (BS.1476)	Castings (BS.1490)
S1, S1A S1B, S1C NS3 NS4	E1C, NE4, NE5 HE9-W, P, WP HE10-W HE10-WP	LM8-M,W,P LM6-M LM5-M LM18-M

WEATHERING OF ALUMINIUM SURFACES

Unanodised Aluminium

Rural atmospheres: Surface remains relatively bright for about five years even without cleaning: gradually dulls to uniform grey patina.

Industrial atmospheres: Surface becomes black with grime and slightly roughened, especially, and more rapidly, where the surface is horizontal or slightly sloping so that deposits cling more easily. Under mild conditions the surface becomes indistinguishable from weathered stone in about ten years. Under more severe conditions the weathering effect is more pronounced, with characteristic formation of pustules.

Marine atmospheres: Surface roughens slightly and acquires a grey patina with some pitting. The weathered surface inhibits further deterioration and is often attractive, but an even, bright appearance can be restored by the use of ordinary abrasive cleaning material.

Anodised Aluminium

The smooth, corrosion-resistant surface of anodised aluminium may be natural, matt, clear or milky in appearance depending on the material and anodising treatment.

Rural atmospheres: Anodised surfaces are virtually unaffected and should last almost indefinitely even without regular maintenance.

Industrial atmospheres: The rapid accumulation of soot and grime, and the acid nature of deposits left by condensation, cause deterioration and pitting of the anodic film. Unless cleaned, the surface develops a spotted, encrusted appearance in a few years, becoming more uniform as the change becomes general. There is little value in anodising for these conditions un'ess frequent cleaning is possible.

Marine atmospheres: Anodic film lasts for a considerable period without maintenance and preserves a good appearance, though surface dirt will mar the characteristic soft sheen of the anodised surface.

Combined industrial and marine atmospheres: Anodising is not normally recommended in these most severe conditions. It may give protection for several years but if corrosion starts, pitting may be more localised and deeper than if the metal had been left untreated.

Considerations Affecting Degree of Weathering

Deterioration of the surface appearance tends to be more rapid on partly-sheltered surfaces, because of greater condensation, e.g. window frames deeply recessed in a wall, shopfronts in arcades, undersides of canopies. Boldly-exposed surfaces remain clean longer as they are washed by rainwater. Higher humidities hasten deterioration.

Effect on Structural Performance

Atmospheric attack, usually by pitting, is very slow even in corrosive atmospheres and the rate of attack diminishes after the first year or two until it virtually ceases. Bare aluminium has a pitting rate under most conditions of about 0·0004 in. per year after the first year.

Extruded sections: The structural strength of extruded sections, e.g. for windows, is not significantly affected by superficial corrosion over the years. Unanodised surfaces are quite satisfactory where structural efficiency is the chief consideration.

Sheet and thinner sections: (e.g. as used in shopfronts and facades). These require special consideration. Bare aluminium, 0·032 to 0·064 in. thick, after prolonged exposure to severe industrial conditions may ultimately show a small reduction in tensile strength and slightly greater loss in ductility. Thin material may become perforated. To ensure the greatest durability of thin material it should be anodised and regularly maintained.

MAINTENANCE

General

As with all metal surfaces, aluminium should be protected during erection from damage by scratching or denting or by contact with mortar or cement. This can be done by the application of a temporary lacquer coating or by using a coating of lanolin which is effective and easily applied.

Regular cleaning is essential to preserve the initial brightness of aluminium.

Lacquering with stoved or air-drying clear lacquer gives short-term protection to anodised surfaces. After about two years' exposure or less, to urban atmospheres, cleaning and re-lacquering are required. Cleaning materials known to be harmless to aluminium

10.B5 ALUMINIUM AND ALLOYS: WEATHERING AND MAINTENANCE

should always be used: strongly alkaline or acid powders or solutions should be avoided. Synthetic detergents dissolved in water and free from alkali are suitable for aluminium.

Internal Installations

Unanodised surfaces should be dusted frequently and cleaned at least every six months with a soft cloth moistened with good-quality liquid wax or paste. The surface should be rubbed until dry and a high gloss produced. For delicate surfaces that have become stained or discoloured, a soft fibre brush dipped in warm soap solution should be used, followed by thorough rinsing. Where this is not effective a commercial organic cleaning fluid should be used which will remove oily deposits, etc., accumulated in corners. In all cases, cleaning should be followed by adequate rinsing and the application of liquid wax or paste.

Anodised surfaces should not be treated with coarse agents, such as emery or sandpaper, which damage the anodic film. Detergent or soap solutions and waxes, as for untreated surfaces, are suitable.

External Installations

These surfaces should be cleaned at least every three months in urban or industrial atmospheres: elsewhere every four to six months.

Matt surfaces should be scrubbed with soap and warm water or washed with white spirit or penetrating oil. Where this is inadequate, they should be very lightly rubbed with finest steel wool or well-used fine-grade emery cloth and finished with fine wet abrasive powder.

Polished surfaces should be cleaned with a suitable proprietary polishing paste or metal polish and finished off with fine cotton-wool waste and Vienna white. It is recommended that the surface, when dry, be covered with a thin film of wax polish or lanolin dissolved in white spirit.

Alternatively the surface may be cleaned by soaking a rough cloth (e.g. scrim or sacking) in clean water, applying a small amount of pumice powder and gently rubbing the aluminium with light strokes, which should be sufficient to remove the dirt without vigorous rubbing. The surface should then be dried and polished with a soft cloth. For high gloss, good quality liquid wax or paste can be rubbed in.

A third method is to clean and wax the surface in one operation with a stainless-steel wool pad impregnated with lanolin and wipe off the excess lanolin.

Under the mildest conditions of exposure it may be sufficient to wipe the surface with a dry cloth, alternated with cleaning and waxing.

Severely-weathered Surfaces

Whilst the above recommendations often suffice to restore surfaces that have deteriorated through neglect, pronounced pitting may need stronger treatment. The surface can be treated with a portable power scratch brush with a stainless-steel wire brush. The finish thus left is then cleaned with pumice or metal polish and finally coated with clear varnish or a thin film of wax or lanolin. This treatment removes any anodic film and the cleaned surface is henceforth maintained in the same way as unanodised aluminium.

Anodised surfaces that are not severely affected should be treated as for internal installations (see above) or with a very light application of finest steel wool or emery if essential.

NOTES ON ANODISED SURFACES

Anodising and Dyeing

The protective oxide film which forms on aluminium can be thickened artificially by anodising. When the metal is removed from the anodising bath, the film is slightly porous and able to absorb dye if immersed in a suitable dye-bath before sealing. The coloured film so produced is suitable for internal exposure. Certain dyes are suitable for external exposure only when applied to thick anodic films. An adequate thickness of anodic coating must therefore be used (see BS.1615) and the dyes must be reasonably light-fast, having a minimum light-fastness number of 7 in the Index of the Society of Dyers and Colourists.

Anodising Cast Alloys

Most casting alloys behave differently from wrought materials on anodising; in particular alloys containing over 5 per cent silicon develop in the bath a natural mottled grey colour.

Specification Notes

Anodising should be carried out according to BS. 1615 : 1949 *Anodic oxidation finishes for aluminium and aluminium alloys.* This Standard contains minimum requirements for different types of application and it is therefore necessary to specify those particular properties covered by the Standard which are required.

For external surfaces a minimum film thickness of 0·0006 in. is specified for good durability, using a sulphuric acid bath (see BS. 1615, Table 1).

For internal surfaces a minimum film thickness of 0·0002 in. is often adequate.

For dyed anodised surfaces the light-fastness of the dye should conform to the Standard.

For abrasion resistance reference may also be made to the Standard.

FURTHER INFORMATION

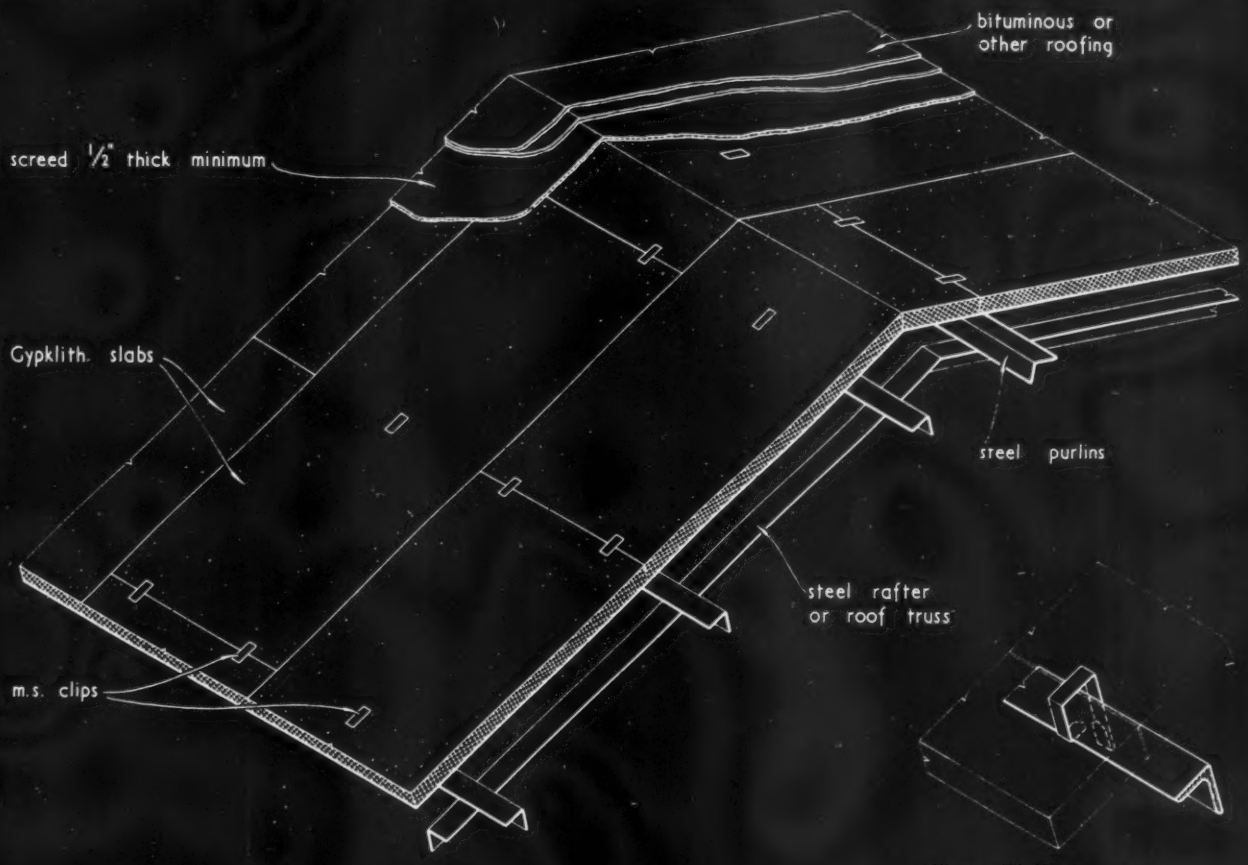
The Aluminium Development Association maintains a Technical Advisory Service and Information Bureau which is available to answer questions and advise on technical problems: Information Bulletins on fabrication, welding, riveting, surface finishing, etc., are also available on request.

This Series of Sheets on aluminium and aluminium alloys gives general data on the properties of the materials and their use in various building applications.

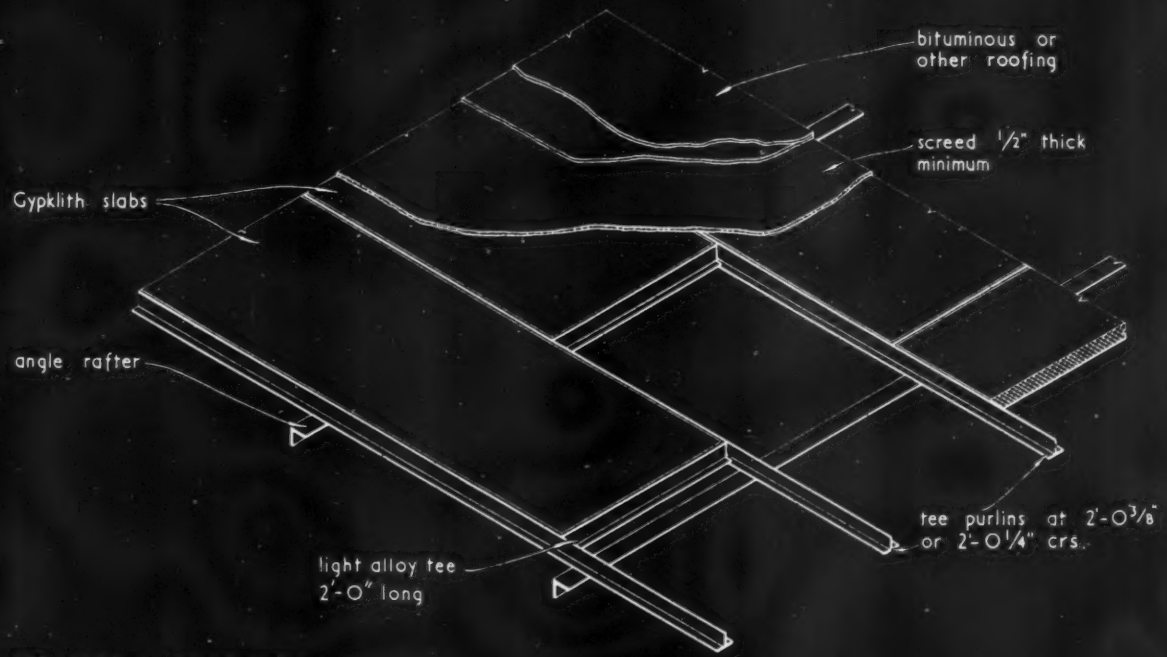
Compiled from information supplied by:
The Aluminium Development Association
Address : 33, Grosvenor Street, London, W.1.
Telephone : Mayfair 7501-8.

BUILDING SLABS | LIGHTWEIGHT MATERIALS | APPLICATIONS 14.L15

The Architects' Journal Library of Information Sheets 594. Editor: Cotterell Butler, A.R.I.B.A.



ANGLE PURLIN CONSTRUCTION.



TEE PURLIN CONSTRUCTION.

GYPKLITH WOOD-WOOL SLABS APPLICATION TO LIGHTWEIGHT METAL ROOFS.
Manufacturer: Gyproc Products Ltd.

14.L15 ·GYPKLITH· WOOD-WOOL SLABS: APPLICATION TO LIGHTWEIGHT METAL ROOFS

This Sheet is one of a series on Gypklith wood-wool slabs and describes their application to lightweight metal roofs. General data on the characteristics and properties of the material and the sizes in which it is available are given on Sheet 14.K1.

Angle Purlin Construction

Thicknesses: The thickness selected depends upon the centres of the purlins and the degree of thermal insulation required and may be one of the following:
Normal quality slabs: 2, 2½ or 3 in.
Heavy duty slabs: 2 in.
Timber reinforced: 1½ or 2 in.
Channel reinforced: 2 or 3 in.

Spacing of purlins: To ensure that end joints between slabs are located over a support, the maximum spacing of purlins for varying thicknesses of Gypklith are as follows:

Type of slab		Normal quality			H'vy Duty	Timber reinf'c'd		Channel reinf'c'd	
Thickness (in.)		2	2½	3	2	1½	2	2	3
Maximum centres of purlins(in.)	Over 10° ..	24	24	24	24	36	36	72	72
	Under 10°	18	24	24	24	36	36	72	72

Fixing: The slabs should be laid across the top of the purlins at right angles to them and secured with Gypklith No. 245 clips. The clip pierces the slab and is bent round the purlin as shown on the face of the Sheet. The ends of adjacent slabs are secured to a common purlin with two clips and the centre of each board should be held by one clip to an intermediate purlin. Where channel reinforced slabs are used special clips (No. 269) are required. End joints of the slabs should be staggered in successive rows and the slabs should not be butted tightly together. This form of construction is suitable for flat or pitched roofs.

Tee Purlin Construction

Thicknesses: The thickness of slab used depends upon the degree of thermal insulation required and may be one of the following:
Normal quality slabs: 2½ or 3 in.
Heavy duty slabs: 2 in.

Sizes and spacing of purlins: The following table gives the maximum spans for the size of purlins for use with the varying thicknesses of Gypklith.

Type of slab		H'vy duty	Normal quality		H'vy duty	Normal quality	
Thickness (in.)		2	2½	3	2	2½	3
		Max. span (under 10°)			Max. span (10° to 60°)		
Size of tee purlin (in.)		ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.
	1½ × 1½ × ⅛	4 0	4 0	4 0	4 6	4 6	4 6
	2 × 2 × ⅛	5 6	5 3	5 3	6 0	5 9	5 9
	2½ × 2½ × ⅛	7 0	6 9	6 9	7 6	7 3	7 3
	2½ × 2½ × ¼	8 6	8 3	8 0	9 0	8 9	8 6
	3 × 3 × ¼	—	—	10 0	—	—	10 6

Fixing: The inverted metal tees are laid at right angles to the rafters at 2 ft. 0⅜ in. or 2 ft. 0½ in. centres (depending on the thickness of the web of the tee). The slabs are laid between the tees and 2 ft. 0 in. lengths of cold-rolled light alloy tee are used to support the ends of slabs and conceal the joints. The web of the cross member must be such that it does not project above that of the main tee. This form of construction is suitable for flat or pitched roofs.

Screeding

The surface of the Gypklith slabs may be screeded to receive bituminous or any other type of roofing. For a fire-protecting screed or incombustible slurry reference should be made to the recommendations given on Sheet 14.L14 for flat timber or concrete roofs.

Further Information

The manufacturer maintains a technical advisory department which is available to give advice on all aspects of this subject.

Compiled from information supplied by:

Gyproc Products Ltd.
Head Office: Singlewell Road, Gravesend, Kent.
Telephone: Gravesend 4251-4.
Telegrams: Gyproc, Gravesend.
Glasgow Office: Gyproc Wharf, Shieldhall, Glasgow, S.W.1.
Telephone: Govan 2141-3.
Telegrams: Gyproc, Glasgow.
Midland Sales Office: 11, Musters Road, West Bridgford, Notts.
Telephone: Nottingham 82101
London Office: Bath House, Piccadilly, London, W.1.
Telephone: Grosvenor 4617-9.

Architects' Journal 15.11.56

working detail

SPIRAL STAIRCASE: EXHIBITION HALL AT WITTON, BIRMINGHAM

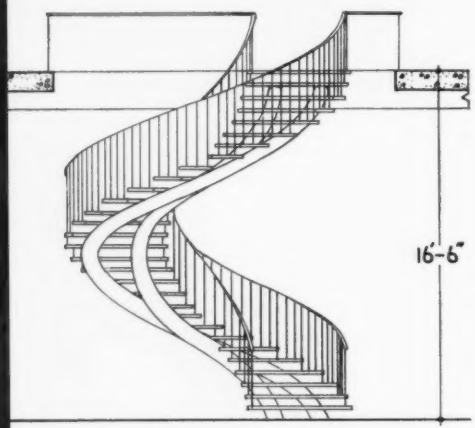
John and Sylvia Reid, architects; Clarke, Nicholls and Marcel, consulting engineers

The two 8⅝-in. o.d. steel tubes which form the carriage of the stair were bent cold in the shop. Since the spiral completes a full turn of 360° a jig was made with diagonal rakers at quarter points and the actual bending was done with a 200-ton pressure jack. The tubes were then fixed on site and a wooden template was made for the accurate positioning of the 2-in. square box-tube brackets supporting the treads. This template took the form of a circular wooden drum with a sequence of bracket heights marked on and a lever arm attached to each. This drum was designed to be raised on a central pole as work proceeded upwards. By this means it was found possible to fix the treads to an accuracy of ± 1/16 in.

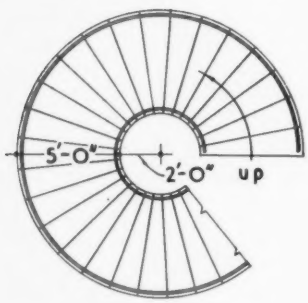
working detail

SPIRAL STAIRCASE: EXHIBITION HALL AT WITTON, BIRMINGHAM

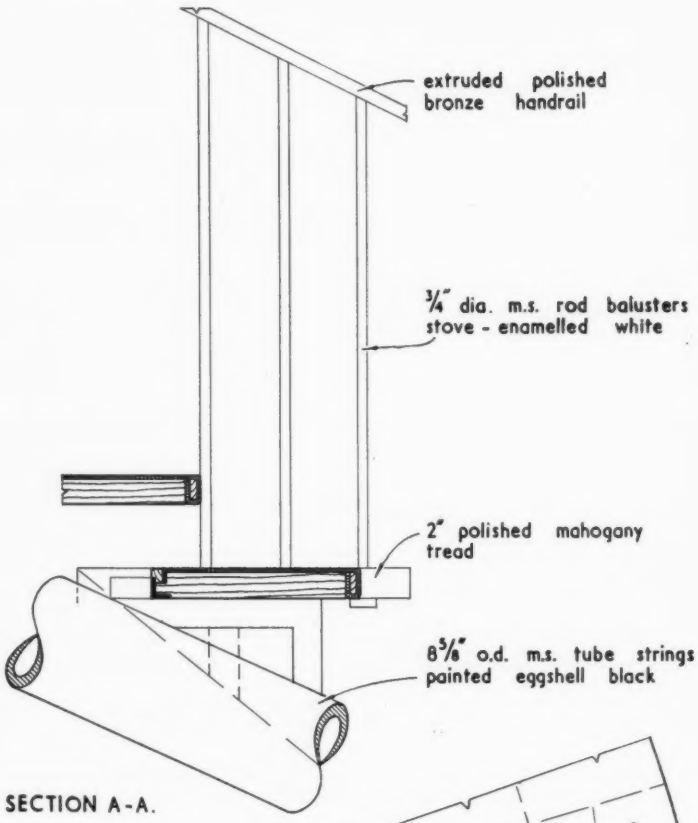
John and Sylvia Reid, architects; Clarke, Nicholls and Marcel, consulting engineers



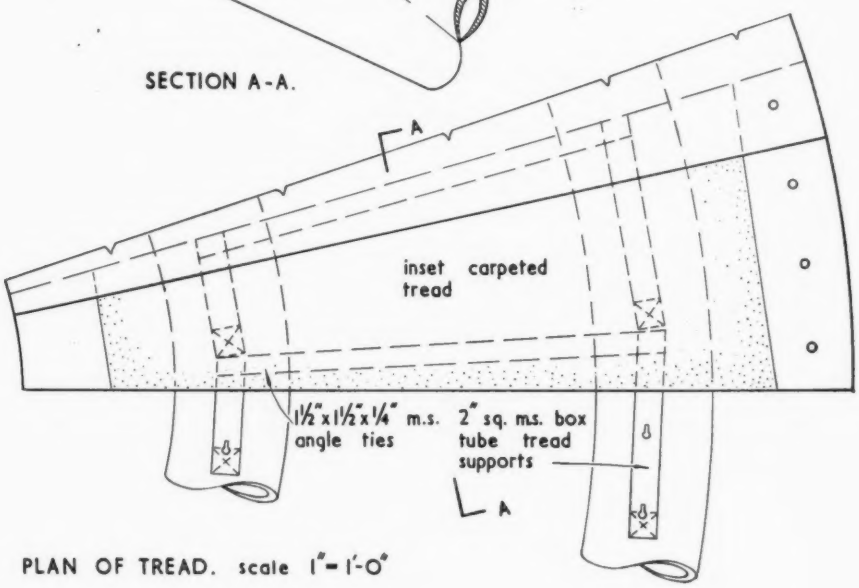
ELEVATION. scale ⅛" = 1'-0"



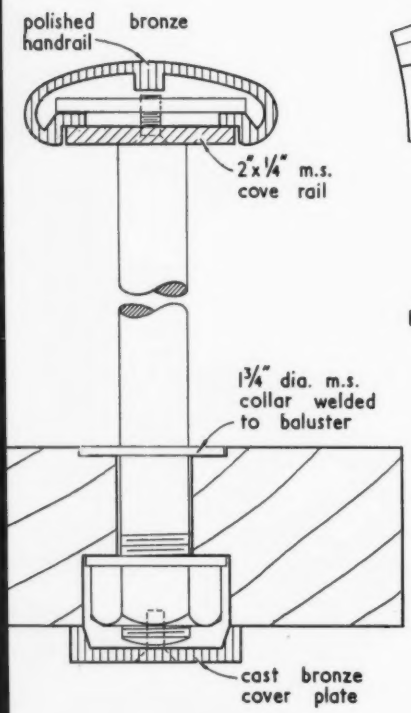
PLAN. scale ⅛" = 1'-0"



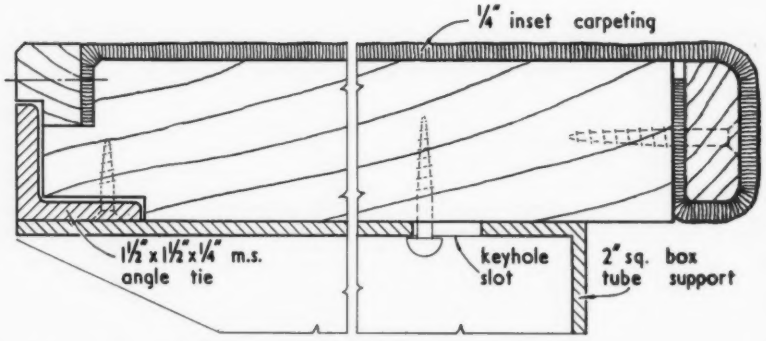
SECTION A-A.



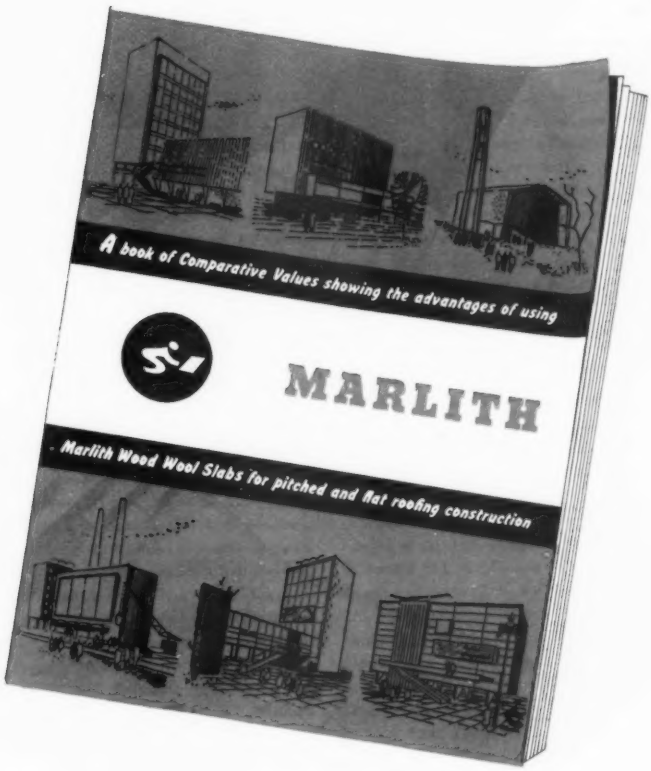
PLAN OF TREAD. scale 1"=1'-0"



DETAIL OF HANDRAIL.



DETAIL OF TREAD. scale ½ full size



This book

gives comparative thermal insulation values and costs for factory roofs of all main types with and without various kinds of insulation. It shows the advantages of using Marlith Wood Wool Slabs for their light weight, thermal insulation properties and acoustic qualities. It is the first authoritative analysis of comparative values to be available.

Copies will be gladly sent on request

The Marley Tile Company Limited, Sevenoaks, Kent. *Sevenoaks 55255*

SCOTLAND: Bishopbriggs 1093. WALES: Pencoed 376. NORTHERN IRELAND: Belfast 24447. EIRE: Lucan 71

MARLEY

MM4

building illustrated

CONTRACTORS

Laboratories, Great Cambridge Road, Enfield, Middlesex, for Sylvania-Thorn Colour Television Laboratories, Ltd. (Pages 701-718). *Architects:* G. A. Jellicoe & Partners. *Partner-in-charge:* Alan Ballantyne, A.R.I.B.A. *Assistants:* A. H. Hadley, A.R.I.C.S. and D. S. Sinclair. *Consultants, structural:* Ove Arup & Partners. *Heating:* J. C. Knight, A.M.I.H.V.E. *Quantity surveyors:* H. J. Venning & Partners.

General contractors: J. Jarvis & Sons. Ltd. *Subcontractors:* Piling: Frankipile Ltd. *Exposed aggregate facing slabs:* Malacarp Terrazzo Co. *Floor finishes (thermoplastic tiles):* Marley Tile Co. Ltd. *Linoleum:* C. W. Bennett & Sons Ltd. *Marble mosaic tiles, vitreous ceramic tiles, terrazzo:* Jaconello Ltd. *Woodstrip flooring:* Vigers Bros. Ltd. *Quarry tile paving:* A. H. Herbert & Co. Ltd. *External granolithic paving and precast steps of spiral staircase:* Stuart Granolithic Co. *Slate sills:* E. F. Williams & Co. *Wall cement glaze:* Robb's Cement Enamels Finishes Ltd. *Mineralite rendering:* Kendall's Flooring Co. Ltd. *Terrazzo w.c. partition:* Diespeker & Co. Ltd. *Acoustic ceilings:* Burgess Production Co. Ltd. *Indian silver-grey wood panelling and hardwood handrail to main staircase:* D. Barkol & Sons. *Display cabinet:* Ace Assoc. Woodwork Co. Ltd. *Chemistry laboratory furniture and fittings:* Cygnet Joinery Co. *Ironmongery:* W. N. Froy & Sons Ltd. and A. J. Binns Ltd. *Soap pumps:* Waddington & Duval. *Gas incinerators:* Southall Ltd. *Vitraslab cladding:* Plyglass Ltd. *Heating and ventilation:* J. Jefferies & Co. Ltd. *Electrical installation:* Phoenix Electrical Co. *Lumenated plastic ceiling:* Lumenated Ceilings Ltd. *Flush doors and laboratory service duct panels:* Thames Plywood Co. Ltd. *Laboratory taps:* Donald Brown (Brownall) Ltd. *Lift installation:* Bennie Lifts Ltd. *Lightening conductors:* A. W. Gray Ltd. *Fire fighting equipment and hoses:* L. & G. Fire Appliances Ltd. and Walter Kidd. *Refrigerator:* Electrolux Ltd. *Boiler:* Herbert Mander Ltd. *Duct covers:* Broads Manufacturing Co. Ltd. *Fencing:* Bayliss, Jones & Bayliss Ltd. *Gates:* Clark Hunt & Co. Ltd. *Landscaping:* Gelvin Jones Nurseries Ltd. *Metal balustrading:* Clark Hunt & Co. Ltd. & Light Steelwork (1925) Ltd. *Metal sliding folding doors:* Dennison Kett & Co. Ltd. *Firedoors:* Mather & Platt Ltd. *Aluminium entrance doors:* Ajax Architectural Products Ltd. *Steel demountable partitions:* Ayrshire Dockyards & Co. Ltd. *Plymax w.c. cubicles:* Venesta Ltd. *Metal windows and curtain walling:* Standard Metal Window Co. *Venetian blinds and concertina shutters:* J. Avery & Co. Ltd. *Travelling cradle track:* Palmers Travelling Cradle Co. *Glazing:* F. Bowman Glassworks Ltd. *Plumbing:* Charles Thomerson (1934) Ltd. *Steelfixing:* George Nugent. *Sewer connections:* Edward H. Jackson Ltd. *Asphalt:* Natural Rock Asphalt Ltd. *Sanitary fittings:* W. N. Froy & Sons Ltd. and Adamsez Ltd. *Lettering:* The Lettering Centre. *Suspended ceilings:* Anderson Construction Co. Ltd. *Sprayed asbestos:* C. & T. Contracts Ltd. *Signwriting:* John Edgington & Co. Ltd. *Tarpaving, roof vents:* Paramount Asphalte Ltd. *Telephones, clocks, alarms, etc.:* Telephone Rentals Ltd. *Concrete anchorages:* Abbey Building Supplies Co. *Concrete waterproofing and hardening liquid:* Adamite Co. Ltd. *Electric water heaters:* Aidas Electric Ltd. *Door mats:* S. H. Albiston & Son Ltd. *Skeleton clock numerals:* Baume & Co. Ltd. *Paint:* Inertol Co. Ltd., Lewis Berger (Gt. Britain) Ltd., International Paints Ltd. *Sectional water tank:* Braithwaite & Co. Ltd. *Refrigerator:* Electrolux Ltd. *Depth gauge:* Buchanan Bros. Ltd. *Coloured glazed wall tiles:* Carter & Co. (London) Ltd. *Glass adjustable louvres:* H. W. Cooper & Co. Ltd. *Applied lettering:* Drakard & Humble Ltd. *P.V.C. acid resisting wastes and de-min. water lines:* J. S. & F. Folkard (London) Ltd. *Metal louvres:* Greenwood's & Airvac Ventilating Co. Ltd. *Sliding door gear:* E. Hill Aldam & Co. Ltd. *Fountain jets:* Jobson & Beckwitth Ltd. *Marble tiles, vitreous tiles, mosaic:* Langley London Ltd. *Facing bricks:* W. T. Lamb & Sons Ltd. *Towel rails:* Stitsons Sanitary Fittings Ltd. *Coloured glazed mosaic:* Dennis M. Williams Ltd.

Announcements

PROFESSIONAL

The firm of architects, Sir Guy Dawber, Fox & Robinson, F./F.R.I.B.A., of 122, Wigmore Street, London, W.1 (telephone Welbeck 6531-2), wish to announce that they have taken into partnership Christopher D. Robinson, B.A.(ARCH.), A.R.I.B.A., DIP.T.P., A.M.T.P.I. The title of the firm will remain as before.

Frank Rutter, F.R.I.B.A., is now practising from 7, St. Martins Avenue, Epsom, Surrey (telephone Epsom 3224). He will be pleased to receive trade catalogues, etc.

J. D. M. Harvey, chartered architect, has moved his office to 52, Bloomsbury Street, W.C.1 (telephone Museum 1025).

William T. Glare, A.R.I.B.A., DIP.T.P., A.M.T.P.I., formerly Chief Assistant and Senior Group Architect in the Coventry City Architectural Department, has now commenced private practice at 19, The Parade, Leamington Spa (telephone 1127).

Bernard Lowe, L.R.I.B.A., announces that his new address is: 18, St. Augustines Parade, Bristol 1 (telephone Bristol 26950).

F. H. Herrmann, F.R.I.B.A., M.INST.R.A., has changed his address to 6a, Bedford Square, W.C.1 (telephone Museum 2616).

Howard, Souster & Fairbairn, L/A.R.I.B.A., of 81, Piccadilly, London, W.1 (telephone Mayfair 7546), announce that from December 1, 1956, I. Avann, DIP. ARCH., F. C. Newton, A.R.I.B.A., A.A.DIP., T.P. DIP., and F. W. Wilson, A.R.I.B.A., will be taken into associated partnership in the practice.

Ward & Austin, A.R.I.B.A., F.F.I.A./F.F.I.A., have moved to 20, Orange Street, W.C.2 (telephone Trafalgar 3010).

R. A. Durrant, A.R.I.B.A., has commenced practice at 10, Kennington Park Place, S.E.11, where he will be pleased to receive trade catalogues, etc.

TRADE

Harold Rose, B.SC., F.R.I.C., A.M.I.CHEM.E., has relinquished his positions as technical adviser and director of Expandite Ltd., in order to resume his private practice as Technical Consultant. His address is 38, Wood Vale, London, N.10 (telephone Tudor 5921).

Lumenated Ceilings Ltd. are now being represented in the North-East area by the parent company, Thermotank Ltd. In future all local enquiries regarding the Lumenated Ceiling architectural lighting system, will be dealt with by R. E. M. Wilson, Thermotank Ltd., Tyneside Works, Bede Trading Estate, Jarrow-on-Tyne, Co. Durham (telephone Jarrow 89-7171).

Bennis Combustion Ltd., Little Hulton, Walkden, Manchester, announce that their sole representatives for Scotland are Engineering Agencies, Atholl Works, 190, Rumblingwell, Dunfermline (telephone Dunfermline 1677). J. P. Gibb and J. Beveridge will be actively and solely engaged in this representation which is for the whole range of Bennis products, including Complete Steam Generating Plant, Mechanical Stokers, Water Tube Boilers, Oil Burning Equipment, Mechanical Handling Plant, etc.

British Insulated Callender's Cables Ltd., announce that the telephone number of their Exeter Branch has been changed to Exeter 66018-9.

Matthews & Yates Ltd., Manufacturers of Cyclone Fans and Fan Equipment, announce that they have transferred their Birmingham Office to larger premises at County Chambers, Corporation Street, Birmingham 2 (telephone Central 1089).

W. W. Burditt has recently been appointed Southern Area Contracts Sales Manager of Permanite Ltd., Roofing Felt and Asphalt Manufacturers and Contractors. Mr. Burditt has for a number of years represented Permanite Ltd. as Technical Representative in the Kent, Surrey and Sussex area.

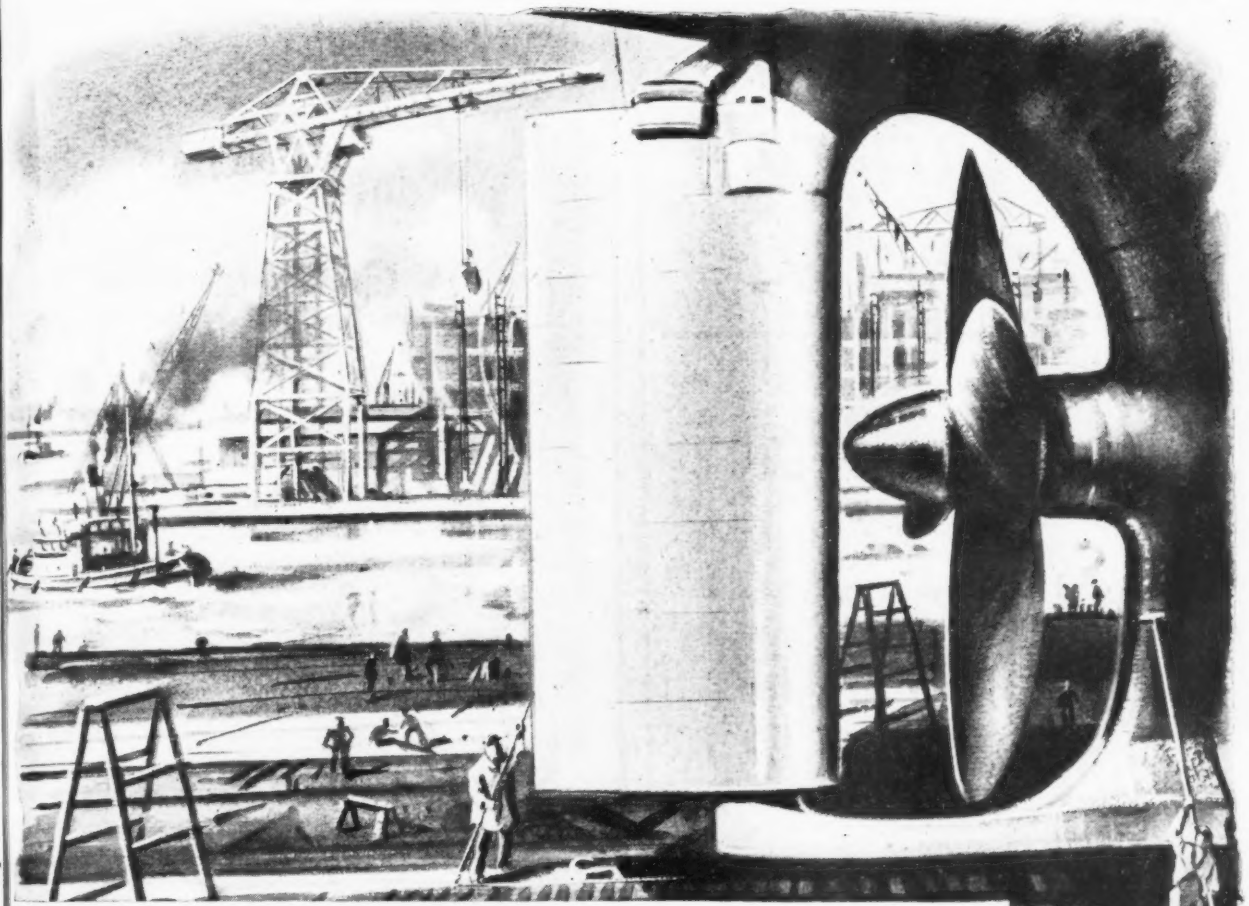
The Marley Tile Company Ltd. will shortly open a roof tile manufacturing plant at Salisbury, Southern Rhodesia. This will be the second plant the Company has built in South Africa—the first being at Nigel, in the Transvaal, two years ago.

Corrections

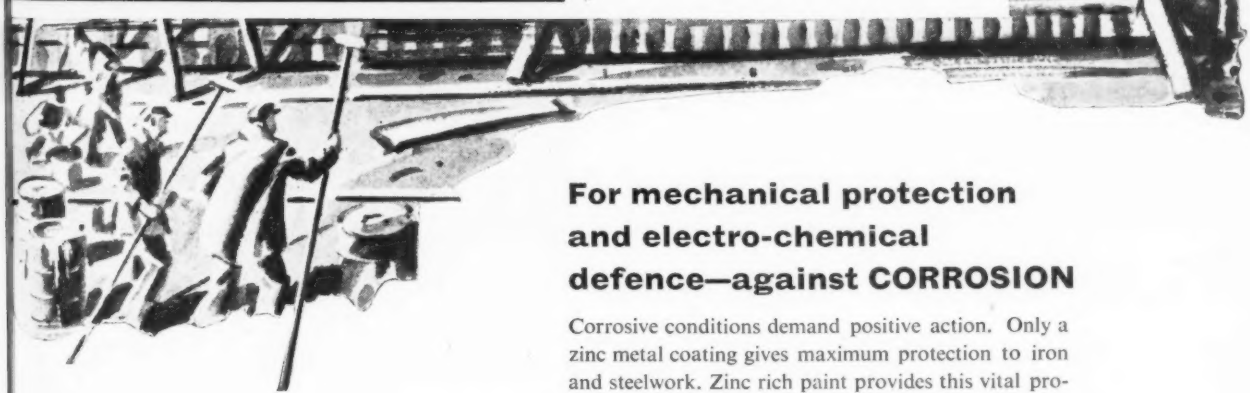
The following contractors names were unfortunately omitted from the JOURNAL of October 11: Troughton & Young Ltd. electrical engineering work at Aldermaston, Harwell and the Radio Chemical Centre, Amersham. Jesse Mead Ltd., general contractors for Isotope Laboratory at Amersham.

Two reviews in the Information Centre for November 8 were numbered incorrectly: 6.53 and 10.146 should have read 6.56 and 10.151 respectively.

The designers of the British pavilion (organized by the Board of Trade) at the Frankfurt Fair were not mentioned when we illustrated the pavilion on October 18. They were Ward and Austin (A.R.I.B.A., F.F.I.A./F.F.I.A.). The display designer was Alec Heath.



ZINC DUST ... for Paints



Corrosion is especially dangerous under water. Another example of protective painting is the rudder of the oil-tanker 'Caprinus' which is painted with highly metallic Zinc rich paint.

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For mechanical protection and electro-chemical defence—against CORROSION

Corrosive conditions demand positive action. Only a zinc metal coating gives maximum protection to iron and steelwork. Zinc rich paint provides this vital protection ; its action is electrolytic ; even if the paint film should be damaged the underlying metal is still protected by the adjacent zinc particles and the spread of corrosion is arrested. Zinc rich paint is non-toxic and is applied with ease whether for new work or for renovating.

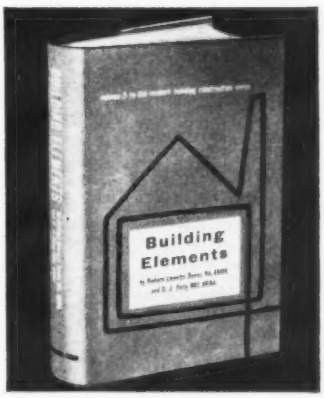
Specify a zinc dust from the Imperial Smelting range for use in your zinc rich paint formulations. We will gladly supply a list of zinc dust paint manufacturers on application.

IMPERIAL SMELTING CORPORATION (SALES) LIMITED · 37 DOVER STREET · LONDON W.1

now ready the third and final volume in

the new series on modern building construction

These three volumes—of which details are given below—combine to provide a definitive work on modern building construction which has been written and published at the recommendation of the Text and Reference Books Committee of the Royal Institute of British Architects. The main object of the Series, written in a manner directly related to design, is to provide information in a suitable form for architectural students. It will, however, also be found useful by practising architects, students of building, and building technicians.

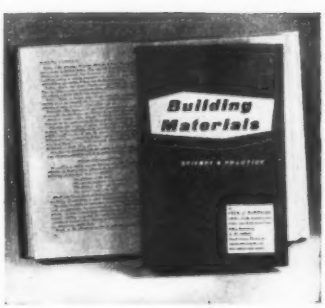


building elements by R. LLEWELYN DAVIES, M.A., A.R.I.B.A. and D. J. PETTY, M.B.E., M.A., A.R.I.B.A. Foreword by W. A. ALLEN, B.ARCH., A.R.I.B.A.

This Book deals with the structural elements of which a building consists, its walls, roofs, floors, windows, etc., and explains the functional requirements a building has to meet. It then describes how these requirements are met in the actual design of the various structural elements.

The book is divided into two parts, the first of which contains chapters on the requirements of building elements under the headings of Design and Expression; Weather Exclusion; Thermal Insulation; Sound Insulation; Fire Protection. In Part 2 chapters deal with the principal kinds of External Walls; Internal Walls; Roofs; Floors; Stairs; Flues and Fireplaces; Windows and Doors; which are in current use, and show how far and in what way, each of these elements fulfils the requirements described in Part 1.

Size: 8¾ in. by 5⅝ in., containing 384 pages including over 190 diagrams and halftone illustrations. 37s. 6d. net, postage 1s. 4d.



building materials by CECIL C. HANDISYDE, A.R.I.B.A. Foreword by A. H. MOBERLY.

This book provides up-to-date information on building materials in a form most useful to architectural students and practising architects. In addition to traditional materials, Mr. Handisyde deals with the many new materials which have come into use during the last twenty-five years, and takes full account of the very considerable amount of recent scientific research which has been brought to bear on both old and new materials. He examines thoroughly those problems of increasing concern to architects today—to what extent will alternative materials provide comfortable buildings, buildings that are warm and quiet and reasonably secure against fire, as well as being weatherproof and strong enough for their purpose.

Size: 8¾ in. by 5⅝ in. Containing 336 pages including 58 diagrams and halftone illustrations. Second edition, 30s. net, postage 1s. 3d.

structure in building by W. FISHER CASSIE, PH.D., M.S., F.R.S.E., M.I.C.E., M.I.STRUCT.E., and J. H. NAPPER, M.A., F.R.I.B.A., A.M.T.P.I. Foreword by W. A. ALLEN, B.ARCH., A.R.I.B.A.

Steel, concrete, aluminium alloys, etc., have revolutionised structural design, and although this field is largely an engineering one, today it is essential for the architect to understand something about it. No attempt is made in the book to give the formulae and methods of analysis and design used by the structural engineer; rather it provides the architect and student with mental pictures of how structures behave, for without the ability to 'feel' how forces act and react in the support of buildings, the architect cannot hope to put into practice the spatial conceptions of present-day architecture.

The book fills a gap in the literature on structural design and provides the architect with all the information he needs about systems of construction, their character, possibilities and limitations, to enable him to produce designs for new buildings with economy and imagination.

Size: 8¾ in. by 5⅝ in. Containing 268 pages including over 150 diagrams and halftone illustrations. Second impression, 30s. net, postage 1s. 2d.

The complete set of three volumes: price 97s. 6d. net. Postage 2s. 3d.

THE ARCHITECTURAL PRESS 9-13 QUEEN ANNE'S GATE WESTMINSTER S.W.1

CLASSIFIED ADVERTISEMENTS

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

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

Public and Official Announcements

25s. per inch; each additional line, 2s.

THE ARCHITECTS' JOURNAL RESEARCH BOARD invites applications for two Fellowships. The first will enable the holder to work on the following: Information for the Architect: What Does He Need and Where Will it Come From. This is a continuation of the Board's first Fellowship which has become vacant through the death of the holder, the late Michael Ventris, O.B.E. This Fellowship is open to anyone in the English-speaking world who has completed a course qualifying him (or her) for registration as an architect and has had three or more years' practical experience after qualifying.

The subject of the second Fellowship is open to the choice of applicants, the main condition being that its study must directly benefit the architect in practice. For the guidance of applicants, the following four subjects have been considered by the Board as fulfilling this condition, though it is not their wish that applicants should confine their choice to these: The Influence on Design of Building Contractors' Equipment; The Layman's Reaction to Architectural Style; The Effect of Rules and Regulations other than Building Law on Design in Cities; The Effect of Engineering Services on Design.

This second Fellowship is open to anyone in the English-speaking world who has completed a course qualifying him (or her) for registration as an architect, or who holds an academic or professional qualification of equivalent standing.

The value of each of these Fellowships, which are tenable for one year or some less period by arrangement, is £1,000, plus certain expenses. The successful candidate may be required to work at Edinburgh or Liverpool Universities, the Building Research Station, Garston, or the Architectural Association, London.

Further details and application forms are obtainable from the Secretary, Research Board, The Architects' Journal, 9, Queen Anne's Gate, London S.W.1. Last date for the receipt of applications is December 15, 1956. 915

OXFORD REGIONAL HOSPITAL BOARD

Applications are invited for the following posts in the Regional Architect's Department:—

(A) ARCHITECTURAL ASSISTANT:—Applicants should have passed the Intermediate Examination of the Royal Institute of British Architects or an examination recognised by the Institute as equivalent.

Salary scale £510 p.a. (at age 21 or over) × £20(5) × £30(1) ≡ £20(1) × £25(2) — £710 p.a.

Further particulars regarding the post can be obtained from the Regional Architect.

(B) SURVEYOR'S CLERK:—Applicants should have had experience in a builder's or quantity surveyor's office. Duties in the first instance will consist of working up bills of quantities, but opportunity available to widen experience.

Salary scale £425 p.a. (at age 24 or over: £20 deducted for each year below that age) × £15(3) × £20(5) × £25(1) — £595 p.a.

Compulsory Superannuation and Whitley Council conditions apply to both posts.

Applications stating age, training, qualifications and/or experience and present salary, with the names of two referees, should be submitted to the Secretary, Oxford Regional Hospital Board, 43, Banbury Road, Oxford, by not later than 21st November, 1956. 4417

THE CORPORATION OF GLASGOW
ARCHITECTURAL AND PLANNING DEPARTMENT
ASSISTANT ARCHITECTS
PLANNING ASSISTANTS
ASSISTANT QUANTITY SURVEYORS

Vacancies exist for a number of assistants. Minimum qualification, Intermediate Examination of the appropriate professional body. Salary scale £580—£1,100 per annum, with placing according to age, experience and qualifications.

Forms of application may be obtained from the Principal Administrative Officer, 20, Trongate, Glasgow, C.1.

A. G. JURY,
City Architect and Planning Officer.
4164

COUNTY BOROUGH OF DERBY
BOROUGH ARCHITECT'S DEPARTMENT
QUANTITY SURVEYING STAFF:—

(a) A.P.T. Grade IV (£727—£907 per annum).
(b) A.P.T. Grade V/VI (£814—£1,107 per annum).

Commencing salary will be according to qualifications and experience.

Permanent superannuable appointments, subject to one month's notice and to medical examination. National Conditions of Service.

Application forms obtainable from and to be returned to the Borough Architect, The Council House, Corporation Street, Derby, not later than Monday, 3rd December, 1956.

G. H. EMLYN JONES,
Town Clerk.
8th November, 1956. 4473

CORPORATION OF LONDON
invites applications
for permanent appointment of
SECOND PRINCIPAL ARCHITECTURAL ASSISTANT,
in the Architectural and Housing Section of the CITY ENGINEER'S OFFICE.

Salary scale £1,000 to £1,220, according to experience.

Candidates should be Associates of the Royal Institute of British Architects, and have had varied experience in Local Authority work, particularly on maintenance and improvement works for Housing and Public Buildings.

Medical examination, local Act Superannuation Fund.

Applications, stating age, experience, present and previous appointments, with names of two referees, to the City Engineer, 55/61, Moorgate, London, E.C.2, by 26th November. 4437

BOROUGH OF WORKINGTON
APPOINTMENT OF ARCHITECTURAL ASSISTANT

Applications are invited for the appointment of Architectural Assistant in the Borough Engineer and Surveyor's Department at a salary in accordance with Grade A.P.T. III (£640—£765).

The appointment will be subject to the Local Government Superannuation Acts and be determinable by one month's notice on either side.

Housing accommodation will be provided if required.

Applications, stating age, qualifications, experience and particulars of past and present appointments, together with the names and addresses of two referees, should be sent to the Borough Engineer and Surveyor, "Stoneleigh," Park End Road, Workington, not later than the 26th November, 1956.

RUSSELL C. PHARAOH,
Town Clerk.

Town Hall,
Workington.
6th November, 1956. 4447

LANCASHIRE COUNTY COUNCIL

DIVISIONAL PLANNING OFFICER required at LANCASTER: salary £1,405 rising by annual increments of £55 to £1,625 per annum. The appointment is superannuable and subject to medical examination.

The successful candidate will be responsible to the County Planning Officer for the planning of the Administrative County mainly to the north of Preston.

Candidates must be members or associate members of the Town Planning Institute, and preferably have one or more of the following qualifications: a University degree in Civil Engineering, Architecture or Estate Management, A.M.I.C.E., A.M.I.Mun.E., A.R.I.B.A., or A.R.I.C.S. They must also have wide experience in the preparation and administration of planning schemes and possess a sound knowledge of the various Acts and Orders relating to Town and Country Planning. Experience in rural areas of high scenic value would be an advantage as part of the area is within the Lake District National Park. The successful applicant will be expected to own and use a car in the execution of his duties for which a travelling allowance will be paid.

Applications giving age, qualifications, experience, present appointment, etc., and two referees should be forwarded to U. Aylmer Coates, B.Arch., F.R.I.B.A., M.T.P.I., County Planning Officer, East Cliff County Offices, Preston, by 3rd December, 1956, in envelopes endorsed "Lancaster D.P.O." 4499

COUNTY BOROUGH OF BURY
APPOINTMENT OF ARCHITECT FOR PROPOSED BURY (GRAMMAR/TECHNICAL) SCHOOL (900 places)

ARCHITECTS experienced in the design and construction of schools who have capacity to proceed quickly with the work and who wish to be considered for appointment, are invited to submit to me, not later than 24th November, 1956, particulars of works executed and details of available staff.

EDWARD S. SMITH,
Town Clerk.

Town Hall,
Bury. 4491

BOROUGH OF LARNE

The Larne Borough Council invite applications for the undermentioned temporary post:—

PLANNING AND ARCHITECTURAL ASSISTANT: Salary in accordance with experience and within the salary range £385 × £20—£625 p.a. plus pay supplement at present £43 10s.; an additional supplement of £25 10s. p.a. is at present under consideration.

Qualifications: Candidates must have passed the Intermediate Examination of the Royal Institute of British Architects or have adequate drawing office experience.

Preference will be given to candidates who served with H.M. Forces during war-time, provided the Council is satisfied that such candidates can or within a reasonable time will be able to, discharge the duties efficiently.

Applications giving date of birth, full particulars of qualifications and experience, with copies of two recent testimonials, should be sent to the undersigned not later than 5 p.m. on Friday, 23rd November, 1956.

R. LYTTLE,
Town Clerk.

Gardenmore House,
Larne.
6th November, 1956. 4465

GOVERNMENT OF NORTHERN IRELAND
ASSISTANT ARCHITECT

Applications are invited for the unestablished post of Assistant Architect Class II in the Works Directorate, Ministry of Finance.

The consolidated salary scale is £790 × £25—£840 × £30—£990 × £40—£1,190. Minimum of scale is linked to entry at age 26 plus or minus one increment for each year above or below that age. Maximum entry point £1,030.

Candidates must be Registered Architects by examination, and must have had at least two years' experience in an Architect's Office in the preparation of working drawing for new buildings.

Preference will be given to a suitably qualified candidate who served in H.M. Forces during the 1914-1918 or 1939-1945 wars, provided the Ministry is satisfied that such a candidate is, or within a reasonable time will be, able to discharge the duties of the post efficiently.

Application forms may be obtained from the Director of Establishments, Ministry of Finance, Stormont, Belfast, to whom they must be returned, together with copies of two recent testimonials. 4481

STAFFORDSHIRE COUNTY COUNCIL
EDUCATION ARCHITECT'S DEPARTMENT
ASSISTANT INSPECTOR OF BUILDINGS

Applications are invited for the post of Assistant Inspector of Buildings in the South East Divisional Area, based at Wednesbury, from persons having practical experience in the building trade, the preparation of specifications and estimates, and who are car owners. Salary will be in accordance with Grade A.P.T. II (£595—£675 per annum).

Forms of application, which must be returned within 10 days from the date of this advertisement may be obtained from: A. C. H. Stillman, Esq., F.R.I.B.A., County Education Architect, Green Hall, Lichfield Road, Stafford.

T. H. EVANS,
Clerk of the County Council.
4501

PEMBROKESHIRE COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT

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

SENIOR ASSISTANT ARCHITECTS, A.P.T. Grade V (£795—£970 plus 2½%).

ASSISTANT ARCHITECTS, A.P.T. Grade IV (£710—£885 plus 2½%).

Commencing salary according to qualifications and experience.

Applicants should be members of the R.I.B.A. by examination or hold equivalent academic qualifications with experience of contemporary Architectural or Structural design.

The appointment which will be subject to the provisions of the Council's Superannuation Acts and the National Joint Council's Scheme of Conditions of Service, will also be subject to a satisfactory medical examination.

Forms of application can be obtained from the County Architect, County Offices, Haverfordwest, and should be returned, duly completed, to the undersigned not later than 8th December, 1956.

H. LOUIS UNDERWOOD,
Clerk of the County Council.

County Offices,
Haverfordwest.
7th November, 1956. 4467

BERKS COUNTY COUNCIL
PLANNING DEPARTMENT

Applications are invited for the post of SENIOR ASSISTANT PLANNING OFFICER on A.P.T. Grade VI (£902—£1,107 p.a.). Duties of post are concerned initially with preparation and review of County Development Plan. Applicants should be experienced in development plan and development control work, and must be A.M.T.P.I.; an additional qualification would be an advantage.

Forms of application from County Planning Officer, 7, Abbot's Walk, Reading, to whom completed applications must be returned not later than 14 days from the date of this advertisement. 4468

NIGERIAN COLLEGE OF ARTS, SCIENCE AND TECHNOLOGY

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

(Amended Advertisement)

Applications are invited from suitably qualified candidates for the following appointments

SENIOR LECTURERS IN ARCHITECTURE
LECTURERS IN ARCHITECTURE

Candidates must be fully qualified Architects with good practical experience. Teaching experience desirable but not essential. Present Course: 3-year Certificate Course, to be extended to 5-year Diploma Course in September 1957.

Salary Scales on Contract: Senior Lecturer £1,668—£2,208 p.a. (revision being considered); Lecturer, £1,290—£1,956 p.a. Plus gratuity of £150 p.a. Entry point in salary scales according to qualifications and experience.

Permanent and pensionable appointments could be made to all the above posts, if desired by applicants, but at somewhat lower salaries.

Partly furnished houses provided at moderate rent. Seven days' leave, normally taken annually, for each month of resident service. Free 1st class passages. Children's U.K. maintenance grant up to £150 annually and passages assistance. Free medical attention. Outfit allowance.

Applications (6 copies) giving age, qualifications, experience and the names of 3 referees should be sent to the Secretary, Advisory Committee on Colonial Colleges, 1, Woburn Square, London, W.C.1. Closing date 15th December, 1956. 4466

KING'S COLLEGE HOSPITAL
DENMARK HILL, S.E.5

Applications are invited for the post of ARCHITECTURAL DRAUGHTSMAN in the Building Surveyor's Department at a salary of £550 × £20—£620 per annum.

Applicants should be experienced in the preparation of plans of existing buildings and working drawings for alterations and improvements. Preference will be given to applicants who have passed the Intermediate Examination of the R.I.C.S. (Building Sub-division).

Applications stating age, experience, training and qualifications should be sent to undersigned by 29th November, 1956.

S. W. BARNES,
House Governor.
4497

NATIONAL COAL BOARD
WEST MIDLANDS DIVISION

Vacancies exist for ARCHITECTS Grade II in the Divisional Chief Architect's Department at Himley Hall, Nr. Dudley, Worcs.

Salary will be within the scale £700 × £30—£1,000 per annum.

Applicants must be Associate Members of the Royal Institution of British Architects, and have experience in design, preparation of sketch plans, working drawings, specifications and limited supervision of work in progress. The office is engaged on a large programme of varied and interesting work of industrial and welfare nature and offers scope for applicants with a progressive outlook. Superannuation rights with Local Authority and certain other schemes are transferable.

Write for application forms to Divisional Chief Staff Officer, National Coal Board, West Midlands Division, Himley Hall, Nr. Dudley, Worcs. These must be completed and returned within 14 days of appearance of advertisement. 4469

DURHAM COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT

Applications are invited from QUALIFIED ARCHITECTS for appointment on salary scale A.P.T. V (£814 17s. 6d. to £994 5s.).

The appointments are subject to medical examinations for the purpose of the Local Government Superannuation Acts, the Council's regulations and the National Joint Council's Scheme for the time being governing payment of salary during sickness, annual leave and other conditions of service.

Applications including the names and addresses of two persons to whom reference may be made must reach the County Architect, South Street, Durham, by 27th November, 1956.

J. K. HOPE,
Clerk of the County Council.
4466

THE CITY ARCHITECT, NORWICH

requires a qualified ASSISTANT ARCHITECT on the permanent staff, to act as First Assistant to the Chief Housing Assistant. Salary within Grade A.P.T. V. (£815.17.6 × £35 to £994.5.0 per annum).

Housing accommodation can be made available in certain circumstances.

Application forms, describing this post, from the City Architect, City Hall, Norwich, should be returned within 15 days after the appearance of this advertisement. 4492

OXFORD REGIONAL HOSPITAL BOARD
REGIONAL ARCHITECT'S DEPARTMENT

Applications are invited for the following appointment:—

SENIOR ASSISTANT ARCHITECT (£975 × £35 (1) × £30 (5)—£1,160 p.a.).

Particulars of the post and of the qualifications expected may be obtained from the Regional Architect. Applications, with the names of two referees, should be submitted to the Secretary of the Board, 43, Bunbury Road, Oxford, not later than 30th November, 1956. 4487

NATIONAL COAL BOARD
DURHAM DIVISION, NO. 1 AREA.

ENGINEERING DRAUGHTSMEN required by the N.C.B. with Headquarters at South Shields. Applicants should preferably be experienced in the design and detailing of structural steelwork and preferably conversant with the preparation and layout of Colliery Engineering Plant. Salary will be within the range £655 to £765 according to age and experience. There is a Superannuation Scheme with generous allowances. Applicants should write with full particulars to the Area Staff Manager, National Coal Board, Durham Division, No. 1 Area, P.O. Box No. 1, Station Road, South Shields, Co. Durham. 4500

BOROUGH OF SHREWSBURY
BOROUGH SURVEYOR'S DEPARTMENT

Applications are invited for the post of ARCHITECTURAL ASSISTANT, A.P.T. IV (£710 × £35—£885, plus 2½%).

Housing accommodation will be provided, if required, and removal expenses paid.

Applications stating age, qualifications and experience with the names of two persons to whom reference can be made should be submitted to the Borough Surveyor, Guildhall, Shrewsbury, by 21st November, 1956.

S. R. H. LOXTON,
Town Clerk.
Guildhall,
Shrewsbury. 4471

CARMARTHENSHIRE COUNTY COUNCIL

Applications are invited for the appointment of PLANNING ASSISTANT; salary scale within A.P.T. III-IV according to planning experience.

Applicants must be Corporate Members of the Town Planning Institute and/or other appropriate professional Institute. Possession of a car, for which Casual User allowance will be payable, will be an advantage.

Applications giving details of age, training, qualifications, experience, past and present appointments, and names of two referees, to be sent to the undersigned by 24th November, 1956.

W. S. THOMAS,
Clerk of the County Council.
County Hall,
Carmarthen. 4468

Architectural Appointments Vacant

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

POST-INTERMEDIATE ASSISTANT required, in large London Office with widely varied practice. Lewis Solomon, Son & Joseph, 21, Bloomsbury Way, London, W.C.1. Telephone HOL 7082. 3152

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The position calls for the preparation of layouts and perspectives with a modern approach to store fitting problems.

The post is pensionable, subject to medical examination and there is a five-day week in operation.

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ASSISTANTS required in medium-sized busy West End office. Applicants should be of R.I.B.A. Finals standard, capable of taking complete charge of contracts under general supervision. General Practice, including Housing Schemes, Office Blocks, Factories, etc.—Apply in writing only, stating age, qualifications, experience and salary required, to Thomas Sibthorp, F.R.I.B.A., A.R.I.C.S., A.M.T.P.I., 10, Manchester Square, W.1 4376

ARCHITECTURAL ASSISTANTS required. State salary, age, experience, etc. Harvey & Scott, 2, Lynedoch Place, Glasgow, C.3. 4278

RONALD WARD & PARTNERS require an **ARCHITECTURAL ASSISTANT**, with contemporary outlook and willing to use own initiative. Salary range £500 to £800. Interesting and varied work, home and abroad. Congenial working conditions.—Apply 29, Chesham Place, Belgrave Square, S.W.1. Tel. Belgravia 3361. 4032

WEST END Architects require **ASSISTANT** for preparation of working drawings. Some office experience essential, together with a sound knowledge of building construction. State salary required.—Box 4049.

ARCHITECTURAL ASSISTANT required: qualified or Intermediate stage. Must have good experience, and considerable capacity for work.—Write, stating salary required, to David Carr & Stuart Matthew, 14, Lynedoch Place, Edinburgh. 4343

LOUIS DE SOISSONS, Peacock, Hodges & Robertson, have vacancies in their London and Welwyn Garden City offices for SENIOR and JUNIOR ARCHITECTURAL staff. A large amount of varied interesting work on hand.—Write, stating age, salary and experience, to Louis de Soissons, Peacock, Hodges & Robertson, 3, Park Square Mews, Upper Harley Street, London, N.W.1. 4296

YOUNG, Intermediate standard, ARCHITECTURAL DRAUGHTSMEN, with contemporary outlook, required immediately for Surveys, Working Drawings and Details. Good salary and prospects offered.—Dawe, Carter & Partners, Clarendon Road, Watford. WAT. 7296. 4300

TREHEARNE & NORMAN, PRESTON & PARTNERS have vacancies for SENIOR AND JUNIOR ASSISTANTS. Salaries according to experience and qualifications.—Apply: 83, Kingsway, W.C.2 (HOL. 4071). 3028

ARCHITECTURAL ASSISTANT, Intermediate standard, required for West End Architects' office. 5-day week. Luncheon vouchers. Salary by arrangement.—Scherrer & Hicks, 19, Cavendish Square, W.1. 4307

JOHN LAING AND SON LIMITED

INVITE applications for the following grades of ARCHITECTURAL STAFF for vacancies in the Architects Departments (Chief Architect: Sydney Greenwood, A.R.I.B.A.).

DEVELOPMENT ARCHITECTS & ASSISTANTS for the study and development of new forms of construction at the Research and Development Centre, Boreham Wood, Herts. All grades are required including qualified men and those seeking qualifications.

The following vacancies exist in the Architects Department at Head Office, Mill Hill, N.W.7:—

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RILEY & GLANFIELD require male ASSISTANT, maximum salary £650. Work: church, industrial, housing and public house. Telephone CHA 7328. 4398

PATRICK GWYNNE requires an **ASSISTANT** to work with him personally at his house near Esher, on detailing of new houses, interiors and furniture. Previous office experience essential. The Homewood, Esher, Surrey. ESHer 3310. 4277

ARCHITECT'S ASSISTANT required in West Riding private practice. Intermediate standard. Write C. F. L. Horsfall & Son, Lord Street Chambers, Halifax, Yorkshire, giving details of experience. Salary to be agreed on basis of ability. 4385

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RONALD FIELDING, A.R.I.B.A., requires SENIOR and JUNIOR ASSISTANTS. Please apply with details of experience, age and salary required to Aldwych House, London, W.C.2. Chancery 3532/3. 4436

ARCHITECTURAL ASSISTANT, enthusiastic and with contemporary outlook, for Lincolnshire Office. £800 per annum. Housing accommodation. Saunders & Partners, 24, Castlegate, Newark-on-Trent. 4443

BRIDGWATER & SHEPHEARD require ASSISTANT, of Intermediate or higher standard.—Send brief particulars, age, and experience, to 42, Bruton Place, London, W.1. 4461

ARCHITECTURAL ASSISTANT required for interior and building work. Salary according to age and experience.—'Phone PUTney 3800. 4464

ARCHITECTURAL ASSISTANTS, qualified and unqualified, are required by Braithwaite & Jackman, F.R.I.B.A. Applications, stating qualifications, age, and experience, should be addressed to 7, South Parade, Leeds, 1. 4457

S. T. WALKER & PARTNERS require young, energetic, and qualified staff within the salary range £650—£1,000 per annum. The office is a busy one, with many different types and sizes of projects. 5-day week. Pension Scheme.—Apply to 83, Suffolk Street, Birmingham, 1, Midland 3682-3, giving a brief outline of experience. 4459

LONDON firm of Architects requires ASSISTANTS immediately. Write stating experience, salary required, etc., to Box 4388.

THE London Co-operative Society, Ltd., invite applications for the following vacancies at their Works Department, Whitta Road, Manor Park, London, E.12. The successful candidates will be required to pass a medical examination and after a short probationary period to participate in the Society's Contributory Staff Pension Scheme.

ARCHITECTURAL ASSISTANT. Applicants should have reached Intermediate R.I.B.A. standard and have had experience in the layout and design of Commercial and Industrial Buildings. Salary scale £600 to £650 per annum. Endorse application "Architectural Assistant."

ARCHITECTURAL DRAUGHTSMAN. General Architectural Drawing experience necessary. Preference will be given to applicants with experience of preparation of drawings for Industrial and Commercial Buildings. Salary scale £500 to £600 per annum. Endorse applications "Architectural Draughtsman."

STRUCTURAL ASSISTANT. Applicants should have passed Part A and B examinations of the Institute of Civil Engineers or equivalent, and be competent to undertake the design of buildings, mainly in reinforced concrete. Salary scale £700 to £800 per annum. Endorse applications "Structural Assistant."—Applications, stating age, details of career and technical qualifications, should be addressed to Staff Office, London Co-operative Society, Ltd., 54, Maryland Street, Stratford, London, E.15. 4462

ARCHITECTS, Eastbourne, require an ASSISTANT for surveys, working drawings and details.—Reply, stating age, experience, and salary, to Box 4454.

ARCHITECTURAL ASSISTANT of Final standard required by small West End firm of Architects. Interesting contemporary work on schools, ecclesiastical, industrial and domestic projects. Salary £500—£650 p.a., according to experience. 5-day week.—Write, with full particulars, to Box 4451.

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ARCHITECTURAL ASSISTANT required by larger cinema circuit in London for preparation of colour schemes, working and detail drawings. Flair for making perspective sketches essential. The appointment is permanent, and pension scheme, canteen, 5-day week, and other amenities are available.—Write, stating age, experience, and salary required, to Box 4490.

ARCHITECT'S ASSISTANT, Intermediate standard. Varied and interesting work. About £520, according to experience.—Watson, Johnson & Stokes, 5, Victoria Square, Birmingham, 2. 4485

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ARCHITECTURAL ASSISTANT,

of post-Intermediate R.I.B.A. standard, capable of carrying out surveys, preparing sketch schemes, working drawings, details and specifications. Age limit 35; 5-day week; dining facilities; travel.—Application, stating age and previous experience, salary required, etc., to Robert W. Ingram, A.R.I.B.A., Staff Architect, Currys, Ltd., 77, Uxbridge Road, Ealing, London, W.5. 4481

ARCHITECTURAL ASSISTANT required in City office. Must be neat and quick draughtsman, of Intermediate standard. 'Phone BIS. 7273/4. 4477

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ASSISTANT required in the Architect's Department of a large Multiple Company. Experience of surveys of existing buildings, shop fittings and layouts an advantage. 5-day week, canteen facilities.—Apply, stating age, experience and salary required, to Box 4477.

APPLICATIONS are invited by the Architect to a Brewery Company for an Associate R.I.B.A. to act as his Deputy. The appointment offers abundant scope in the field of licensed property work. Salary according to experience. Contributory Pension Scheme in operation.—Full personal particulars to Fergus H. Frost, A.R.I.B.A., The Birkenhead Brewery Co., Ltd., 73, Oxton Road, Birkenhead. 4476

ASSISTANTS required for London office on interesting West African projects; prospects of overseas tours. Experience in tropical work desirable but not essential. Salary by arrangement.—Apply Box 4475.

KEEN Intermediate ASSISTANTS required for expanding London practice. Excellent prospects and salary for men with initiative.—Full details to Box 4495 or Tel. CAN. 3979.

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A.R.I.B.A., A.M.T.P.I., 25 years' London experience, seeks responsible post or partnership in London area—Write 273, Shirland Road, W.9, or 'phone Ladbroke 1886. 4207

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

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