THE ARCHITECTS' JOURNAL

standard contents

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

No. 3198] [VOL. 123

THE ARCHITECTURAL PRESS

9, 11 and 13, Queen Anne's Gate, Westminster, S.W.1. *'Phone: Whitehall 0611*

Price 1s. 0d.

Registered as a Newspaper.

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

AA	Architectural Association, 34/6, Bedford Square, W.C.1.	Museum 0974
AAI	Association of Art Institutions. Secy.: W. Marlborough Whitehead, "Dyneley," Castle Hill Avenue, Berkhampstead, Herts.	
ABS	Architects' Benevolent Society. 66, Portland Place, W.1.	Langham 5721
ABT	Association of Building Technicians. 1, Ashley Place, S.W.1.	Victoria 0447–8
ACGB	Arts Council of Great Britain. 4, St. James' Square, S.W.1.	Whitehall 9737
ADA	Aluminium Development Association. 33, Grosvenor Street, W.1.	Mayfair 7501/8
ARCUK	Architects' Registration Council. 68, Portland Place, W.1.	Langham 8738
BAE	Board of Architectural Education. 66, Portland Place, W.1.	Langham 5721
BATC	Building Apprenticeship and Training Council. Lambeth Bridge House, S.E.1.	Reliance 7611, Ext. 1706
BC	Building Centre. 26, Store Street, Tottenham Court Road, W.C.1.	Museum 5400
BCC	British Colour Council. 13, Portman Square, W.1.	Welbeck 4185
BCCF	British Cast Concrete Federation. 105, Uxbridge Road, Ealing, W.5.	Ealing 9621
BCIRA	British Cast Iron Research Association. Alvechurch, Birmingham.	Redditch 716
BDA	British Door Association. 10, The Boltons, S.W.10.	Fremantle 8494
BEDA	British Electrical Development Association. 2, Savoy Hill, W.C.2.	Temple Bar 9434
BIA	British Ironfounders' Association. 145, Vincent Street, Glasgow, C.2.	Glasgow Central 2891
BID	Building Industries Distributors. 52, High Holborn, W.C.1.	Chancery 7772
BINC	Building Industries National Council. 11, Weymouth Street, W.1.	Langham 2785
BOT	Board of Trade. Whitehall Gardens, Horseguards Avenue, Whitehall, S.W.1.	Trafalgar 8855
BRS	Building Research Station. Bucknalls Lane, Watford	Garston 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. 16, Hanover Square, W.1.	Mayfair 5454
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

e

ON

INES)

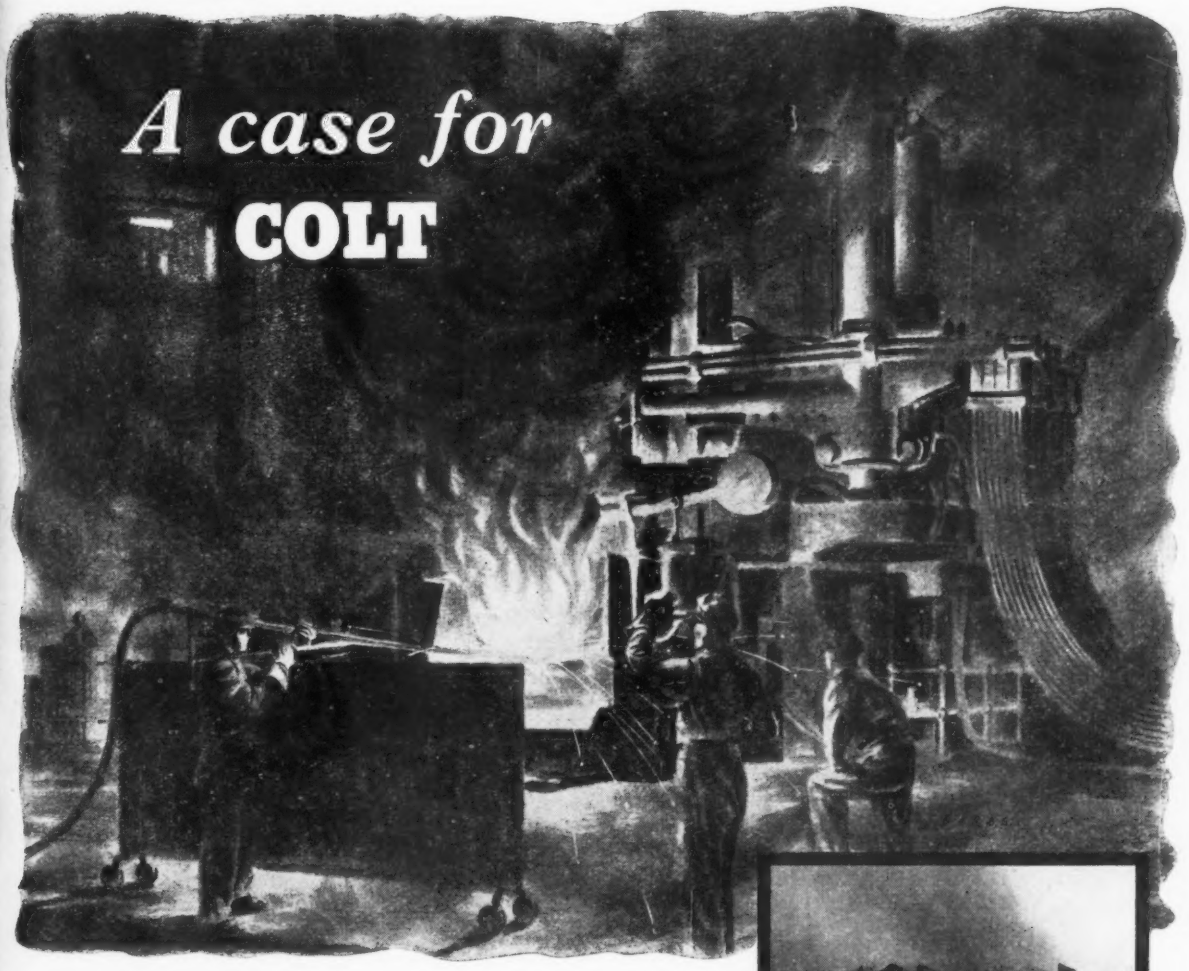
RDIFF

OUGH

OUTH

Problem No. 1 Smoke, fumes, and heat from arc furnaces

A case for COLT



When oxygen blowing was introduced in these electric arc furnaces, smoke and heat filled the building down to floor level, making the furnace men's job difficult, and the crane driver's impossible. The problem here was to remove this smoke and excessive heat. After a careful survey Colt solved the problem by extracting through the Giant COLT Continuous S.R. Ventilators in the roof, replacement fresh air being provided by COLT Clear Opening Ventilators in the walls. This is one of eleven different installations we have surveyed and installed for K. & L. Steelfounders and Engineers Ltd., and but one of over 26,000 systems we have installed for Industry and Commerce. *Whatever your problem, be it heat, fumes, smoke, steam or condensation, Colt can clear it.*

Smoke and fumes from Electric Arc Furnaces being extracted through Colt Continuous-Extract Natural Ventilators at K. & L. Steelfounders and Engineers Ltd.

Colt cater for all ventilation problems. Send for our free booklet to Dept No. L.I.

COLT

VENTILATION

COLT VENTILATION LTD · SURBITON · SURREY
TELEPHONE: ELMBRIDGE 6511/5

U.S.A. Subsidiary: Colt Ventilation of America Inc., Los Angeles.
Branches at: Birmingham, Bradford, Bridgend (Glam.), Bristol, Coventry, Dublin, Edinburgh, Glasgow, Liverpool, London, Manchester, Newcastle-upon-Tyne, Sheffield, and Warwick.
Agents in: Australia, Belgian Congo, Canada, Cyprus, India, Indonesia, Madagascar, Malaya, Mauritius, New Zealand, Pakistan, Portugal, North and South Rhodesia, and South Africa.
G.11

Curlsax Broadloom specified for the Council Chamber of the International Sugar and Wheat Councils.

stockwell CURLSAX *carpets*

Regd.

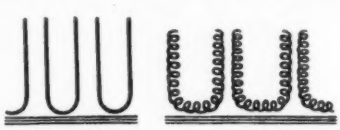
BROADLOOM

CARPET: Waring & Gillow, London

DESIGNED BY: G. J. McDonald, F.R.I.C.S.
Weatherall, Green & Smith, Chartered Surveyors, 22 Chancery Lane, London, W.C.2.

Increasingly specified by Architects and Consultant Designers for Board Rooms, Showrooms and Offices of leading commercial houses . . . the unique plain carpet that's planned to *stay plain* . . . the carpet with advantages others haven't got.

- *It's crush-resisting . . . defies the footmark and "shading" fiends.*
- *Rugs don't creep as on normal-pile carpets.*
- *Any size, seamless, to 33 ft. 0 in. wide.*
- *All-woollen pile. Mothproof for life.*
- *Choice of 3 grades . . . 12 stock colours, other colours dyed to order.*
- *Each carpet produced individually for* you.
- *The one and only genuine Curlsax . . . there is no substitute.*

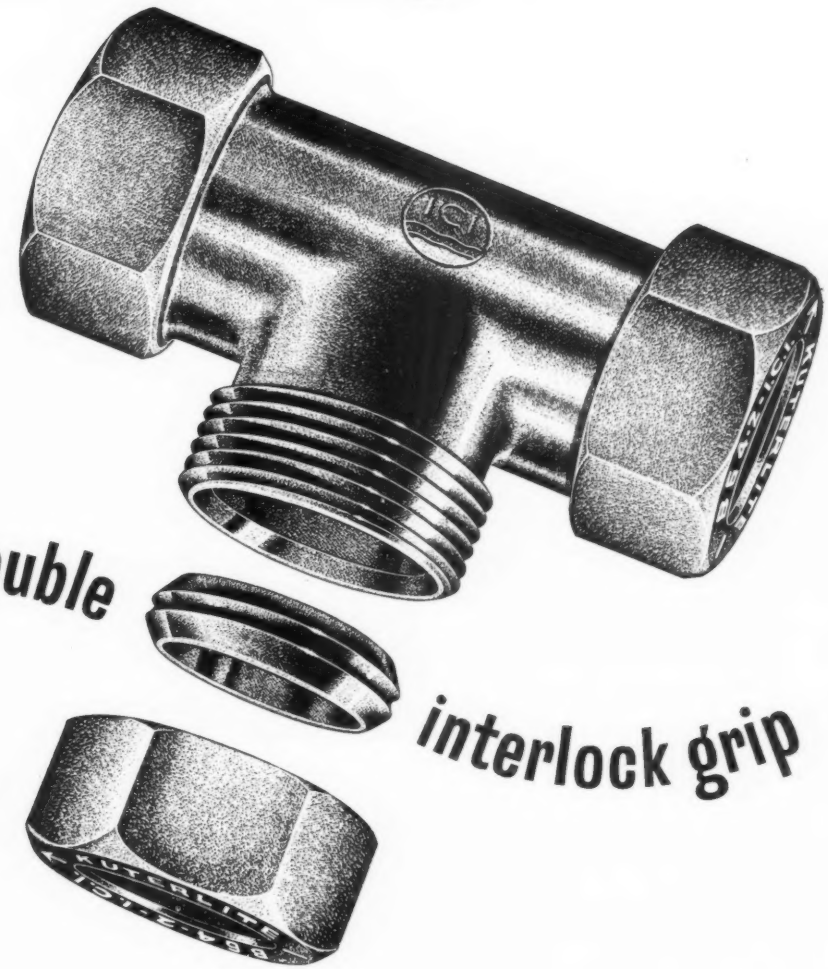


Normal Pile — Curlsax Pile

This sketch shows that the same amount of yarn is incorporated in Curlsax carpets as in ordinary types: that the depth of pile is reduced intentionally *(it is coiled like a spring) to ensure maximum resistance to crush marks and to wear.*

S. J. Stockwell & Co. (Carpets) Ltd.
(IN ASSOCIATION WITH JAMES TEMPLETON & CO. LTD.)
Showrooms: 16 Grafton Street, London, W.1
Telephone: GROsvenor 5734. HYDe Park 9359
Originators of British Mothproof Carpets

THE LATEST IN Lightweight FITTINGS



'KUTERLITE'

★ Simple, efficient, inexpensive

★ Made from high quality hot stampings

★ Complies with B.S. 864 for copper tubing to B.S. 659

★ **IMMEDIATE DELIVERY**

ICI

and, of course, I.C.I. Copper Tubing from Kirkby

M439

IMPERIAL CHEMICAL INDUSTRIES LIMITED · LONDON · S.W.1

Modernising the Midland at Manchester

Showing the extensive reconstruction work.

By courtesy of Hotels & Catering Services, British Transport Commission.

THE Dalex counter tops and table shelves are inlaid Light Blue with Natural colour Beech margins. Counter fronts in both cases are vertical grained Macassar Ebony with applied squares of alternate Biscuit and Light Blue Lino edged all round with Sycamore fillets, and have applied painted Patrae in the centre of each panel. At intervals, shaped fins divide the Lino panels and at the same time support a bag shelf, the fins and bag shelf are both in Sycamore. At the foot of each counter front a step is formed with Light Blue Lino tread and Black Lino raiser and a Ferrodo nosing divides the two.

Lower cabinets are enclosed by sliding doors of veneered Macassar Ebony, edged with Natural Beech. The backboard of the upper cabinet to the drinks bar is formed of alternate squares of Light Blue and Biscuit coloured Lino, each with a painted Patrae in the centre, and surrounded by Macassar Ebony ends, fascia and pillasters. The shelves are plate glass in hardwood frames. The upper cabinets to the Snack Bar have painted plywood backboards, drilled at intervals and backed by obscured glass. Fascias, ends and pillasters are as before in Macassar Ebony veneered blockboard, the fascia being pierced at intervals and backed by obscured glass. The walls throughout are lined with vertical grained Macassar Ebony veneered blockboard with a Natural Beech cornice and skirting, and relieved at intervals by shaped and tapered painted motifs. In other places board motifs are fixed consisting of a painted board relieved by contrasting shaped and tapered Patrae and surrounded by Sycamore framing. All doors are framed in African Walnut with shaped Beech glazing fillets and the central panel faced with Light Blue Lino having a painted Patrae in the centre. Screens are formed of Macassar veneered blockboard pierced at intervals and glazed with clear glass or polished plate mirror, held in place by Sycamore glazing fillets. Seating is Dunlopillo upholstered in Blue and Yellow Moquette and the divisions between the seats are formed of Beech Dowels with painted hardwood motifs suspended between. Cloak recess is lined by Black and Blue Persdorp with B.M.A. hat and coat fittings. The riser between the soffits and the ceiling is of veneered Sycamore pierced at intervals for ventilation purposes.

use RAINHAM TIMBER ENGINEERING TRUSSES

The above photograph shows part of The Phoenix Timber Co. Ltd.'s sheds covering about 2 acres, at Rainham.

Illustrated folder and costs on request.

Messrs. W. W. Howard Bros. & Co. Ltd. (Consulting Engineers: Messrs. T. F. Burns & Partners, Contractors : Messrs. A. E. Symes Ltd.,) used R.T.E. glued laminated timber trusses (60ft. span) in the construction of their new shed at Canning Town.

R.T.E. glued laminated timber trusses have also been incorporated in sheds erected by Messrs. T. & J. Crossman of Torquay (65ft. span). (Rainham Timber Engineering Co. Ltd. both supplied and erected the trusses.)

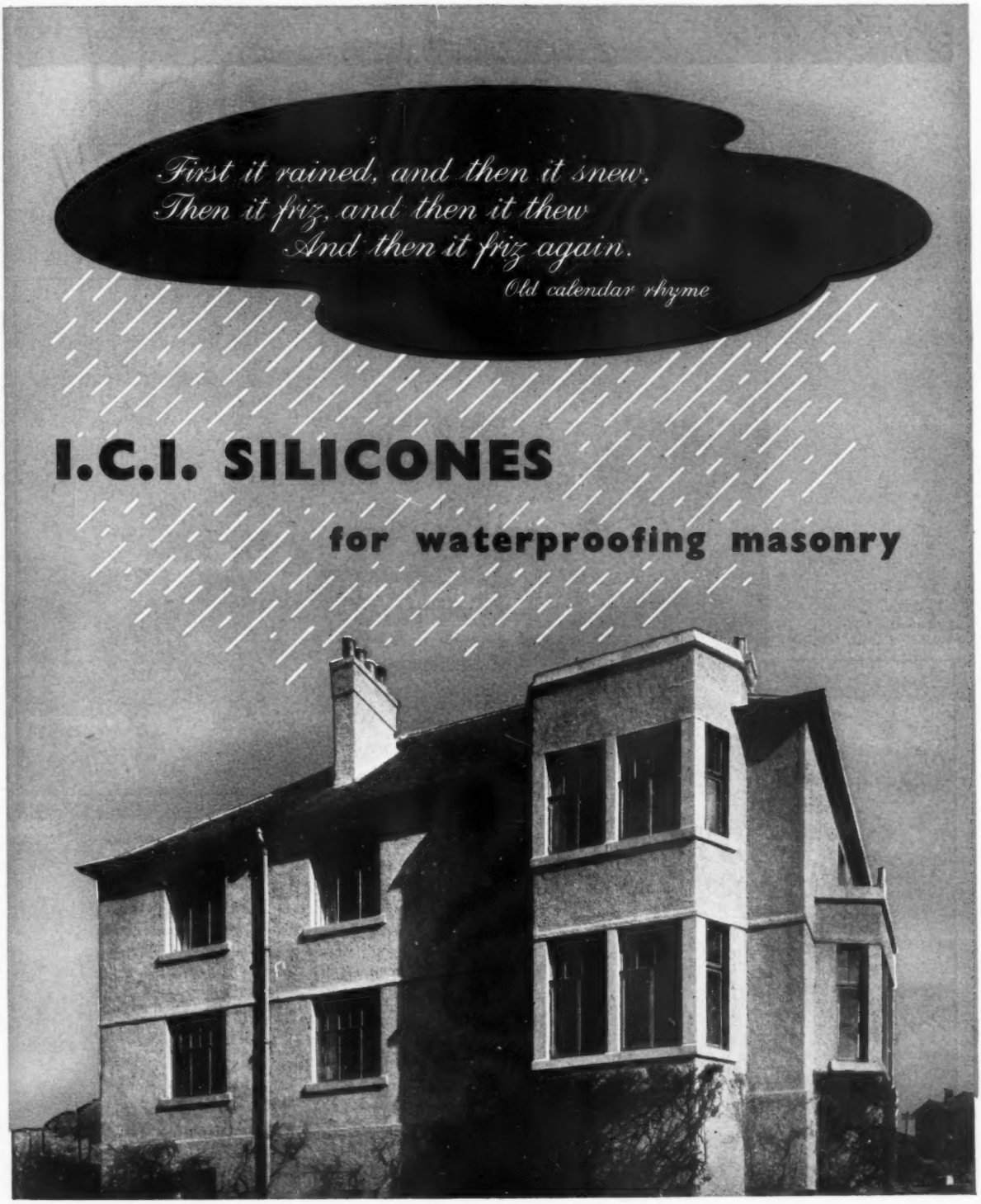
Messrs. Eustace & Co. of Cork have specified R.T.E. glued laminated timber trusses for their sheds about to be erected in their yards at Cork. (60ft. span.)

R.T.E. glued laminated timber trusses are better because they are lighter and more economical.
No painting is required—they remain unaffected even by severe atmospheric conditions in industrial and coastal areas.

RAINHAM TIMBER ENGINEERING CO. LTD.

Temporary Address: FROG ISLAND, RAINHAM, ESSEX. Telephone: Rainham 3311

TIB. 1A



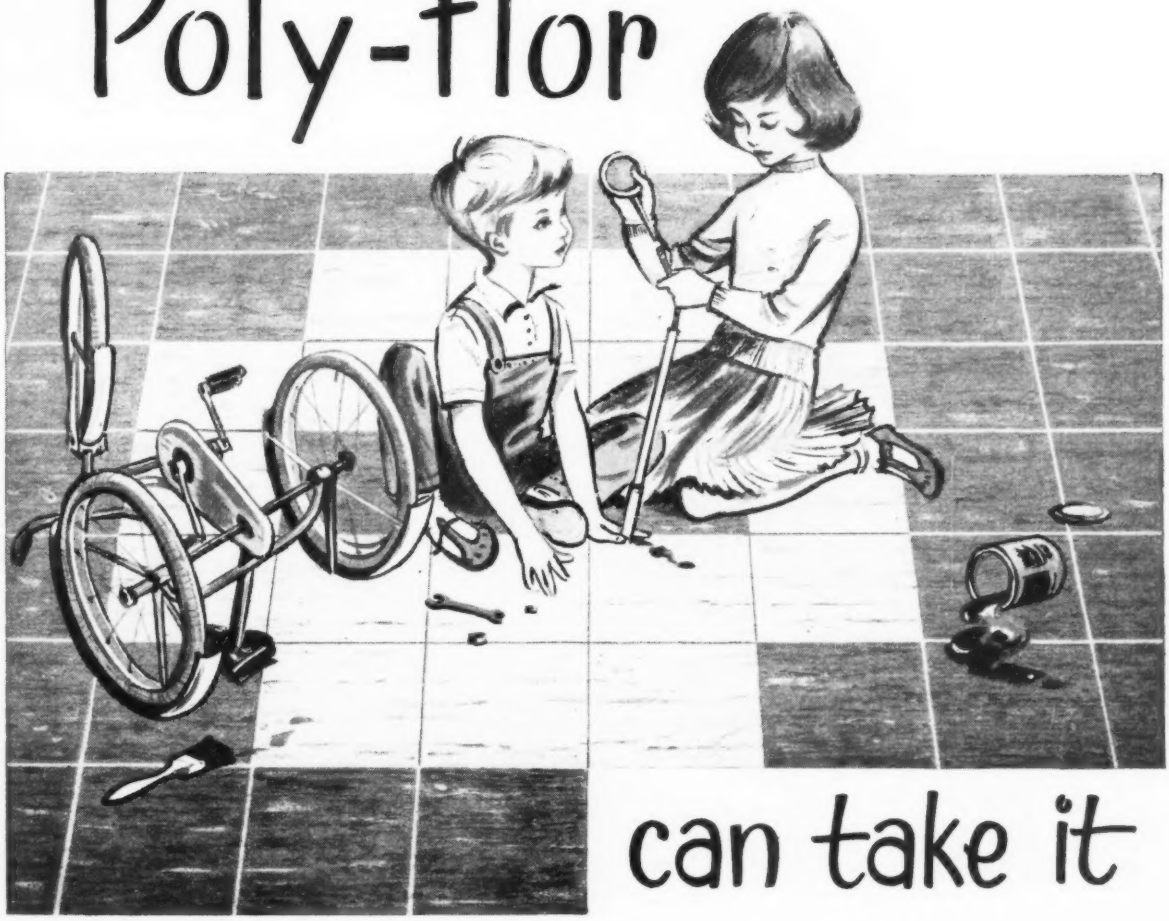
This house stands in an exposed position in the West of Scotland. The silicone-treated walls ensure that damp will never be a problem for the owner.

Water-repellents based on I.C.I. Silicones are now widely available.
Enquiries for sources of supply should be addressed to your nearest I.C.I. Sales Office or to :

IMPERIAL CHEMICAL INDUSTRIES LTD., LONDON, S.W.1

N.S. 35

"Poly-flor"



can take it

"POLY-FLOR" is head of the resistance movement in the world of flooring. This remarkable vinyl material possesses exceptional wear-resisting qualities plus a high degree of dimensional stability. "POLY-FLOR" lays flat and stays flat; it will not crack, curl or creep and it is easily wiped clean with warm water and soap. In the home "POLY-FLOR" will withstand rough treatment without injury. In schools, hospitals, canteens, offices, hotels and other public buildings, where there is a constant, heavy flow of pedestrian traffic, "POLY-FLOR" can take it . . . giving a firm, quiet and virtually non-slip tread throughout its long life.

"POLY-FLOR" is produced in precision-cut tiles and in 15-yard lengths 60 inches wide. There are twenty-two artistic marbled colourings along with a range of nine plain colours of 1-inch feature strips. The colours are permanent, penetrating to the full depth of the material . . . they cannot wear off. Specify "POLY-FLOR" everywhere for long wear.

POLY-FLOR VINYL FLOORING

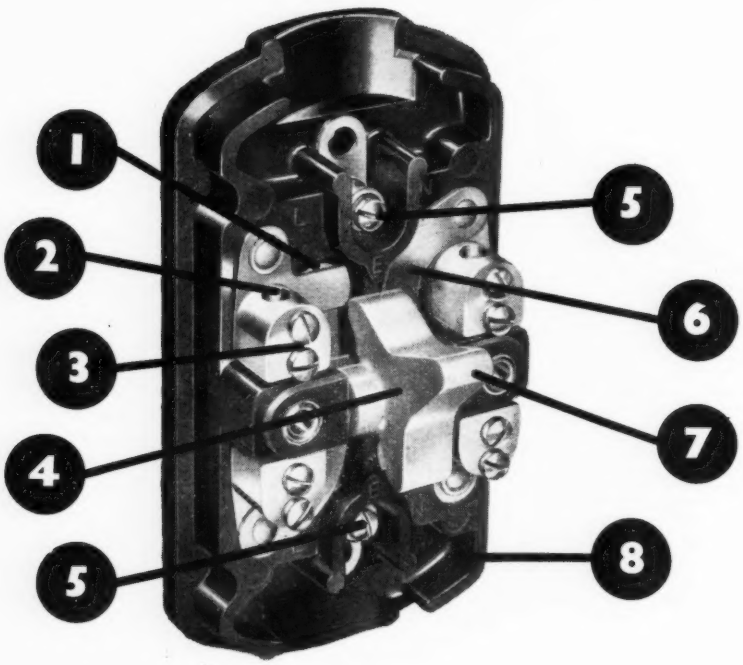
Write for full particulars and shade folder to Sole Manufacturers

JAMES HALSTEAD LIMITED

Serial No. ★ 2372 BRITISH GOOD HOUSEKEEPING INSTITUTE GUARANTEES REFUND OF MONEY OR REPLACEMENT IF NOT IN CONFORMITY WITH THE INSTITUTE'S STANDARDS

DEPT. 2 · CROW OAK WORKS · WHITEFIELD · MANCHESTER · Telephone: WHitefield 2251-4

MK 119
DHB



NEW A complete range of double pole switches for the reliable control of water heaters and similar appliances . . . .

Designed for a variety of purposes where a heavy-duty unit from 15 to 30 amperes is demanded, these compact new AC switches incorporate the following important features—

1 Subsidiary compression springs to maintain contact pressure

2 Terminals positioned for straight-through wiring

3 Heavy pillar-type terminals with two clamping screws

4 Switch-handle firmly positioned both "On" and "Off" —yet can be operated in complete silence

5 Full provision for connection of ingoing and outgoing earthing wires

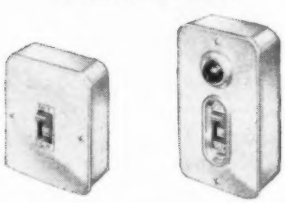
6 Pure silver contacts designed for positive separation

7 Switch-handle moulded in red for distinctive contrast

8 Heavy-section mouldings of urea formaldehyde for resistance to tracking

WRITE FOR NEW LEAFLET 235

INSULATED PATTERNS IN BROWN OR IVORY



METALCLAD PATTERNS

MK

. . . the mark of reliability

M. K. Electric Limited, Wakefield Street, London. N.18. Edmonton 5151

Sound Conditioning

by HERMESEAL

means

★HIGH ACOUSTIC EFFICIENCY

—absorption co-efficients increase progressively from 0.45 (250 c.p.s.) to 0.90 (4000 c.p.s.), the frequency range in which most common noise problems occur.

PLUS

★LOW THERMAL CONDUCTIVITY

—a valuable secondary characteristic (0.35 BTU/IN SQ.FT./HR./°F diff.) which permits a high degree of heat conservation at no extra cost.

Surveys, estimates, designs and specifications without obligation.
Direct your enquiries to:
BRITISH HERMESEAL LTD · 4 PARK LANE · LONDON · W.1.
Telephone: GROsvenor 4324 (5 lines). Branches throughout the country.

LONDON AIRPORT
Entrance Hall to the Queen's Building

Architect:
Frederick Gibberd Esq.
C.B.E., F.R.I.B.A.
Acoustical Engineers:
John Dale Ltd., London, N.11
(Acoustics Division)

ANOTHER **UNITEX** ACOUSTILE INSTALLATION

The Merchant Trading Company Ltd. supplied the Acoustical Tiles for this wonderful new building.

METCO SERVICE is available for complete schemes and designs from the preliminary work to the finished job.

Stocks consist of: INSULATING AND HARD BOARDS · PERFORATED HARD BOARDS ENAMELLED HARD BOARDS · ACOUSTICAL TILES CHIP BOARDS · COVER STRIPS AND ACCESSORIES

★ ***Your enquiries and early consultation on your problems are invited***

METCO

'VEELAP'

½ in. Insulating Board cut to sizes and edges processed with a "Vee and Lap" or a "Moulding and Lap".

METCO

METAL FIXING SYSTEMS

We can offer you a technical service including complete proposals for interior layouts utilising the 'Metco' Metal Fixing Systems.

Specialised contractors are available for installations if desired.

The MERCHANT TRADING COMPANY Limited.
EFFINGHAM HOUSE, ARUNDEL STREET, STRAND, LONDON, W.C.2
Telegrams: "Themetraco, Estrand, London," Telephone: TEMple Bar 5303 (8 lines)

Photographs reproduced by kind permission of The London Transport Executive.

Designed by London Transport's Architect's Department

Chief Architect	:	*Thomas Bilbow, F.R.I.B.A.*
Architect in Charge	:	*K.J.H. Seymour, F.R.I.B.A.*
Resident Architect	:	*A. Merrill, A.R.I.B.A.*
Constructional Engineers	:	*A.V. Bond, A.M.I. Struct. E.*
		A. McBeth, A.M.I. Struct. E.

London Transport Executive

ROAD SERVICES FACTORY AT ALDENHAM

In this important contract, 3,600 tons of Structural Steelwork were fabricated and erected by South Durham Steel & Iron Co. Ltd.

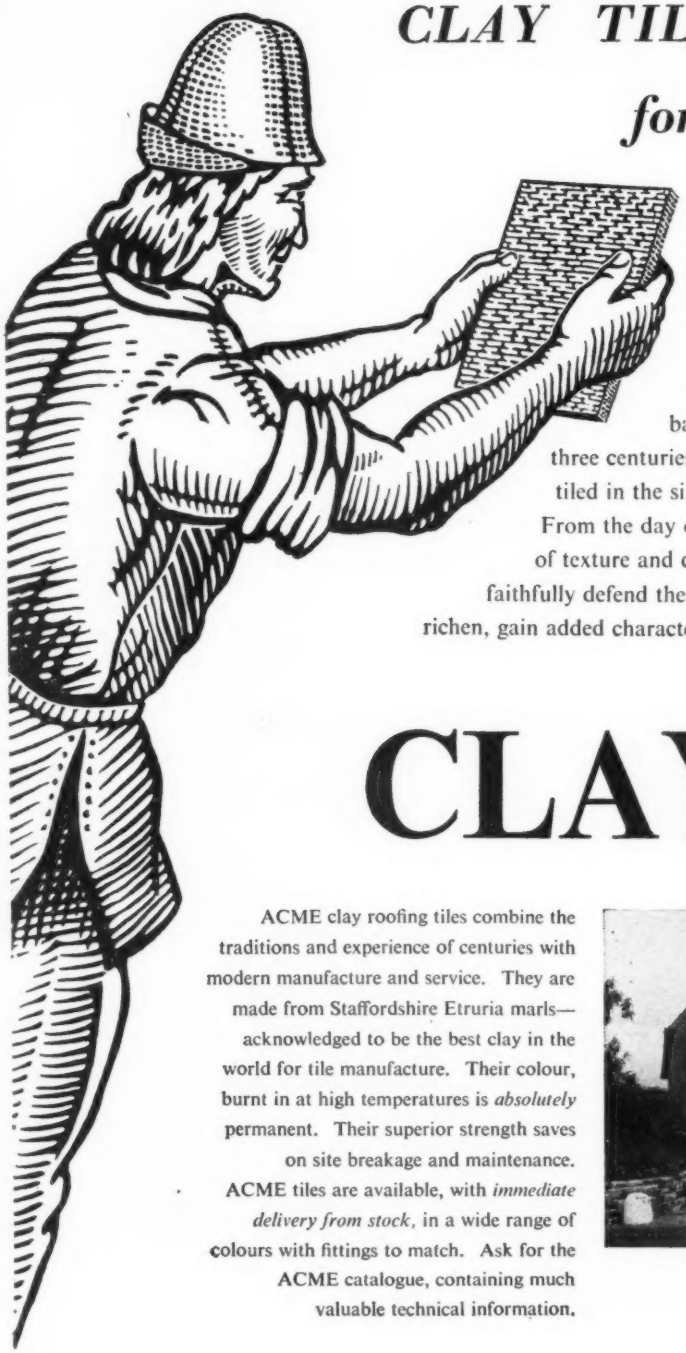
The contract comprises the Main Workshops Buildings, together with the Main Office Block, which is connected by a bridge to the Main Workshops Buildings. Overall dimensions, approximately 1,500 ft. x 560 ft., together with various Ancillary Buildings including Boiler House, Welfare Block, Materials Store and Service Block.

SOUTH DURHAM STEEL & IRON CO. LTD.

(Incorporating CARGO FLEET IRON CO. LTD.)

Central Constructional Department, Malleable Works, STOCKTON-ON-TEES, Co. Durham.

Telephone: Stockton-on-Tees 66117.



CLAY TILES —

for eight centuries England's roof . . .

The family name Tyler was firmly established and the twin crafts of tile-making and tile-laying traditional as far back as the sixteenth century. Roofs tiled three centuries before were then maturing just as roofs tiled in the sixteenth century are still maturing to-day. From the day of laying, clay tiles hold a natural beauty of texture and colour, and throughout the years, as they faithfully defend the house beneath, they mellow still further, richen, gain added character, making time and weather their friend.

CLAY lasts

ACME clay roofing tiles combine the traditions and experience of centuries with modern manufacture and service. They are made from Staffordshire Etruria marls—acknowledged to be the best clay in the world for tile manufacture. Their colour, burnt in at high temperatures is *absolutely* permanent. Their superior strength saves on site breakage and maintenance. ACME tiles are available, with *immediate delivery from stock,* in a wide range of colours with fittings to match. Ask for the ACME catalogue, containing much valuable technical information.

Private Residence at Heswall.

ACME *clay roofing tiles*

DOWNING'S *range of roofing tiles includes :—*

ACME M.M. ROOFING TILES
ACME SANDSTORM ROOFING TILES
ACME HAND-MADE SANDFACED & ACME REDFLOOR QUARRIES.

G. H. DOWNING & Co. Ltd. (Dept. C1), Box No. 3, BRAMPTON HILL, NEWCASTLE-UNDER-LYME, Staffs.
Telephone : Newcastle-under-Lyme 65381

L.G.B.

The Finch "Clofit"

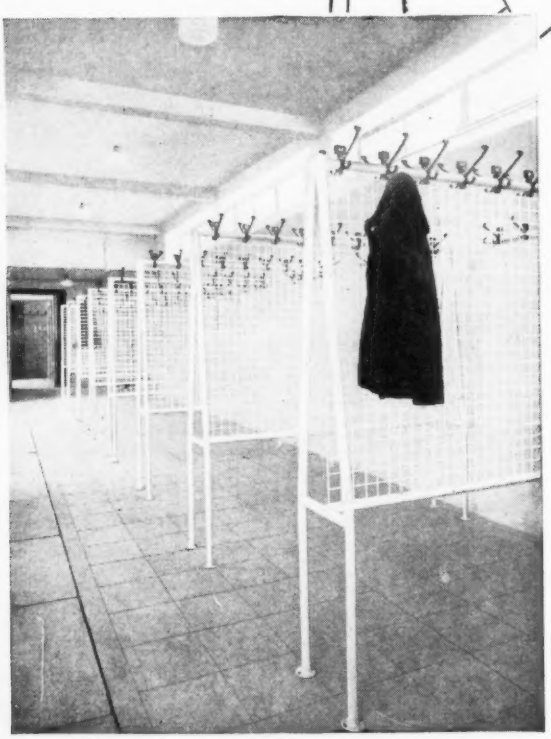
solves the cloakroom problem

VERSATILE For permanent or temporary installation, and in a variety of heights—"Clofit" provides the ready-made answer.

INEXPENSIVE Mass demand enables us to produce the "Clofit" units on a mass-production basis—you benefit by getting individually tailored units at an incomparably low price.

ADAPTABLE Each basic unit can easily be modified for specific industrial needs.

The Research and Development Division of the Finch Organization conceived and developed these versatile and adaptable cloakroom units in conjunction with a number of leading architects and civic authorities. The result is a range of units that provide a complete answer for any municipal or industrial cloakroom problem in a form that can be accommodated within most cloakroom plans.



A view of the cloakroom in the new Marconi Building at Basildon, Essex.

FOR FURTHER INFORMATION
please write or phone for our descriptive 16 p.p. Booklet, which gives detailed specifications.

THE *Finch* ORGANIZATION

B. FINCH & CO. LTD., Belvedere Works, Barkingside, Essex
VALentine 8888 (30 Lines)
Showrooms: **FINCH CORNER, 679/687 EASTERN AVENUE, ILFORD, ESSEX**

It's a Pippin ..

When the fruits of your labours are soured by rising costs and sales reports are so many lemons, turn to DURETTE. Here is the modern construction board — combining in one material the virtues of plywood and the clean, colourful and durable finish of plastic. It eliminates separate applications of plastic sheeting, reduces material and labour costs and offers you a wide range of sizes, thicknesses and cheerful colours. With greater output for less effort, you'll agree its a pippin!

The Finishing Touch

There is an interesting range of DURETTE mouldings and edgings available, in five colours, ready for application. A unique finishing touch—and an opportunity for eye-catching colour schemes! Write for patterns.

"DURETTE" is available through the usual trade channels.

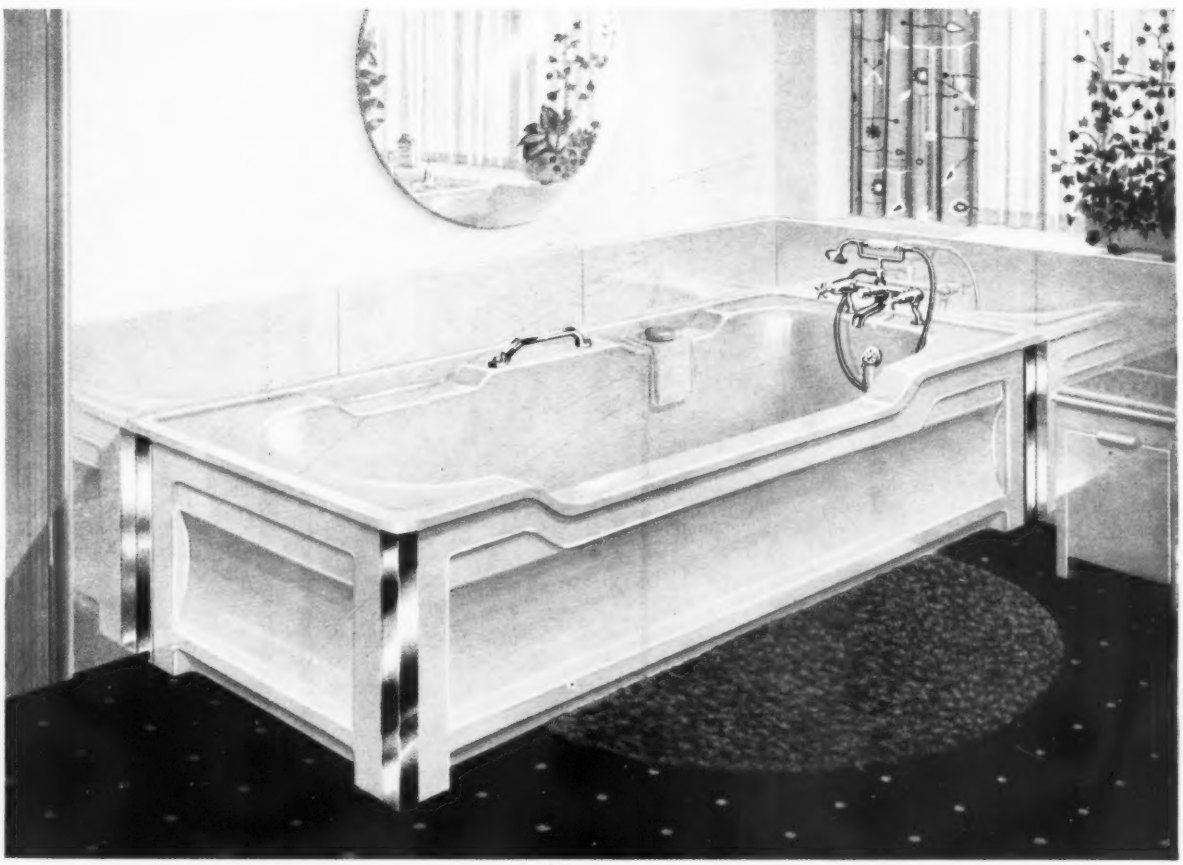
HILLS DURETTE PATENT APPLIED FOR **Plastic Faced Plywood**

The Construction Board with a host of uses

★ As featured on the B.B.C. Television programme "About the House."

F. HILLS & SONS LTD., NORTON RD., STOCKTON-ON-TEES. *Telephone: Stockton 67141 (7 lines)*

"What a day! I'll be glad of a Bath!"



He knows there's nothing like a good hot bath to freshen him up after a tiring day at the office. Especially if it's a Bilston.

For the modern Bilston is a real luxury bath—a joy just to lie back and relax in, it's so roomy and comfortable. Smart and colourful too, with its fine enamel glaze finish which is hard-wearing and easy to clean. There's a whole host of designs and sizes to suit every bathroom and to please every taste. And, best of all, there's a Bilston to match every colour scheme.

To help you advise on baths, we've produced a full-colour catalogue—complete with colour chart, suggested layouts for modern bathrooms, and full specifications of all Bilston Baths. If you would like a copy for your files, please send a postcard to Department AJ56/3.

Make sure it's a Bilston Bath

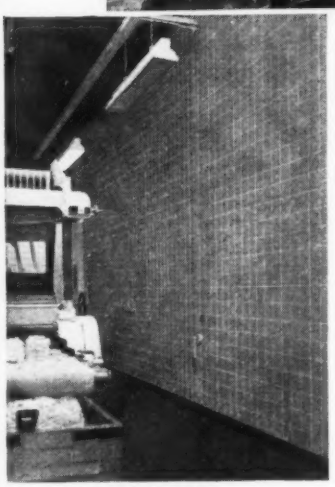
BILSTON FOUNDRIES LTD., BILSTON, STAFFORDSHIRE

Colour contrast. Pearl grey **'VITROLITE'** *by Pilkington Brothers Limited, St. Helens, Lancs.*

'VITROLITE' IS AVAILABLE IN THE FOLLOWING COLOURS : PEARL GREY, PRIMROSE, GREEN, GREEN AGATE, TURQUOISE, EGGSHELL, CREAM, IVORY, BLACK, WHITE. SUPPLIES ARE AVAILABLE THROUGH THE USUAL TRADE CHANNELS. *'Vitrolite' is a registered trade mark of Pilkington Brothers Limited.*

CHOCOLATE ROOM

MIXING ROOM GROUND FLOOR



NO. 3 MACHINE ROOM

New Factory erected by the North Western Industrial Estates Co. Ltd., for Messrs. Huntley and Palmers Ltd., Architects and Consulting Engineers Messrs. Huckle and Durkin, London and Liverpool. Main Contractor Messrs. R. Costain & Sons (L'Pool) Ltd

HUNTLEY & PALMERS CHOOSE CERAMIC TILES

A Company, whose reputation is founded on the quality and purity of its products, does not choose a wall and floor surfacing material lightly. Questions are asked. Will it resist grease, dust, heat and moisture? . . . hygiene is essential. Is it easy to keep clean; will there be redecorating costs? . . . labour is expensive. Has experience proved it good for years? Is it vermin proof?

A questionnaire only Ceramic Tiles can face with confidence—they've done so many times since 2000 B.C.

Ceramic

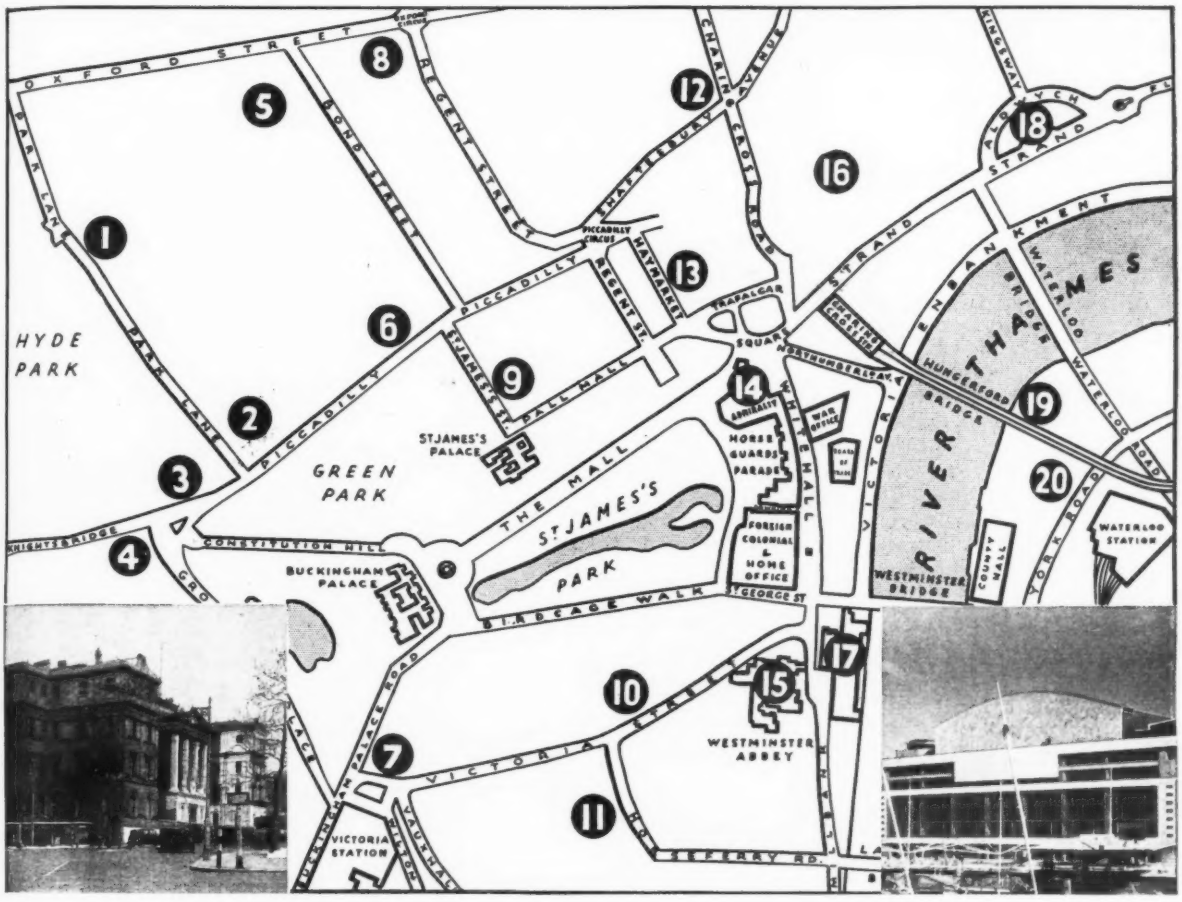
T I L E S

Glazed & Floor Tile Manufacturers' Association · Federation House · Stoke-on-Trent

IBECO is a tough-textured high-quality Kraft paper, waterproofed throughout its substance. Light in weight, small in bulk, easily handled and moderate in cost, it finds applications in concrete work, in roofing work and in a host of proofing, lining and insulating jobs. Write for samples and see how it can help you with jobs in hand or in prospect.

BUILDING GOES AHEAD! . . .
New houses by the thousand, the million . . . new schools, factories offices . . . and IBECO playing a continually developing part. In a score of building and construction problems this multi-purpose waterproof paper is making for quicker progress, a better job, and real economies.

C. DAVIDSON & SONS LTD · MUGIEMOSS · ABERDEENSHIRE



LONDON'S LANDMARKS

If you have ever walked or driven through London, every few hundred yards you will have passed within sight of a building which has had one of the many Cementone products either incorporated in its structure or applied to its various elevations. Space does not permit the showing of more than 20 of these contracts on the map above: but from this selection, visitors to London may be interested to see for themselves the versatility of the Cementone range.

1 THE DORCHESTER HOTEL
Cementone No. 8 Liquid Concrete Hardener.

2 LONDONDERRY HOUSE
Cementone NUMBER SEVEN Universal Decorative Finish.

3 "No. 1 LONDON," APSLEY HOUSE.
Cementone No. 9 Waterproof Stoneface Composition and Exelaero Wall Flat.

4 ST. GEORGE'S HOSPITAL.
Cementone NUMBER SEVEN and No. 9.

5 "THE RUNNING HORSE".
Cementone NUMBER SEVEN.

6 CALDER HOUSE.
Cementone NUMBER SEVEN.

7 WATNEY'S BREWERY.
Cementone NUMBER SEVEN.

8 REGENT HALL.
Cementone NUMBER SEVEN.

9 ALLIANCE ASSURANCE CO.
Cementone NUMBER SEVEN.

10 CAXTON HALL.
Cementone No. 9.

11 GREYCOAT HOSPITAL.
Cementone NUMBER SEVEN.

12 PALACE THEATRE.
Cementone No. 9.

13 COMEDY THEATRE.
Cementone NUMBER SEVEN and Cementone No. 10 Liquid Surface Tinter.

14 OLD COUNTY HALL.
Cementone No. 9.

15 THE DEANERY, WESTMINSTER ABBEY.
Cementone No. 3 Transparent Waterproofing Liquid.

16 WESTMINSTER FIRE OFFICE.
Cementone NUMBER SEVEN.

17 HOUSES OF PARLIAMENT.
Cementone No. 3.

18 BUSH HOUSE.
Cementone No. 3.

19 ROYAL FESTIVAL HALL.
Cementone NUMBER SEVEN. No. 9 and Exelaero Wall Flat.

20 WATERLOO AIR TERMINAL.
Cementone No. 1 Permanent Colours for Cement.

Full details of all Cementone products will be found in the Cementone Handbook sent, free on request to:

JOSEPH FREEMAN, SONS & CO. LTD.

CEMENTONE WORKS · WANDSWORTH · LONDON · S.W.18

Telephone: VANdyke 2432 (10 lines). **Telegrams: CEMENTONE, WESPHONE, LONDON**

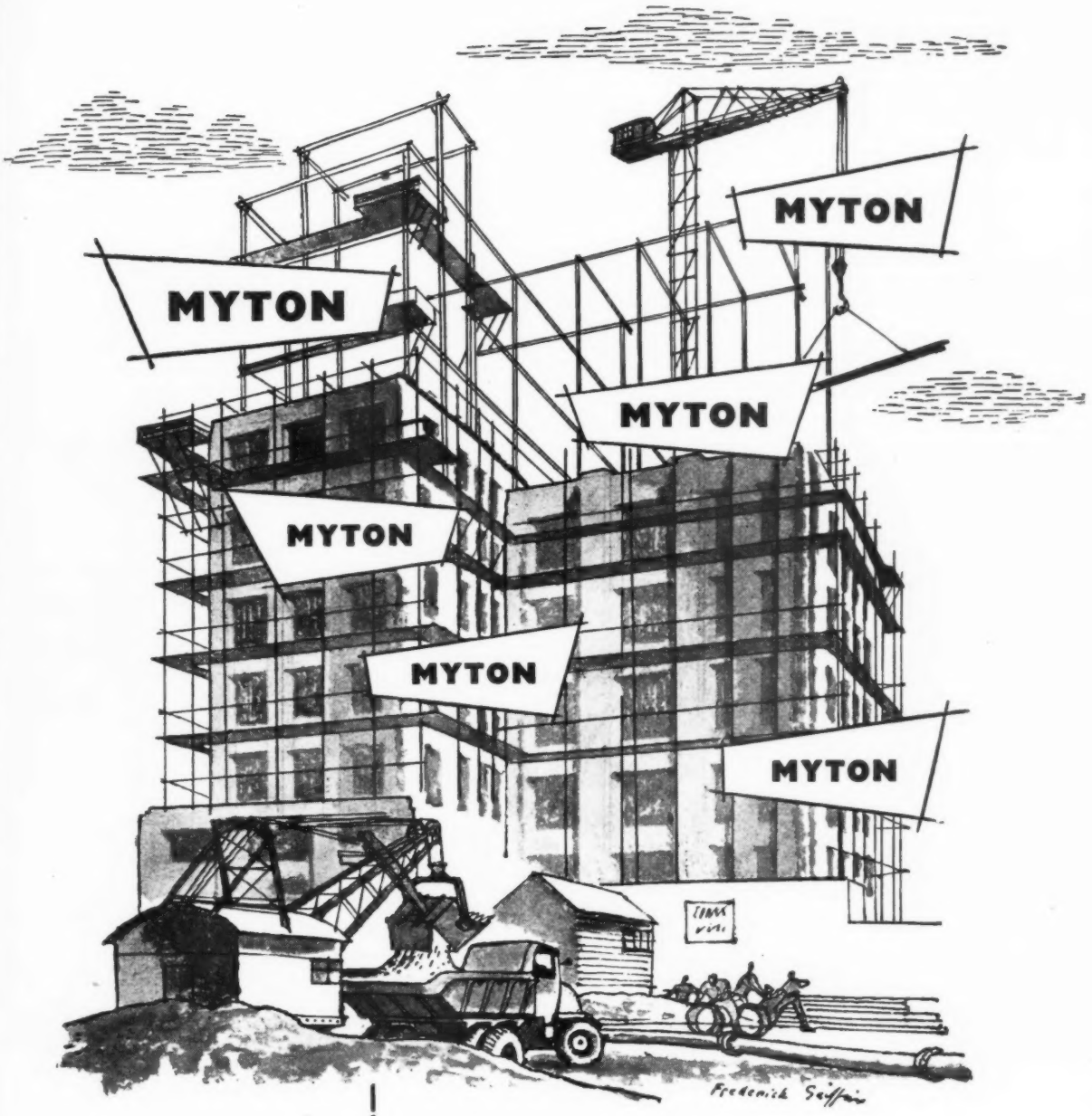
British Registered Design

TWYFORDS

No. 2642P/1 "Ceramant" Vitreous China Lavatory
31" x 19"

Selected by
THE COUNCIL OF INDUSTRIAL DESIGN
for the opening exhibition of well designed products at
THE DESIGN CENTRE for British Industries
HAYMARKET, LONDON

TWYFORDS LIMITED · STOKE-ON-TRENT · STAFFORDSHIRE
also at Africa House . Kingsway . London W.C.2



You'll be seeing more and more of

MYTON

It is of considerable interest and significance that MYTON LIMITED are *now* a part of the TAYLOR WOODROW GROUP OF COMPANIES, with all the valuable advantages which automatically spring from membership of that vast organisation

---

MYTON LIMITED ***Building and Civil Engineering Contractors***

Now a member of the **TAYLOR WOODROW GROUP**

HEAD OFFICE: NEWLAND, HULL

SLIDING DOOR GEAR

FOR THE WORLD'S BEST

Specify

ELLARD

Much valuable space can be secured by the appropriate use of sliding doors in the modern dwelling house. The busy housewife will find her work considerably reduced by having easy access from room to room, as can be seen by the illustration at left. The awkward manoeuvring when "getting around" with cleaning equipment, or at meal times, is entirely removed by the use of sliding doors. In addition, free and complete ventilation of all rooms can be quickly obtained giving a general feeling of light and airiness at all times. There are other advantages which will readily occur to discriminating architects. The all-round efficiency of sliding doors can only be maintained by using first-class door gear. Specify ELLARD "Estate" Sliding Door Gear—it is the best of its kind, competitive in price, smooth and trouble-free in action. ELLARD Door Gear is used on most large housing estates.

Easy access to and from the garage, and unobstructed working space, are valuable assets to the motorist. The illustration at right shows a typical example of ELLARD "Radial" Sliding Door Gear as supplied to numerous private and housing estate garages throughout the country. ELLARD "Estate" and "Radial" Sliding Door Gears can be readily obtained from your nearest ironmonger or merchant.

CLARKE ELLARD ENGINEERING COMPANY LTD

WORKS ROAD · LETCHWORTH · HERTFORDSHIRE · TELEPHONE 613/4

BMJ

Durever Vinyl (Plastic) Flooring adds distinction to this already imposing entrance hall of the I.C.I. offices at Gloucester House, Park Lane, W.1. This hard-wearing, resilient flooring is available in a wide range of colours, in tiles or sheets and is suitable for laying on most types of sub-floors.

Serial No. ★ 2419
BRITISH
GOOD HOUSEKEEPING INSTITUTE
GUARANTEES
SECURE OF MONEY OR REPLACEMENT IF NOT IN CONFORMITY WITH THE INSTITUTE'S STANDARDS

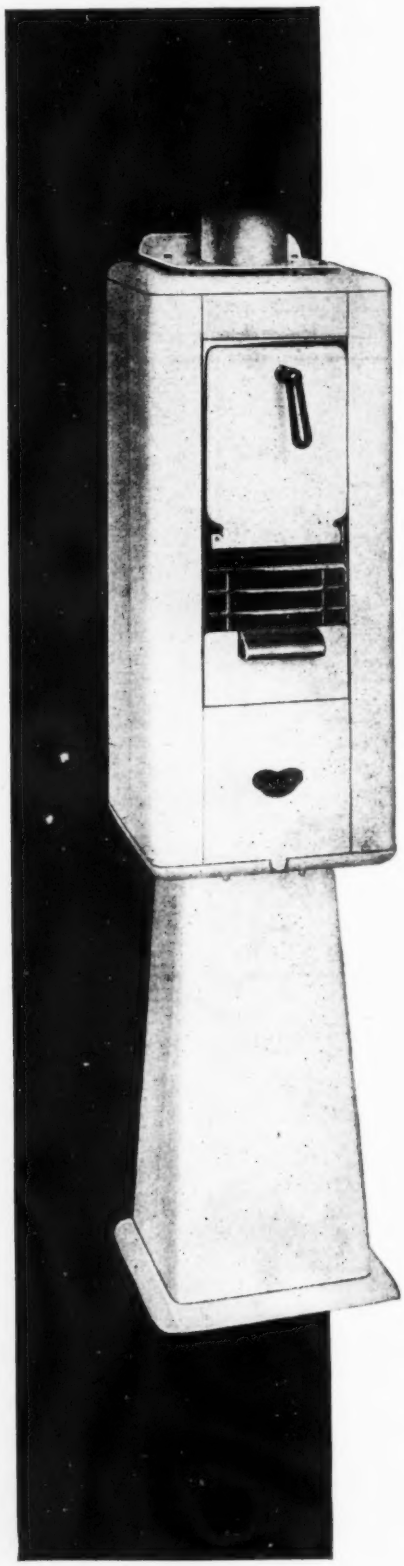
BRITISH MOULDEX LIMITED

Write for details and colour charts to :—

BRITISH MOULDEX LTD., Mouldex House, 27/29 Fitzroy Street, London W.1. *Tel:* LANgham 4211

WORKS AT: Wellingborough, Northants.

RIL 111



Safeguard Public Health Encourage Personal Hygiene

in FACTORIES · HOSPITALS · CLINICS SCHOOLS · HOTELS AND OFFICES

Investment by British industrialists and others in modern equipment to safeguard the health and welfare of the vast and growing numbers of workers, has proved beyond doubt the wisdom of a policy both far seeing and democratic in concept.

The installation of Sugg's incinerators wherever women employees form part of an organisation is plain commonsense.

Our sales and technical staff will be glad to advise and co-operate.

The Sugg Incinerator

Gas-Fired

WILLIAM SUGG & CO. LIMITED

(Incorporating Cowper Penfold & Co. Ltd.)

VINCENT WORKS, REGENCY ST., LONDON, S.W.1. Tel: VIC 3211

SUGG WESTMINSTER

IT PAYS TO THINK OF DEXION
—at the planning stage

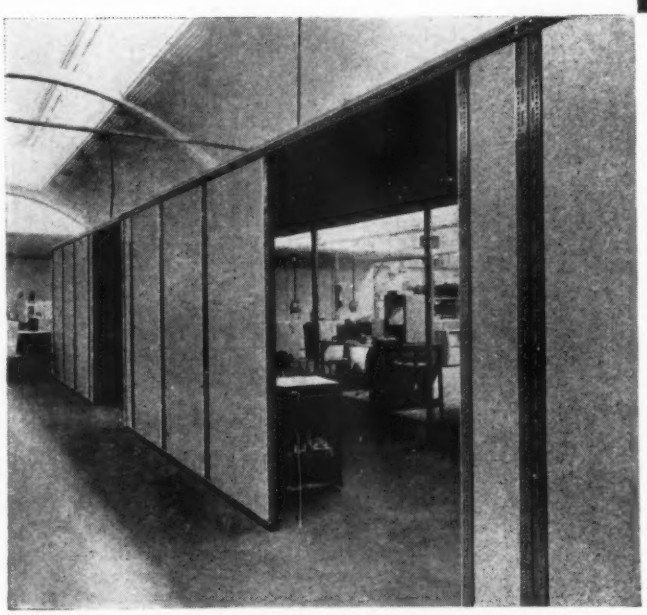
A FACTORY LAYOUT must be flexible, capable of being adapted at short notice to changing circumstances. This applies particularly to storage requirements and works equipment.

There is no more versatile material for building stores and equipment, exactly to your own designs, than Dexion Slotted Angle. Such Dexion equipment is quick and cheap to install. And any Dexion structure can be readily adapted and altered to meet changing needs. There is no waste, no scrap: Dexion is fully recoverable, and can be used again and again.

When you are planning the building and layout of a factory, Dexion deserves careful consideration at an early stage. This versatile material may bring about important economies, initially and for years to come.

A technical design and estimating service is available free; and for large installations, construction teams will carry out the work if required.

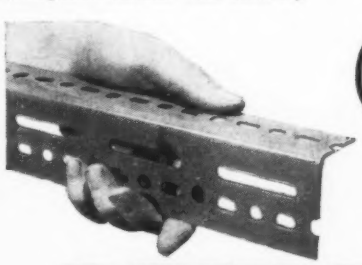
Veeder Root Ltd., *of Dundee, have used Dexion extensively in their works to make racking, tables, benches, conveyors. This photograph shows part of their stores, planned on two levels to save floor-space.*



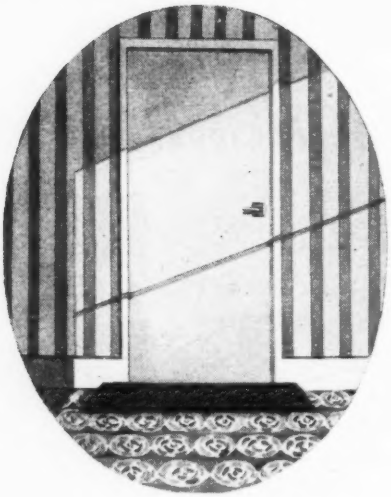
Murphy Radio Ltd. *rapidly erected this partitioning on a Dexion framework, to give a shaded area for testing television sets. Dexion can be used with plywood, asbestos sheeting, corrugated metal, hardboard or any similar cladding material.*

GET THE FACTS

Dexion 225 is sold in packets of ten 10-ft. lengths, complete with bolts. Steel Dexion (price from 1/3½ to 1/5 per foot) is rust-protected, stove-enamelled. Where a light but strong, non-magnetic, non-corroding material is required, use Alloy Dexion (full technical details and prices on request). Send today for sample piece of Dexion and illustrated booklet AU.143 showing many uses in industry. Dexion Ltd., 65 Maygrove Road, London, N.W.6. (Telephone MAlda Vale 6031-9.)



DEXION
REGD.
SLOTTED ANGLE



Every modern convenience deserves thoughtful

consideration — this important little room is entitled to the same careful planning and specification as the rest of the rooms in the building. In keeping with today's trend towards functional efficiency, the Lawley plastic cistern is the perfect fitting for the modern toilet. Pleasantly modern in appearance, hygienic and easy to clean, a touch of the hand is all that's required for smooth, silent action — first time and *every* time. And every Lawley cistern is backed by seventy-five years' specialised experience — every Lawley cistern is as good as it looks!

See our Exhibit at the Building Centre, 26 Store Street, London, W.C.1

The plastic cisterns are made in a range of four models, the 'streamlined' model in three patterns — front and side action low level, and high level. These are in 2, 2½ and 3 gallon capacities to BSS1125, to meet all water regulations. The well-bottom pattern, 2 gallon capacity only, is designed primarily as a replacement for existing installations.

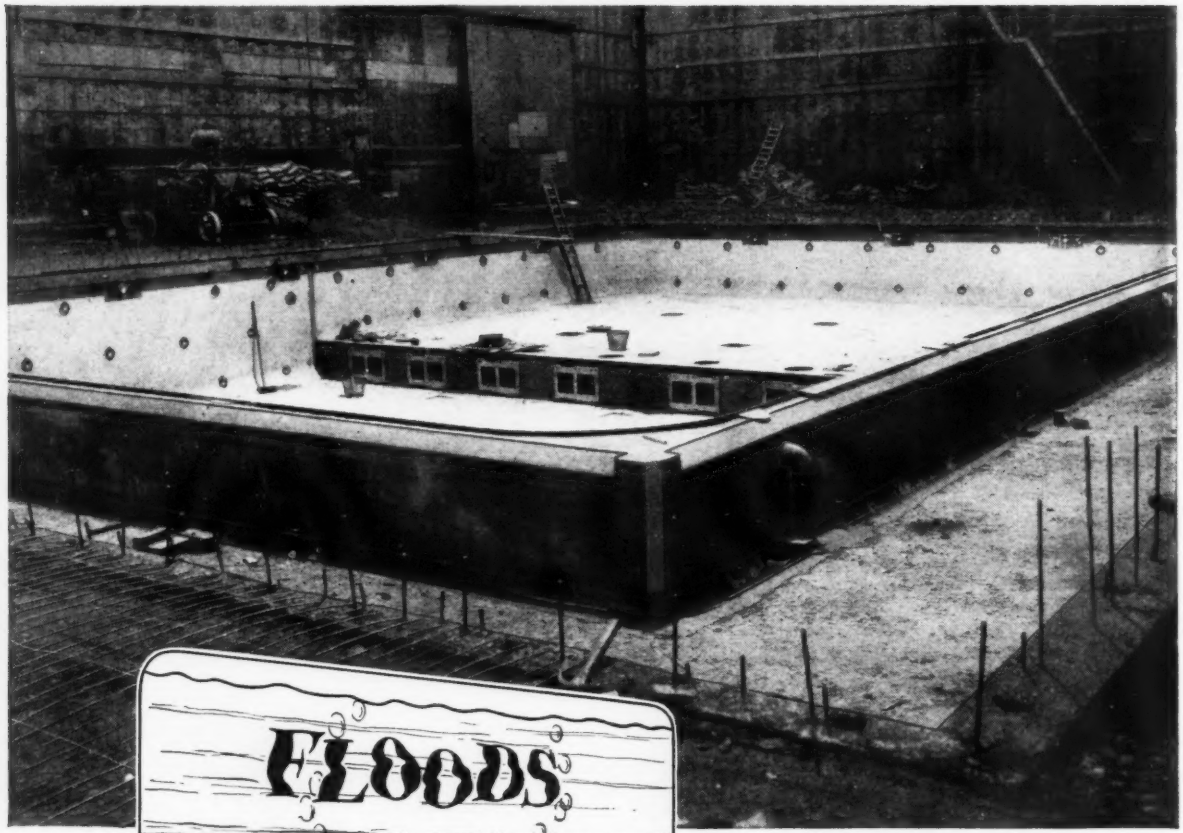
Lawley

BRITANNIA

One of the oldest and largest cistern makers in the world

W. & J. LAWLEY LTD., BRITANNIA WORKS, SAMS LANE, WEST BROMWICH

M-W.74



FLOODS TO ORDER HERE

This studio tank for flood and water scenes has just been completed by Henry Boot & Sons Ltd. for the J. Arthur Rank Organisation. It will be "behind the scenes" in many future films produced by this famous group.

From unusual contracts like this to more conventional ones such as housing estates, office blocks and reservoirs, factories and hotels . . . with their associated specialist companies, Henry Boot & Sons Ltd. are engaged on major building and civil engineering contracts of all kinds for Government departments, local authorities, engineers and architects.

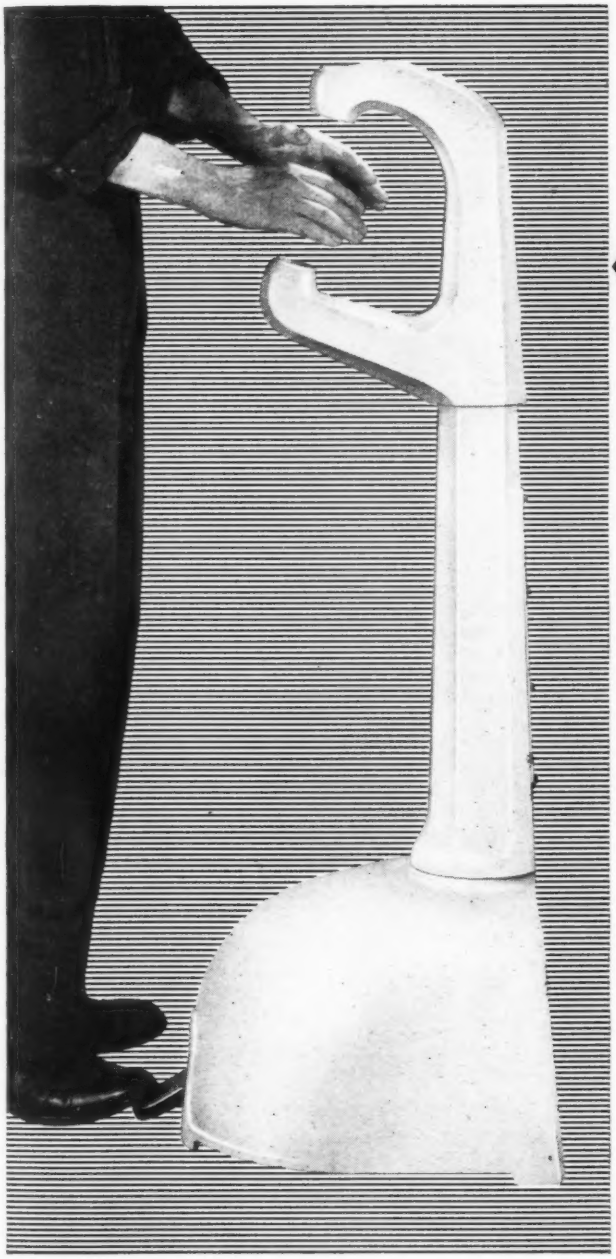
Henry Boot

HB

AERODROMES · HOUSING ESTATES · ROADS
RAILWAYS · WATER DISTRIBUTION SCHEMES
BUILDING PROJECTS OF EVERY DESCRIPTION

HENRY BOOT & SONS LTD · BANNER CROSS HALL · SHEFFIELD 11

OA.2467



....48

"hand dries"

for one unit of electricity

Harmonising in style with the layout and appointments of the modern washroom, 'ENGLISH ELECTRIC' Hand-Driers are complete in themselves.

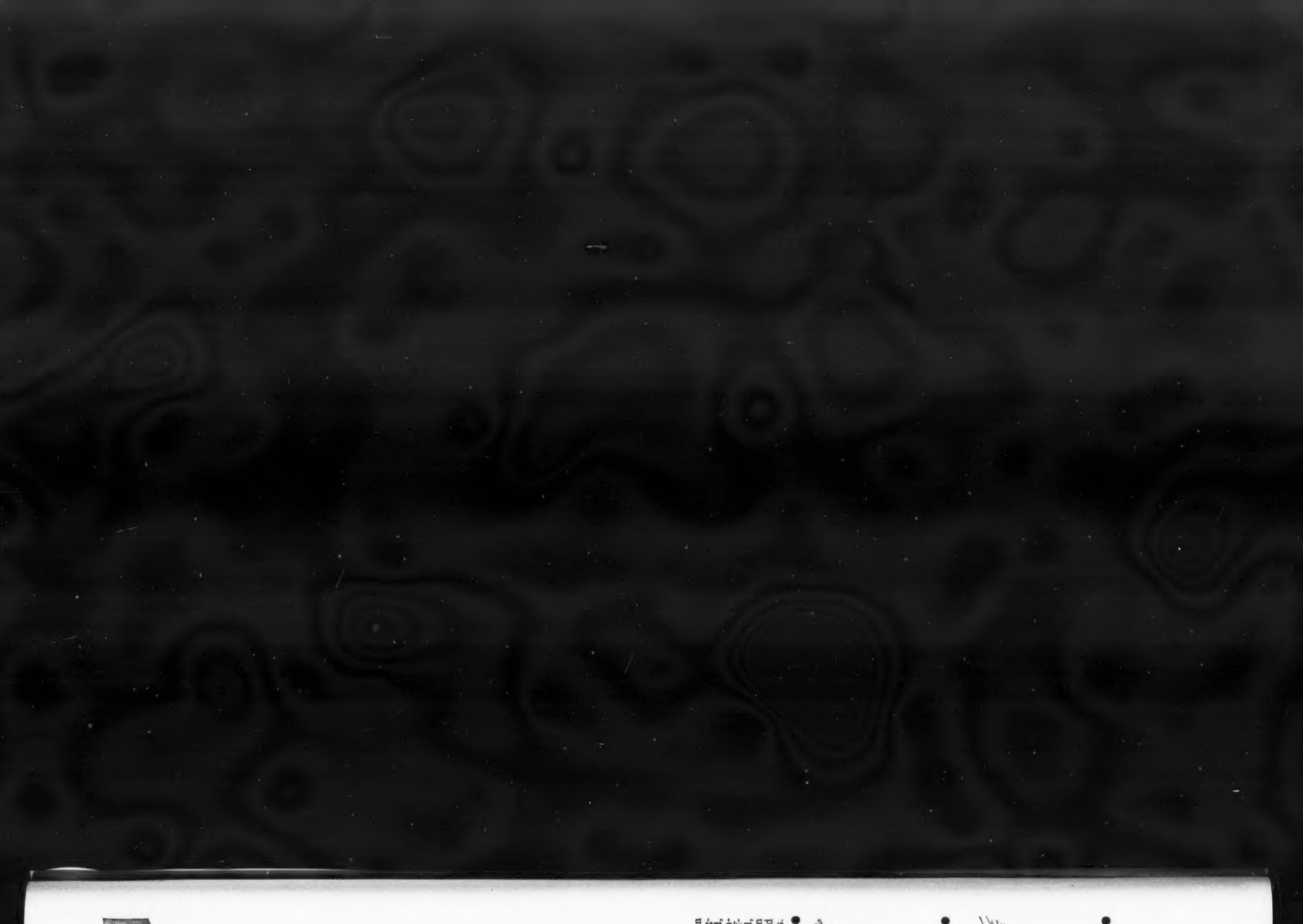
No other fittings on the walls or receptacles on the floor are required. There is nothing to change or replace and the equipment itself requires no attention.

Economical in every way, these hand driers usually pay for themselves within a year of installation. Thereafter, years of trouble-free service create substantial savings in hand-drying costs.

'ENGLISH ELECTRIC'
hand-driers

THE ENGLISH ELECTRIC COMPANY LIMITED, QUEENS HOUSE, KINGSWAY, LONDON, W.C.2.
F.H.P. Motors Department, Bradford
WORKS: STAFFORD · PRESTON · RUGBY · BRADFORD · LIVERPOOL · ACCRINGTON

HD.8



FOR CONTEMPORARY LIVING . . .

Fittings styled for simplicity in a wide choice of designs. Gay colour combinations that harmonise effectively with modern interiors and furnishings.

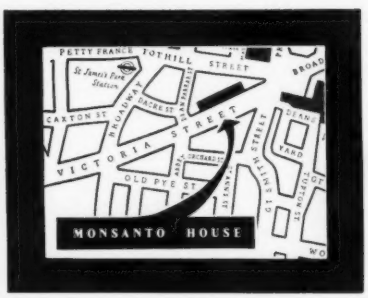
Cat. No. F38052

CONTEMPORARY FITTINGS BY G.E.C.

The General Electric Co., Ltd.,
Magnet House, Kingsway, London, W.C.2.

Monsanto move

From June 4th 1956, all Monsanto's London staff will be housed in Monsanto House, 10-18 Victoria Street, London, S.W.1 (Telephone: ABBey 5678. Cables: Monsanto London. Telegrams: Monsanto London Telex).



Continuing to serve industry with a range of products including:

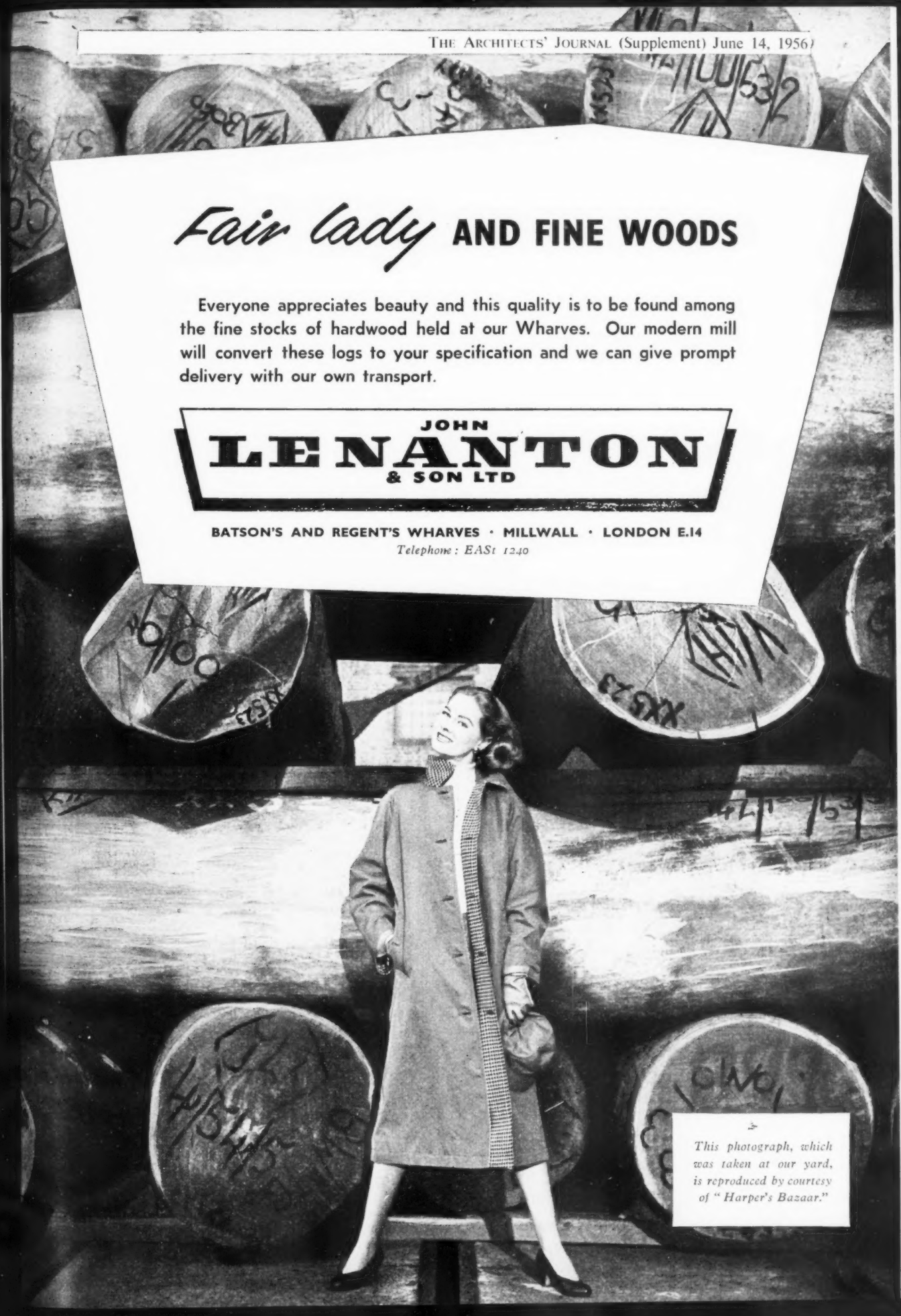
DIELECTRIC FLUIDS
FINE CHEMICALS
FOUNDRY CHEMICALS
HEAVY CHEMICALS
INDUSTRIAL PRESERVATIVES
OIL ADDITIVES
PHARMACEUTICALS
PLASTICS
RESIN RAW MATERIALS
RUBBER CHEMICALS
TEXTILE CHEMICALS

MONSANTO
Regd.

MONSANTO CHEMICALS LIMITED,
Monsanto House, Victoria St.,
London, S.W.1 and at Royal Exchange, Manchester, 2.

In association with: Monsanto Chemical Company, St. Louis, U.S.A. Monsanto Canada Limited, Montreal. Monsanto Chemicals (Australia) Ltd., Melbourne. Monsanto Chemicals of India Private Ltd., Bombay. *Representatives in the world's principal cities.*

ities.



Fair lady AND FINE WOODS

Everyone appreciates beauty and this quality is to be found among the fine stocks of hardwood held at our Wharves. Our modern mill will convert these logs to your specification and we can give prompt delivery with our own transport.

JOHN LENANTON & SON LTD

BATSON'S AND REGENT'S WHARVES · MILLWALL · LONDON E.14

Telephone: EASt 1240

This photograph, which was taken at our yard, is reproduced by courtesy of "Harper's Bazaar."

There need

THE FIRST TRACE OF SMOKE (BEFORE ANY FLAME IS GENERATED)
is sensed by the Minerva Nuclear Detector, which immediately operates an alarm or brings automatic fire-fighting equipment into action. In tests carried out by public bodies concerned with fire prevention, the Minerva Detector has responded up to *an hour earlier* than conventional heat sensitive devices.

never be

THE SENSITIVE ELEMENT IN THE MINERVA NUCLEAR DETECTOR
is an ionisation chamber, in which there is a small quantity of radium continually emitting streams of radio-active particles. The interception of these particles by the merest trace of 'live' smoke instantly triggers an alarm. The Minerva Detector is on the watch 24 hours a day, yet it consumes no current while on guard.

another

ONE MINERVA DETECTOR GUARDS 1,000 SQ. FT. OF FLOOR SPACE
groups of detectors being connected to a combined control unit and signal panel, which indicates the point at which the alarm originates. If required, the alarm can be automatically transmitted to the Fire Station or watch office, or it can be arranged to activate fire-fighting equipment on the spot.

building

USERS OF THE MINERVA FIRE PREVENTION SYSTEM
include the Admiralty, Air Ministry, Ministry of Supply, G.P.O., British Electricity Authority and London Transport Executive ; it has been installed also in factories, department stores, warehouses, museums and offices throughout Britain. No building or equipment protected by Minerva has ever been destroyed by fire.

destroyed

THE RENTAL OF MINERVA FIRE PREVENTION EQUIPMENT
(including the cost of installation and servicing) to protect, say, 10,000 sq. ft. of floor space would work out at approximately 1½d. per sq. ft. per year. Minerva equipment can also be purchased outright. Installation can be carried out by any competent electrical contractor.

by fire

An illustrated brochure has been produced giving full details of the Minerva Fire Prevention System. Please write for your copy to : The Minerva Detector Company Ltd., Richmond, Surrey. (*Richmond* 6431)

TE CUSTOS URBIS
MINERVA

N.C.B.
keeps warm and quiet with Frenger Ceilings

The National Coal Board Laboratories, Cheltenham, are always comfortably warm and delightfully quiet —thanks to Frenger Ceilings. Frenger is a heated acoustic ceiling made up of a pipe grid (connected to the hot water heating system) supporting perforated metal panels and blanketed by insulating material.

IMPORTANT FRENGER FEATURES

· radiates all heat to room below—no loss upwards · immediate response to thermostat control · ultra-efficient sound absorption · needs no floor or wall space · quickly erected · adaptable to any room and ventilating system · conceals—yet leaves accessible—pipes, wires, ducts · no restriction on room partitioning.

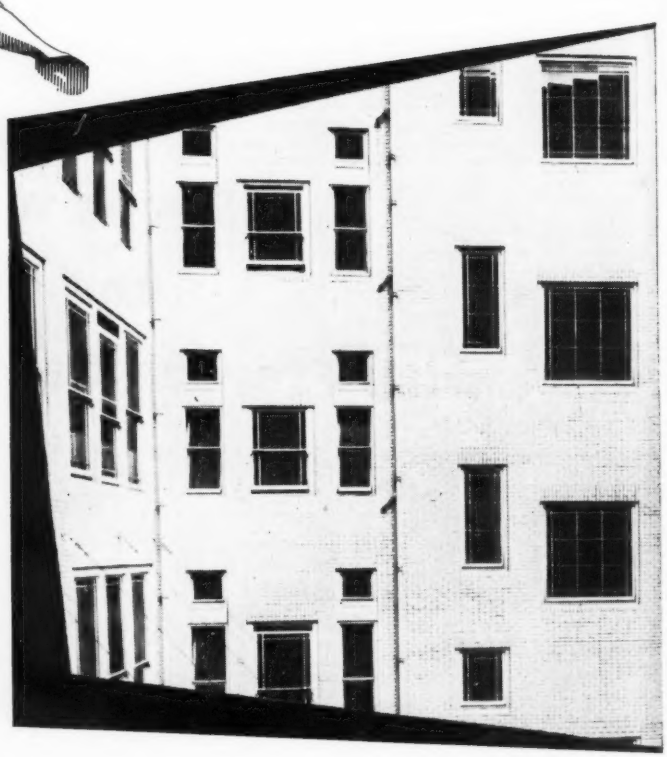
FRENGER
heated acoustic ceiling

Illustration shows the Reception Hall, National Coal Board Laboratories, Cheltenham.

Write for full information to:
FRENGER CEILINGS LTD.
67 Great Russell Street, London W.C.1
Phone: CHA 5534

ETRUSCAN WARRIOR
500 B.C.

THE PERMANENT PROTECTIVE FINISH



Where permanence is all-important... where it is necessary to fight against dirt and disease—against bad light—against corrosion and decay from industrial processes—for Light Wells, Boiler Houses, Dairies, Laundries, Breweries, Public Conveniences, in fact in every case where a lasting, non-porous, non-corrosive, fadeless surface is of paramount importance...that is where 'IMPERVIT', Britain's finest quality glazed bricks and tiles should be used.

LEEDS FIRECLAY

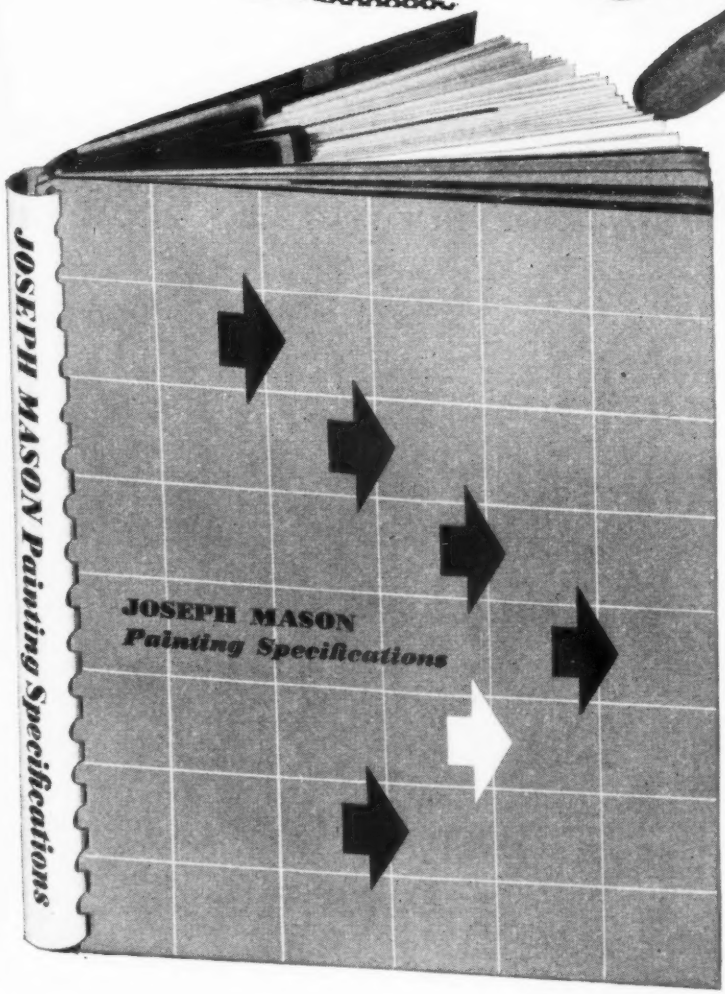
'IMPERVIT' GLAZED BRICKS AND TILES

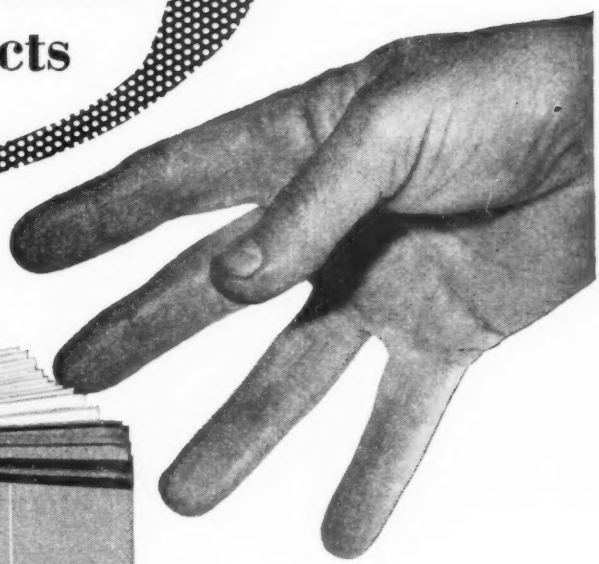
PRODUCTS OF THE *Leeds Fireclay* GROUP OF COMPANIES

WORTLEY, LEEDS 12. Tel. LEEDS 638021

LONDON OFFICE: LEEDS HOUSE, CAVENDISH PLACE, LONDON, W1. Telephone: LANgham 3511. Telegrams: FIRECLAY WESDO LONDON

Volume of wisdom for Architects



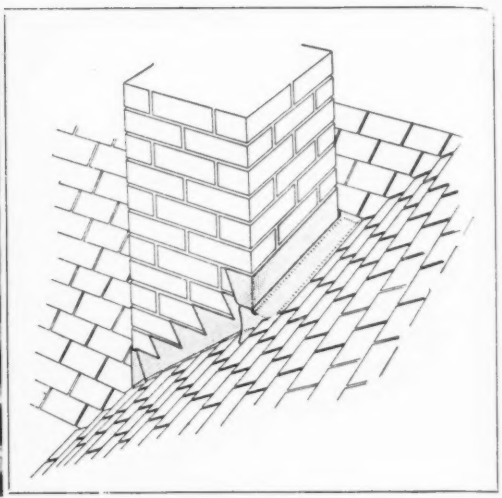


This book provides an uncommonly easy form of reference and sound advice on the correct painting treatment of most types and conditions of surface.
A worthy companion volume to "THE ARCHITECTS' SPECIAL COLOUR RANGE", it will prove an invaluable help to every architect. Practising architects are invited to write to the address below for a FREE COPY of "*Joseph Mason Painting Specifications.*"

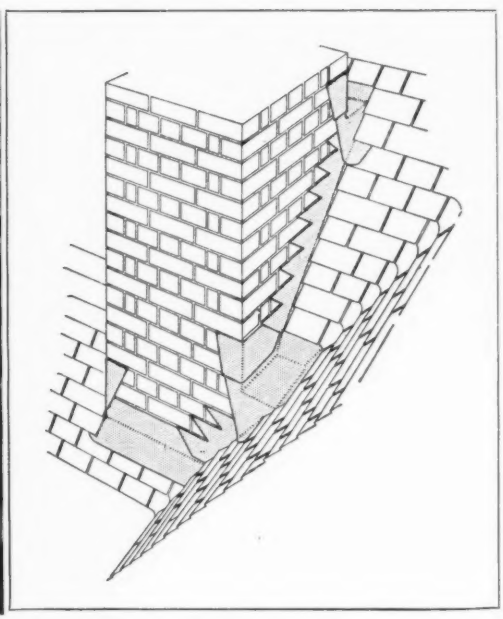
joseph mason paints

JOSEPH MASON AND COMPANY LIMITED, DERBY. TELEPHONE: 40691-2-3

MANUFACTURERS OF VERY GOOD PAINTS SINCE 1800



COMPLICATED INTERSECTIONS BETWEEN THE CHIMNEY STACK AND THE PITCHED ROOF PROVIDE NO PROBLEM WHEN THE FLASHINGS ARE IN LEAD



LEAD LASTS

The Council's Technical Information Bureau will gladly help with problems on the use of Lead Sheet and Pipe in building work. Publications that give details of the main uses are freely available. Please state the particular interest when applying for copies.

LEAD SHEET AND PIPE COUNCIL *in association with* LEAD DEVELOPMENT ASSOCIATION

EAGLE HOUSE · JERMYN STREET · LONDON · SW1 *Telegrams:* Ukleadman, Piccy, London *Telephone:* Whitehall 4175

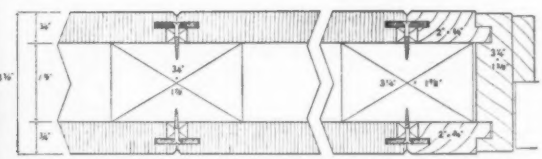
B135

PLIMBERITE BUILDING BOARD

for OFFICE EXTENSIONS

A Private Office

A Dealing Room



General arrangement at verticals and door openings.

ARCHITECTS:
H. S. Goodhart-Rendel, Broadbent & Curtis, F./F.R.I.B.A., Kirkland House, 22 Whitehall, London, S.W.1.

CONTRACTORS:
Holland and Hannen and Cubitts, Limited, 1 Queen Anne's Gate, London, S.W.1.

An extension has recently been completed at New Court, the offices of N. M. Rothschild and Sons, Merchant and Investment Bankers, in St. Swithin's Lane, London, E.C.4.

This extension to the offices has been partitioned entirely with $\frac{3}{4}$" PLIMBERITE, and as it was essential that the partitions should be demountable, a modified form of the PLIMBERITE REBOND system was specified, as shown in the detail. The same method was used for lining the corridors.

The edges of the boards were chamfered all round, and the surface V-grooved at 12" centres, to give a panelled effect.

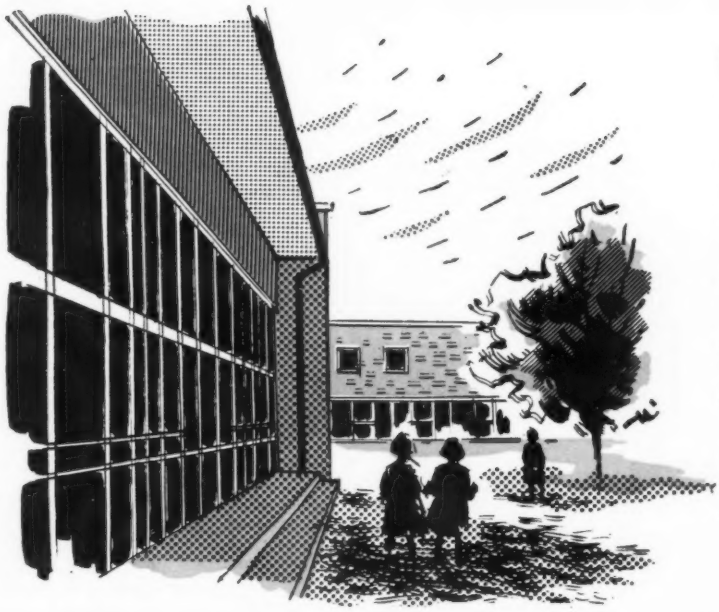
In these offices a high degree of sound insulation was required, and was provided by using double-skin partitioning with PLIMBERITE over vertical sections at 4 ft. centres only. Decoration was by priming with lead-base wood primer, and finishing with emulsion paint.

For technical literature on the many uses of PLIMBERITE and for samples — also the names and addresses of Main Distributors in your area — please write to

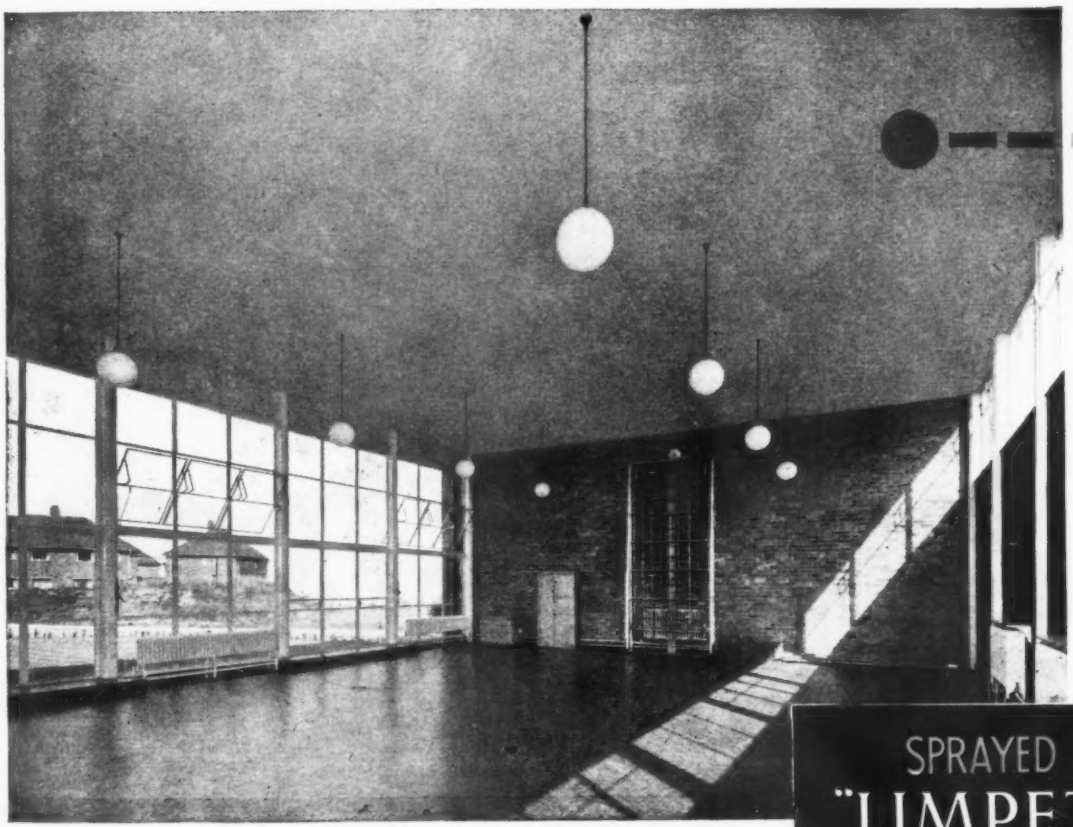
BRITISH PLIMBER LIMITED

L.1903

19, ALBERT EMBANKMENT, LONDON, S.E.11. Tel: RELiance 4242



THE illustration shows a Main Assembly Hall at Blurton Farm, North School, Stoke-on-Trent, where Sprayed "LIMPET" Asbestos has been applied to the underside of flat roofing for the purpose of providing Thermal Insulation and also Sound Absorption.



J. R. Piggott, Esq., T.D., F.R.I.B.A., City Architect, Stoke-on-Trent

SPRAYED "LIMPET" ASBESTOS

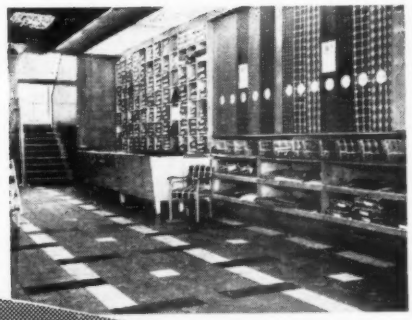
TURNERS ASBESTOS CEMENT CO. LTD.

A MEMBER OF THE TURNER & NEWALL ORGANISATION

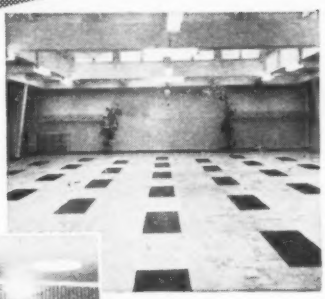
TRAFFORD PARK MANCHESTER 17

AS.7.

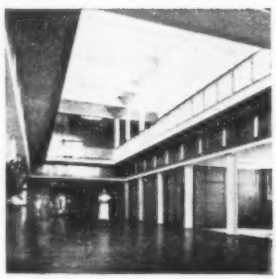

but look down for
NARD

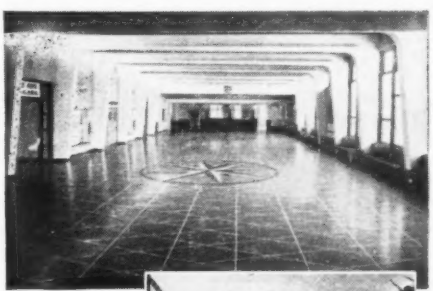


or contemporary design



Man and events order the progress of art. The dust at Hastings had hardly settled before needles were busy on the great tapestry of Bayeux, designed to raise the eyes of the people from the commonplace stone floor to the glory of the Nave in Bayeux Cathedral. Not force of arms, but the questing mind has ordered the new focal point of art—the floor. With the invention of Semastic Decorative Tiles, the modern designer has at his command a colourful medium that allows the greatest freedom in the planning of floors that are a pleasure to use, and to look upon.





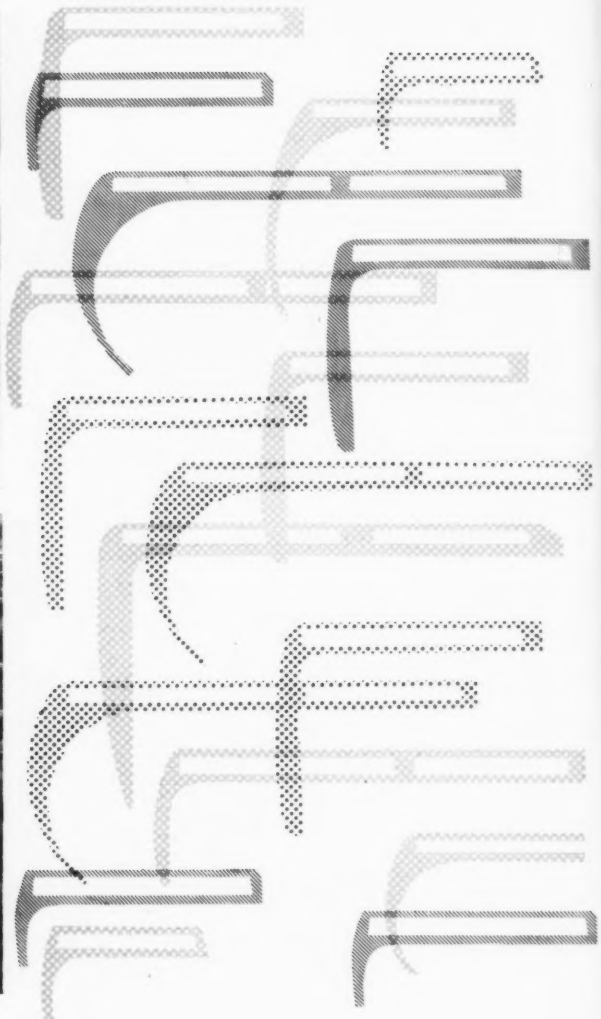
SEMASTIC

DECORATIVE TILES

Products of a Dunlop Company installed by

J. A. HEWETSON & CO. LTD.
HOLLIS BROS. LTD.
HORSLEY SMITH & CO. (HAYES) LTD.
PILKINGTON'S ASPHALTE CO. LTD.
SEMTEX LTD.
THE TRINIDAD LAKE ASPHALT CO. (NORTH-WESTERN) LTD.
THE LIMMER & TRINIDAD LAKE ASPHALT CO. LTD.
THE WESTERN TRINIDAD LAKE ASPHALT CO. LTD.

65E/53



Design in harmony

Ferodo Stairtreads combine safety and protection with handsome appearance. They have been proved by constant use over many years in public buildings of all kinds.

Available in seven colours—red, white, blue, green, black, brown and grey. Channelled in aluminium, or in the recently introduced silver bronze, or manganese bronze nosings.

A range of 31 types and sizes of tread, adaptable to every shape of stair.

Supplied in any length, cut to fit each stair. Curved or straight as required.

Simply and easily fitted to any basic material—wood, stone, concrete, etc.—by concealed screws through ready-drilled holes.

FERODO
NON-SLIP STAIRTREADS

FOR YOUR REFERENCE FILES

Illustrated Catalogue in full colour, will be sent on request to Stairtreads Dept., Ferodo Ltd., Chapel-en-le-Frith, Derbyshire.

FERODO LIMITED · CHAPEL-EN-LE-FRITH · DERBYSHIRE · *A Member of the Turner and Newall Organisation*

reeded

Reeded glass is made in four types, Narrow (½ in. flutes), Broad (⅞ in. flutes), Major (1¾ in. flutes), and Cross Reeded (in which ½ in. flutes on one surface intersect at 90° with flutes on the other surface). The simplicity of Reeded glass often makes it first choice in the quest for a decorative pattern which combines moderate obscuration (in the case of Cross Reeded complete privacy) with ease of cleaning.

technical details

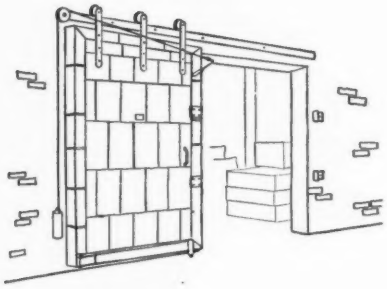
Light transmission	85 per cent.
Thickness	⅛ in. (26 oz./sq. ft.)
	3/16 in. (44 oz./sq. ft.) *(not normally held in stock)*
Maximum size	100 in. x 48 in.

PILKINGTON BROTHERS LIMITED

For further information on the use of glass in building consult the Technical Sales and Service Department, St. Helens, Lancs. (Telephone: St. Helens 4001) or Selwyn House, Cleveland Row, St. James's, London, S.W.1. (Telephone: Whitehall 5672-6).

Supplies are available through the usual trade channels.

Fire Resisting Doors



Wherever rooms are in communication with one another through doorways, or where floors are connected by means of stairways or lift wells, there are vulnerable points which demand protection against the passage of fire. All should be sealed by the fitting of efficient fire resisting doors.

The above photograph shows a Mather & Platt double-swing folding composite type fire resisting door with wired glass panels at the works of well-known pharmaceutical chemists.

Mather & Platt
LIMITED

Write for descriptive literature to:—

MATHER & PLATT LTD.
Park Works · Manchester, 10
Park House, Gt. Smith St., London, S.W.1

514

light can get lost....

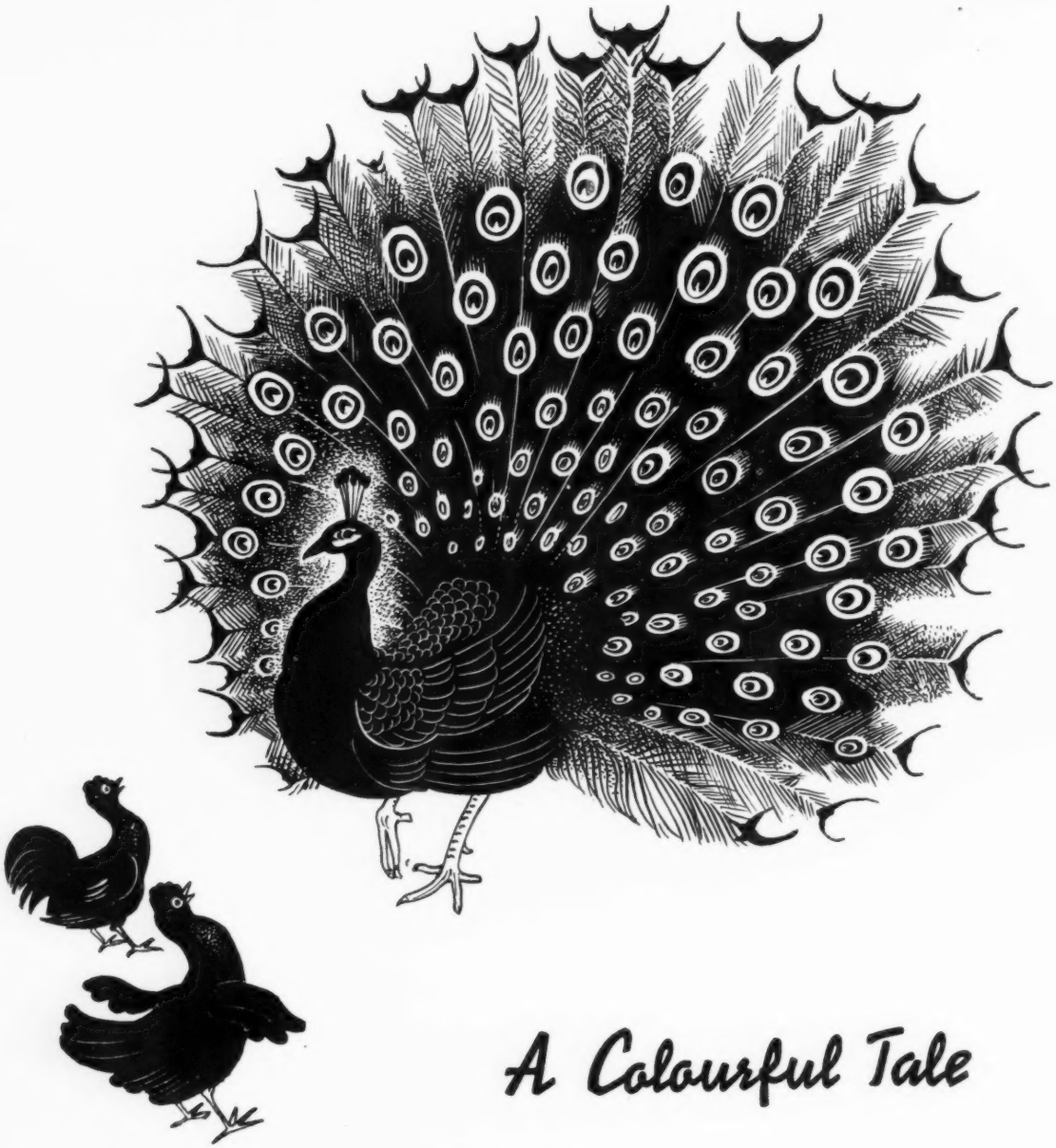
Each imperfection that appears on a reflector-finish is a trap that holds light, instead of reflecting it. This means that in time, a fitting with a poor finish loses in both light and economy value.

Benjamin's Research Departments have given much thought to this problem—and the result? 'Crysteel' a pure white vitreous enamel finish that if kept clean, retains full reflectivity value under the most trying conditions. Subjected to every test, 'Crysteel' has proved itself to be *practically indestructible*. By specifying fittings with this rock-hard, easy to clean finish, you can be certain that all the light is always on the job.

'Crysteel'—another part of the plan for better lighting by **BENJAMIN** REGD.

THE BENJAMIN ELECTRIC LTD · TOTTENHAM · LONDON N17
Telephone: TOTtenham 5252 (5 lines) Telegrams: "Benjalect, Southtot, London".
Birmingham: 5 Corporation Street, Birmingham, 2. Telephone: Midland 5197
Leeds: 49 Basinghall Street, Leeds, 1. Telephone: Leeds 25579

Smee's 1/6



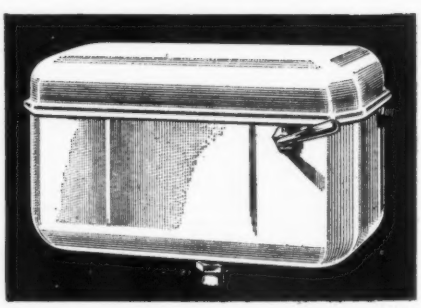
A Colourful Tale

Everyone's becoming colour-conscious nowadays, and we're all in favour of it. Why shouldn't the gay and cheerful note reach even to the smallest room in the house? Fordhams can now be supplied to match any particular colour scheme in their well-known porcelain enamel fused on at high temperature.

FLUSHED WITH SUCCESS—BY

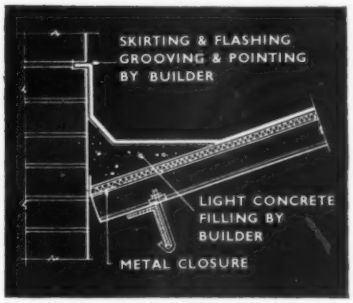
Fordham

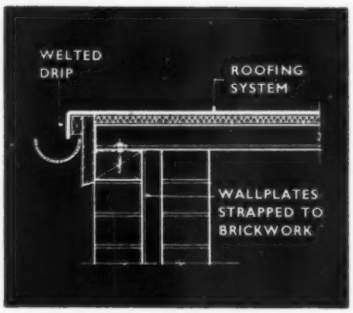
FORDHAM PRESSINGS LTD., HEAD OFFICE & WORKS, DUDLEY ROAD, WOLVERHAMPTON
Other Factories at Earlsfield (London), Hinckley (Leics), Sedgley (Staffs.) and Dublin (Eire).



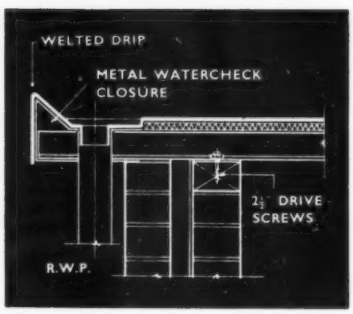
Hilton

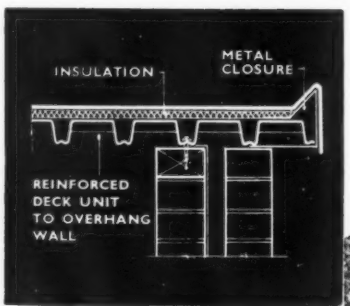
TYPICAL DETAILS OF FINISH





eaves and verge details





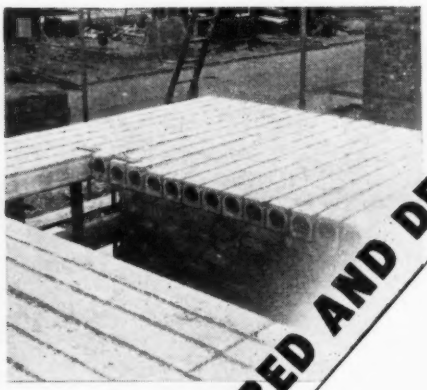
ANDERSON *aluminium*

'E' *decking*

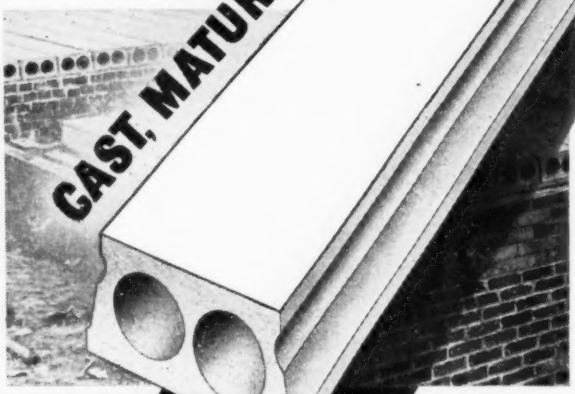
'E' Decking is a complete roof incorporating aluminium deck units, insulation and weatherproofing by an Anderson system of built-up roofing. The roof is lightweight combined with maximum strength for all purposes, has good insulation value, high reflectivity and is adaptable to most roofs. Full technical details of the system are available on request.

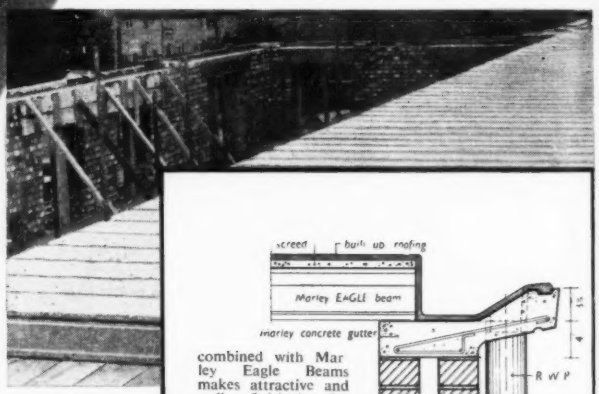
D. ANDERSON & SON LTD — **Stretford Manchester**

- For speedy, easy erection without shuttering or centering
- For great strength plus low dead weight
- For high fire resistance and good thermal and acoustic values



CAST, MATURED AND DELIVERED PROMPTLY ON SITE





combined with Marley Eagle Beams makes attractive and well finished flat roofs and provides inbuilt gutters of large capacity.

MARLEY EAGLE BEAMS
for suspended floors and flat roofs

Marley Eagle Beams incorporate many features which merit your full investigation. Produced in large quantities by factories strategically placed for quick service throughout the country, Eagle Beams are available at very competitive prices in most areas. If you are working in the South, you will find it advantageous to contact either Romford, Cheltenham or Poole branches and obtain full information.

For your convenience we suggest you cut out this form, pin it to your letterhead and post in an unsealed envelope (2d. stamp) to any of the three branches listed opposite.

REQUEST FOR INFORMATION

Please tick where required.

☐ I attach my letterhead. Please send me full literature on Marley Eagle Beams.

☐ Please arrange for a Technical Representative to call at my convenience.

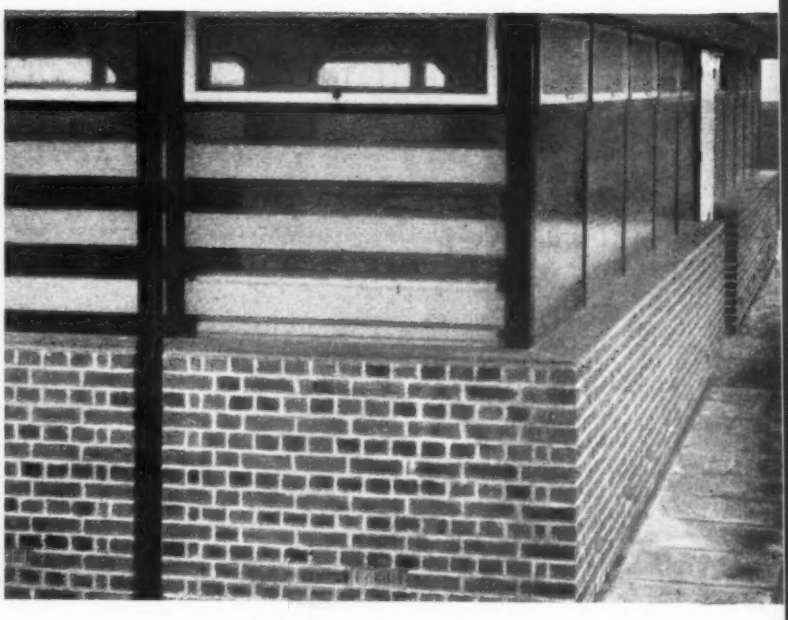
MARLEY CONCRETE LTD. South Ockendon, Nr. Romford, Essex. *Sth. Ockendon* 2201

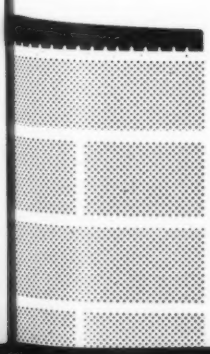
MARLEY CONCRETE LTD. Shurdington, Nr. Cheltenham. *Shurdington* 334/5

MARLEY CONCRETE LTD. Waterloo, Poole, Dorset. *Broadstone* 790

AJE

WINCILATE
slate cills





In this warehouse at Witham, Essex, designed by Chamberlin, Powell & Bon, Architects, and described in this issue of The Architects Journal, WINCILATE SLATE CILLS have again contributed to the precise and durable finish of a modern building.

Contractors: Charles S. Foster & Sons Ltd.

THE BOW SLATE & ENAMEL CO. LTD

B.R. Bow Depot, Old Ford Road, London, E.3. Tel: ADV 2203

This recessed lighting scheme of the canteen in the American Embassy was designed by Philips

For Imaginative Lighting

Some of the more imaginative lighting schemes of recent years have been the result of close co-operation between architects, electrical contractors, and the Philips Lighting Design Service.

The advice and assistance provided by this Philips Service is entirely free, and experienced lighting engineers in each Philips branch area are at your service. In addition, a fully qualified architect with special experience of lighting in its relation to architecture and colour is available to co-operate with you.

Philips will be happy to design for you—there is no charge

PHILIPS ELECTRICAL LTD

LIGHTING DIVISION · CENTURY HOUSE · SHAFTESBURY AVENUE · LONDON · W.C.2

For Lighting Design enquiries by telephone, ring COVent Garden 3371

Tungsten, fluorescent, blended and discharge lamps & lighting equipment · Radio & Television Receivers · "Photoflux" flashbulbs, etc

(LD811 Re

NU-SWIFT

The world's fastest and most reliable fire extinguishers

Complying with British Standard Code of Practice

(British Standard Code of Practice C.P. 402.401 (1951) is published on behalf of the Council for Codes of Practice for Buildings by the British Standards Institution.)

Universal (Royal Navy) Extinguisher Model 1301 for Class A fires
Air Foam Extinguisher Model 1400 - - - - - - Class B fires

Approved by the Fire Offices Committee

	FOC Ref. No.
Universal (Royal Navy) Extinguisher Model 1301 for - - - - - - - - - - - - - - -	Class A fires 104/6
Air Foam Extinguisher Model 1400 - - -	Class B fires 104/3
Auto (CTC) Extinguisher Model 1003 - -	Class C fires 104/5
Auto (Chloro-flash) Extinguisher Model 2003 - - - - - - - - - -	Class B & C fires 104/7

All these models comply with British Standard specifications, where these exist. No British standards exist for chlorobromomethane extinguishers or double-action nozzles like that of the Universal extinguisher. But special FOC approval has been given to these Nu-Swift features because of their increased efficiency.

Accepted by the London County Council

Consent granted under Sec. 20 of the London Building Acts (Amendment) Act 1930.
All Nu-Swift extinguishers that are approved by the Fire Offices Committee.

Why Nu-Swift are better:
Nu-Swift extinguishers are the only ones on the market to combine these essential advantages.

Immediate action—
instant pressure-charge operation eliminates waiting for a chemical action to build up pressure.

Quicker recharging—
all 2-gallon Nu-Swift extinguishers can be recharged and back in use in 30 seconds.

Standard system—
all Nu-Swift extinguishers are used in the commonsense upright position. There are distinctive colours for the models for different fire risks.

Greater reliability—
Nu-Swift pressure charges produce a pressure that is always exactly right for fire-fighting, never too great for safety. They will not leak, evaporate, or cause corrosion.

For extra safety in buildings new and old—specify Nu-Swift extinguishers

NU-SWIFT

Nu-Swift Ltd.,
25 Piccadilly, London, W.1
Telephone: REGent 5724
Telegrams:
NUSWIFT PICCY LONDON
Headquarters and works:
Elland, Yorkshire
Telephone: Elland 2852
Telegrams:
NUSWIFT ELLAND

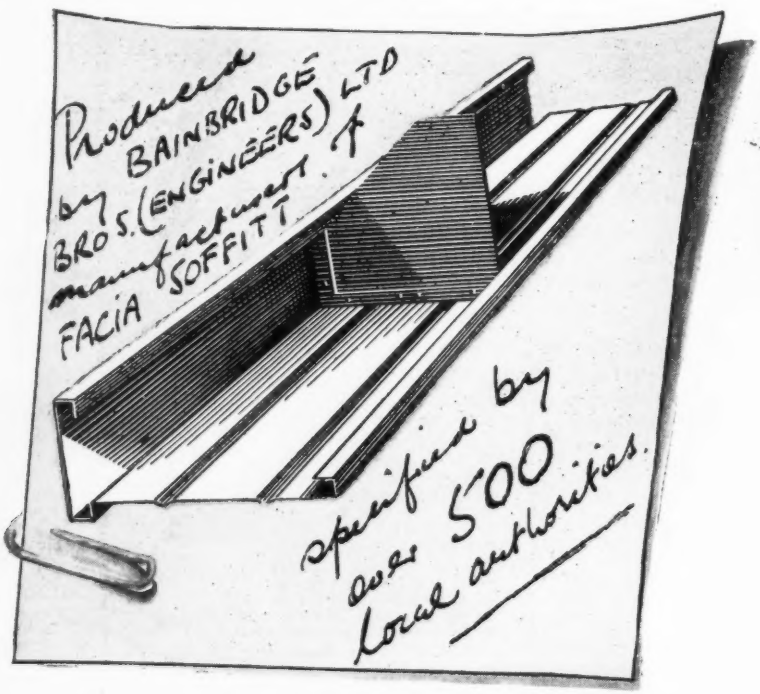
Alicanopies

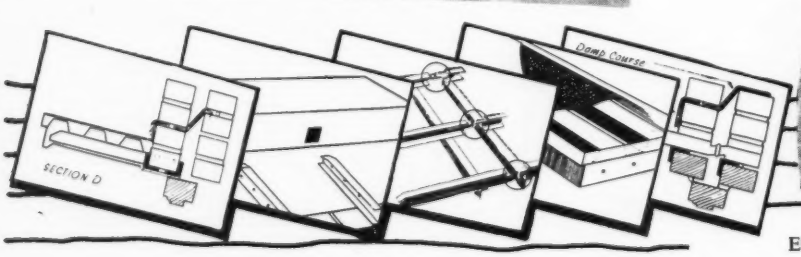
by BAINBRIDGE Bros. (ENGINEERS) Ltd.

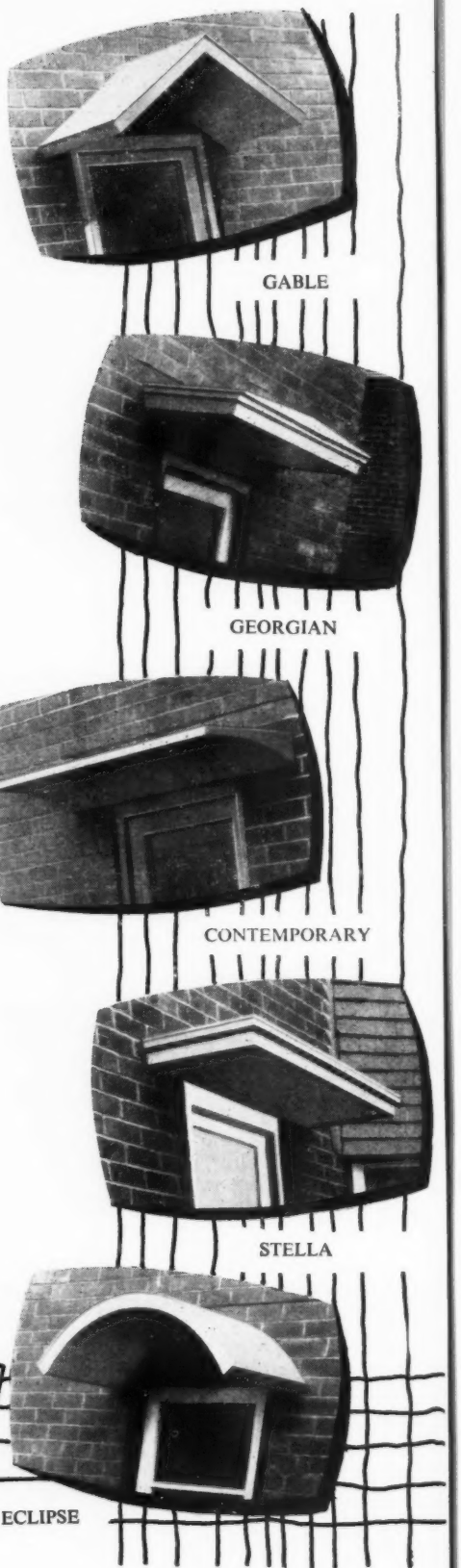
BRITISH PATENTS No. 22458/54 & 04972/56
WORLD PATENTS PENDING

FACIA WORKS WOODHILL RD
BURY. LANCS. Telephone. BURY 1599

ALICANOPIES are specially designed to give the architect economy and speed in canopy construction, for if these shapes were designed and constructed in other materials in such a way as to require no maintenance other than the periodic painting given to the exterior of the house, the cost would be very considerable. Furthermore, the construction is such that labour for fixing both frame and canopy is cut down to a minimum duration.








W
HEN
U WANT
STANDARD
METAL WINDOWS
YOU SHOULD
CONSULT
WILLIAMS
&
WILLIAMS
T
HEY
HAVE20
LOCALOFF
ICESTOSERVEU
MEMBER OF THE
METAL WINDOW
ASSOCIATION
Trog

The Metsec technique for portal frame buildings is responsible for a number of important advantages, all of which contribute to the basic characteristic of the system—SAVING COST BY THE SAVING OF TIME AND LABOUR

- Rapid site erection—on prepared foundations building framework can be erected at the rate of 1,000 sq. feet per hour.
- Lining, insulation and sheeting, which is incorporated in the structure, is completed by the same gang of men working from the outside of the building—without expensive interior scaffolding. A very real cost-saving feature.
- COR-TEN corrosion-resistant, low alloy steel reduces maintenance to a minimum.
- When compared with buildings of equivalent specification, there is often more than a 10 per cent. saving on the total cost.

METSEC BUILDINGS

Metsec buildings are manufactured in standard sizes and the constructional technique has a wide application to buildings at home and overseas, particularly where considerable accommodation is required at short notice—warehouses, stores, offices, airport buildings, factory extensions, garages, and recreation centres, etc.

Send for this NEW CATALOGUE AJ, giving complete details and specification of Metsec Buildings.

METAL SECTIONS LTD.

OLDBURY

BIRMINGHAM A TI COMPANY

AJ

THE ARCHITECTS' JOURNAL

No. 3198 Vol. 123 June 14, 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*

OTHER VOICES, OTHER ROMES . . .

Who goes to Rome—and how does he look at it when he gets there? These queries are prompted by James Lees-Milne's book *Roman Mornings*†, eight discursive essays on Roman monuments, written in a not-quite-architectural vein that allows historical and dynastic associations, political and religious reflections, a more-than-marginal showing. It is an essay in Deep-Tourism, the Rome of an intelligent and informed traveller who likes looking at architecture.

*

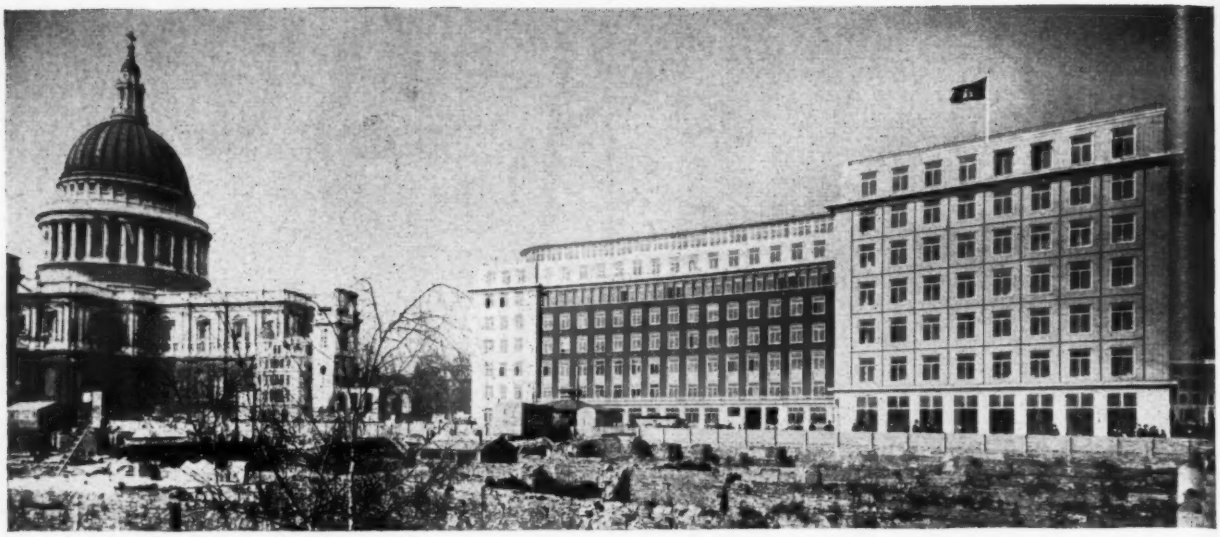
But only one man's Rome, and since the Eternal City is so nearly all things to all her visitors, this limits the usefulness of the book. The author probably didn't set out to be useful, but the publisher claims that like Ruskin's *Mornings in Florence* this also aims to "please and interest the intelligent layman in the place and its periods." But which layman? Not the stay-at-home who has never been, for the illustrations are nothing like informative enough to support a text which explains, rather than describes, the buildings.

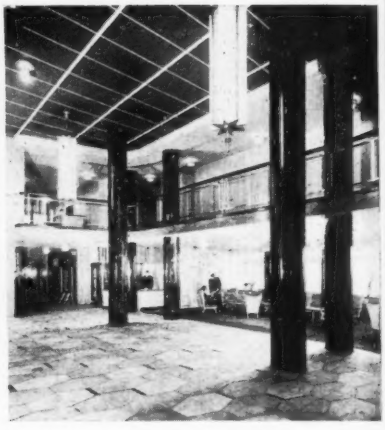
*

Nor the intending visitor, for he, on examination, proves never to be a layman. Hot, woppish, Catholic, expensive and loud—Rome is everything that is calculated to upset the tourist from Penge or Chorlton-on-Medlock, and you can be pretty sure that the man leaning over the gate of "Dunroamin" has never done Rome, even if he has seen the stones of Venice or the drones of Capri.

Apart from Americans, Rome is for the professional—the pilgrim and the Rome

*Meaning exactly what it says.
†Wingate 17s.





No. 1, St. Paul's Precinct

Writing at the invitation of Wiggins Teape, the occupants of the first post-war building (shown above) to be completed in the St. Paul's precinct, Sir Hugh Casson and Neville Condor state: "The architects of Gateway House have no doubt been over these hurdles (site boundaries, daylighting and density regulations, and byelaws), and from within this vastly constricted field of aesthetic choice they have emerged—not unscathed by the scars of compromise—with a reasonably worthy and discreet, if timid and unexciting building. In it's favour it can be said, that, unlike some of it's neighbours, it does not look a little the worse for dress. It pulls no faces and it tells no lies. The roof line is tidy, the facade pattern sensible rather than imaginative. But the sudden change of colour in the main facade—introduced perhaps to break up it's bulk—looks arbitrary and self-consciously contrived." J. M. Richards, writing in response to the same invitation, said: "Compared with some of the monstrous edifices that have gone up in the City since the war, Gateway House is shapely, relatively restrained in design and neatly finished. . . . I, personally, prefer the type of modern building that reveals the nature of its framed structure instead of concealing it behind brick walls which look as though they bore all the weight. This effect of looking more old-fashioned than it is, is emphasized in Gateway House by the proportions of the windows resembling those of a Georgian building and, more particularly, by the addition to the facade of classical-style cornices . . . The interior strikes me as particularly well finished.

Sir William Holford's statement included: "The main feature of the building which seems indeterminate in its relation to the design of the block as a whole is the cornice. The cornice in fact seems rather out of place, and serves to accentuate the difference between the two upper stories and the remainder of the building. The semi-circular West end of the pent-house story also seems out of character with that elevation, and with the rest of the building."

Misha Black wrote: "This is a building of architectural personality and quality. Both outside and within the building one is conscious of the architects' devoted interest in the problems of planning and appearance, of major massing and of minor detail."

And lastly, Jane Drew's comment contained the following: "The main plan form of the building with its long wing curving subtly is pleasant and it is well set in relation to both St. Paul's Churchyard and Cannon Street. . . ." These frank, if contradictory, criticisms result from a commendable, enterprising policy. It is this interest by the users of buildings in the opinions of informed critics concerning their own architectural environment which can result in a more enlightened public opinion on design. One's only regret is that the criticism was not asked for by the owners and builders of the offices, Messrs. Trollope & Colls (rather than by the occupants), and at a very much earlier stage, when it might have had some influence on the eventual appearance of a building which will now inevitably form part of the St. Paul's precinct. Readers may judge the accuracy of some of the criticisms made in the comments above from the three general views shown, and from the detail of the entrance hall. The architects were Trehearne & Norman Preston & Partners.

scholar. Neither can decently be called a layman, neither would be satisfied with the author's particular blend of fact and opinion; the former would require a more reverent attitude to the Church, the latter a more reverent attitude to Art History. But supposing a hypothetical layman could be lured there, has Mr. Lees-Milne the eye or the mind needed to communicate with him? I doubt it. To say, for instance, that Rome, in the early morning, is not at all romantic, is to take too narrow a view of " romantic " for lay usage. The Pincian at dawn, Trastevere at breakfast time, the Colosseum from the air between street-lamp and sunrise; all these are variously romantic to that sophisticated lay sensibility which now exists, thanks to TV and Cinerama. Mr. Lees-Milne needs a more precise word, one of a number of scenic adjectives that are easily found for Rome, viz: " Magnanimous," meaning heroic, grave, splendid, resolute (*Open City*). " Scope-ish," meaning bright, brash, superfatted (*Three Coins in the Fountain*). " Sica-tious," meaning dim, grim, peeling and mean (*Bicycle Thieves*) or—and this is the word he really needs—" Audri-atic," meaning wishful, wistful, tender and thoroughly Spanish Steps (*Roman Holiday*).

*

That, certainly, is something that Rome is *not* in the early morning, but highly Sicatious, occasionally Magnanimous, and given the right fall of light across a baroque facade, sometimes Scopish.

REYNER BANHAM.

FILE THIS WEEK

Information Centre. This week there are three reviews: the first deals with a book on schools in the USA, the second is about a book on laminated timber, and the third describes a DSIR handbook on hardwoods. Also referred to are an article on " semispheres " and two British Standards—the first on plumbing insulation, the second on steel refuse containers .. .. page 673

The Mod-X System. This system, which was designed by D. Dex Harrison, was first shown at the BIF in 1954, since when it has been commercially developed. A description is given of the standard parts from which any type, shape or size of structure can be designed and supplied for rapid erection by semi-skilled labour .. page 677

Information Sheets. One of these is a corrected version of the sheet on moulded hardboards which was published incorrectly on May 3: the other gives details of a gas water-heater.

Working Detail. This shows a low-level street light, designed so it is screened from the air, at Turnhouse Airport.

The Editors

ARCHITECTURE AND RISING PRICES

THOSE who are still unconvinced of the economic advantages of original thinking when applied to building—whether by architects or building users or by the building industry—will do well to consider MOE'S new Circular 301. The immediate purpose of this is to establish that the permitted costs per place are not going to go up as a result of recent wage increases, even though these show a rise in the cost of educational building of over 3% according to the Ministry's index of costs. The circular goes on to point out that although since 1949, the cost of building has risen by 53% (which incidentally does *not* include the new wage increases) the costs per place have actually *gone down*, and have gone down substantially.

The average cost per place in primary schools in 1949 was £200, now the cost *limit* (i.e., the maximum allowable) is £154; for secondary schools the average cost in 1949 was £320, now the maximum allowable is £264. The significance of this architectural feat can only be realised when we consider other classes of building where this thinking has still to be done, such as housing, and where the smallest rise in prices is instantly felt.

The speculative builder is generally adept at cutting costs, yet it is calculated in *The Surveyor* of May 5 that a speculative house which could be sold for £2,000 last year would now have to be sold for £2,200. If only we had confronted the technical problem of housing ten years ago with the same vigour and comprehensiveness as we confronted that of schools, it might well be that we would by now have comparable ways of offsetting rising prices.

COST RESEARCH AT THE RICS

The RICS is to form a cost research panel and to provide it with financial backing. It is to be comprised mainly of surveyors, with representatives of BRS and other organizations, who will work on it part-time (see p. 631 in the AJ for June 7). This is welcome news, and we congratulate the RICS. The JOURNAL has for some time urged that quantity surveyors should arm themselves with more systematic methods of cost guidance for their architects. Indeed, one of our motives in publishing cost analyses was to make architects familiar with an analytical, as distinct from a " keep your

fingers crossed " approach to costs.

The panel's terms of reference are given very briefly in the RICS annual report. We hope they do not exclude investigation of such methods of cost control as the rank and file of quantity surveyors could use. Architects and quantity surveyors obviously require the kind of knowledge that they could not obtain for themselves—the kind that BRS provides (after years of research). But they also need the kind of knowledge that they could get for themselves (fairly quickly) if only they knew how to get it.

Cost analysis and the elemental bill are examples of the latter—methods which delegates at the Norwich Conference agreed should be more widely used. Investigations of *this* kind—complementary to more fundamental research—are most urgently needed, and, on behalf of the architects, we hope the panel will give them a high priority.

SOUTH BANK ON TV

If you had been walking, as ASTRAGAL was, along the South Bank one windy afternoon last week, you would have seen a tangle of cameras, cables and microphones surrounded by a ring of gaping onlookers. That would have been commercial TV's first attempt at a " live " architectural broadcast—a broadcast that I must assume no AJ readers actually saw, because, of course, they are all far too busy to watch TV in the middle of the afternoon.

*

Set up in the open air were models of the LCC's South Bank development scheme and sketches of Sir Howard Robertson's Shell buildings. Associated Rediffusion's commentator described the general scene and then got Dr. Leslie Martin to expound the LCC's plans over the model—and a most lucid and informative exposition it was. Others interviewed included a helicopter expert, a couple of theatre men (on the prospects of the National Theatre), the LCC Valuer (on his efforts to find a developer for the hotel site), and Sir Howard Robertson.

*

Sir Howard was then confronted by an architectural critic in the person of J. M. Richards, who was very aggressive about the design of the Shell buildings both from the point of view of planning and of architectural character. Sir Howard defended himself with his usual geniality.

*

It was all very lively. I don't know how clear an impression the viewer will have got of the issues at stake, but the real life flavour is important in architectural discussion, so I hope more programmes of this sort will be arranged.

ASTRAGAL GETS THE DRILL

In a room whose acoustic tile walls could not altogether disguise the fact that some-one had got a pneumatic drill stuck into the framing of some other part of the Embassy, Eero Saarineen held forth with becoming modesty and good sense about revisions to his prize-winning design for the new US Chancery in Grosvenor Square. He has recessed the ground floor and made it taller—more monumental, he said—to give better views over the greenery of the square; he has smoothed out the circulation from the three main entrances and added a fountain court in the centre; he has set back the parapet, simplified the façade grid and decided to use only Portland stone for facings, and he has done away with bronze.

*

You want, he said, a building that will look nice in fifty years time, and he went on to eulogise the weathering of Portland stone in the London atmosphere, explaining how he had given his façade treatment deep reveals so as to get full value from the stone. It will be a curious twist of fate if smokeless zone regulations cheat him of his soot-and-sulphuric weathering and the façade stays that horrible raw toffee-colour of fresh-cut Portland for the rest of its life. A small audience—too small for so important a Press conference—asked the usual questions about planning permissions and costs, and got the usual sort of answers for such an early stage in the development of any project. And then Saarinen departed for Oslo (where he has another Embassy on the stocks) to the accompaniment of a valedictory outburst from the pneumatic drill.

A COST-OF-BUILDING INDEX

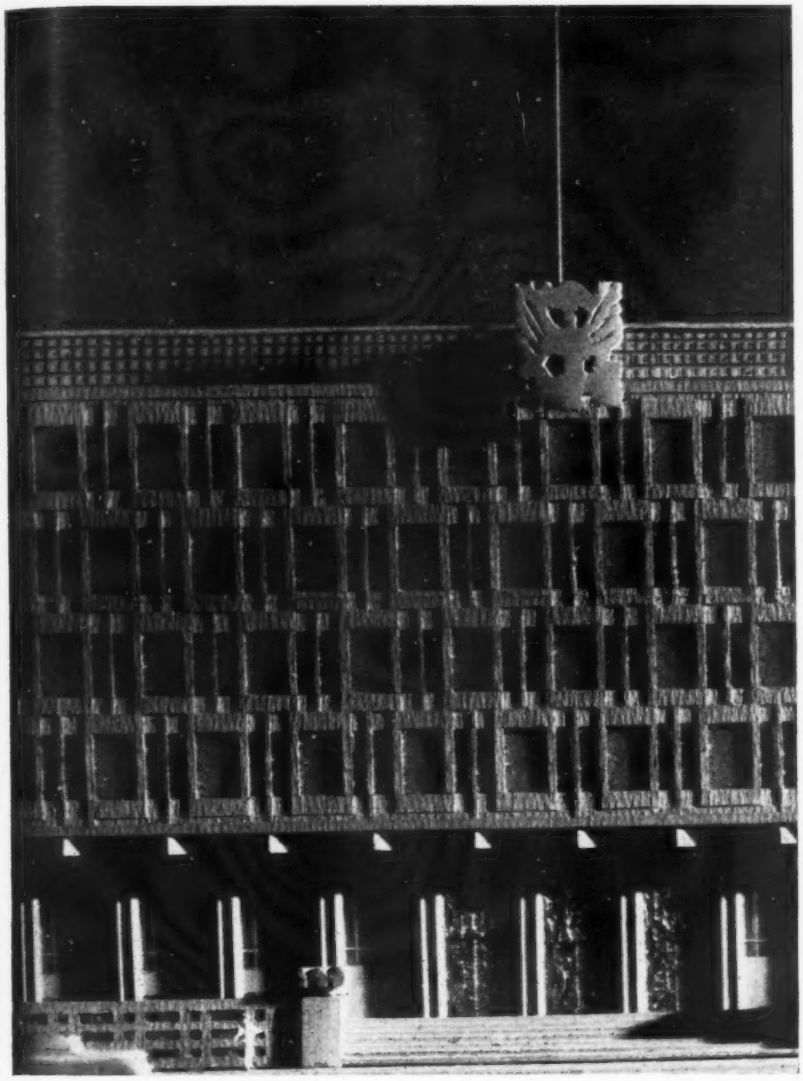
The Ministry of Works is now publishing a quarterly Cost-of-Building index. It is imperfect, but it is very much better than nothing. For those who are interested, the *Board of Trade Journal* for May 12 explains some of the statistical difficulties in preparing an index of this kind, which cannot be based on the prices of standard products, and points out that few buildings are standard and site conditions even less so.

*

Taking 1949 as the standard (100), the provisional figure for the first quarter of this year is 134. It is interesting to compare this with the BOT's figure for building and civil engineering *materials*, which, from the same datum, is 141·9. This suggests that the quality of building has deteriorated, and though most of us knew this already, it is interesting to see it confirmed by official figures.

A GRISLY PILGRIMAGE

If you " seed " a pearl oyster too enthusiastically (ASTRAGAL has been told) you don't get pearls, but just a silly twisted mollusc. Likewise with politicians, planners, borough engineers and



Eero Saarinen explains his revised US Embassy design, shown in detail, left.

the " Subtopia " campaign. They have been fed with enough of Ian Nairn's irritants to start them secreting, and now they need nourishment, not aggravation. Also anti-subtopian action now needs directing at the bulk of the public as well. The BBC ought to be able to do this admirably; but will it? The Corporation's handling of Sir Hugh Casson's first programme in a series called *Journey through Subtopia* struck me as little more than frivolous. That the programme should be on steam radio rather than TV was bad enough for a start—this is a field where a picture is worth a thousand words even of Cassonian prose, but to put it out at an hour when it would have to compete with " Pick of the Pops," " The Grove Family," and " Double your Money," seems almost a deliberate plot to make sure that it would not be heard by the people who needed to hear it.

The programme itself was a mixture of known-Nairn arguments and examples for study, but they came over fresh and urbane in Sir Hugh's rendering. One can't help wondering though, whether it was a good idea to give so much space to *both* the wrong attitudes about village re-housing. The routine council-house administrators and the tradition-blinded preservationists were each represented and their arguments were left largely unanswered. Nothing was said about the live solution for village housing—first-rate village infill with good modern dwellings. Perhaps we shall get this at a later stage of Sir Hugh's grisly pilgrimage.

TRADITION IN CONTEMPORARY SETTING

The First of Foot have certainly done themselves proud with their tercentenary exhibition, and ASTRAGAL, for one, will regard the Grenadiers henceforth with enhanced respect for having staged the first exhibition that has been capable of standing up to the rather overwhelming decor of the State Rooms at St. James's Palace. To be more precise, the Grenadiers are to be respected for having turned over the staging of the show to the Royal College of Art, and the RCA is to be respected for having used entirely contemporary display equipment and methods.

*

The standards and battle-honours, documents and medals, drums and medals, uniforms and demountable camping tackle come across to the visitor with maximum impact. Even the un-military will get from this exhibition a sense of the continuity of regimental tradition such as reams of New-Elizabethan prose will never give; even the resolutely plebeian (like ASTRAGAL) will gain some sense of what being U is really all about. The show, which runs to June 23, illustrates (beyond what has already been mentioned) a curious factor in the British Way of Life and all that. In any other country, one suspects, a regiment so old, so crusty with tradition, stationed for two centuries in the Capital, would have been embroiled in any number of plots and Palace revolutions, yet the First, in Prince Albert's words, have always been " at the command of the Civil power to support law and order " and have never disturbed that order " by insolence or licentiousness."

HEMEL HEMPSTEAD

How far in the creation of a New Town do you get by the wholesale use of architects, and by conscientious, steady, planning and designing? Not nearly far enough. That, in all fairness, is the only answer ASTRAGAL can make after studying the neat, well-presented exhibition on view at the RIBA recently, entitled "Hemel Hempstead: New Town from Old." It is hard to know where to begin to criticise the work shown in an exhibition of this type. Granted that there are no spec.-built horrors; that much of the housing is above average; that in the Adeyfield shopping centre there is a certain air (almost American) of shopping bustle; that some neat Herts schools lie like raisins in the dough; that trees and grass stand newly-planted and that everyone is better off in every way than they ever were. . . . Granted all this, there is still no New Town in the true sense of the word. If you don't believe me, then study the excellent photographs in the official pamphlet, which has the same title as the exhibition, published by the Development Corporation.

*

Hemel Hempstead bears out the sound point that Henry Morris made at the RIBA recently, that schools should be a focal point in a neighbourhood. In the plans and aerial views shown in the exhibition the schools are quite *unrelated*—or at least not related in any discernible way—to the housing. One of the best buildings shown, the Adeyfield Hall (illustrated in the JOURNAL, November 26, 1953), is spoilt by being ill-sited in relation to the shopping centre it flanks. Another attractive shopping centre has immense flights of steps before it, inviting shoppers to mount on to—and therefore eventually spoil—the strip of grass which runs along the top.

*

But the above are attractive buildings in themselves. For architect-perpetrated mediocrity ASTRAGAL suggests Bank Court. A symmetrical, axial layout of four banking houses each designed by a different architect and all markedly different in appearance. This is, perhaps, the nub of the matter. The Development Corporation are obviously not insisting enough that their architect's department gives a lead in the matter of design. The corporation chairman, H. W. Wells, in his speech at the opening of the exhibition, showed that it was the corporation itself which tended to apply the brake on progress. "The Development Corporation," he said, "does not like deliberate attempts to break away from the traditional form or idiom." As a result there was not enough really imaginative and lively town planning to be seen in the exhibition. There is little coherence of design and hardly a really good building. Churches, pubs, shops and factories are mostly heavy-handed in design or timidly disposed. The most promising building to come—and the town will certainly need it—is the proposed town centre hall.

ASTRAGAL

COMPETITION

Scottish Technical College

Entries for a Paisley technical college competition (assessor, Professor R. Gardner-Medwin; prizes, (1) £1,500 (2) £1,000 and (3) £500) must be submitted by March 27. Questions must reach J. and A. Gardner, Clerks to the Governors, 3, County Place, Renfrewshire, by September 3. Applicants for the conditions (deposit £2) must send their registration numbers or the numbers of the receipts issued to them by the Architects' Registration Council in respect of the admission fee.

TRINIDAD

Results of Concert Hall Competition

Colin Laird, A.R.I.B.A., has won the $1,500 first prize in a competition for the design of Trinidad's Community Centre Concert Hall, to be built in the King George V Park, Port of Spain. The other prizewinners in this competition, which was limited to architects practising in the West Indies, are O. G. Chase, who gets $500 and Messrs. Mence and Moore, A./L.R.I.B.A., who gets $250. Twelve designs were received. The assessor was Ronald Firth, A.R.I.B.A.

NORWICH

City Architect's Scheme Accepted

The scheme for a Norwich central library, which we illustrated briefly on May 31 together with notes about its designer, the new city architect, David Percival, has now been approved by the city council. Plans will be published in the JOURNAL shortly.

HERTS

Architects Appoint PRO

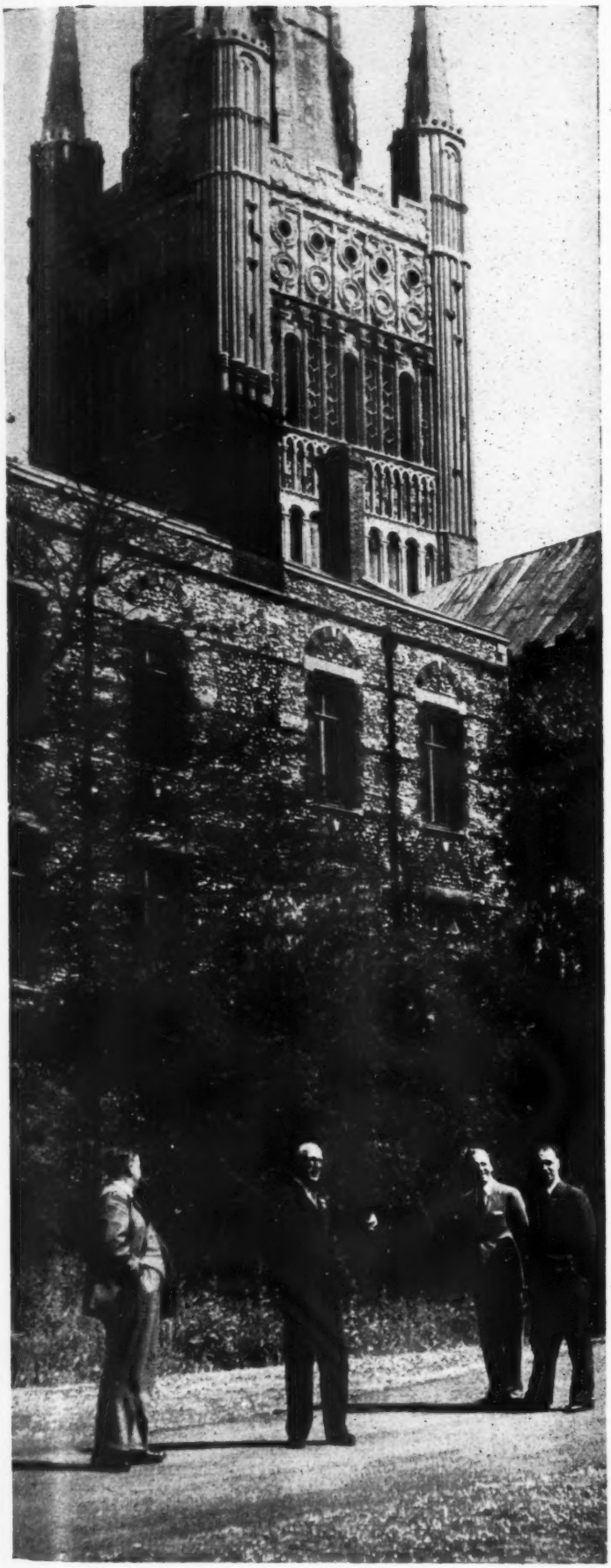
A public relations officer has been appointed by the Essex, Cambridge and Hertfordshire Society of Architects, Hertfordshire Chapter. He is H. J. Coates, and it will be his job to deal with any matters that members bring before him. Members are asked to tell him immediately of "(*a*) anything of architectural interest which they consider might with advantage be brought before the public; (*b*) anything of an adverse character which is derogatory to the profession including incorrect and misapplied statements in the Press, which require immediate correction; (*c*) in fact, anything which the members feel the Public Relations Officer can do in his capacity as an intermediary between us and the general public, in order to benefit the Profession, would be welcomed."

USSR

Films on Building

Two films were shown last week to an audience of architects and engineers of the architectural section of the Society for Cultural Relations with the USSR. The first (writes a correspondent) was on the reconstruction of Moscow and was really intended for lay audiences but was interesting for its good views of some of the Kremlin buildings, and for general views of the large-scale rebuilding which has been going on in Moscow since the war. The second film was intended for architects and the building industry generally and had a good commentary in English. It dealt mainly with the use of pre-stressed concrete, and especially with the large-scale use of large standardized pre-fabricated units.

There were very good and interesting detailed shots of a large and highly mechanized factory for the manufacture of units such as columns, stairs, and floor panels up to about 20 ft. × 13 ft. in size. There was not enough explanation about the effect of this on planning and design, nor as much as one would have liked to see about details such as jointing and finishes, but it was a real eye-opener to see the pace at which things have been developing, for units of this kind were only just beginning to be made less than three years ago when a party of architects reported on their visit to Russia. There is now a number of factories in operation, varying from the huge fully-automatic plant in Moscow to relatively-small manufacturing units in outlying areas where the products are used for farm buildings and cottages. It is said that over 400 plants will be operating in 1957. With units coming off each of four lines of one plant at the rate of one every fifteen minutes the total projected output must be enormous. Its effect on standardization of planning and (unless someone is very strong-minded) on retarding the development of new ideas is rather terrifying.



We print below, in shortened forms, the discussion which followed the three papers presented last week at Norwich to members of the British Architects' Conference. These papers, given in full in the *RIBA Journal* for May, were summarized by their authors. E. D. Jefferiss Mathews emphasized the need for economics to inform the whole of the designer's creative thinking; and the need for close collaboration between the architect, builder, quantity surveyor and engineer. The leading themes of the discussion were these: 1. There should be more research into user requirements, more development work by local authorities and a better organized exchange of information within the profession and between the profession and sources of knowledge. 2. Cost analysis and cost planning should become familiar tools for architect and quantity surveyor (as "co-designers") and the elemental bill of quantities should be more widely used. 3. Economics should enter into the architect's training. Many speakers called for an officially-supported follow-up to the conference, in the form of study groups.

ARCHITECTURAL ECONOMICS: *WHAT DELEGATES SAID AT* THE NORWICH CONFERENCE

DR. J. C. WESTON: "The important questions for us to consider in this conference are the methods whereby cost information can be made available and can be made part of the thinking in the design process." It is important that data relating to previous jobs shall be available from the outset. Cost analysis has an important part to play. Many of you will have read the series of articles which has appeared recently in THE ARCHITECTS' JOURNAL dealing with certain aspects of this method of collecting information. There is no real difficulty in obtaining infor-

After the first discussion at the Conference, members met at a garden party in the grounds of the Bishop's Palace. Here are (left to right) Humphrey Boardman, president of the local association; C. H. Aslin, RIBA president; Dr. J. L. Martin, architect to the LCC; and Dr. J. C. Weston, of BRS.

On the conference platform: left to right, Cecil Howitt (standing), Humphrey Boardman, C. H. Aslin, C. D. Spragg (RIBA secretary), E. D. Jefferiss Mathews, Dr. J. L. Martin and Dr. J. C. Weston. Mr. Aslin, Mr. Spragg and Mr. Mathews are shown again in the photograph below, and beneath that are Dr. Martin and Dr. Weston.

mation in this way, even from the present type of priced bill. It does require close collaboration between the architect and his quantity surveyor but that in any case is all to the good. There is a developing interest in an alternative way of presenting bills of quantities themselves—what has become known as elemental billing. I think some of those here today have had experience of using bills in this form, and I hope they will make that experience available to us. In preparing cost analyses as a basis for future planning it is important to include information not only on cost but on the areas of the various elements of the building. These figures are quite useful. For example, we found in a recent study of high flats that the planning ratio of habitable area to the total area varies quite considerably from 0·7 to 0·9. Fairly close study of designs shows that something like 15 or 16 per cent. for access areas allows for good design. Flats with 30 per cent. access areas were quite a bit more expensive than they need have been. With flats costing approximately 50s. or 60s. per square foot gross, 10 per cent. on the area is quite a considerable thing.

"Another aspect of architectural economy to which I would draw your attention is the whole question of production aspects of building. Building stands alone among the major industries in the country in separating design from production. Whether in architectural training there should be more attention to production methods, whether close liaison between contractor and designer from the inception of the scheme is the solution or not, I leave to the conference to consider. . . . It is equally important and often more important to consider the subsequent running costs. I think everybody is aware of this problem, but there is no firmly established method whereby running costs may be converted into their equivalent capital costs."

After quoting the illustration in his paper, he said that another example sprang to mind in the planning of rural schools. "Is it better to centralize education, to build a limited number of large schools and have in consequence a large bill for transport, £50,000 to £150,000 per annum," he asked, "or would it be

better to spend more on a number of smaller buildings and reduce transport? Considerations of exchange rates between running costs and first costs would enable the problem to be approached on a rational basis."

NIGEL ROSE (a quantity surveyor in the MOE Architect and Buildings branch) opened the discussion on the papers. He began by describing the procedure of cost analysis and cost planning used at the MOE (this procedure was described by James Nisbet in the JOURNAL of May 10). He said: "The analyses we are producing today are rather more elaborate than those illustrated in Dr. Weston's paper. Those who followed the ARCHITECTS' JOURNAL guest editor series last year will recognise the form. There is a good deal of tabulated information including quantities and ratios and brief specification notes. The quantities and ratios are calculated from the sketch design for the job with which we are concerned and we then have all the necessary information as assembled for commencing the cost plan."

He then described the process of cost planning and went on: "Having kept so close a hold on costs throughout the design when we put the bills out to tender we can be reasonably confident that there are not going to be any rude shocks. Of course, if a negotiated tender is contemplated a contractor can be brought into the cost checking, he and the quantity surveyor carrying out the process independently. As Dr. Martin has mentioned, there are other advantages of elemental bills. The architect is given a document which he can use with confidence for reference purposes. Drawing numbers are shown wherever possible. The quantity surveyor, while employing rather more paper but no more time than ordinarily, makes his duties immeasurably more efficient right up to and including the final account. The builder's estimator may be sorry to find the trades scattered and requiring collection before being sent out to sub-contractors, but nevertheless he sees each item in its exact context, as do also his planning and buying departments. The contractor's site representatives, after their initial surprise has subsided, are enthusiastic, for here is exactly the sort of document that is needed in their offices, from that of the organising agent to the bonussing clerk. If there is a slip in the quantities, it stands out a mile. Whilst for economic reasons it may have been easier for central and local government departments to pioneer this divergence from tradition, some private offices of both architects and quantity surveyors and several local authority offices are already experimenting with methods, not identical, but very similar to those which I have outlined."

A section of the audience at one of the Conference discussions.

CLIFFORD NOTT (chief quantity surveyor at Herts C.C. and co-author of "Architectural Economics" in the JOURNAL for May 24) emphasised the importance of "pre-planning." He went on: "Building costs today carry a large element of risk which the contractor has to take on the locked-up capital because at no stage in the job can one get an accurate interim assessment to make him the proper payments for work he has done. If it became an established practice that the job could go through smoothly without these adjustments, contractors would not have to cover for that risk at 5½ per cent. on every £100 of locked-up capital." The fact that the tempo of building had been high since the war had also added to the costs. Pre-planning could have saved some of those costs. He suggested that we had to start thinking of the training of students, so that they grew up thinking of architects and quantity surveyors as a team, and got a very wide common background. Architectural students should be allowed to see a quantity surveyor or two during their training. Similarly quantity surveyors needed an applied economics examination paper.

After the garden party which followed the first day's discussion, members attended a service in the cathedral.

Dr. Weston had asked who should accumulate data for cost analysis. Mr. Nott felt it must be the quantity surveyor's task to accumulate the very detailed information, but that did not exonerate the architect from trying to know as much about pricing as he knew about rates and prices today. Quantity surveyors should have the more exact knowledge of adjustments necessary to take into account rises in prices, variations in economic conditions, restrictions on site, etc. He had found that, although this approach to cost control was new, the architects with whom he had worked had found that the précis'd summaries led them to ask for the right sort of prices and right amount of information for designing. What they (the quantity surveyors) tried to do was to analyse the bill and then summarise each section and sub-section showing the relation of that element's cost to the whole building as a rate per foot super and also to show it as an over-all unit rate per foot super of floor area. With an elemental layout, the whole of the information was in one block and you gradually learned to handle the whole thing at one time and transpose the item you were dealing with for the item you had before.

If one was negotiating a tender the elemental bill was ideal and the number of elements and sub-sections could be mutually arranged to suit the future production of more detailed cost analysis data than usual to assist the general contractor in progressing the works, with far more detail than was afforded by the 19 elements for a multi-storey framed building. The pattern of this approach had not yet crystallised, and what was needed now was for a large number of people to try these experiments in cost planning and cost control.

GORDON STEELE said that the purpose of research was to give the building industry the information to make the right decisions, and to give them the information quickly and in a useful form. Mr. Steele would like to see some form of organisation distributed regionally throughout the country with as many centres as could be managed, as a pivotal point of a two-way traffic. In one direction passing on information which came as a result of research, in the other direction answering the queries of architects, builders and engineers or referring them to quarters where answers could be given.

CLIFFORD CULPIN (chairman of the RIBA Housing and Town Planning Committee): " I should like to see this conference give the strongest support to the elemental bill of quantities and to send a resolution to our friends at the RICS to encourage them to adopt this system at the earliest moment. Quantity surveyors as a profession have always seemed to me to be singularly conservative. We must get them to adopt a more imaginative and flexible attitude and to co-operate with us in the very earliest design stage instead of, as so often happens, only coming in when the drawings are complete."

When the discussion was resumed on Friday morning, E. D. Jefferiss Mathews summarised the previous

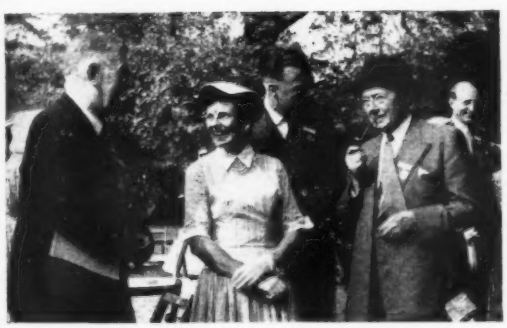
ARCHITECTS' GARDEN PARTY AT NORWICH

1. *Cleeve Barr, deputy housing architect to the LCC.* 2. *Frank R. Yerbury, director of the Building Centre, is seen here photographing No.* 5. 3. *Eric Bird, on his last mission as editor of the* RIBA Journal, *Mrs. Bryan Westwood, C. St. Clair Oakes and F. R. Yerbury.* 4. *Bryan Westwood.* 5. *Miss Molly Taylor (architect).* 6. *The new Norwich city architect, David Percival, and his wife.* 7. *Donald Gibson, Nottingham city architect, with his successor as Coventry city architect, Arthur Ling, and Mrs. Ling.* 8. *E. D. Jefferiss Mathews, one of the principal speakers at the conference.* 9. *The Bishop of Norwich and H. Boardman.* 10. *Mrs. Boardman and C. D. Spragg, RIBA secretary.* 11. *Ian Leslie, editor of* The Builder, *Mrs. Leslie and Mrs. G. Mansell, the wife of the editor of* The Architect and Building News.

1

2

3



4

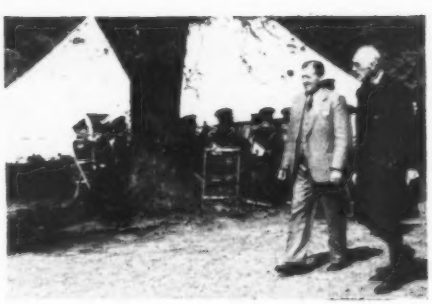
5

6

7

8

9



10

11

day's discussion. Dr. Martin then spoke briefly about the dissemination of research, concluding with a suggestion that the conference should be followed up by study groups.

G. GRENFELL BAINES : " Perhaps some of the delegates may be interested in our experience of using cost control, by analysis and cost plan, as part of the design process.

" Though only short our experience has already shown the value of the methods described by the speakers, and initiated largely, I believe, by the Ministry of Education. We have also found the ARCHITECTS' JOURNAL helpful and consider that valuable work has already been done, and can still be done, by the Building Press generally to publicise results for the whole profession. We decided only last week to extend our experience even beyond the work of the AJ by circulating a number of architectural organisations, official and private, offering to exchange our cost analyses privately. As comparison is such an important process, firmer definitions of what comprises an element are necessary, otherwise comparisons are misleading.

" Different systems of construction can make definitions difficult, different methods of planning can do so, too; for instance, there is quite a difference in the work below ground, and roof elements in single or multi-storey development, and so it is often helpful to compare combinations of elements in the cost plan. On one job, our structural design involving slender mullions at frequent intervals, resulted in an 8% contribution to the cladding if only the verticals were exposed, while to expose the horizontal members gave a further 12%. Naturally these economies had to be weighed with the resulting appearance. In drawing up a cost plan with the QS there is a real danger of the wishful thinking mentality developing. To keep the final details constantly in line with the cost plan requires the continuous joint effort of architect and quantity surveyor.

" For this reason we have our own quantity surveyors in the office, acting as co-designers and enjoying equal status. I hope that this Conference might start the free-est exchange of information, by both public and private channels, subject of course to clients' agreement.

" I could not follow Dr. Weston's figures of £285 for the maintenance in the life of a house—what life has he allowed? Most authorities are finding it impossible to maintain for £10 per annum, and on a sixty years' life that comes to more than a third of the original cost. Some time ago in one of our large housing projects we were forced to reduce flooring specifications to save capital cost. The new tenants complained it was costing them 1s. 10d. per week in polish and cloths to clean the floors. They would have been willing to pay 1s. per week more rent to have had floors like the original houses. At the rates of interest and repayment then prevailing this represented £65—the better floors would have only cost £35.

" We are finding that our cost analysis makes a good basis for estimating progress and now issue our clerks of works with the elements expressed in percentages; from these, by his estimate of the percentage completed he can build up a realistic assessment of how far the job is complete. Before long we can see this leading to more realistic interim valuations. We have found that by getting down to cost analysis we have earned the respect of clients, gained their understanding, and actually got them to spend more money because they were able to see what they were getting.

DR. WESTON, speaking of capital and running costs, said that the question was one of spending money now or over the years. If capital was spent at the moment, presumably it would have to be borrowed, and equivalent capital value was simply that sum of money which had to be paid off, capital and interest, over the period of the years. At 5½ per cent. on 20 years, the payment of £1 per annum would repay a loan of £12. They would, of course, have paid £20 over the years but that would not justify the spending of £20 at present, only £12. That represented the sum it was justifiable in spending now to save in the future.

PERCY F. BURNETT quoted the example of an office building in London. Preliminary planning consent took four months—a favourable time—and then working drawings and formal consent took another four or five months. On a not unusually large site the ground rent worked out at £400 a month and so his client who had waited eight or nine months to get his consents, had spent £3,500 or £3,600 which was quite unproductive.

The building had about 50,000 sq. ft. of floor space which worked out at 1s. 6d. per ft. super, there being nothing whatever that could be done about it. It could be taken further with the loss of rental value for eight or nine months at 15s. to 20s. a sq. foot which amounted to a large sum. A private client building an office block at the present time had to allow something like 10s. a foot super for the " cost of legislation."

A. G. SHEPPARD FIDLER said it would be valuable if the large local authority offices could be given guidance on certain points that they might look after and send information collected to the Building Research Station, the Ministry of Education or whoever was head of the research organisation.

In Birmingham they were running a collaboration experiment by negotiating with a firm of structural engineers working as contractors, and general contractors. It looked as if they would save a consideable amount of money through this collaboration and showed that it was well worth while doing the sort of experiment which the London County Council had been doing at Picton Street.

JOHN STILLMAN asked how cost analysis could help the private architect who did not have a series of jobs forming part of a programme. They would find an effective means of cost analysis a tremendous advantage for they were always conscious of the fact that they could not always produce tenders which matched up to estimates.

He asked these questions: Could cost analysis, as described and written about in the technical Press, give help with buildings which were not exactly

similar? If cost analysis could not be applied in that way would elemental bills help? Cost analysis presupposes that builders tender rationally, but they do not. How does this affect the use of analyses? Were there other ways of cost analysis than that discussed?

DR. WESTON replied that elemental bills were a way of facilitating cost analysis. It was perfectly possible to abstract cost analyses from bills in their ordinary form; obviously some extra work was involved in splitting the work down to the individual trades. Cost analysis could help in predicting the cost of a building which was only similar to the building for which there was already information. "Frankly," he said, "it would be difficult without cost analysis to approach the problem logically at all. I have no doubt that cost analysis will prove the suitable logical approach." He suggested that one needed data from a number of schemes and he thought that it was unwise to rely, for cost planning, on information from a single scheme.

CLEEVE BARR said that on the Picton Street job they had not followed the procedure suggested by the Ministry of Education for schools. On housing work so much was known about costs of unit dwellings. More important were such things as public access areas, balconies and so on and the department was working on the basis of breaking sketch plans down into a number of components and investigating a variety of ways of constructing each component.
He thought 99 per cent. of quantity surveyors regarded bills of quantities as ends in themselves. Architects had to rub in that what they wanted was not a beautiful bill but some economic advice
He thought that Craig's paper published for the BRS recently was admirable in every respect except one. He had quoted 48 shillings per foot super of floor area for multi-storey flats. This was ridiculously low. The LCC had not got below 60 shillings for that kind of building, even after a good deal of effort. Contractors did not know all the answers. On the first of the LCC schemes at Wimbledon, at the design stage, comment was invited from three contractors on the best structure for the blocks. One firm said steel frame, a second concrete frame, and a third load-bearing concrete walls. Each might have been right within his own organisation, plant and so on. On a second scheme they approached six contractors, three were prepared to collaborate at the design stage knowing that later on they would have a chance to tender. One was all for a system of load-bearing walls with sliding shutters of Swedish pattern, another suggested a reinforced concrete frame designed by his own engineer with concrete cladding, and a third was in favour of a different kind of frame with different cladding. If these had been followed up the department would have had to produce three different sets of drawings and designs and there would be the deuce of a job comparing tenders when they came in. So at Picton Street one nominated contractor was given the job, and the department worked with him at the design stage to get the maximum economy. It had been a jolly interesting experience. Knowing the type of crane to be used and which parts could be made on site had been a great help. The actual cost saving would not really be known until the final accounts were ready.
"If one is going to work together as a team at the design stage, how can one guarantee to the client that the result will be economic? Here, it seems to me, the RIBA and BRS can do immediately a study of what forms of contract are going on at the moment by Mr. Fidler, Mr. Gibson, Coventry, and other authorities who are moving in this direction." Finally, there was the follow-on from the conference. He hoped the RIBA would extend the work of the Joint Consultative Committee to bring in a number of junior members. In recent years he had done some work on RIBA committees and Portland Place had had a soporific effect upon him. He felt that the council took its responsibilities too seriously. There was a lot of room for expression of opinion and for investigation which need not necessarily carry the weight of the RIBA Council.

DR. WESTON challenged Cleeve Barr on the target price for flats. The target suggested was based on current performance. Nearly half the blocks in the BRS survey were less than 60 shillings per foot super. The cost of high flats had a very wide range, from under 50 shillings to very nearly 90 shillings, and all were local authority dwellings which normally provided the same standard of accommodation for the occupant. 48 shillings has been beaten in five- to six-storey blocks and closely approached in six- to ten-storey blocks.

DR. MARTIN: "The building programmes that are going on throughout the country are excellent opportunities for investigation of costs. If that investigation is systematically carried out there is no reason why it should not be available to the whole profession. The thing we have to explain to the public, I think, is that sometimes you have to spend money if you want to save it. The point is fixed in people's minds that architects are men who spend a lot of money, and we have now to convince people we also have the means of saving a great deal of money.

NOEL TWEDDELL had experienced great difficulty in getting in what he thought was a good price on orthodox bill of quantities even when he had taken an immense amount of trouble in collaborating in a mild way or taking advantage of advice from contractors. Yet when the tenders came in he had realised the orthodox bill had been a barrier between himself and the contractor.
He hoped the Institute would do what it could to sponsor the development of elemental bills so that even if the present bills could not be scrapped an alternative method of tendering could be developed.

R. LLEWELYN DAVIES said the problem they were discussing that day was really part of a general problem of knowledge in relation to the practice of architecture. This knowledge could only be developed by specialised bodies, by teams including not only architects but also members of sister professions. They should know that the organisations already

working in this field were not originated by the profession. He hoped that this pattern would change. The two main problems were: the recruiting of the right kind of architect to carry on the work and maintain the leadership of architects in this field; and the dissemination in the right form to practice. The question of dissemination was vital, because there was no point in doing the work unless it rapidly filtered down into practice. One of the most useful results of the conference would be for the profession as a whole to say how they would like the material. The work itself was also dependent on effective comments and criticism from practising architects.

LESSLIE K. WATSON said that the editors of architectural journals should make a point of putting in the cost per foot super when they published buildings intended to be a serious contribution. He also felt there was an opening for an annual book that would give records of buildings, perhaps in about two pages, telling the architect all he wanted to know, the cost being amended to bring it up-to date each year.

WILLIAM ALLEN said that BRS was to carry out a programme of research on factory design and construction over the next two or three years. He acknowledged help from the Midland Regional Board for Industry which had found the finance to extend the scheme to the extent necessary to carry out the work properly.

On the question raised by Mr. Watson, he suggested that the information given in the ARCHITECTS' JOURNAL was already a fairly complete record of the buildings dealt with.

Mr. Allen asked Dr. Martin to give a reply to Mr. Fidler as to whether it was practical to introduce research teams into local authorities' departments. He thought they could make a cast-iron case to afford them these days, the local authorities having the organisation capable of carrying them.

On Mr. Davies' point about the carrying out of operations inside the RIBA, Mr. Allen said it seemed to him something they had to learn to develop in the next few years if they were going to carry out the rapid changes inside the profession which obviously they were feeling would be needed to strengthen their position and cope with the volume of work they wanted to bring into their hands. They had to carry through a planned programme (for instance the inclusion of economics in architects' training), which had the general support of the profession. It was necessary that the broad body of the membership welcomed it. A committee had been doing something along these lines but it was localised in the London area to a great extent.

R. BADEN HELLARD said his firm had sent out elemental drawings when they did some small jobs, collaborating with the contractor on a negotiated contract. It speeded up the production of information the contractor required. The builder, however, did not agree. The estimator found he was missing things. He was collating information from one element and thinking he had missed it elsewhere and including it again. It was also discovered that the trades foreman on the site had difficulty in reading "this rather logical drawing." "We came to the conclusion," he said "that the average trades foreman or the general foreman has never had a course in drawing interpretation." When there was any change, he had no basic knowledge to fall back on. The result was that a lot more time had to be spent explaining these elemental drawings to the operatives, but, as they continued with the contracts, it had begun to click. The point was that it was no use for architects to educate themselves alone to this approach. They had to go right back to the trade foreman on the job.

ARTHUR LING said he was concerned with an attempt to set up a development and research group in his office in Coventry. He found it exceedingly difficult. It was not possible to get the kind of staff needed for the job, and there was nowhere they could go, centrally, for all the work that had already been done. The intention was to have a sample room and a library of references where the staff could quickly look up information they required or find a reference to the source of that information. The question then arising was how to index.

He had become appalled at the idea that so many people would be covering the same sort of ground. If their office was going to have a development and research section, there seemed no reason why it should not serve private architects in Coventry and the surrounding area. In London one had the advantage of easy access to various centres; the farther from London the more difficult it became to get to a centre easily. We needed some system of building and research centres which would provide a simple framework within which information could be disseminated all over the country.

DR. MARTIN, replying to William Allen, said that the work that could be done in the public office, even in the largest possible office such as the LCC, was not research, but development—the application of research to practice. The cost of teams could be justified over and over again in development work in large public offices.

DONALD GIBSON, seconding a vote of thanks proposed by Howard Lobb, said that when he had commissioned twelve architects to design schools, eight hit about the right price, three were about £30,000 over and one about £30,000 below. This was a serious problem when more and more money was publicly granted or publicly controlled. In Coventry they had set up a cost analysis section, but found that there were no specialists and they had to do it themselves. The initiative had to come from the architect. He thought consideration might be given to things which unnecessarily increased cost such as elaborate fire protection, global insurance and subsidence allowances. His department had put themselves in the position of knowing all the facts by putting in a two year tender for 20 schools. They had got a very good tender and that meant that one chap would do the whole lot and the authority knew exactly what the price was going to be.

FILE THIS WEEK

technical section

INFORMATION CENTRE

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

10.148 design: building types
AMERICAN SCHOOLS

Schools For The New Needs: Educational, Social, Economic. (F. W. Dodge Corporation, 1956. $9.75.)

This book by the Editors of *Architectural Record* presents a cross-section of recent work in school building in the U.S.A. and attempts to define current trends. Sixty-six recent projects are illustrated together with articles of special interest, all having been previously published in the *Architectural Record*. They show the wide diversity one would expect from the geographic and social variety of the country, with its multifarious Local School Boards, each concerned with its own community problems, including finance. To our school architects, the lack of central guidance and regulation may seem strange but the constant emphasis on cost will dispel any illusions that we alone work within a strict budget in this field of building.

The book is divided into three sections: the first compares the cost of various projects, from the point of view of plan and structure. The methods of comparison, though useful in this particular context, seem relatively crude as compared with our own developing methods of elemental cost analysis. The other two sections deal respectively with the elementary (primary) and secondary schools. Several interesting solutions appear, but on the whole, particularly in the elementary schools, there seems to be a lack of "child scale," probably due to the higher space standards and the degree of importance placed on even daylight illumination.

American problems and therefore, solutions, differ from our own, and consequently the book gives few answers which would be directly appropriate in our own case. It is with some surprise that one realises that no mention is made of component systems of construction, and that modular planning receives scant attention; this again underlines the basic differences of the structure of educational organisation of the U.S.A. and this country, as presumably few of the small Local School Boards have the size or continuity of building programmes which have made this approach a necessity in our own post-war building.

The book suffers from presenting "too much" rather than "too little" and this impression is reinforced by the rather confused layout of text and illustration.

13.130 materials: timber
LAMINATED TIMBER

Laminated Timber. (The European Productivity Agency of The Organisation for European Economic Co-operation, Paris. 10s.)

A highly technical treatise completed by the Timber Committee of the Organisation for European Economic Co-operation and based on a programme of research in the U.S.A. It deals with the lamination of timber, principally for structural use, and the methods of production of four American firms are described in detail.

The book is mainly of value to specialists concerned with the manufacture of laminated structure, and possibly to engineers.

13.131 materials: timber
HARDWOODS

A Handbook of Hardwoods. DSIR. (HMSO. 17s. 6d.)

This book, which describes fully 151 hardwoods and less fully a further 64, supersedes previous FPRL handbooks dealing with Empire and home grown timbers, but excludes softwoods which are to be grouped together in a further volume. It contains a lot of very useful information and it is well produced at a most reasonable price. The material is authoritative; the layout and the English are straightforward; there is a good index; it is well bound; and although there are no illustrations it is not forbidding. It is, of course, a pity that there are no illustrations because one of the intentions of the book is to help the architect choose a suitable hardwood for whatever he has in mind, and whilst it is very necessary for him to know of any particular wood, its various names, its general description, its seasoning, mechanical and binding properties, its resistance to insect attack, its natural durability, its resistance to preservative treatment, its working properties, whether it can be obtained as a veneer and the uses to which it is generally put, it is also of the greatest significance to see what it looks like, because it is very largely on account of its appearance that a decision in its favour is likely to be made. However, coloured photographs would be out of the question at the price of this book and perhaps it is safer to be reminded of all the other characteristics, which are very clearly set out, and then to obtain samples of the timbers selected to decide finally about the appearance.

There is a table of the properties, which gives quick reference and which readily shows the differences between the timbers, and a kiln schedule is included for the trade.

What is most valuable is the inclusion of quantitative data about the movement of most of the timbers which takes place with differences in the relative humidity of the air.

Although all the timbers listed are said to be available, it is understandable that reference cannot be made to the readiness with which they can be obtained or to their costs. It must not be assumed that they are all equally obtainable and one should hesitate perhaps before ordering a large quantity of "Waika Chewstick," whereas it would be fairly safe to assume that one could get any of the more familiar timbers such as the mahoganies!

A book altogether well worth having.

20.226 construction: complete structures
ALUMINIUM DOME

Semispheres. (Architecture & Building. Feb. 1956. pp. 80, 81.)

Semispheres are self supporting, aluminium structures built by Le Tourneau Inc., Texas, for use as hangars, bulk storage, warehousing and recreational use.

Jack Nisbett interprets an architect's design

It takes more than the right tools and timber to faithfully reproduce the architect's original ideas. It needs the masterly handling of tools that comes only from their daily use through many years. And something more . . . an inborn aptitude.

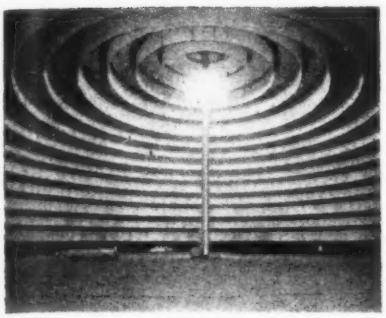
Jack Nisbett, with Green & Vardy for 37 years, has both the aptitude and the experience. In this he is typical of Green & Vardy craftsmen, whose work you will see in the new House of Commons, Lambeth Palace and other famous buildings.

For the finest interpretation of your joinery requirements, call in the craftsmen of Green & Vardy.

J. L. GREEN & VARDY LTD

Architectural Joiners

79 ESSEX ROAD, ISLINGTON, N.1. Telephone: CANonbury 3254



Top, interior of the semisphere; above exterior

Method of erection consists of installing a central pole and bolting to it concentric rings of flanged and embossed aluminium sheets. As successive rings are added a collar on the central pole is winched up. When the final ring has been fitted the dome is lowered on to a prepared base which may be a concrete floor slab or just a concrete ring. A cone shaped hood can be added to the central pole and controls the column of air passing through by raising or lowering itself. Domes of 300 ft. diameter and 85 ft. in height have been built in 3,000 man hours with semi-skilled labour.
Le Tourneau will fabricate and supervise for Semispheres anywhere in the world.

23.219 heating and ventilation
INSULATION

"Ready-to-fit" Thermal Insulating Materials for Hot and Cold Water Supply and Central Heating Installations for Small Dwellings. BS 1304: 1956. (BSI 3s.).

This is a Standard which was originally published (1946) to assist in the follow-up of the Egerton Report. For this reason the compilers follow the unusual course of publishing an appendix which gives an actual example showing how well insulation pays. In an average small house by using 1 in. thickness insulating material over pipes and cylinder enough is saved to pay for the insulation in one year.

26.122 services and equipment: miscellaneous
REFUSE CONTAINERS

Mild Steel Refuse Storage Containers. BS 1136: 1956. (BSI 2s.).

The old Standard of 1943 has been revised to eliminate the horizontal type storage container, which has proved a nuisance. This Standard is concerned with *containers* only: a revision of BS 1703, *Refuse Chutes for Multi-storey Buildings*, is on the way, which will treat the *chambers* to accommodate them.

7 PRACTICE
rating: how to appeal

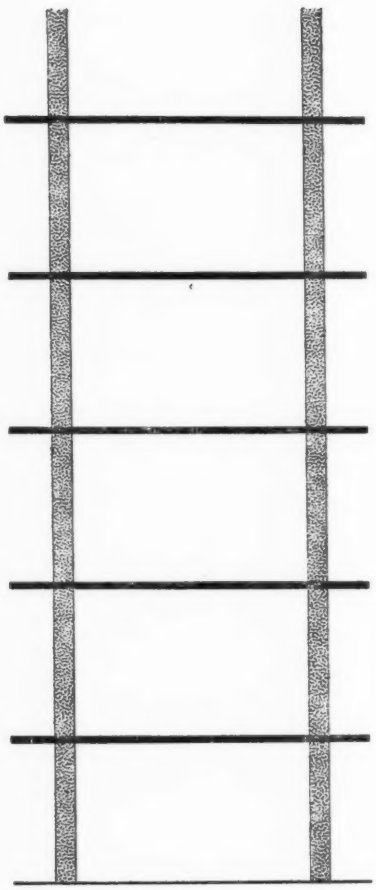
On April 12 D. Compton-James described where architects stood with regard to the new rating assessments. This week the same author informs readers how to tell if a property may be too highly assessed and what kind of evidence is likely to assist in proving it.

The 1939 rental value is the basis of the new rating assessments for private houses. If a rent was paid in 1939, then this (subject to certain special considerations) will represent the gross rating assessment. From this gross rating assessment a deduction is made for repairs on the sliding scale shown below:

	Outside London	*London*
Not exceeding £15	40 per cent. of the gross value	40 per cent. of the gross value
Over £15 but under £20	£6 plus 30 per cent. of the amount by which the gross value exceeds £15	£6 plus 30 per cent. of the amount by which the gross value exceeds £15
Over £20 but under £40	£7 or 25 per cent. of the gross value, whichever is the greater	£7 plus 25 per cent. of the amount by which the gross value exceeds £20
Over £40 but under £100	£10 or 20 per cent. of the gross value, whichever is the greater	£12 plus 20 per cent. of the amount by which the gross value exceeds £40
Over £100	£20 plus 1/6th of the amount by which the gross value exceeds £100	£24, or £20 together with 1/6th of the amount by which the gross value exceeds £100, whichever is the greater

The net figure left is the rateable value, on which rates are charged at the appropriate poundage rate. In most cases where an actual rent was paid in 1939, it is a fairly simple matter for a ratepayer to check his assessment in order to find out whether he should appeal or not.
Where the 1939 rent is not known, *i.e.* where a property was not built until after 1939, or where a property is owner-occupied, or where the 1939 records are not available, the 1939 rental value is anybody's guess, and properties in these classes will produce the great majority of the appeals, and, they will be the most difficult types of appeal to conduct—not only for the ratepayer but also for the Valuation Officer. If you have not already appealed, do not be in too much of a hurry to do so. You have plenty of time and you can spend several months if necessary in finding out about the assessments on neighbouring properties, both in this revaluation and the last one. You can inspect both valuation lists if you wish, but there is a charge

Building r.a.s.



It is the *reductio ad simplissimum*
that we know you will enjoy in the
Plate System by Truscon.
It is a complete framework
without any beams — a framework
of columns and floors for light
industrial purposes, for flats and offices.
The admirably efficient structure
will appeal to you at once.
Please consult us for all details.
Ask for the Plate System by Truscon.

q.e.d. Truscon

The Trussed Concrete Steel Company Limited, Truscon House, Lower Marsh, London, S.E.1 Telephone: WATerloo 6922

technical section

of 2s. 6d. for the inspection of any valuation list that is more than ten years old.

Before deciding to appeal, every ratepayer really needs to have some idea of his comparative position, *i.e.* how his rating increase compares with the average increase (in the same class of property, of course) for his town or county, for other towns and counties, and for the whole country.

A certain amount of information of this sort can be obtained locally, from friends, from residents' associations, and by personal inspection of the Valuation List. For a wider approach to the matter, I recommend a careful study of the White Paper on rates recently issued by the Stationery Office (" Distribution of Rateable Values between different Classes of Property "—post free, 1s. 7½d.). This White Paper gives (albeit indirectly) some valuable new information: it enables the percentage increases in different classes of property to be calculated for all the administrative counties and county boroughs in England & Wales. Thus, for England & Wales, the information given in the White Paper is:

In Millions of Pounds

	Total	*Domestic*	*Shops*	*Miscell.*	*Industrial*
New R.V.	623	308	89	170	35
Old R.V.	366	219	39	77	14

From these figures the percentage increases for each class of property can be calculated, as below:

Total	*Domestic*	*Shops*	*Miscell.*	*Industrial*
70	40	128	121	157

If your rating increase is above the average (in the same property class, of course) for your county or town, then you should certainly appeal. For instance, in Warwickshire, private houses have been put up, on the average, by 54 per cent. If your assessment has gone up by 55 per cent. or more, you are entitled to know why, but the Valuation Officer will not tell you why unless you force him to do so by taking him to appeal.

What counts as evidence

As regards the *material* to be used at an appeal, this will, of course, vary with each individual case, but the following extract from a successful appeal may provide some pointers. The grounds put forward were: 1. There is no street lighting, no made road, nor gas supply. 2. The hereditament was more highly rated than similar properties in the vicinity: and 3, the garage and stores are no use as such. The local valuation court dismissed the appeal, but the ratepayer took the case to the Lands Tribunal and appeared in person.

In giving judgment in favour of the ratepayer at the conclusion of the Lands Tribunal hearing, Mr. J. P. C. Done said that he had seen the building and compared it with another assessed at similar figures and fronting to a public highway. He thought it suffered from some disabilities: specifically, fundamentally bad construction of the roof and parapet walls of the outbuilding and garage, the elimination of which would involve reconstruction and not repair, the risk and discomfort of occasional flooding and the necessity of making damage good, and the necessity for the occupier to repair or at least tidy up the access road, which was not a public highway, and which was not the liability of the hypothetical landlord.

It will be seen that the chief ground of success in this appeal was entirely different from the grounds of the appeal, but appellants cannot always expect to obtain such a very close scrutiny of the property by the person or persons responsible for determining the appeal.

This case also gives a clue to architects, who are in a far better position than ordinary tenants to see and identify the defects of properties. All the constructional defects should be sought out and listed. These will be more valuable in support of an appeal than the usual complaints of bad lighting, airport noise, no refuse collection, and so on. The consideration of constructional defects in this case suggests that gross *design* defects might be taken into consideration provided these give rise to real inconvenience.

Whether or not to employ a valuer at the appeal is a question that is exercising the minds of many ratepayers. Where large assessments are involved, I would say, yes, but the average householder cannot expect to obtain sufficient benefit from his appeal to justify the expense of employing a valuer, and in my view private residents should conduct their own appeals, even before the Lands Tribunal.

Effect on Schedule A

Concern is felt about the possible effect of the rating increases on Income Tax, Schedule A assessments. Past practice has always been that the tax assessment follows the rating assessment. Indeed, the 1952 Finance Act contains a provision for a Schedule A revaluation in the following terms: " For such year of assessment as Parliament may hereafter determine and for each fifth year of assessment succeeding the year so determined, there shall be a revaluation of all properties in Great Britain in respect of which income tax is chargeable under Schedules A & B, and accordingly the annual values of all such properties shall be determined afresh. . . ."

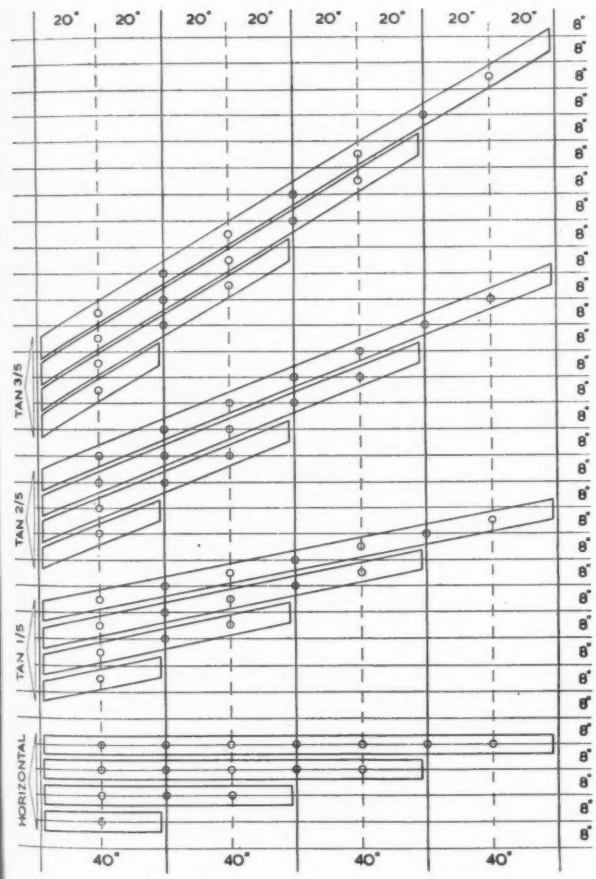
Recent questions in Parliament about the effect of the rating revaluation on Schedule A assessments have only evoked the reply that no Schedule A revaluation can be made without Parliamentary authority. But it will be seen from the above quotation that the legal machinery already exists, and it is only necessary for Parliament to fix the date.

I think that Parliament will fix the date soon after the present uproar about rating has died down, unless the uproar is so great that the Government becomes convinced of the unwisdom of taking such a step. The larger the number of appeals against the present rating assessments, the less likely the Government will be to proceed with the Income Tax, Schedule A revaluation.

technical section

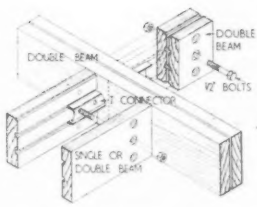
THE MOD-X SYSTEM

THEORY OF SYSTEM: *The essentials of the Mod-X system (designer D. Dex Harrison) lie in the production not of standard buildings, but of standard parts from which any type, shape or size of structure can be designed and supplied for rapid erection by semi-skilled labour. Mention was first made of this system in the* JOURNAL, *May* 13, 1954, *when it was shown at the B.I.F., since when it has been commercially developed. The system is based on a* 4-*in. module with a* 40-*in. planning grid. Connector*

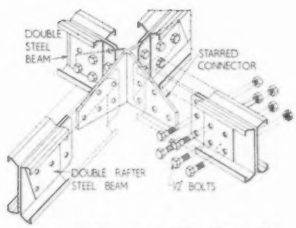


holes are formed in beams at 20-*in. centres and it can be seen from the diagram above how this arrangement fits into a geometric sequence, tan* 1/5 *being equivalent to an angle of* 11° 18′, *tan* 2/5 *to an angle of* 21° 48′ *and tan* 3/5 *to an angle of* 30° 58′. *Further studies produce tan* 4/5 *or* 38° 39′ *and tan* 1 *or* 45°. *Fixing within the modular pattern can be made at* 20-*in centres—that is at each point where the fixing positions on the beam coincide with the intersection of the vertical and horizontal lines.*

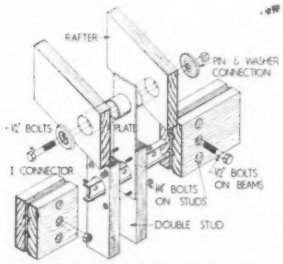
*Mod-X standard beams are made to the following lengths—*40, 80, 120 *and* 160 *in., the actual length being slightly shorter than the nominal modular length to allow for end fixing. Beams are based on a* 6-*in. by* $1\frac{3}{8}$-*in. section and galvanised "I" shaped connectors slot between two sections to make a* 6-*in. by* 3-*in. beam. In a similar fashion columns are built up from* 3-*in. by* $1\frac{3}{8}$-*in. studs and are extended by splicing. As was stated earlier all beams can be fixed at* 20-*in. centres, where a* 2-*in. hole accom-*



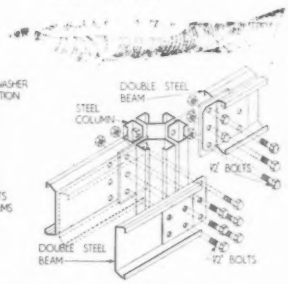
'A' WOOD BEAM TO WOOD BEAM CONNECTION SHOWING I SHAPED BASIC CONNECTOR



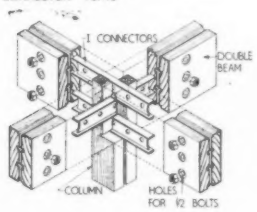
'B' THE JOINING OF A STEEL BEAM TO A STEEL RAFTER



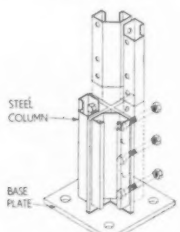
'C' A WOOD BEAM COLUMN AND RAFTER SHOWING THE USE OF A COLLARED CONNECTOR PLATE



'D' A STEEL COLUMN WITH A TWO WAY DOUBLE STEEL BEAM



'E' A WOOD COLUMN WITH A FOUR WAY WOOD BEAM CONNECTION



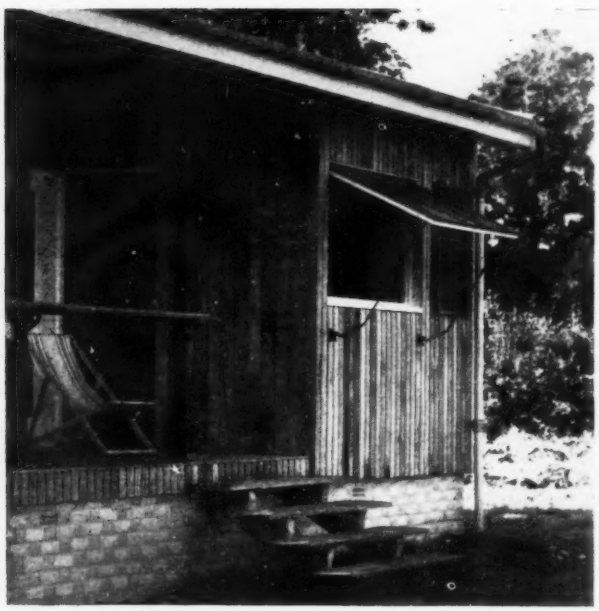
'F' THE SPICING OF A STEEL COLUMN

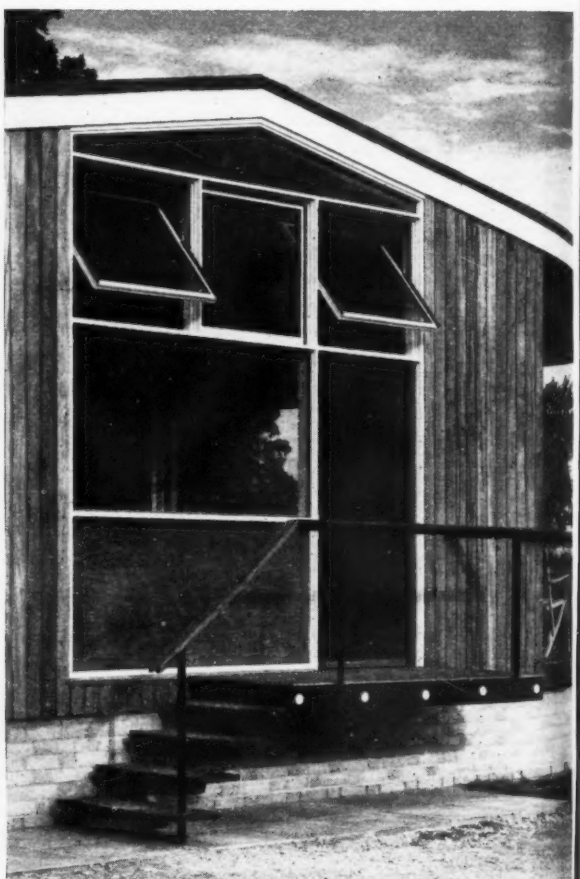
modates either the "I" shaped connectors or the collar and fixing plate (see drawing above of a rafter, beam and a column head). In this case fixing is simply achieved with a bolt and washers. From these first principles any number of conditions can be envisaged and easily resolved. Steel beams follow the same dimensions and fixing principles as the wood ones. Beam and column connections are similar in principle to timber and ½-*in. galvanized bolts are common to all joints.*

technical section

THE MOD-X SYSTEM continued

APPLICATION: *Timber components such as beams, columns and panels, etc., can be manufactured anywhere from materials differing with the locality. In this country both steel and wood frames are available and a comprehensive range of standard windows has been devised. Walls can be clad with aluminium sheeting or with interlocking braced panels made up of 4-in. moulded and grooved boards with plywood fixing plates attached to the framing. Corners are mitred and window linings rebated to the cladding panels. A prominent metal window firm is associated with Mod-X and a simple form of curtain walling has been devised using standard tubular mullions and standard metal frames as infill members. Roofs may be covered with aluminium or with built-up felt roofing laid on 2-in. strawboard slabs. The same 2-in. strawboard framed in metal channels and hardboard faced is used for internal partitions and wall linings. Alternative linings include chipboard and asbestos insulating board. A recent example in this country is the sports pavilion for St. Catherine's Society at Oxford, illustrated on this page. This was developed in Mod-X timber construction from the original design by G. J. Beard of R. Fielding Dodd & Stevens. The cost of the Mod-X components for the superstructure complete was £2,212 15s. 0d. or 1s. 9d. per cu. ft. The wall cladding is Mod-X vertical boarded panels—in this case the boards being oiled West African mahogany. The 2-in. roof slabs are supplied cut to modular size and covered with 3-ply bituminous felt and buff chippings. Fascias, frames and architraves are painted white, doors dark blue, and the internal lining of pitch pine is wax polished. The end window shown above is not a standard unit, but was designed by the architect to fit in with the structure.*





WAREHOUSE and PROCESSING BUILDING

in STATION ROAD, WITHAM, ESSEX

designed by CHAMBERLIN, POWELL and BON

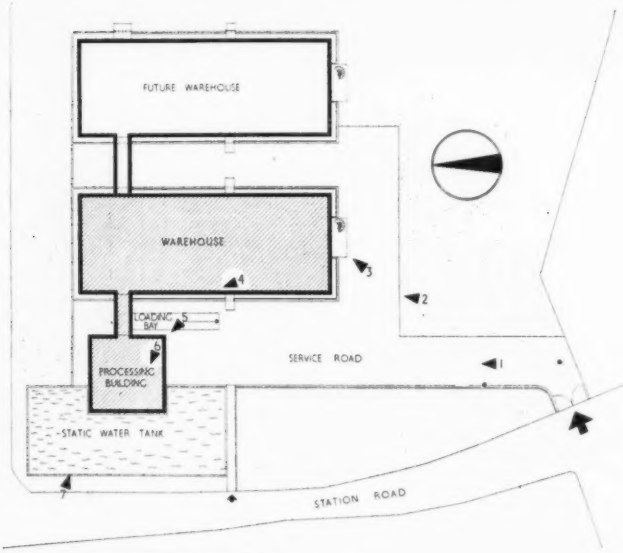
assistant-in-charge, J. R. HOLROYD; assistant architect, J. F. CONNAUGHTON

quantity surveyors, DAVIS, BELFIELD and EVEREST

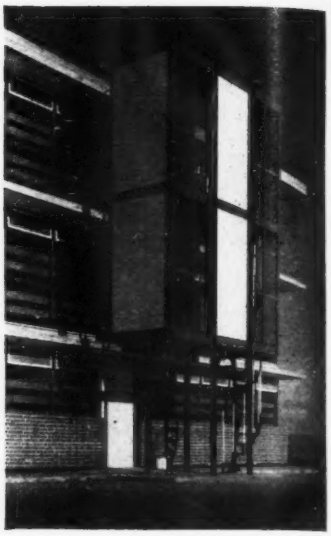
The two interconnected blocks, for storage and processing of agricultural seeds, at Witham, are the first buildings of their kind to be analysed in the JOURNAL. The clients, a firm of wholesale seed merchants, purchase seeds from local farmers for processing (cleaning and sorting out) and then sale for re-germination. These blocks replace original buildings destroyed by fire.

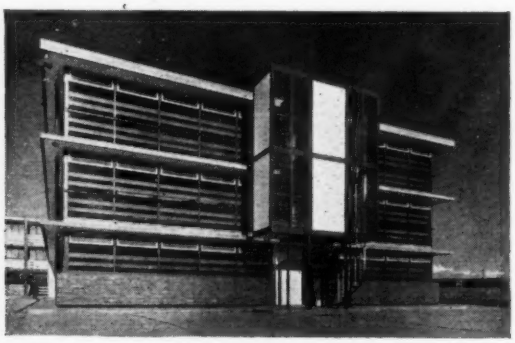
Viewpoint 1: the processing building, left, and warehouse, right.

building illustrated



Key plan showing photographic viewpoints





Above, viewpoint 2: the south end of the warehouse. The steel-framed projection houses a circular staircase and a hoist which is used for the loading of vehicles with seed. The in situ concrete roof and suspended floors are cantilevered 7 ft. 6 in. from the internal perimeter columns and overhang the external glazing by 2 ft. 6 in. The overhang is designed as a fire precaution and provides perimeter access for window cleaners. The warehouse is surrounded at its base by a 12-in. wide open drain into which rainwater pipes from the warehouse roof discharge. The storm water is eventually directed into the static water tank. Colour: soffits to floor projection and opening lights, white; glazing, blue-green; rainwater pipes, black; stanchions, crimson; handrail, blue; frames to opening lights, white. Above right, viewpoint 3: staircase and hoist housing on the south end of the warehouse. Channel sections, m.s. angles and tees form the basis of the exposed frame. The solid panels appearing within the frame are of steel chequer plate and are calculated to assist in the rigidity of the frame. The remaining panels are of fixed clear glass. Because of the depth of the building and the wide floor overhang, large areas of glass were required for light penetration.

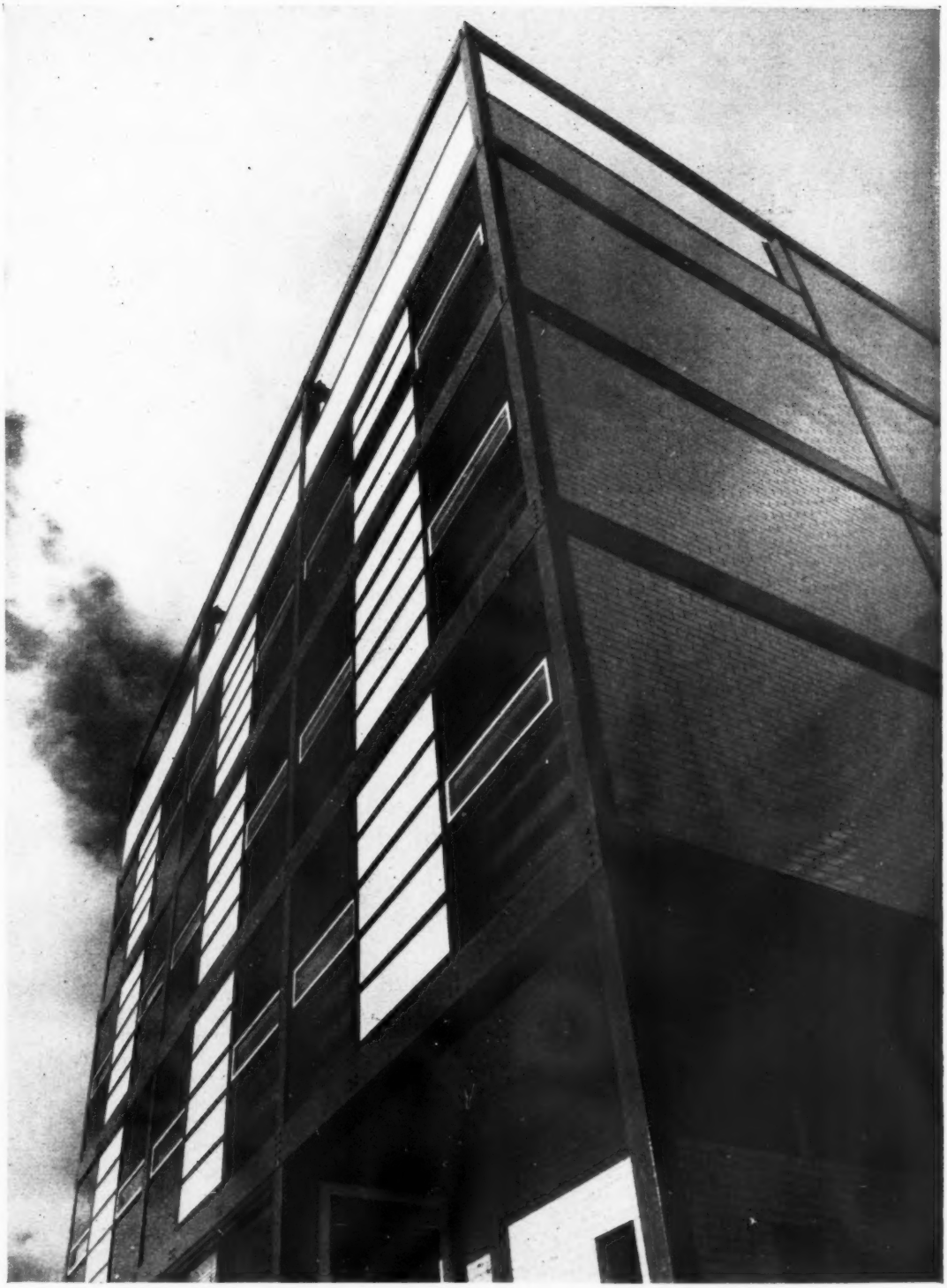
WAREHOUSE and PROCESSING BUILDING

at WITHAM, ESSEX

designed by CHAMBERLIN, POWELL and BON

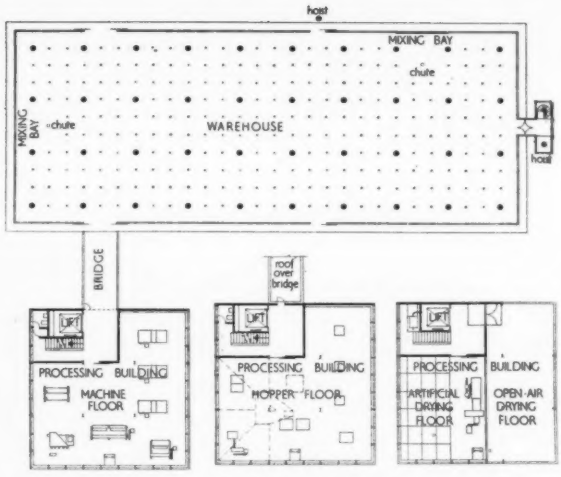
To prevent excessive heat germinating the seeds, heat absorbent glass, which absorbs 80-85% of the sun's heat and also prevents condensation, has been used. As a further precaution against heat build-up there are hit-and-miss ventilators below windows and opening lights at the top, ensuring a vertical flow of cool air behind the glass. The cladding to the escape stair was illustrated as a Working Detail in the JOURNAL for April 26, 1956. Below, viewpoint 4: a general view of the processing block from the warehouse roof. The block projects into the static water tank, which is designed as a fire precaution due to shortage of local water supply. On the top floor are the enclosed (artificial) and open-air (natural) drying areas where newly-arrived seeds are spread out. Dried seed is then directed through chutes and hoppers to the floors below, being finally poured into sacks and transferred to the warehouse for storage across the connecting bridge.

building illustrated



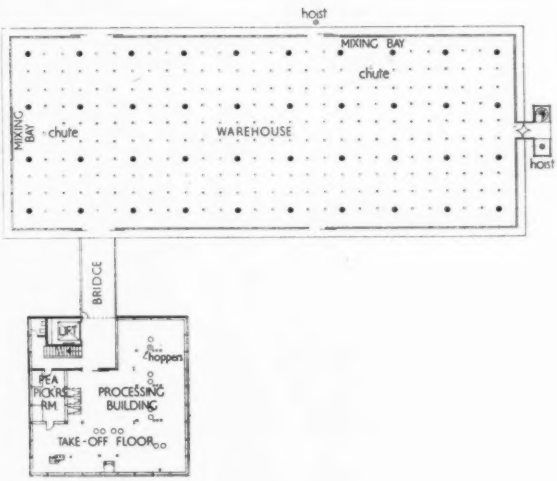
Viewpoint 5: the five-storey processing block. The exposed perimeter steelwork comprises standard r.s. channels and " H " and angle sections. The brickwork panels to the right are of white glazed brick, chosen because no maintenance is required. The white panels running vertically through the fenestration on the left consist of individually-controlled louvres constructed in vertical-hardwood tongued and grooved boarding on softwood framing. As most of the glazing is again in coloured, heat-resistant glass, clear glass is used in the opening lights to give a view out. These sashes are on lift-off hinges as normally-hinged windows would foul the internal guard rails, which are designed to prevent sacks being leaned against the glass. The external walling in the processing block and the warehouse were illustrated as Working Details in the JOURNAL for April 12, 1956. Colour: brickwork, white; glazing and ventilators, dark blue.

Below, viewpoint 6: the open seed-drying area at the top of the processing block with the enclosed gas-heated drying-room on the right. The floor of the open area is finished with a cement-sand screed laid on the asphalt roof finish, thus protecting the asphalt from damage by wheelbarrows used in carrying the seed. The open area is surrounded on three sides by a low 4½-in. thick white glazed brick parapet wall.

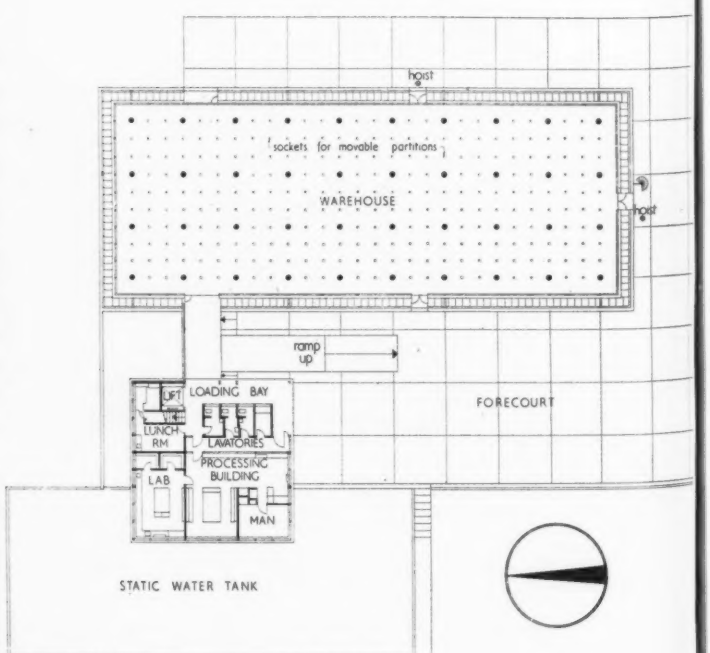


Second floor plan Third floor and Fourth floor plans

Below, viewpoint 7: the processing block with the warehouse block beyond, as seen from the public access road to the west. The static water tank in the foreground (approximately 3 ft. deep) is fed by an open storm-water channel which surrounds the warehouse block and into which the warehouse rainwater pipes discharge. Overflow from the tank is piped into the public storm-water drain. A blue engineering brick plinth surrounds the processing block adjacent to the tank, with a white glazed brick wall to window sill level to the ground floor office section.

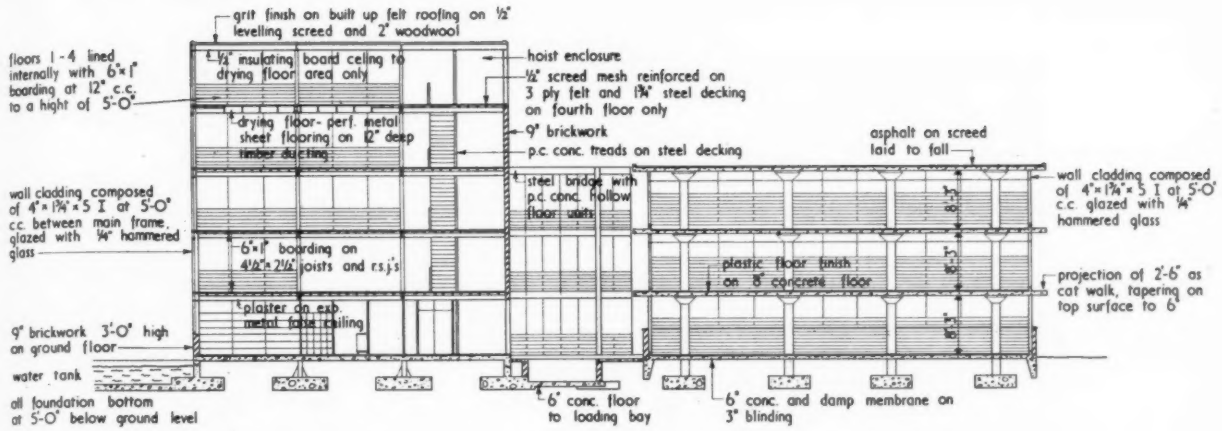


First floor plan



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

building illustrated



Cross section through processing block and warehouse on W-E axis (link shown in elevation) [Scale: $\frac{3}{64}$" = 1' 0"]

WAREHOUSE and PROCESSING BUILDING

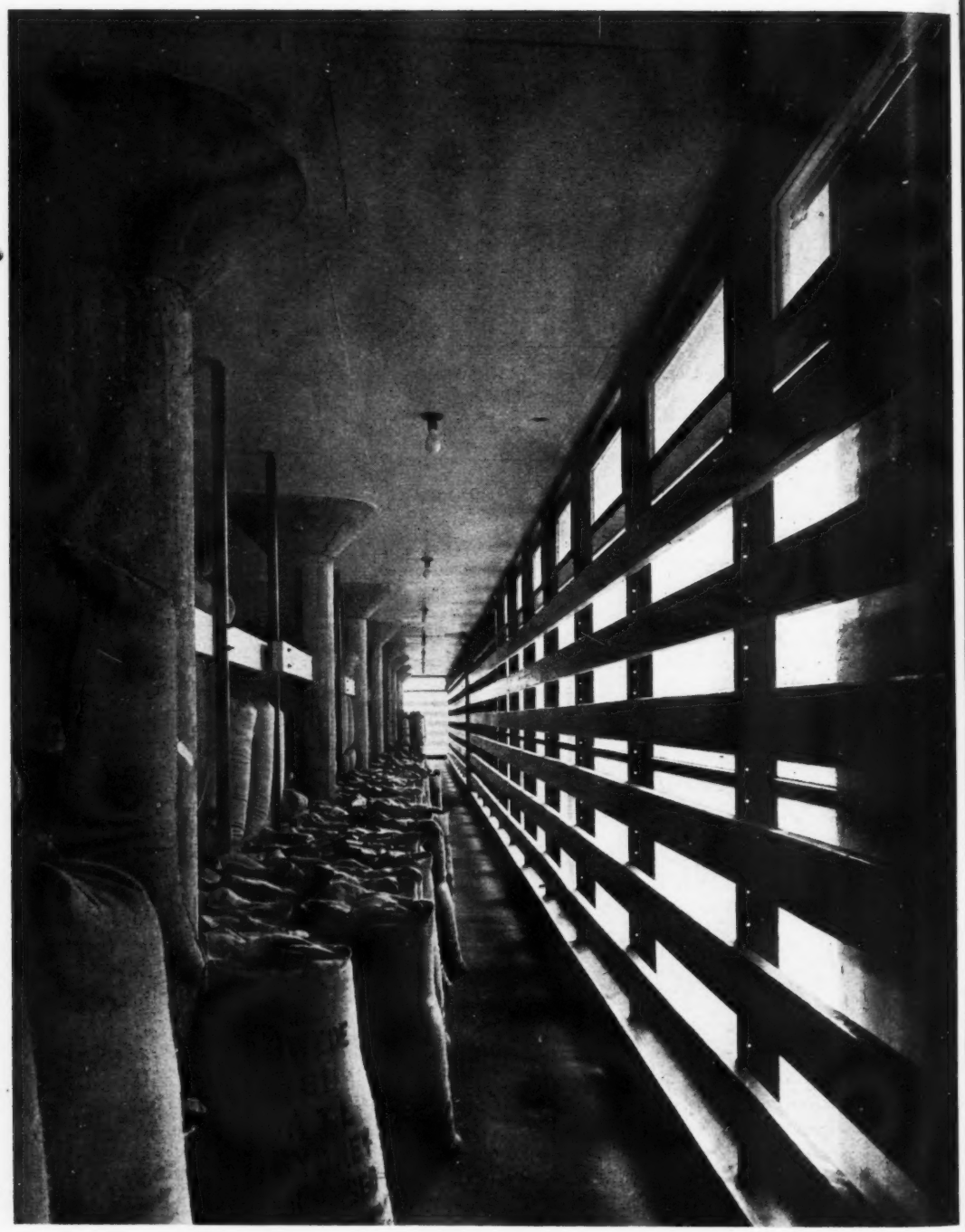
at WITHAM, ESSEX

designed by CHAMBERLIN, POWELL and BON

The bridge connecting the take-off floor of the processing block with the first floor of the warehouse. Fixed glazing occurs on the north side of the bridge to afford wind protection. The bridge floors are cast *in situ* reinforced concrete, finished fair-faced on the underside and granolithic paved on the top. Colour : steelwork—crimson ; double doors, s.w. rails and ceiling, white.

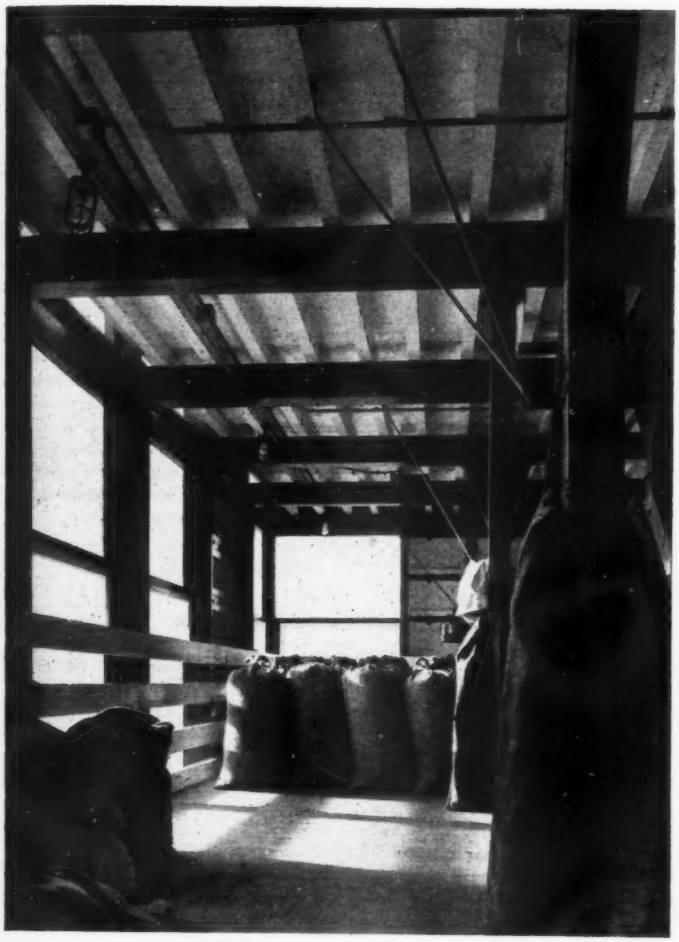
The artificial drying room is located on the top floor of the processing block. The apparatus on the right comprises a gas heater, fan and ducting. The seed drying area on the left is warmed by air passing through floor ducts and grilles served from a gas heated plenum chamber. After drying, the seed is poured through chutes to the floors below for further processing. Colour: apparatus—yellow: ceiling and bottom hung vents—white; steelwork—crimson; sliding door—dark blue.

building illustrated



A view within the warehouse. The soft wood stacking rails fixed to the steel mullions of the perimeter glazing on the right are continuous on all four sides to the three floors. Fixing points for tubular supports were left in the floor and ceiling at 5 ft. centres on the structural grid together with points located vertically on the face of the concrete columns to enable maximum flexibility in stacking rail and/or partition arrangements. These partitions were illustrated as a Working Detail in the JOURNAL for April 26, 1956. The mushroom capped columns and the soffit of the *in situ* floors are fair-faced and the pattern of the ply shuttering, regularly employed, is left exposed. Floor finish: mastic asphalt. Cross ventilation is achieved by a continuous line of bottom hung clear-glazed ventilators at the top of the perimeter cladding. Colour: floor—grey; columns—natural concrete (grey); ceiling—white; tubular supports—black; stacking rails—white; fixed glass—blue green; vent frames—white; s.w. framing to fixed lights—dark blue.

building illustrated



A view typical of the three floors of the processing block. The processing of seeds is primarily a vertical operation necessitating numerous perforations in the floors and in consequence the architects decided on a softwood boarded floor construction with soffits exposed on certain floors. The softwood stacking rails running around the perimeter of the rooms are fixed back to the structural steelwork and intermediate glazing mullions.

WAREHOUSE and PROCESSING BUILDING

at WITHAM, ESSEX

designed by CHAMBERLIN, POWELL and BON

analysis

CLIENT'S BRIEF: his stated requirements

Messrs. Cooper Taber & Co. Ltd., wholesale seed merchants, required new buildings to replace their former premises destroyed by fire. Total floor area of about 30,000 square feet was required to serve as a warehouse, to house the processing machinery and to provide accommodation for a small seed testing laboratory, retail shops, offices, and a staff lunch room. The likelihood of future expansion was to be allowed for. Natural cross ventilation was required in the warehouse. No heating was required, except in the offices and laboratory.

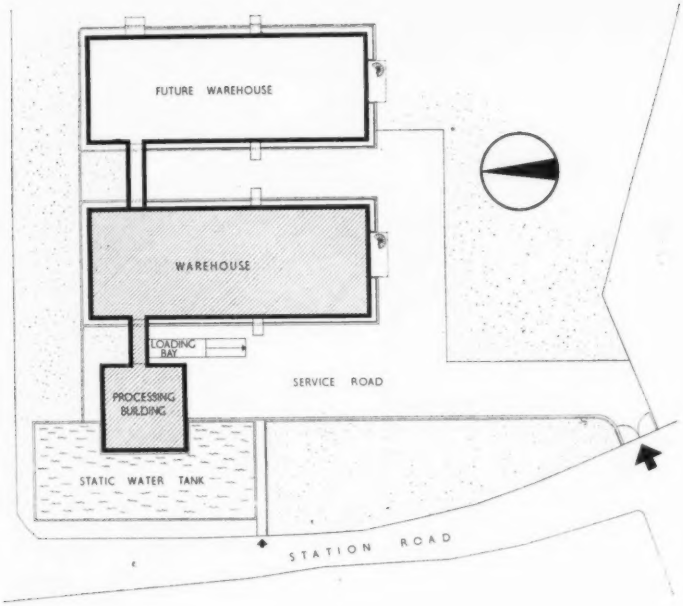
SITE: topography, surroundings, access, planting

The level open site formerly occupied part of the company's seed testing grounds, being separated by an access road from the razed premises. Industrial buildings lie to the north, with residential buildings to the south and west and open country to the east. Access: minor road ½ mile off the main Chelmsford-Colchester road; Witham station 300 yards. There was no existing planting. The scheme was designed to provide small trees and shrubs between forecourt and access road to form, by their bulk, a low screen giving greater definition to the grouping around the forecourt. Static water tank contains water lilies with decorative planting between its perimeter and the boundary fence.

PLAN: general appreciation and relation of units

The warehouse block is designed on three identical floors each having a floor area of 8,000 ft. sup. Importance of fire-resistance led to the decision that floors should be fireproof

analysis



Site plan

and unperforated so that all vertical circulation, by hoists and stairs, is kept outside the block. The processing block is designed on five floors, containing service lift and housing processing plant, drying areas, and smaller elements on the ground floor. The industrial process housed by this block is essentially vertical as the seed, on delivery to the premises, is hoisted to the top level where it is dried, dropped into the appropriate hopper on the fourth floor, is cleaned by passing through machines on the second floor which depend on the gravity principle, is discharged via chutes on to the first floor, where it is bagged and transferred to the warehouse for storage. This vertical processing and circulation involved the making of so many holes through the floors that it was considered impossible to limit the spread of an outbreak of fire by structural fireproof divisions which were limited to the enclosure of the service lift and staircase. The processing block is separated from the warehouse block to obviate the risk of an outbreak of fire spreading from one element to another; for circulation they are linked by a bridge. The forecourt provides access, parking and turning space for cars and lorries. The main loading bay is south of the bridge and adjacent to the service lifts. A single storey garage block is to be built south of the warehouse which will assist in defining the forecourt. Owing to the limitations of the local water supply, the building of a 100,000 gallon static water tank was advised by the local authority and this has been introduced adjacent to the processing building (which represents the greatest fire hazard). An additional warehouse, identical in size and form to the present one, can be built to the east and separated from the existing warehouse by an access road and linked to it by a bridge similar to that already built between the warehouse and the processing block.

MAIN CONSTRUCTION: general appreciation

Warehouse block: design load 2 cwt. per foot super, reinforced concrete slabs on mushroom headed columns; columns of uniform diameter with column spacing at 15 ft. centres. Walls enclosed by non-load bearing glazed panels containing fixed obscured and opening clear areas of glazing. Processing block: design load 200 lbs. per foot super; steel frame (stanchions at 15 ft. centres) carrying boarded floor on soft wood joists. Walls enclosed by non-load bearing brick panels on the east face, with glazed panels containing vents elsewhere.

	cost per sq. ft.	s	d
preliminaries, insurances and contingencies			
	warehouse block	**1**	**7½**
	processing block	**4**	**11¼**

STRUCTURAL ELEMENTS

Work below ground floor level: foundation type	*Location*	*Materials*	*Finish*	*Reasons and comments*		
WAREHOUSE BLOCK						
Strip		Reinforced concrete	Exposed plinth painted black			
Pad		Mass in-situ concrete				
				work below ground floor level	**3**	**9¼**
PROCESSING BLOCK						
Strip		Reinforced concrete	Plinth faced with blue brick			
Pad		Mass in-situ concrete				
				work below ground floor level	**2**	**8**

External walls and facings	*Location*	*Materials*	*Finish*	*Reasons and comments*		
WAREHOUSE BLOCK						
Non-load-bearing	Ground floor	9-in. blue engineering brick	Fair face flush pointed	To protect otherwise glazed cladding		
Non-load-bearing	Generally	Fixed and free glazing in timber framework between rolled steel " H " sections	Frames painted	To allow maximum light penetration		
				external walls and facings, including brickwork, framing, windows, steel mullions and glazing	**4**	**1½**

analysis

External walls and facings (continued)	*Location*	*Materials*	*Finish*	*Reasons and comments*	s	d
PROCESSING BLOCK						
Non-load-bearing	Ground floor, east wall, parapet	4½-in. glazed brick	White glaze flush pointed	Clean appearance, no maintenance		
	Generally	Fixed and free glazing in wood frames	Frames painted	To allow maximum light penetration		
				external walls and facings, including brickwork, framing, ventilators, windows and glazing	**15**	**2**

Frame or load-bearing element	*Location*	*Materials*	*Beam spans*	*Column grid*	*Reasons and comments*		
WAREHOUSE BLOCK							
Slab and circular columns	Throughout	Reinforced concrete		15-ft. centres	Heavy floor load. Fire resistant construction. Simple regular shapes		
					frame or load bearing element (r.c. roof, floors and columns)	**7**	**5½**
PROCESSING BLOCK							
Beams and stanchions	Throughout	Steel	15-ft. centres	15-ft. centres	Simple support for timber floors and a structural cage for external non-load-bearing panel infill		
					frame or load bearing element (steel stanchions and beams)	**12**	**1½**

Upper floor construction	*Location*	*Materials*	*Finish*	*Reasons and comments*		
WAREHOUSE BLOCK						
Slab	Main floors	Reinforced concrete	Asphalt	Fire resistant		
				upper floor construction—see frame or load bearing element		
PROCESSING BLOCK						
Slab	Landings	Reinforced concrete	1½-in. granolithic	Fire resistant		
Joisted	Main floors	4-in. × 3-in. softwood joists on rolled steel stanchion secondary beams	1½-in. tongued and grooved boarding	Future perforations		
				upper floor construction (softwood joists)	**2**	**0**

Staircases	*Location*	*Materials*	*Finish*	*Reasons and comments*		
WAREHOUSE BLOCK						
				staircase	**0**	**7½**
External		Cast iron spiral	Painted			
PROCESSING BLOCK						
Internal		Reinforced concrete	Steel trowelled with painted soffit	Fire resistant		
				staircase (reinforced concrete)	**0**	**6½**
Height: floor to floor = 9 ft. 0 in.						

Roof construction	*Location*	*Materials*	*Finish*	*Reasons and comments*		
WAREHOUSE BLOCK						
In situ		Reinforced concrete	Asphalt on insulation board with chippings finish to asphalt	Thermal insulation. No falls		
				roof construction—see frame or load bearing element		
				asphalt covering	**1**	**3**
PROCESSING BLOCK						
Joisted		Softwood boards on joists	Cement and sand screed on asphalt	Cement and sand screed on open drying area only as protection against wheeled traffic		
				roof construction	**1**	**6½**

External doors	*Location*	*Materials*	*Finish*	*Reasons and comments*		
WAREHOUSE BLOCK						
Framed, ledged, braced and battened		Softwood	Painted			
				external doors	**0**	**3¾**
PROCESSING BLOCK						
Framed, ledged, braced and battened		Softwood	Painted			
Folding		¼-in. plate glass in hardwood frames	Painted			
				external doors	**0**	**5**

analysis

Glazing	*Location*	*Materials*	*Finish*	*Reasons and comments*	s	d
WAREHOUSE BLOCK						
Opening lights		32-oz. sheet		Occasional transparency considered desirable		
Fixed lights		¼-in. coloured obscured		To cut down heat from sun		
PROCESSING BLOCK						
Opening lights		32-oz. sheet		Occasional transparency considered desirable		
				glazing—see external walls and facings		
Fixed lights		¼-in. coloured obscured		To cut down heat from sun		
Opening and fixed	Ground floor	¼-in. polished plate		Areas too large for sheet		
				glazing—see external walls and facings		

PARTITIONING

Internal partitions	*Location*	*Materials*	*Finish*	*Reasons and comments*	s	d
PROCESSING BLOCK						
non-load bearing		4½-in. brick	White glazed both sides	Clean appearance, no maintenance		
				internal partitions	1	3¾

Screens	*Location*	*Materials*	*Finish*	*Reasons and comments*	s	d
WAREHOUSE BLOCK						
Stacking screens capable of being set up on any line at 5 ft. centres		2-in. diameter steel tubes drilled to receive 6-in. × 2-in. softwood boards	Painted	It is necessary to isolate areas within the warehouse dealing with different types of seed		
				screens	2	2¼
PROCESSING BLOCK						
Guard rails to perimeter		6 in. × 2 in. softwood bolted to mullions	Painted	Stacking purposes		
				screens	1	2½

W.c. doors and partitions	*Location*	*Materials*	*Finish*	*Reasons and comments*	s	d
PROCESSING BLOCK						
Flush on sliding track		Hardboard veneer on solid softwood core	Painted			
				w.c. doors and partitions	0	0½

Internal doors	*Location*	*Materials*	*Finish*	*Reasons and comments*	s	d
PROCESSING BLOCK						
Framed, ledged, braced and battened sliding	Generally	Softwood	Painted			
Flush folding	Ground floor	Plywood veneer	Painted			
				internal doors	0	2¼

Ironmongery to internal doors	*Location*	*Materials*	*Finish*	*Reasons and comments*	s	d
WAREHOUSE BLOCK						
Cylinder mortice locks		Alloy	B.M.A.	Mastered, good heavy quality		
				(cost included with processing block figure)		
PROCESSING BLOCK						
Cylinder mortice locks		Alloy	B.M.A.	Mastered, good heavy quality		
Budget lock with indicator	W.cs.	Aluminium	Anodised			
Fusible link sliding track	Landings	Steel	Painted			
				ironmongery to internal doors	0	5½

FINISHINGS

Floor finishes	*Location*	*Materials*	*Finish*	*Cost per sq. yd.* s. d.	*Reasons and comments*	s	d
WAREHOUSE BLOCK							
In situ		1-in. mastic asphalt	Steel trowelled	17 6	Impervious, dust proof, smooth		
					floor finishes	2	0

analysis

Floor finishes (continued)	*Location*	*Materials*	*Finish*	*Cost per sq. yd.* s.	d.	*Reasons and comments*	s	d
PROCESSING BLOCK								
In situ		1½-in. granolithic	Steel trowelled	8	9	Hard wearing		
Block		Hardwood block	Polished	43	0	Durable		
Tile		6 in. × 6 in. × ⅜ in. blue quarries	Fairfaced	29	6	Continues plinth line		
Tile		Rubber	Polished	40	0	Durable		
Strip		6 in. × 12 in. softwood, tongued and grooved boards	Fairfaced	35	6	Easy to perforate and fix to		
						floor finishes	**3**	**8½**

Wall finishes	*Location*	*Materials*	*Finish*	*Reasons and comments*		
WAREHOUSE BLOCK						
Internal	Ground floor	Brickwork	Painted	Maintain fresh appearance		
				wall finishes—see external walls and facings		
PROCESSING BLOCK						
Internal	Ground floor	Plaster	Painted	Finish to wood wool inner skin		
				wall finishes	**0**	**2¼**

Ceiling finishes	*Location*	*Materials*	*Finish*	*Reasons and comments*		
WAREHOUSE BLOCK						
Exposed structure		Fairfaced concrete	Painted	To assist in maximum light penetration		
				ceiling finishes	**0**	**9½**
PROCESSING BLOCK						
Exposed structure	Upper floors	Exposed timbers	Painted			
Direct fixing	Ground floor	Skim coated plaster board	Painted	Smooth soffit over several rooms		
				ceiling finishes	**0**	**6¼**

Decorations	*Location*	*Paint types*	*Munsell or other ref.*	*Reasons and comments*		
WAREHOUSE BLOCK AND PROCESSING BLOCK						
Exposed steelwork	Throughout	Hard gloss oil	Crimson 8	A limited number of colours were used, the choice being conditioned by the blue-green colour of the large areas of fixed glazing. A deliberate expression of the separate identities of the various elements was the basis of the scheme. Service pipes of B.S. range		
Fixed glazing frames, hand rail and metalwork	Throughout	Hard gloss oil	Dark blue			
External doors, softwood ventilators, pivot sashes, ceilings	Throughout	Hard gloss oil and emulsion	White			
				decorations: (warehouse block)	**0**	**9¼**
				(processing block)	**1**	**4½**

Fittings	*Location*	*Materials*	*Finish*	*Reasons and comments*		
WAREHOUSE BLOCK						
Hoists, enclosure and chutes		Metal	Painted			
				fittings	**0**	**6**
PROCESSING BLOCK						
Work benches and shelves	Ground floor	Hardwood	Polished			
				fittings	**1**	**2½**

Plumbing external: Rain water disposal	*Location*	*Materials*	*Finish*	*Reasons and comments*		
WAREHOUSE BLOCK						
Rainwater pipes to open gutters, thence to static water tank		Concealed jointed steel tube	Stove enamelled	Good appearance		
				rain water disposal	**0**	**1**
PROCESSING BLOCK						
Rainwater pipes direct to static water tank		Standard cast iron pipes	Painted			
				rain water disposal	**0**	**1½**

Plumbing internal: waste disposal	*Location*	*Materials*	*Finish*	*Reasons and comments*		
PROCESSING BLOCK						
Single stack	Lift shaft	Cast iron	Painted	Avoidance of a multiplicity of pipes		
				plumbing internal	**1**	**3¾**

analysis

					s	d
Cold water storage	*Location*	*Materials*	*Capacity*	*Reasons and comments*		
PROCESSING BLOCK						
Lagged tank	Top floor	Galvanized iron	100 gallons			
				cold water storage—see plumbing internal		
Sanitary fittings	*Location*	*Materials*	*Finish*	*Reasons and comments*		
PROCESSING BLOCK						
Wash hand basin, sinks, water waste preventer, sinks, drinking fountains		Fireclay	White glazed	Strong and of good appearance		
				sanitary fittings—see plumbing internal		
Heating installation: heat exchanger type	*Location*	*Criteria temp.*	*Air change rate*	*Reasons and comments*		
PROCESSING BLOCK						
Forced warm air (gas heater)	Top floor	Varies	15,000 cu. ft. per minute	To dry seeds. Economical for intermittent use		
Radiators (gas, balanced flue)	Ground floor	65° with outside temperature 32° F.		No preheating period, no fumes		
				heating installation	**4**	**5**
Water heater type	*Location*	*Fuel type*	*Stoking method*	*Reasons and comments*		
PROCESSING BLOCK						
Instantaneous heater		Gas		Economical for occasional use by small staff		
				water heater type—see heating installation		
Drainage: type of system	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Separate	Public sewers in station road adjacent to site	12 in. diameter cast iron		6-in. salt glazed stoneware runs as overflow from static water tank to storm drain		
Drain types	*Location*	*Materials*	*Finish*	*Reasons and comments*		
WAREHOUSE BLOCK						
Storm		Open concrete gutter		Leading to static water tank		
PROCESSING BLOCK						
Foul		4-in. salt glazed stoneware				
Storm		4-in. cast iron		To static water tank		
Gas installation	*Location*	*Materials*	*Finish*	*Reasons and comments*		
PROCESSING BLOCK						
To seed heater and radiators		Barrelling and pipes etc. to B.S.	Painted	Meter on top floor adjacent to major user		
				gas installation	**0**	**2½**
Electrical installation: source and fitting type	*Location*	*Illumination level*	*Quality*	*Reasons and comments*		
WAREHOUSE BLOCK						
Tungsten direct	Offices			Inverted cone baffled fitting		
	Generally			Exposed lamps		
				electrical installation	**0**	**7½**
PROCESSING BLOCK						
Tungsten direct	Offices			Inverted cone baffled fitting		
				electrical installation	**2**	**2**
Wiring and switching types	*Location*	*Materials*	*Finish*	*Reasons and comments*		
WAREHOUSE BLOCK						
Tough rubber cable in conduit	Cast in slabs	Galvanised iron				
Flush plate switches			B.M.A. finish			
				wiring and switching types—see electrical installation		

analysis

Wiring and switching types (continued)	*Location*	*Materials*	*Finish*
PROCESSING BLOCK			
Tough rubber cable in conduit	Face fixed	Galvanised iron	Painted
Flush plate switches			B.M.A. finish

wiring and switching types—see electrical installation

Power supply type	*Location*	*How distributed*	*Reasons and comments*
PROCESSING BLOCK			
Eastern Electricity Board. 415/240 v. 3 phase 4 wire 50 cycles	Intake room in lift motor room	B.r.i. cables drawing into steel screwed conduit to sub-distribution boards	

power supply type—see electrical installation

Lifts	*Location*	*Capacity and speed*	*Motor room position*	*Reasons and comments*	s	d
PROCESSING BLOCK						
Passenger and goods		One ton; 50 ft. per minute	Ground floor			
				lifts	**3**	**3½**
				cost per sq. ft. : processing building	**61**	**0¾**
				warehouse	**25**	**3¾**

Paved areas	*Location*	*Materials*	*Reasons and comments*
Roads forecourt ramp	Adjacent to both blocks	Concrete mesh reinforced	Divided into 15 ft. squares
WAREHOUSE BLOCK			
Slabs		Pre-cast slabs	To provide plinth as obstacle for vehicles

THERMAL INSULATION

Type	*Location*	*U-value*	*Reasons and comments*
WAREHOUSE BLOCK			
½-in. insulation board on reinforced-concrete slab	Roof		To protect slab and also to cut down heat on top floor of warehouse
PROCESSING BLOCK			
3-in. wood wool plastered	Ground floor walls		Areas occupied by sedentary staff

FIRE

Structural precautions	*Grade of protection apparatus*	*Sprinklers*	*Reasons and comments*
WAREHOUSE BLOCK			
Reinforced concrete columns and slabs	2-hour fire resistance. CO_2 bottles	None	Sprinklers are not provided as injurious to seeds. Projecting floor slabs prevent vertical spread
PROCESSING BLOCK			
Brick walls to enclosure staircase	½-hour fire resistance. CO_2 bottles. Dry riser	None	

Planning precautions	*Access for fighting*	*Means of escape*	*Reasons and comments*
Two blocks separated. Static water tank adjacent to highest fire risk (processing block)	Hard standings around both blocks	WAREHOUSE BLOCK Spiral staircase PROCESSING BLOCK Concrete stairs, steel ladder	

TIME SCHEDULE

	Foundations and structure	*Cladding and finishes*
Drawings	December 1953—February 1954	December 1953—June 1954
Tender date	April 2, 1954	September 20, 1954
Contract signed	May 12, 1954	November 10, 1954
Work commenced	May 17, 1954	November 18, 1954
Work completed	WAREHOUSE BLOCK November 21, 1954 PROCESSING BLOCK December 9, 1954	All work completed September 17, 1955
Type of contract	RIBA	

analysis

RATIOS

	WAREHOUSE BLOCK	PROCESSING BLOCK		WAREHOUSE BLOCK	PROCESSING BLOCK
Area of enclosing walls	10,800	8,533	Windows and external door area	9,122	7,534
Total floor area	25,717	10,109	Total floor area	25,717	10,109
Area of solid walls	1 688	999	Total roof area	9,000	2,195
Total floor area	25,717	10,109	Total floor area	25,717	10,109

COST ANALYSIS

	WAREHOUSE BLOCK	PROCESSING BLOCK
Total ground floor area of superstructure	8,572 ft. sup.	2,195 ft. sup.
Total floor area of superstructure	25,717 ft. sup.	10,109 ft. sup.
Tender date: structural contract	April 2, 1954	
Tender date: finishings contract	September 27, 1954	
Tender cost of superstructure	£27,714 18 10	£29,524 8 8
Tender cost of foundations	£4,836 6 6	£1,344 18 9
Cost per foot super	25s. 3¾d.	61s. 0¾d.
Cost per foot cube	2s. 4d.	5s. 11½d.

COST COMMENTS

This "two in one" analysis gives a good basis for comparison of differing multi-storey construction on one site and in one contract, namely a three-storey warehouse block and a five-storey office and processing block. At first glance it might appear that the work below ground floor level of the five-storey block, carrying a slightly lower design load per foot super, shows a marked decrease in cost over the three-storey block, i.e., 2s. 8d. and 3s. 9½d. respectively. But for a true comparison these figures must be related to the ground floor or foundation area only. These figures suitably rounded off are:

Processing block

$2s.\ 8d. \times \frac{10,100}{2,200}$ = 13s. 4d. per ft. super of ground floor area approx.

Warehouse

$3s.\ 9d. \times \frac{25,700}{8,600}$ = 11s. 3d. per ft. super of ground floor area approx.

It may be that the depth of foundations to a part of the five-storey block is determined by the existence of the static water tank on two sides, but these details are not available in the analysis. It would also have been helpful for future cost planning to have a description of the soil conditions, e.g., the nature of soil, bearing pressure, water table, etc.

The three-storey warehouse is very economical in design. This shows in the ratio of enclosing wall area to total floor area: $\frac{10,800}{25,717}$ or 0·4 approximately. This low ratio is due to the large area enclosed in one virtually square block, the most economical plan shape when considering wall to floor ratios. Although both blocks have the same storey height, the wall to floor ratio in the processing block is $\frac{8,533}{10,109}$ or 0·8, which is double that of the three storey block because of the much smaller area enclosed. This means that with an identical form of construction we can expect the perimeter walling costs per foot super to be approximately twice that of the three-storey warehouse block (4s. 1½d. : 8s. 3d.). The fact that it is nearly four times as great (4s. 1½d. : 15s. 2d.) underlines the difference made to the cost of this element by the white glazed brick east wall. Information received from the Quantity Surveyors shows that of the total perimeter walling cost of 15s. 2d. per foot super of floor area, 6s. 3d. is attributable to the glazed brickwork, wood wool lining, etc. This leaves a sum of 8s. 11d. which can be directly compared with the three-storey block. The remaining difference (8s. 11d. : 8s. 3d.) is due to smaller variations in construction and the differing solid wall/window ratios. The analyses of the frame show together a three-storey block framed in reinforced concrete and a five-storey block framed in steel. The cost for the former also includes the elements "upper floor" and "roof construction," so that these must be grouped together before a comparison can be made between the two blocks.

	Three-storey warehouse	*Five-storey processing block*
	s. d.	s d.
Frame	7 5½	12 1½
Upper floor	inc.	2 0
Roof	1 3 (asphalt only)	1 6½
	8 8½	15 7¾

With the *two* costs per foot super of floor area shown against each element, it is imperative to remember that each applies to the one particular building. If direct comparison is required of elements not directly related to floor area (e.g. floor finishes), use must be made of the accompanying ratios, or costs should be related back to unit rates, e.g. cost per yard super of perimeter walling.

SITE ORGANIZATION

SITE LABOUR AND EQUIPMENT: There was a resident general foreman, and local labour was employed. The following equipment was used: steel scaffolding; fixed and mobile hoists; concrete mixers and small electric tools.

SUB-LETTING: the following work, apart from architect-nominated sub-contractors, was sub-let: Scaffolding, plumbing and glazing: Essex Steel Scaffolding Company Limited, Mann & Partners Limited, Brown & Wicks Limited. There were no "labour only" sub-contracts.

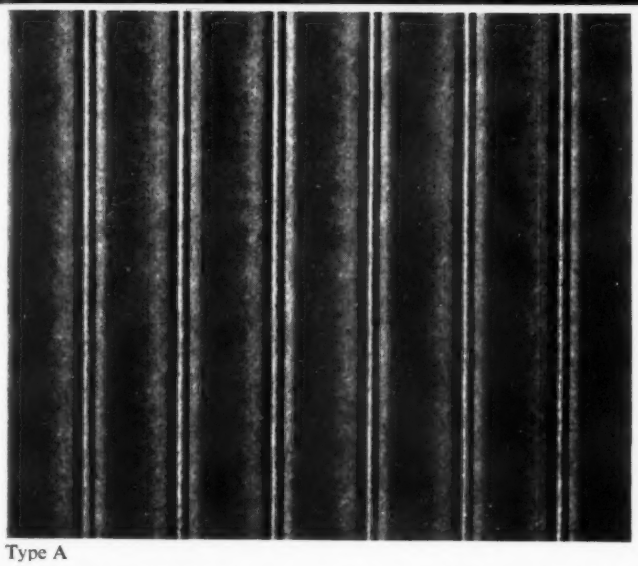
JOB MANAGEMENT: Progress charts were used on the job, and an incentive scheme was set up. There was a resident clerk of works, and weekly visits were made to the site by the directors; monthly visits were made by the quantity surveyors.

CONTRACTORS

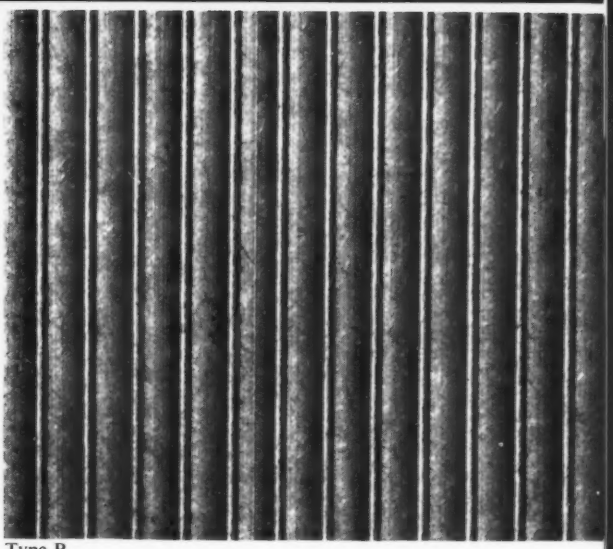
Clerk of works: G. F. Cox. *General Contractors:* Helical Bar and Engineering Co. Ltd. (foundations and structure); Charles S. Foster and Sons Ltd. (cladding and finishes).

Sub-contractors: Steel structure: Daco Structures Ltd. *Scaffolding:* Essex Steel Scaffolding Co. Ltd. *Electrical wiring:* John Hearson Ltd. *Electric light fixtures:* Messrs. "Ventura" *Glazed bricks:* Leeds Fireclay Co. Ltd. *Slate sills:* Bow Slate & Enamel Co. Ltd. *Asphalt and special roofings:* Limmer & Trinidad Lake Asphalt Co. Ltd. *Glazing:* Brown & Wick Ltd. *Ironmongery:* Rownson Drew & Clydesdale Ltd.; Stedall & Co. Ltd.; Alfred G. Roberts Ltd.; Nichols & Clarke Ltd. *Gas-fired seed drying floor:* G. F. Rider (Process Plant) Ltd. *Venetian blinds:* Venetian Vogue Ltd. *Sliding door gear and folding gate:* Messrs. Haskins *Gas fitting:* Mann & Partners; Eastern Gas Board. *Gas fixtures:* Ascot Water Heaters. *Gas heating:* Wm. Sugg & Co. Ltd. *Joinery special casements and office fittings:* Fosters (Woodworkers) Ltd. *Plumbing:* Mann & Partners Ltd. *Glass:* Pilkington Bros. Ltd. *Mastic jointing:* Secomastic Ltd. *Site fencing and gates:* Peerless Fence & Products Ltd. *Ventilators:* Morfax Ltd. *Lift:* London Lift Company Ltd. *Hoists:* Herbert Morris Ltd. *Seed Machinery:* Brian Corcoran Ltd.; Robert Boby Ltd. *Spiral stair:* S. W. Farmer & Son Ltd. *Paint:* W. & J. Leigh Ltd. *Plasterers:* Albert Willett & Sons Ltd. *Sanitary fittings:* Messrs. Rownson Drew & Clydesdale. *Patent flooring:* Runnymede Rubber Co. Ltd. *Bricks:* Erith & Co. Ltd.

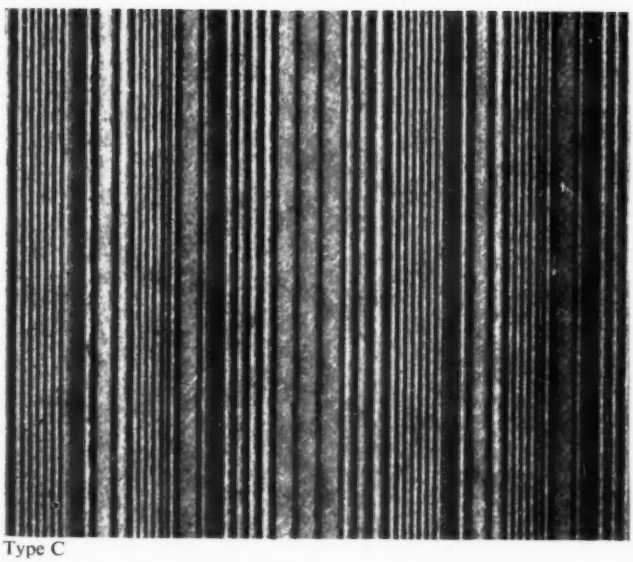
The Architects' Journal Library of Information Sheets 571. Editor: Cotterell Butler. A.R.I.B.A.



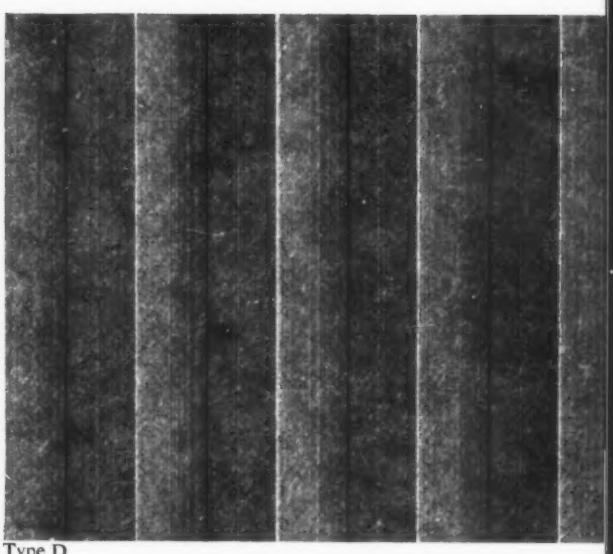
Type A



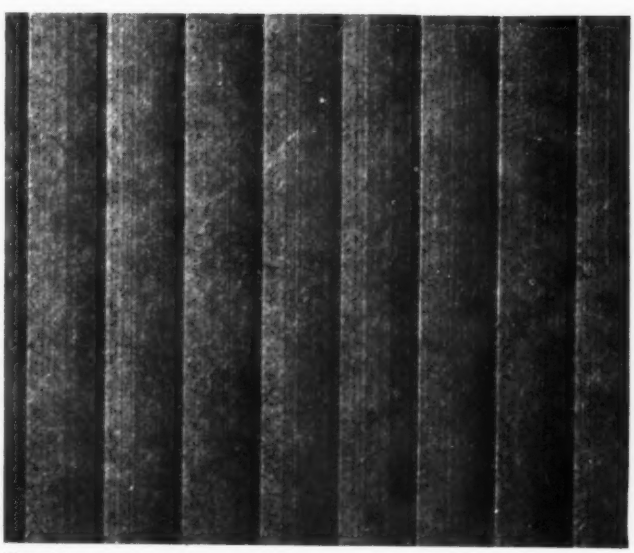
Type B



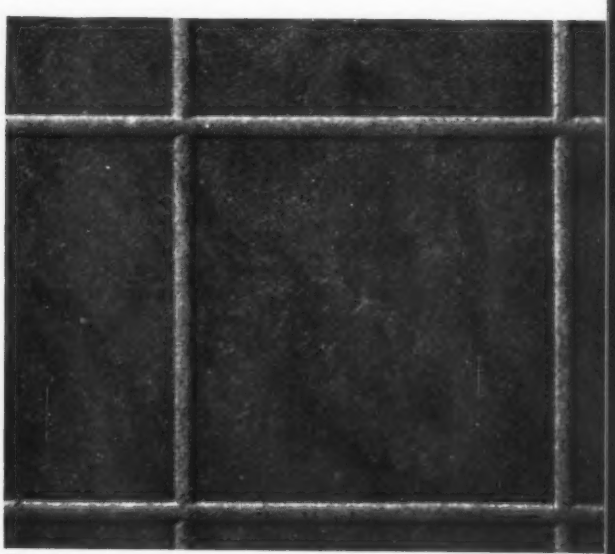
Type C



Type D



Type E



Type F

Photographs approx. half full size.

·L. W.· MOULDED HARDBOARDS

15.B5 ·L.W.· MOULDED HARDBOARDS

This Sheet deals with L.W. moulded hardboards which are primarily for interior decorative work. The photographs on the face show the range that is available and the following notes give general data.

General

The moulding of the hardboard takes place during manufacture and six patterns are obtainable as shown in the photographs on the face of the Sheet. It is available in standard or oil-tempered quality, the latter being suitable for exterior use. One great advantage of these boards for interior work is that the joints can be completely " lost " in the mouldings: cover strips are not necessary in most cases, neither are they recommended.

Sizes

The boards are 4 ft. 0 in. wide by 9 ft. 0 in. long by $\frac{1}{8}$ in. thick.

Cutting

The boards should be cut from the face side with a fine-toothed saw or the equivalent. The back edge of the cut should be wiped with fine glass-paper. All tools used (e.g. chisels, drills, planes) should be as sharp as possible. Where possible the continuity of the pattern should be observed when cutting.

Conditioning of Boards Before Use

As with other types of hardboard, L.W. moulded boards should be conditioned before use. The boards should be laid in a clean space, free from dust. The first board is placed face downwards and water applied with a stiff brush or sponge at the rate of two pints approximately to each 4 ft. 0 in. by 9 ft. 0 in. panel. Succeeding boards should be similarly treated and piled back-to-back in pairs. They should be left for 48 hours after which they are ready for use at any time up to one week: after this period they may need remoistening.

Fixing

There are two methods of invisible fixing which may be employed. Panel pins may be " lost " in the mouldings or the boards may be fixed with adhesive.

Nailing: The boards are fixed on timber frames which may be plugged to the wall or free-standing. Vertical battens should be at 1 ft. 4 in. maximum centres and horizontal battens at 4 ft. 0 in. maximum centres. Main battens should be not less than 2 in. wide and intermediate battens $1\frac{1}{4}$ to $1\frac{1}{2}$ in. Where boards are to be fixed to existing wall surfaces it is recommended that the timber frame be prefabricated in convenient sections so that plugging to the wall is reduced to a minimum. All edges of boards must be supported and additional horizontal supports may be provided if necessary, e.g. at " dado " height. Copper-coated or sherardized pins should be used, $\frac{3}{4}$ in. by 18 gauge, with small trumpet heads, and they should be driven with a light panel hammer. Nails should be spaced at 4-in. centres on all edges and at 6-in. centres on intermediate battens. They should be placed $\frac{3}{8}$ in. from the edge of the board and opposite those on the adjacent board. Alternate nails should be driven at opposing angles and the heads "lost " in the moulding or set just below the surface with a punch. Adjacent boards should be butt-jointed in moderate contact: the edges should never be forced together.

Fixing with adhesive: The boards may be fixed to timber framework or other suitable grounds with adhesive. A number of specially-prepared contact adhesives are obtainable for this type of work and they should be applied in every case in accordance with the manufacturer's instructions.

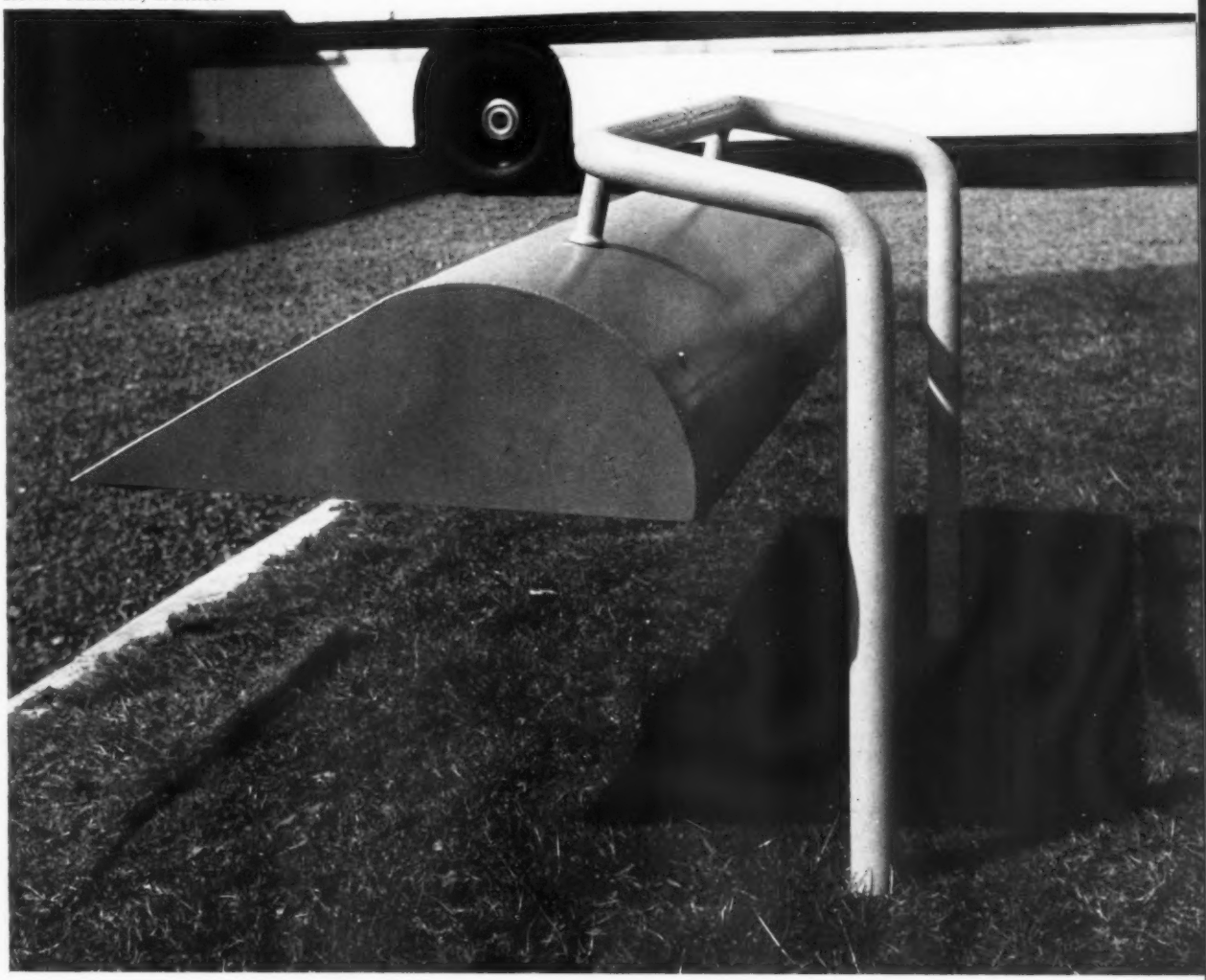
Compiled from information supplied by:
Martin Olsson and Sons Ltd. for Ljusne-Woxna AB.
Address: Melbourne House, Aldwych, London, W.C.2.
Telephone : Temple Bar 9644/4757

working detail

LIGHTING: 10

STREET LIGHTING: TURNHOUSE AIRPORT, EDINBURGH

Robert Matthew, architect



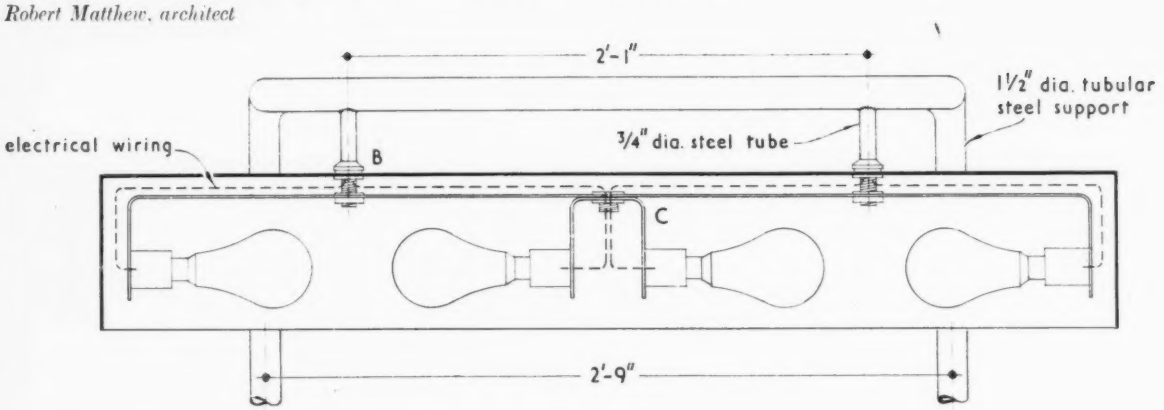
A specialised application of lighting designed to screen the light source from the air.

working detail

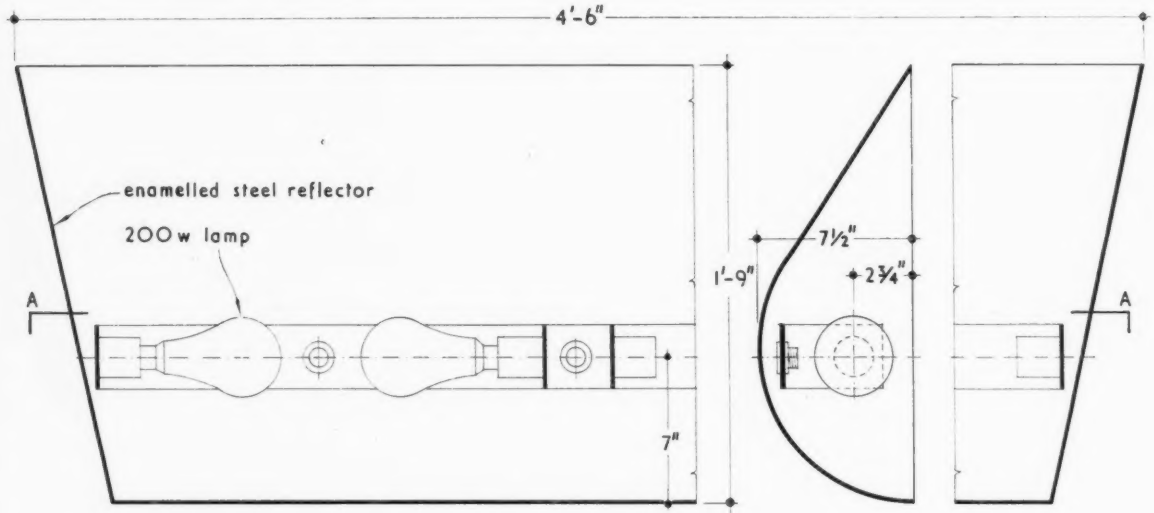
LIGHTING: 10

STREET LIGHTING: TURNHOUSE AIRPORT, EDINBURGH

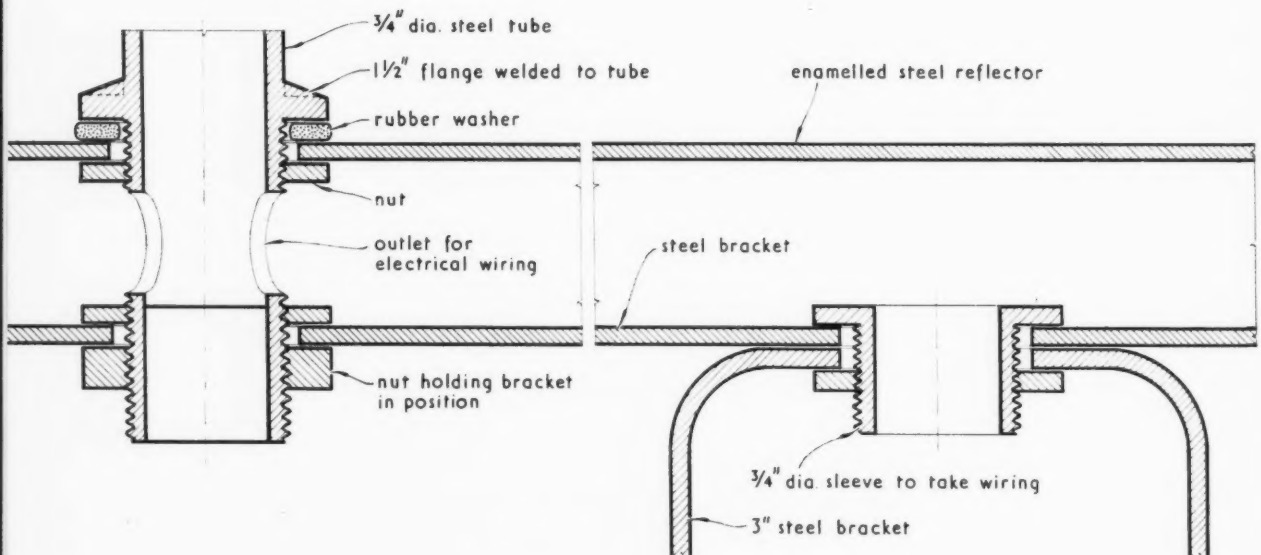
Robert Matthew, architect



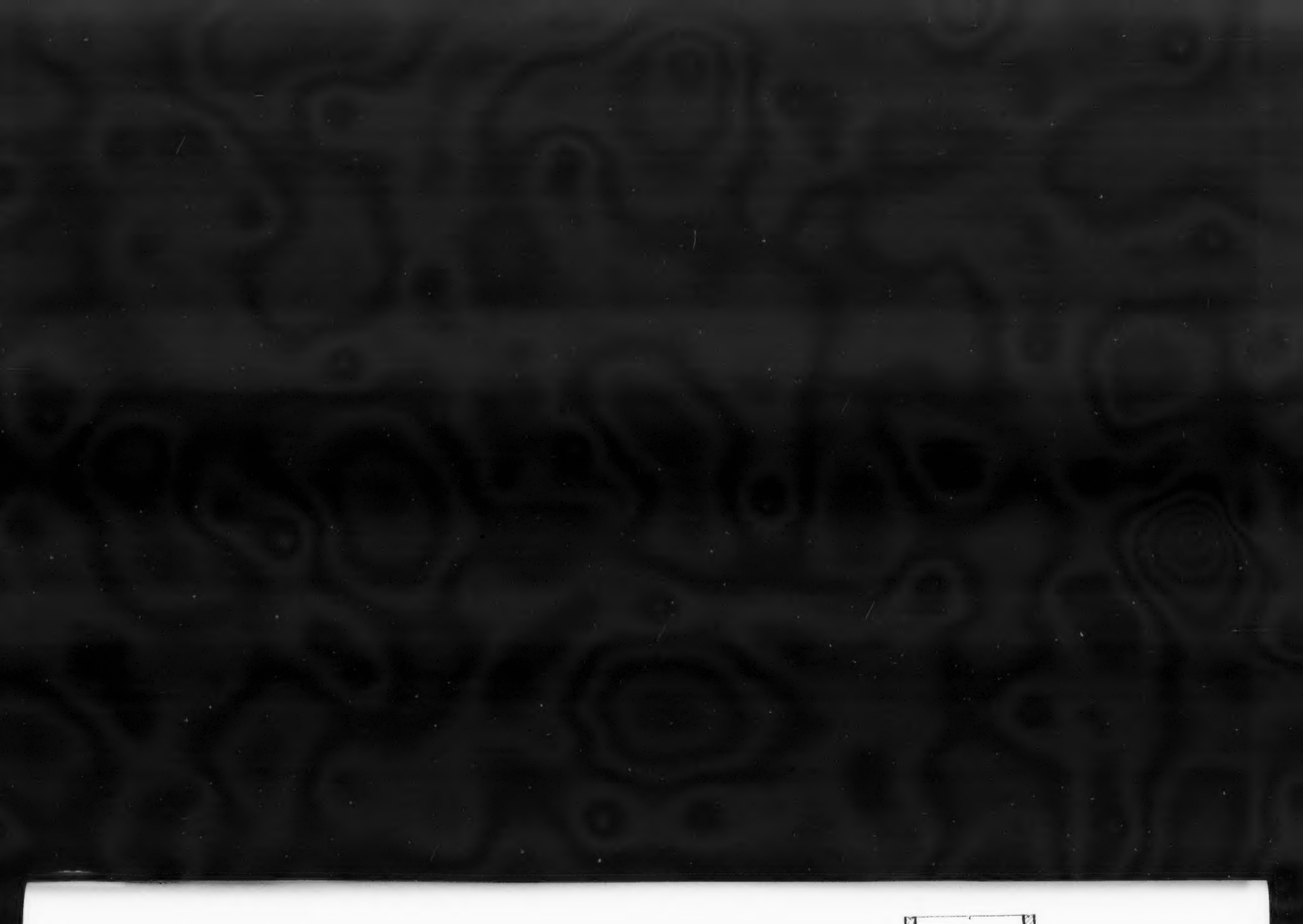
SECTION A-A scale 1½" = 1'-0"



PLAN AND CROSS SECTION. scale 1½" = 1'-0"



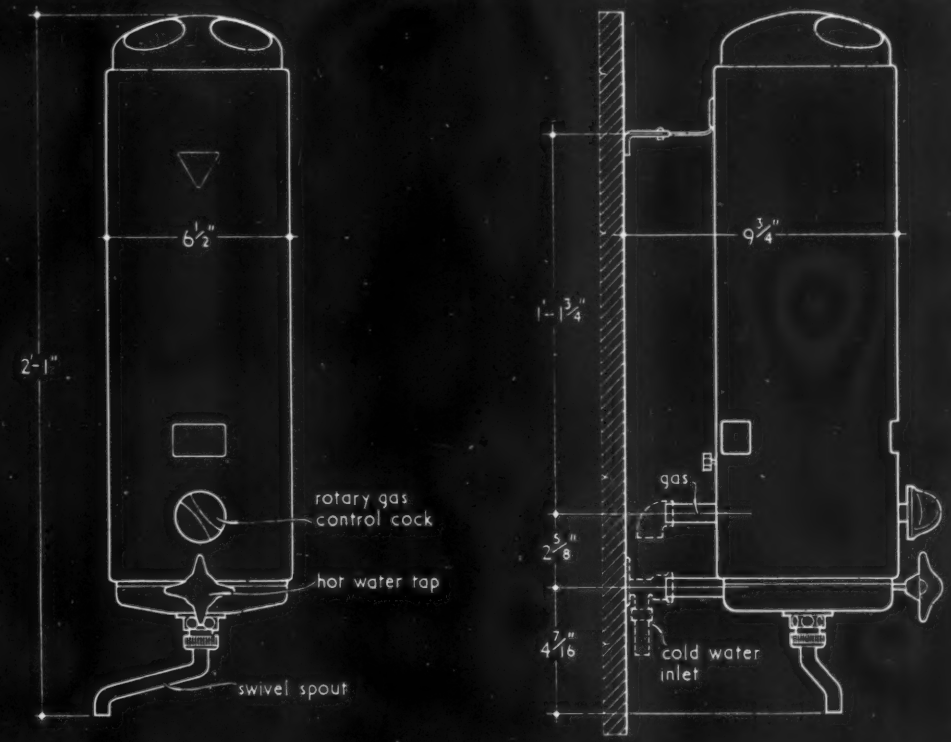
DETAILS AT B AND C. scale full size



WATER HEATING | UNITS | GAS

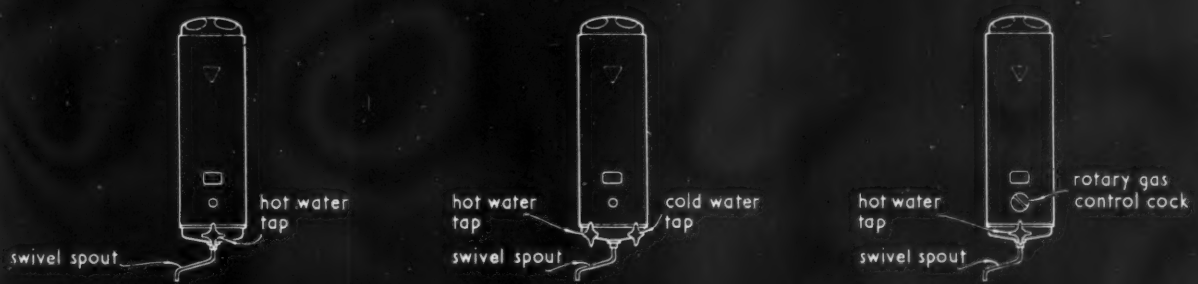
32.C24

The Architects' Journal Library of Information Sheets 572. Editor: Cotterell Butler, A.R.I.B.A.



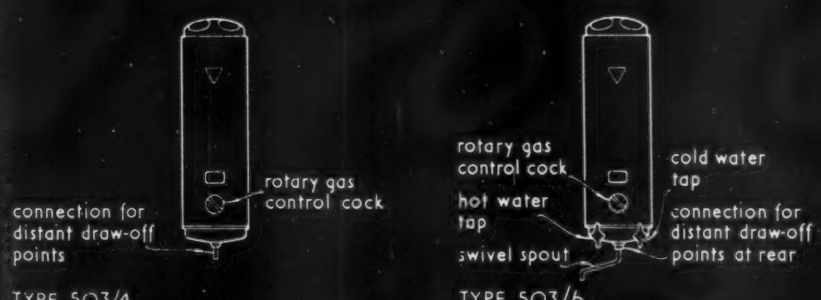
TYPE 503/2: SINGLE POINT providing hot water service to kitchen sink or wash-basin.

FRONT AND SIDE ELEVATIONS OF TYPICAL HEATER.



TYPE 503/0 TYPE 503/1 TYPE 503/2

SINGLE POINT HEATERS each providing hot water services to kitchen sink or wash-basin.



TYPE 503/4 TYPE 503/6

MULTI-POINT HEATERS each providing limited hot water service to two sinks (or basins) or shower.

·ASCOT· INSTANTANEOUS GAS WATER HEATERS. Manufacturer: Ascot Gas Water Heaters Ltd.

32.C24 ·ASCOT· INSTANTANEOUS GAS WATER HEATERS

This Sheet is one of a series describing Ascot instantaneous gas water heaters. Three small single point and two small multi-point heaters are dealt with, the five types comprising the Ascot 503 range. All the heaters are the same size but differ, as shown in the drawings, to meet the varying requirements of users and approving authorities.

Types of Heater

Single point : Types 503/0, 503/1 and 503/2 are designed to provide a hot water service to the kitchen sink for household purposes or for toilet use at a wash-hand basin. Hot water up to a temperature of approximately 150° F. is delivered through a swivel spout which may be used to serve two adjacent fittings.

Note : The above heaters are inlet controlled and must on no account be connected to any restriction in the form of taps, valves, piping or fittings.

Multi-point : Types 503/4 and 503/6 are designed to provide a limited hot water service to two sinks or basins or a shower. Type 503/6 is also fitted with swivel spout in addition to the draw-off connection.

Characteristics

Output : 0·8 gal./min. raised through 60° F., or
0·6 gal./min. raised through 80° F., or
0·5 gal./min. raised through 100° F.

Input : 625 B.Th.U./minute, or
1·25 cu. ft./min. of 500 C.V. gas.

Components

Automatic valve : Prevents gas passing to the burner unless a predetermined minimum flow of water is passing through the heater.

Heating body : Types 503/0, 503/1, 503/2—Cylindrical combustion chamber and two-stage finned type heat exchanger.

Burner : Stainless steel luminous pinhole type incorporating pilot safety device.

Gas controls : Types 503/0, 503/1.—The function of the normal main gas and pilot cocks and the main gas stop cock is performed by a single gas control cock which must be fitted as close as possible to the gas inlet of the heater. Special gas control cocks are available for fitting direct to the inlet of the heater; alternative types may be obtained for chased-in or external pipes.

Types 503/2, 503/4, 503/6.—These heaters incorporate a built-in rotary gas control with a positive interlocking stage between " pilot " and main burner " on " positions.

Outlet spout : Chromium-plated swivel spout ; standard 6 in., non-standard, at extra cost, 10 in., 14 in. and 18 in.

Finish

White or cream vitreous enamelled outer shell. Chromium-plated top and bottom covers.

Installation

Position : The heaters are free-standing, the weight being taken by the pipework, but a top wall-fixing clip (obtainable from the manufacturer) may be used to steady the heater at the top rear of the outer shell. Where the pipework cannot be secured to a wall or where specific installations require a high-class finish, a chromium-plated support pillar, which houses both gas and water piping, is available.

Gas

Connection : Straight union and lining threaded ½-in. B.S.P. male thread.

Supply pipe : Up to 15 ft. from the meter—½-in. int. dia.
15 to 30 ft. from the meter—¾-in. int. dia.
Over 30 ft. from the meter—1-in. int. dia.

Meter : Rated capacity to be not less than 80 cu. ft. per hour in addition to requirements for all other gas appliances.

Stop cock : Must be fitted in the supply line close to the heater to facilitate maintenance.

Water

Preferably from mains supply. Permission must be obtained from the Water Authority before connection. If a tank supply is used a minimum head of 15/20 ft. measured vertically from the level of water in the tank to the level of the heater tap or taps is required for types 503/0, 503/1 and 503/2. For types 503/4 and 503/6 the minimum head required is 18/20 ft. measured vertically from the level of water in the tank to the level of the heater tap or taps, or to the level of the highest draw-off point, whichever is the shorter distance.

Connection : Straight union lining threaded ½-in. B.S.P. male thread. Elbow union with wall plate and lining suitable for ½-in. pipe available as an extra. Types 503/4 and 503/6 are fitted with a ⅜-in. connection for hot water draw-off.

Supply pipe : ½ in. to ¾ in. depending on length of pipe run and available pressure. A stop cock (of pattern approved by Water Authority) must be fitted in the cold water supply close to the heater.

Flue

Types 503/0, 503/1 *and* 503/2 *:* Normally, for intermittent operation, no flue is necessary but where ventilation of the room is inadequate or when the duration of a single operation is likely to exceed 10 minutes a flue should be fitted. A draught diverter for 3-in. internal diameter asbestos-cement pipe or 3½-in. internal diameter enamelled iron pipe is available as an extra from the manufacturer.

Types 503/4 *and* 503/6 *:* The above is applicable but certain authorities require a 3-in. internal diameter flue to be fitted to these heaters. The flue must be terminated in a favourable position with a suitable terminal.

Compiled from information supplied by :

Ascot Gas Water Heaters, Ltd.
Head Office and Works : 255 North Circular Road, Neasden, London, N.W.10.
Telephone : Willesden 1234.
Telegrams : Gascot, Phone, London.
Branch Offices and Service Depots : Birmingham, Bournemouth and Glasgow.
Service Depots : Belfast, Bristol, Cambridge, Manchester, Oxford, Reading, Southampton, Sunderland, Stoke-on-Trent and Jersey.

LAW REPORT

Recently, the Court of Appeal affirmed the principle that where a property had been negligently surveyed the damages must be the difference between the value, based on the survey, and the actual value, not the cost of repair; such damages not being affected by subsequent falls in the value of money: "Philips v. Ward."

The defendant, a surveyor, examined an Elizabethan manor house, farm with cottages, oasthouses and over a hundred and thirty acres of land, for the plaintiff and furnished a favourable report, mentioning only minor defects. He estimated the value of the property at £25-£27,000. Unfortunately, he had failed to observe that the timbers of the house were seriously impaired by death watch beetle and worm to the extent that a new roof, new cellar timber, new wall plates, and so on were necessary. The cost of this work, in 1952, when the plaintiff moved in and discovered the matter, would have been about £7,000. The work was, in fact, deferred pending the result of the legal proceedings, and the plaintiff claimed an amount between £11,000 and £14,000 for the cost of repairs on the basis of current prices.

The official referee inspected the unrepaired house and found that the actual value of the property, at the time of purchase, was £21,000, not the £25,000 paid by the plaintiff and he awarded £4,000 damages only. The plaintiff, accordingly appealed.

The Court of Appeal said it was clear law that the proper measure of damages was the amount which would put the plaintiff in as good a position as if the surveying contract had been properly fulfilled. The official referee had found, as a fact, that the property was worth £21,000, If the surveyor had reported correctly, the plaintiff would either have refused to have anything to do with the house, or he would have bought it for a sum which represented its fair value in its bad condition. Their Lordships continued that, on the facts before them, there was apparently no other form of action the plaintiff could have taken, had he received a true report. Cases where a house was damaged or destroyed by the fault of another person were different but the general rule, again, was that the injured person should be fairly compensated for the damage, neither more nor less. Cases where a house was left out of repair by a tenant were also different because a surveyor did not enter into a covenant to repair or give any warranty as to the condition of the premises. There was a recent case where a purchaser bought a Georgian house and 25 acres for £6,250 and then tried to recover £7,333 from the tenant for dilapidations, because that was the cost of repair. If the court had allowed the claim, he would have got the place for nothing and been £1,083 in pocket as well. So here, if the defendant recovered £7,000 it would mean he would get for £18,000 (£25,000 paid less £7,000 received), a house and land worth £21,000. That could not be right. So many factors: tax relief on repairs, land included in the price and so forth, came into play that the cost of repairs was not the test.

Their Lordships were no more prepared to take into account the fall in the value of money. The general principle of English law was that damages must be assessed as at the date when the damage occurred. It was not reasonable to postpone the work so that the state of the property should be available for inspection at the date of hearing. Inspections could have been made before it was started, and photographs could have been taken. Accordingly, the plaintiff's damages were limited to £4,000.

This method of approach to the question of damages is certainly satisfactory, at least from the standpoint of architects and surveyors. It may, sometimes, result in hardship to those who rely upon technical advice and who, in the light of correct information, might have decided against purchase and, thereby, saved themselves inconvenience and incidental expenses. However, the Court of Appeal did say that if the plaintiff had moved out after discovering the condition of the house and re-sold he would, probably, have been entitled to recover his expenses of moving in and out and of the re-sale (but not to recover loss incurred by selling at a lower figure).

Announcements

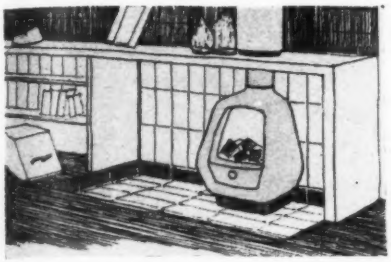
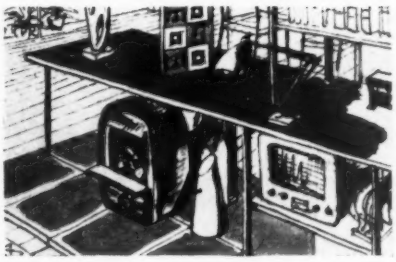
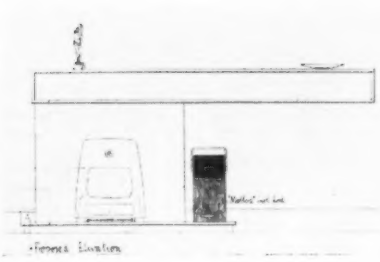
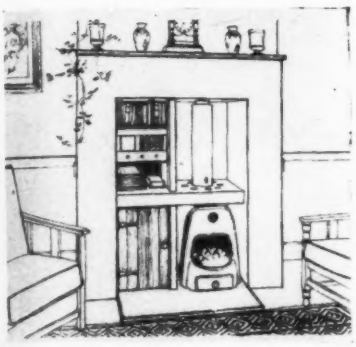
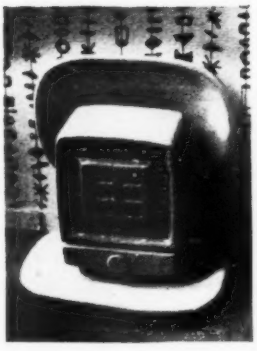
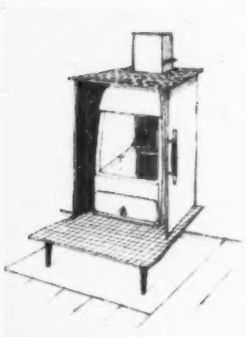
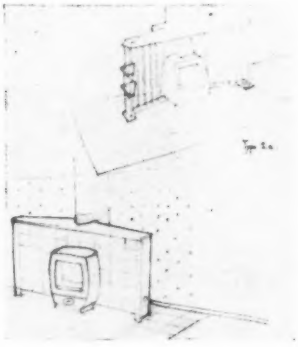
TRADE

Mr. J. C. Burman, J.P. was appointed Vice-Chairman of the Board of Directors of Tarmac Ltd. at a meeting held on Friday, May 18, 1956.

Mr. H. V. Schofield has retired from active duties as Sales Director of the Chloride Electrical Storage Company Ltd., but will retain his seat on the Board. He joined Exide in 1914 and was appointed a Director in 1942. Mr. Edward Powell will now become General Sales Manager and Mr. A. C. Stewart Sales Manager.

Mr. Robert Duncan Lawrie, foundry manager of Distington Engineering Company Ltd., Workington, died on May 25, 1956, at the age of 60. Mr. Lawrie started with Distington Engineering Company in 1952 after previously working for Glenfield & Kennedy Ltd., Brightside Foundry & Engineering Company Ltd. and Stanton Iron Company Ltd.

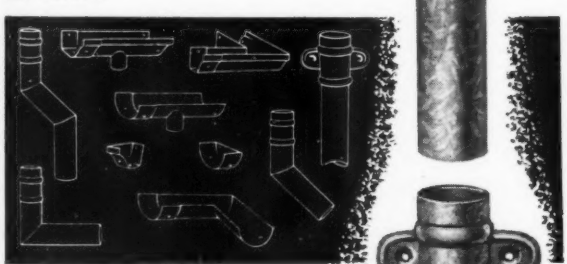
INSTITUTE OF FUEL'S COMPETITION WINNERS

The designers of these free-standing fireplaces each won 50 guineas in the Institute of Fuel's recent competition. Top row: by Barry Dewhurst, Mrs. Jane Penoyre and J. Roy McKee. Bottom row: by R. A. E. Gibson, R. D. Whiteside and A. E. Aikman.

Strong, Durable, will not fracture

'Harco' Rainwater Goods in light gauge pressed steel to B.S. 1091-1946 and hot dip galvanized after manufacture by the 'Harco' process, are easy to handle, long lasting and resist impact. The complete range includes H.R. and O.G. Gutters, Angles, Nozzles, Stop Ends, and Brackets, Rainwater Pipes, Elbows, Shoes, Offsets and Heads.



'HARCO'

LIGHT GAUGE PRESSED STEEL

RAINWATER GOODS

Send for List A.J. 925

G. A. HARVEY & CO. (London) LTD.
WOOLWICH ROAD · LONDON · S.E.7
Telephone : GREenwich 3232 (22 lines).

Harvey

just what the architect ordered...

...a genuine, high-grade, cloth-backed veneer; which will not warp, crack, shrink or expand; which can be applied direct—on flat or rounded surfaces; and which is available in a wide range of woods specially chosen for their versatility and beauty in use.
Flexwood is a superb material for interior decor, yet very reasonable in price. We shall be pleased to quote you for a complete installation on receipt of drawings.

Flexwood

Alexandria Trading Corporation Ltd.,
121 London Wall, London, E.C.2—Telephone : Monarch 2272

. . wide spacing

means easier cleaning !

WASHINGTON STEEL RADIATORS *look* efficient and their streamlined design is strictly functional. Wider spacing means that cleaning is simplified to the nth degree thus safeguarding hygiene and smartness. Made of finest quality pressed steel, they are infinitely easier to handle than cast-iron and can be safely supported by walls too thin for radiators of the heavy type. Unbreakable and frost-proof with an exceptionally high heat emission, they have absolutely no equal for length and quality of service and moderate initial cost.

Say "Washington" specifically.

WASHINGTON STEEL radiators

Good delivery now available.

Please send for illustrated brochure

Name .....

Address .....

.....AJ

WASHINGTON ENGINEERING LTD., P.O. BOX NO. 4. WASHINGTON, COUNTY DURHAM. Telephone: Washington 2362-3. Telegrams: Wearco, Washington Station. *Sole Agents:* **Messrs. BROWN & TAWSE TUBES LTD.** Branches at **Dundee, Glasgow, London, Manchester & Birmingham.**

THE SITESQUARE *

A REVOLUTIONARY NEW INSTRUMENT FOR LAYING OUT RIGHT-ANGLES . . .

The Sitesquare, an optical instrument, designed by the makers of the famous Cowley Level, is indispensable for Builders, Architects, Fencing Contractors, Groundsmen and many others who lay out or check right-angles. It replaces the 3-4-5 method and the wooden square. It can also be used to check verticality.

*** QUICK**
Instrument erected in 1 minute, angle set out in less than two minutes.

*** SIMPLE**
Instrument can be mastered by an unskilled man in about 5 minutes.

*** RELIABLE**
The range is over 100 feet. An angle can be laid out to 1″ accuracy in 100 feet.

STANDARD OUTFIT . . . £18

Leather case for Instrument . . . £2.10.0
Canvas Holdall . £2.0.0

COWLEY LEVEL DEPARTMENT,
HILGER & WATTS LIMITED,
123 Camberwell Road, London, S.E.5

Please forward literature ☐ Send me address of nearest stockist ☐

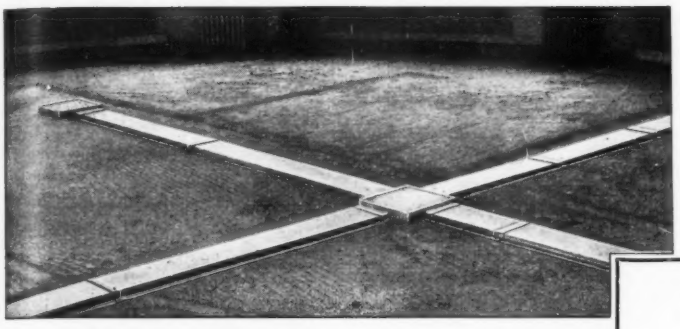
Arrange a demonstration at no obligation to myself ☐

Mark appropriate square and send to COWLEY LEVEL DEPT. SQ.AJ.
HILGER & WATTS LTD. · 123, CAMBERWELL ROAD · LONDON S.E.5.

Name .....

Address .....

.....



PURPOSE-MADE for every job

GREENWOOD-AIRVAC

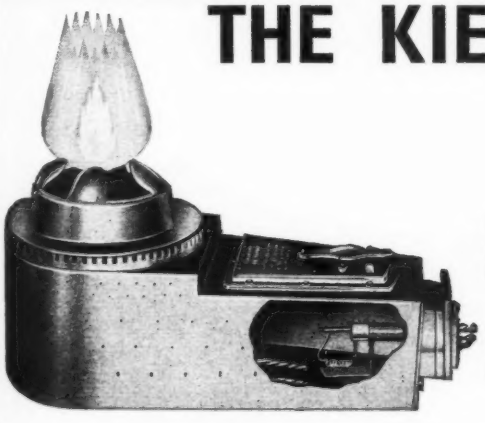
UNDERFLOOR CONDUIT SYSTEM

For depths of screed 1½" and over
Rustproofed all-metal construction
Sizes from 4" x 1" to 12" x 1½"
Single or multiple divisions
One-way or multi-way junction boxes
Flyover separators if required
Floor outlets for future connections

Every contract for the Greenwood-Airvac patent Conduit System is purpose made in that the duct size, junction box design and other accessories are made to suit the individual application although based on a standard pattern throughout. This elasticity of design enables this versatile system to meet all the requirements of architects and contractors to the mutual benefit of all concerned. Full details are given in the publication 'Greenwood-Airvac Conduit Systems' now available on request.

GREENWOOD'S AND AIRVAC VENTILATING COMPANY LIMITED · BEACON HOUSE · KINGSWAY · LONDON · W.C.2
Telephone · CHAncery 8135 (4 lines) *Telegrams: "Airvac," London*
Patentees, Designers and Manufacturers of Ventilating Equipment and Electrical Conduit Systems.

THE KIEFT FULLY-AUTOMATIC OIL BURNER



THE ONLY LOW TEMPERATURE VAPOURISING FULLY AUTOMATIC OIL BURNER IN THE WORLD. EASILY FITTED TO ALMOST ANY DOMESTIC AND INDUSTRIAL BOILER WITH OUTPUT BETWEEN 35,000 AND 350,000 B.T.Us

OVER HALF A MILLION IN DAILY USE THROUGHOUT THE U.S.A.

Perfected after 26 years of intensive research, the KIEFT Fully Automatic Self-Lighting Oil Burner offers the simplest and most efficient means of converting solid-fuel boilers to fully-automatic oil burning. It is ideal for larger houses, small factories, hotels, shops, warehouses, hospitals, churches, schools, etc

FITS MOST BOILERS. The KIEFT Oil Burner is made in a range of 7 sizes to ensure maximum efficiency in operation on boilers with outputs from 35,000 to 350,000 B.T.Us. These 7 sizes make conversion of almost any boiler possible—e.g. in the case of a domestic solid-fuel boiler the Burner would be installed in the ash-pit.

KIEFT FULLY AUTOMATIC SELF-LIGHTING **OIL BURNER**

NEEDS NO ATTENTION. Once fitted, the KIEFT Oil Burner needs no attention or cleaning whatsoever. It looks after itself. When the water is piping hot, the Burner *automatically* extinguishes itself, and when required, *automatically* relights itself.

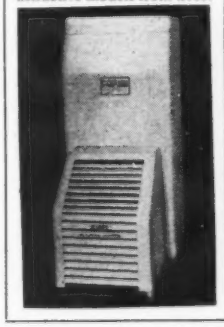
CLEAN AND ECONOMICAL. The KIEFT Oil Burner operates on any light furnace oil, which is both cheap and plentiful. The user has no worries over rising cost and shortages of solid fuel. The Burner is completely noiseless, clean burning, smokeless and odourless, and there is no motor nor moving parts to go wrong.

FULLY GUARANTEED.
FULLY AUTOMATIC MODELS FROM £49 18s. 4d.

Write NOW for illustrated literature on the KIEFT Oil Burner and the KIEFT Oil Burning Boiler.
TRADE ENQUIRIES INVITED.

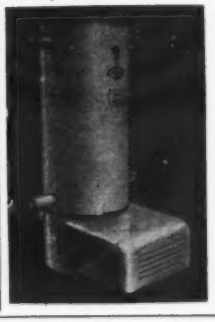
THE KIEFT 'HIKON' AUTOMATIC OIL FIRED BOILER Fitted with a KIEFT OIL BURNER

This handsome Oil-Fired Domestic Hot Water Boiler requires simply no attention and is wonderfully convenient and economical. It provides hot water at any time. It operates on low-cost fuel oil. Fully guaranteed, the Kieft 'HIKON' Boiler is available in a choice of four attractive models from £105.

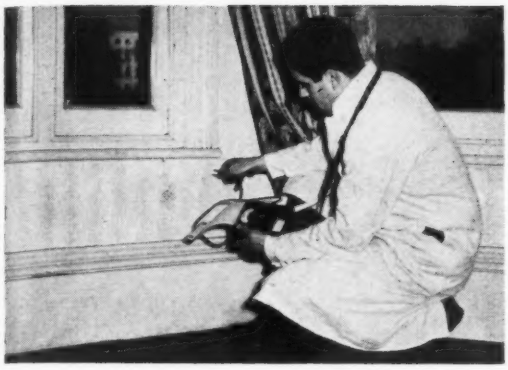


THE KIEFT-PERKINS AUTOMATIC OIL FIRED BOILER Fitted with a KIEFT OIL BURNER

Modern in design and highly efficient in operation, this most dependable Diesel-Fired Hot Water Boiler is a real investment and is suitable for the home, office, warehouses, etc. The Kieft-Perkins Boiler is most economical, because it operates on domestic fuel-oil (diesel) which is cheap and plentiful. Four models available to suit all requirements from £120.



CYRIL KIEFT & CO. LTD. (Oil Burner Division), 13 DUDLEY ROAD, WOLVERHAMPTON



DETECT DAMPNESS

instantaneously with a

Protimeter

Dry rot thrives in damp wood and brickwork, and until now detection has relied on the sense of sight and touch. By using the PROTIMETER Mark II (developed by the makers of Protim) this unsatisfactory hit or miss method can now be discarded.
The PROTIMETER accurately pinpoints the sources of moisture, defines the extent and measures the amount of dampness in brickwork, timber and plaster, thus enabling effective steps to be taken against dry rot and other fungal attacks. An essential aid for Architects, Surveyors, Builders, Decorators and Municipal Authorities.

PRICE complete with leather case **£17.17.0d.**

PROTIM LTD., 356/368, Evelyn Street, London, S.E.8.

Telephone TIDeway 4611.

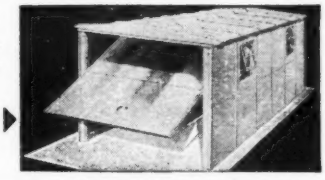
BATLEY *CONCRETE GARAGES*

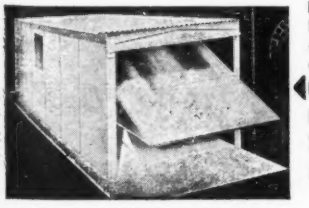
FOR EVERY CAR—AND EVERY SITE!

SINGLE GARAGES

Available in widths of 8′ 3″ or 11′; clear height of 6′ 3″ or 7′ 9″. Extendible in length.

FROM £51/10/- OR 10/3 WEEKLY





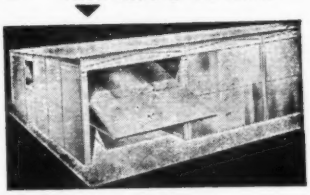
LEAN-TO GARAGE Designed for building on to the house or existing wall. Width required only 8′. Rear door available

FROM £55 OR 11/- WEEKLY

MULTIPLE GARAGES, One, two or more supplied in a block. Will provide an unequalled investment.

FROM £55 OR TERMS

- **'Up and Over' or hinged doors available.**
- **Easily erected.**
- **Portable yet permanent.**
- **Fireproof and rotproof.**
- **Non-corrosive aluminium alloy bolts and fittings.**



NOW WITH EXCLUSIVE NEW ROOF DESIGN

Attractive Deferred Terms
FIVE YEARS' FREE FIRE INSURANCE
Free Delivery in England and Wales

Send for FREE Illustrated Brochure
ERNEST BATLEY LIMITED
63, Colledge Road, Holbrooks, Coventry. Tel.: 89245/6

TIMBER DECAY *calls for*

prompt diagnosis . . .

Whether caused by prolific insect borers or insidious fungal rot (some species of which have the destructive effect of a slow fire), timber decay should be accurately diagnosed by specialists and arrested before expensive replacement becomes inevitable. The experienced survey staff of Richardson & Starling Ltd. undertake inspections and tender detailed advice on remedial measures.

effective control materials . . .

"WYKAMOL" This unique insecticide requires only *one application* to effect the total extermination of Death Watch Beetle and other wood-borers, and confers *complete immunity* against further attack.

"RESKOL" Powerfully toxic to all fungi causing decay in timber, this special solution of pentachlorphenol can eradicate even the virulent Merulius (Dry Rot).

The superiority of these materials has been proved in practice time and time again. They are available to all users.

guaranteed treatment by experts...

Unless the varying characteristics of beetle infestation or fungal rot are fully understood, successful eradication should be ensured by the employment of specialists. In the course of several years' reliable work, the services of Richardson & Starling Limited have been used in hundreds of important and historic buildings, including Cathedrals, Churches, Universities and ancient mansions. The careful treatment carried out by their highly trained team of expert operatives is covered by a *ten-year guarantee of efficacy.*

If you have a problem of timber decay, write now for full details of Services and prices of materials incorporated in our free technical brochure "The Control of Insect and Fungal Destroyers of Timber".

RICHARDSON & STARLING LTD

Members of the British Wood Preserving Association
(DEPT. A.J.), HYDE STREET, WINCHESTER
Winchester 5001/2
London Office: THE TIMBER DECAY ADVICE BUREAU
6 Southampton Place, W.C.1. Tel: HOLborn 3555-6

NEW

Solution for the damp walls problem

Eliminate the risk of damp spoiling decoration—first apply one coat of

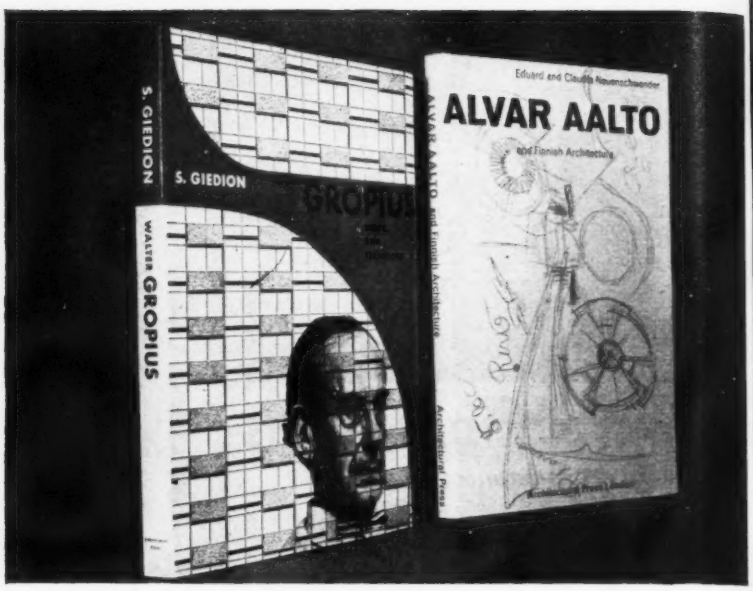
Brella
LIQUID WATERPROOFER

Brella contains silicones which repel water without sealing the treated surface.

- ★Easily applied—1 gallon normally covers 250/300 sq. ft.
- ★ Will not crack or chalk.
- ★ Will not alter appearance or texture of surface.

Write for details and price:

PURIMACHOS LIMITED,
ST. PHILIPS, BRISTOL, 2



BOOKS ABOUT TWO GREAT ARCHITECTS

WALTER GROPIUS: WORK AND TEAM-WORK

by Dr. S. Giedion

THE MOST IMPORTANT BOOK yet written about one of the greatest living architects, by one of the most widely-read writers on architects and architecure. The author of *Space, Time and Architecture* pays tribute to the creative genius of a world-renowned pioneer of the modern movement, his friend Walter Gropius—who, in January, 1954, was awarded the first São Paulo Prize for Architecture in recognition of his work as an innovator and educator during the past half-century. Dr. S. Giedion, at the instigation of the Matarazzo Foundation of São Paulo (donor of the prize) writes a detailed, authoritative study of Gropius' development as designer, teacher and leader and illustrates his account with over 300 photographs and plans of buildings and projects for which Gropius has been responsible, either alone or—practising one of the principles he has so vigorously preached for many years—as a leading member of a creative team of designers.

Chapters on Gropius' background, heritage and personality are followed by appreciations from two of his greatest contemporaries, Mies van der Rohe and Le Corbusier. The 11 chapters on his life and work include Gropius and the Bauhaus, Buildings for Education, Buildings for Industry, the Modern Theatre, Prefabricated Houses, Development of the Slab Apartment Block, the Changing Structure of the City. Then follow over 140 pages of illustrations of Gropius' work, by far the most comprehensive collection ever published. The book ends with a complete list of Gropius' works, bibliographies of all his books and other writings, and of books and critical articles about him and his work: and an index. Size 10¼ ins. by 7⅞ ins. 248 pages with over 300 line and halftone illustrations, and a full list of Gropius' works and projects, bibliographies of works by and about Gropius. Price 42s. net, postage 1s. 5d.

ALVAR AALTO AND FINNISH ARCHITECTURE

by E. and C. Neuenschwander

THIS WORK by Eduard and Claudia Neuenschwander gives an insight into a frontier of Western civilization where some of the most interesting works of the modern movement have been created, and where today an entirely new architectural generation, inspired by Alvar Aalto, receives professional training and stimulation probably unequalled elsewhere. First place in Finnish society belongs not to the manager or the politician but to the intellectual and the creative genius. And the architect shaping the environment and many of the accessories of modern living is held in particularly high esteem. Without many words, through careful choice of photographs, sketches and detailed plans, the authors clearly show how Aalto's creative power impresses itself on the landscape and way of life of Finland, and how this creative power organically evolves from the country's peculiar regional characteristics.

Eduard Neuenschwander worked in Alvar Aalto's office for three decisive years, decisive because during these years Aalto became absorbed with the design of large-scale projects. Aalto had, of course, worked on large-scale projects before: but now realization immediately followed the drafting stage. Aalto almost deliberately destroyed his sketches and plans. Even photographs of his major works are extremely rare. This book—possible only because Neuenschwander, in daily working contact with Aalto, succeeded in collecting and preserving original material—shows the great works and projects completed from 1950 to 1952 as well as numerous earlier buildings, and is thus a unique document and a standard work for every architect. Text and captions are printed in English, French and German simultaneously. Size 10⅞ ins. by 7⅛ ins., 192 pages with approximately 300 photographs, plans and detailed layouts. Price 50s. net, postage 1s. 3d.

THE ARCHITECTURAL PRESS, 9-13, QUEEN ANNE'S GATE, LONDON, SW1

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.

AIR MINISTRY, Works Designs Branch, requires in London and Provinces ARCHITECTURAL ASSISTANTS experienced in planning/preparation of working drawings and details for permanent and semi-permanent buildings.

Salaries up to £898 p.a. (men) and £788 (women). Starting pay dependent on age, quals. and experience.

Paid overtime. Long term possibilities with promotion and pensionable prospects, 4 weeks' leave a year. Liability for overseas service. Normally natural born British subjects. Write stating age, quals., employment details, inc. type of work done, to any employment exchange, quoting Order No., Borough 1000. 9607

CITY OF LEEDS EDUCATION COMMITTEE
LEEDS COLLEGE OF ART
Principal: E. E. Pullee, A.R.C.A., F.S.A.E., F.R.S.A.
SCHOOL OF ARCHITECTURE AND TOWN PLANNING
Head: F. Chippindale, F.R.I.B.A.
DEPARTMENT OF TOWN PLANNING
Senior Lecturer in Charge: W. K. Smigielski, Ing.Arch., M.T.P.I.

DIPLOMA COURSE IN TOWN PLANNING
(Qualifying for exemption from the Final Examination of the Town Planning Institute) open to Architects, Engineers, Surveyors, Geographers and Economists,

and

PRE-DIPLOMA COURSE IN TOWN PLANNING
(Preparing for the Intermediate Examination of the Town Planning Institute).

Full-time and part-time courses are available commencing 10th September, 1956. Applications are now being considered and candidates are asked to apply not later than the 1st September, 1956.

Further particulars can be obtained from the Clerk to the School, 43a, Woodhouse Lane, Leeds, 2.

GEORGE TAYLOR,
Chief Education Officer.

Education Offices,
Leeds, 1. 9999

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.

Salary scale, which attracts pay supplement of amounts between £91 and £160 per annum is £675×£25—£750×£30—£960×£40—£1,000. 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 £900 plus pay supplement of £118.

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 drawings for new buildings.

Preference will be given to a suitably qualified candidate who served in H.M. Forces during the 1914-18 or 1939-45 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, so as to reach him not later than 25th June, 1956. 1078

LINDSEY (LINCOLNSHIRE) COUNTY COUNCIL

ASSISTANT QUANTITY SURVEYOR Grade APT.II £595/£675 required for abstracting and taking off for small works. Preference given to Intermediate R.I.C.S.

JUNIOR QUANTITY SURVEYOR Grade APT.I £530/£610 required for junior work in connection with the above.

N.J.C. Conditions of Service. Canvassing will disqualify. Candidates must disclose in writing whether to their knowledge they are related to any Member or Senior Officer of the Council.

Applications giving age, qualifications, experience, present salary, and the names of at least two persons to whom reference can be made, to be sent not later than 21st June, 1956, to the County Architect, County Offices, Lincoln. 1292

NATIONAL COAL BOARD
WEST MIDLANDS DIVISION

Applications are invited for the post of ARCHITECTURAL ASSISTANT Grade I (salary scale £625 × £25—£750) at Fenton, Stoke-on-Trent.

Applicants should have passed the Intermediate Examination of the R.I.B.A. and have had not less than three years' subsequent practical experience, they should be able to prepare sketch plans and working drawings under supervision and have a sound knowledge of building construction.

Applications in writing to Divisional Establishment Officer, National Coal Board, West Midlands Division, Himley Hall, Dudley, Worcs. 1308

CITY OF BIRMINGHAM EDUCATION COMMITTEE
COLLEGE OF ART AND CRAFTS
Principal: MEREDITH W. HAWES, A.R.C.A., A.R.W.S., N.R.D.
SCHOOL OF INDUSTRIAL DESIGN

Applications are invited for the post of HEAD OF THE SCHOOL OF INDUSTRIAL DESIGN. The post is an important one in the College and candidates, who should be practising designers, are expected to hold high professional qualifications in industrial design or architecture. Teaching experience is also desirable. Salary in accordance with Burnham (Further Education) Scale for Heads of Departments, Grade II: Men £1,065 × £25—£1,215. Forms of application and further particulars may be obtained from the Principal, College of Art and Crafts, Margaret Street, Birmingham, 3 (s.a.e.). Closing date 30th June, 1956.

The successful candidate will be required to take up duty on the 1st January, 1957.

E. L. RUSSELL,
Chief Education Officer.

May, 1956. 1315

BOROUGH OF CASTLEFORD
QUANTITY SURVEYING ASSISTANT

Applications are invited for the above appointment in the Borough Engineer and Surveyor's Department, at a salary in accordance with Grade A.P.T. IV.

Applicants should hold a recognised professional qualification, and should have had experience in the taking off and preparation of bills of quantities for housing and other building work. Experience in the preparation of estimates for such works would also be of advantage.

The appointment is superannuable, and the successful applicant will be required to pass satisfactorily a medical examination.

If required, housing accommodation will be provided for a successful married applicant.

Forms of application may be obtained from the undersigned, and must be returned not later than the 23rd June, 1956.

Canvassing, either directly or indirectly, will disqualify.

E. HUTCHINSON,
Town Clerk.

Town Hall, Castleford. 1261

BUCKS COUNTY COUNCIL
APPOINTMENT OF DEPUTY COUNTY ARCHITECT

Applications are invited from Fellows or Associates of the Royal Institute of British Architects for the appointment of DEPUTY COUNTY ARCHITECT, at a salary on J.N.C., Scale G (£1,790×£55—£2,065 p.a.). The post is likely to be upgraded shortly in view of the increase in the population of the county over 400,000.

The appointment is superannuable and subject to medical examination.

Further particulars and forms of application may be obtained from the undersigned, to whom applications must be delivered by 30th June, 1956.

R. E. MILLARD,
Clerk of the Bucks County Council.

County Hall, Aylesbury.
May, 1956 1248

WEST SUSSEX COUNTY COUNCIL
APPOINTMENT OF PRINCIPAL PLANNING ASSISTANT

Applications are invited for the appointment of Principal Planning Assistant. Salary A.P. & T. Division, Grade VII of the National Scales (£975 p.a.—£1,200 p.a.).

The appointment will be subject to the National Scheme of Conditions of Service.

Applicants must have passed the Final Examination of the Town Planning Institute; an additional qualification in Architecture or Surveying would be an advantage.

Forms of application and further particulars as to the duties of the post can be obtained from Mr. John G. Jefferson, M.I.C.E., M.I.Mun.E., M.T.P.I., County Planning Officer, County Hall, Chichester, to whom applications should be sent not later than the 18th June, 1956.

T. C. HAYWARD,
Clerk of the County Council.

1263

HAYES AND HARLINGTON URBAN DISTRICT COUNCIL

Applications are invited for:—

(*a*) ARCHITECTURAL ASSISTANTS (PERMANENT) (two vacancies) within Grade A.P.T. II, *i.e.*, £595—£675 per annum. (*b*) SENIOR ARCHITECTURAL ASSISTANT (TEMPORARY) within Grade A.P.T. IV, *i.e.*, £710—£885 per annum, plus London weighting, in each instance, 21—25 years £20 per annum, 26 years and over £30 per annum. Candidates for (*a*) must have passed the R.I.B.A. Inter. Exam., good experience of housing work with local authority. Housing accommodation will be made available for one of these two appointments if necessary. (*b*) Must be a Registered Architect, have good general experience in design and construction in relation to municipal housing and other works, and capable of supervising large building contracts. Housing accommodation will be made available if necessary. 5-day week. Further particulars and form of application obtainable from the undersigned, which, when completed, must be returned as soon as possible.

GEORGE HOOPER.
Clerk and Solicitor.

Town Hall, Hayes, Middlesex. 1277

HAMPSHIRE

Applications are invited for the appointment of a RESEARCH OFFICER in the County Planning Department. The salary will be in accordance with the National Salary Scales, A.P.T. Grade V (£795—£970).

Candidates should preferably have a Degree of a British University in Geography, Economics, or Sociology, and have had practical experience in research and survey work. Ability in statistical analysis and graphic representation will be an advantage as will a qualification in Town Planning and some experience in the preparation of Development Plans.

The appointment is pensionable and will be subject to a satisfactory medical report. Officers using their own cars when travelling on County Council duties will receive travelling allowances on the County scale for the time being in force. In approved cases the County Council are prepared to assist newly appointed staff to meet removal and other expenses.

Applications, stating age, education, qualifications and experience, together with a copy of one testimonial and the names of two referees, should reach the County Planning Officer, Litton Lodge, Clifton Road, Winchester, by the 27th June. 1330

COUNTY BOROUGH OF BOLTON
APPOINTMENT OF SUPERINTENDENT OF WORKS
(Amended Conditions)

Applications are invited for the appointment of Superintendent of Works in the Department of the Borough Architect, Mr. K. Martin Baxter, at a salary within Grade A.P.T. IV of the National Salary Scales (£710—£885 per annum). Commencing salary according to experience and qualifications.

The person appointed will be required to supervise the whole of the building works programme for new works, and maintenance, and to control and co-ordinate the Clerks of Works and Maintenance Section of the Department, in accordance with the terms and conditions of appointment. The successful candidate will have the benefit of a Casual Car User's allowance in accordance with the National Scheme of Conditions of Service.

The appointment is subject to the provisions of the Local Government Superannuation Acts and to the passing of a medical examination.

Application forms, together with the amended terms and conditions of appointment, may be obtained from my office, and should be returned to me not later than July 9th, 1956.

PHILIP S. RENNISON,
Town Clerk.

Town Hall,
Bolton. 1316

WARWICKSHIRE COUNTY COUNCIL
ARCHITECT'S DEPARTMENT

Applications are invited for the following appointments:—

(*a*) SENIOR ASSISTANT ARCHITECTS, Grade A.P.T. V (£795—£970). Applicants must be competent designers having a knowledge of modern methods of construction and be capable of handling large building projects from sketch plan stage to completion.

(*b*) ARCHITECTS, Grade A.P.T. IV (£710—£885). Applicants must be competent designers having a good knowledge of construction and be capable of handling medium sized contracts.

(*c*) ASSISTANT ARCHITECTS, Scale £590—£840. The successful applicants will work in teams on large projects but opportunity will be given to men with enthusiasm and ability to design and carry out smaller projects under the group architect.

(*d*) SENIOR HEATING ENGINEER, A.P.T. V, (£795—£970). Applicants should be Associate Members of I.H.V.E. by examination or hold H.N.C. and have held a senior post of designer for several years with experience in the preparation of estimates, designs, specifications and bills of quantities and running of contracts for heating and allied services.

(*e*) ASSISTANT HEATING ENGINEER, Grade A.P.T. IV (£710—£885). Applicants should be Graduate Members of the I.H.V.E. or hold H.N.C. and have had some experience in the design of heating, ventilating and allied services, working under a senior engineer.

(*f*) ENGINEERING CLERK OF WORKS, Grade A.P.T. II (£595—£675). Applicants should have had several years' experience either on the site supervising the contracts for heating, water supplies and allied service, or as a contractor's foreman in charge of large contracts for similar work.

(*g*) CLERKS OF WORKS. Applications are invited for the appointment of clerks of works to supervise the erection of new school buildings in various parts of the County. Salary £14 per week.

The commencing salaries can be within the grades according to the ability and experience. The appointments, except (*g*) are on the established staff and subject to the Scheme and Conditions of Service of the National Joint Council for Local Authorities. All appointments are subject to the Local Government Superannuation Acts, 1937-1953. Successful candidates will be required to pass a medical examination.

The Council is unable to offer successful candidates housing accommodation.

Applications are to be on forms which can be obtained from G. R. BARNSLEY, F.R.I.B.A., County Architect, Shire Hall, Warwick.

L. EDGAR STEPHENS,
Clerk of the Council.

Shire Hall,
Warwick.
June, 1956. 1314

TOWN PLANNING ASSISTANT required by HAYES & HARLINGTON U.D.C. Salary within A.P.T. I (£530—£610 per annum plus London weighting. Applicants should have experience with a local authority in carrying out delegated planning functions and ability to prepare reports and plans. Duties of appointed person include consideration of planning applications, preparation of plans, enforcement inspections and reports and planning surveys in connection with tree preservation, etc. Application on forms available from the undersigned to be returned by 2nd July, 1956.

GEORGE HOOPER,
Clerk and Solicitor.

Town Hall,
Hayes, Middlesex. 1309

DENBIGHSHIRE COUNTY COUNCIL
COUNTY PLANNING DEPARTMENT

The above Council invite applications from suitably qualified persons for the following appointments to the Staff of the County Planning Department :—

(*a*) CHIEF TECHNICAL ADMINISTRATIVE ASSISTANT for the County Headquarters Office at Ruthin. Salary A.P.T. Grade VI, £880—£1,080 per annum. Applicants must have had considerable experience in the control of development and general planning administration and be Corporate Members of the Town Planning Institute. An additional qualification in either engineering, surveying or architecture will be an advantage.

(*b*) DEVELOPMENT SURVEYOR for the County Headquarters Office at Ruthin. Salary A.P.T. Grade IV, £710—£885 per annum. This appointment is for the enforcement of planning control and applicants must be fully competent to undertake this class of work.

(*c*) AREA PLANNING ASSISTANT for the East Area Planning Office at Wrexham. Salary A.P.T. Grade II, £595—£675 per annum. Applicants must be competent to undertake the preparation of planning proposals, to assist in the control of development and should have passed the Intermediate Examination of the Town Planning Institute or hold an equivalent qualification.

The foregoing appointments are subject to the terms and conditions of service applying to the administrative, technical and clerical officers of the County Council and will be terminable at the end of any month by one month's notice in writing on either side. The successful applicants will be required to pass a medical examination and will be subject to the Local Government Superannuation Act, 1937. In respect of each appointment the successful applicant must provide and maintain a motor car, for which a travelling allowance will be paid in accordance with the Council's scale.

Applications stating appointment applied for, age, whether married or single, qualifications, present position and salary, previous positions and full details of experience obtained, together with the names and addresses of two persons to whom reference may be made must be sent to the undersigned by not later than the 30th day of June, 1956.

W. E. BUFTON,
Clerk of the County Council.

County Offices,
Ruthin,
Denbighshire.
4th June, 1956. 1310

COUNTY OF LEICESTER

(*a*) SENIOR ASSISTANT ARCHITECT £880 – £1,080.

(*b*) SENIOR ASSISTANT ARCHITECT £795—£970.

(*c*) ASSISTANT ARCHITECTS £690—£840.

(*d*) ARCHITECTURAL ASSISTANTS £595—£675 or £640 – £765.

Candidates for (*a*) and (*b*) must be registered architects experienced in the design of modern buildings and capable of carrying through large projects from inception to completion; for (*c*) must have passed parts I and II of the R.I.B.A. Final; for (*d*) must be of intermediate standard with some experience. Lodging allowance and removal expenses may be paid to a married man in each case. Apply on form obtainable from County Architect, 123, London Road, Leicester. 1296

COUNTY BOROUGH OF
BURTON UPON TRENT
BOROUGH ARCHITECT'S DEPARTMENT

Applications are invited for the following appointments :—

(*a*) ASSISTANT ARCHITECT in Grade IV (£710—£885).

(*b*) ASSISTANT QUANTITY SURVEYOR in Grade IV (£710—£885)

Applicants for the post of Assistant Architect must be Associates of the Royal Institute of British Architects. Commencing salary in accordance with qualifications and experience. Appointments subject to satisfactory medical examination and to determination by one month's written notice on either side.

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

Applications giving age, qualifications, full details of experience and names of two referees, should be submitted to the Borough Architect, Town Hall, Burton upon Trent, not later than Wednesday, the 27th June, 1956.

H. BAILEY CHAPMAN,
Town Clerk.

Town Hall,
Burton upon Trent.
4th June, 1956. 1327

LONDON ELECTRICITY BOARD
CIVIL/STRUCTURAL ENGINEERING
ASSISTANTS AND DRAUGHTSMEN

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

Conditions of service are in accordance with the National Joint Board agreement, Schedule "D," and salaries are inclusive of London Allowance.

Applicants for the positions of Assistants should have experience in the design and detailing of reinforced concrete for foundations, framed buildings, etc., or in the design and detailing of structural steelwork for buildings, etc. Salary within Grade 5 = £735/£840 per annum.

Applicants for the positions of Draughtsmen should have experience in the preparation of drawings for either reinforced concrete or structural steelwork, or building work. Salary within Grade 6 = £588/£714 per annum.

Application forms obtainable from Personnel Officer, 46, New Broad Street, London, E.C.2. Please quote ref. : PER/V/2003/A. 1332

BASILDON DEVELOPMENT CORPORATION
DEPARTMENT OF ARCHITECTURE AND PLANNING REQUIRE :

(*a*) ASSISTANT ARCHITECT, Grade IVB, £845—£960.

(*b*) ASSISTANT ARCHITECT, Grade IVA, £715—£845.

(*c*) ASSISTANT ARCHITECT, Grade VB, £580—£650.

Architects may work on Town Centre, Housing or Factories; experience and ability in contemporary design and the preparation of working drawings essential. Candidates for appointment (*a*) must also have experience in contract supervision and management.

Applicants posts (*a*) and (*b*) must hold professional qualification in Architecture. Post (*c*) must have passed intermediate R.I.B.A.

Appointments superannuable and subject to satisfactory medical examination.

Housing available for renting.

Applications on special form (obtainable from Chief Architect) to General Manager, Basildon Development Corporation, Gifford House, Basildon, Essex, endorsed with relevant appointment, by Monday, 25th June, 1956. 1331

SOUTH WEST METROPOLITAN REGIONAL HOSPITAL BOARD

Applications are invited for the following appointment on the permanent staff of the Regional Architect.

ASSISTANT ARCHITECT

The commencing salary (fixed by reference to experience at full professional standard as a practising architect and to age) will be within the scale £640 × £25 (4) × £30 (4) × £35 (2)—£930, plus London Allowance. Applicants must be Associate Members of the Royal Institute of British Architects and capable of preparing working and detailed drawings and specifications and supervising work on individual projects. Experience of hospital planning and construction an advantage.

Application forms may be obtained from the undersigned and must be returned by not later than 27th June.

E. G. BRAITHWAITE,
Secretary.

South West Metropolitan
Regional Hospital Board,
11a, Portland Place, W.1. 1317

FEDERATION OF RHODESIA AND NYASALAND
VACANCIES : ASSISTANT QUANTITY SURVEYORS, FEDERAL DEPT OF PUBLIC WORKS

Applicants, under 35, must hold A.R.I.C.S. (Quantities) or a qualification accepted by the R.I.C.S. for exemption from their Associateship examinations. Duties include taking off and preparing Bills of Quantities for all types of public buildings, including measurement and valuation of builders' accounts. Starting salary, £903—£1,250, depending on qualifications and experience, on scale rising to £1,600 p.a. Successful applicants will probably be stationed in Salisbury but are liable to serve anywhere in the Federation. Application forms and further details from Secretary, Rhodesia House, 429, Strand, London, W.C.2. Closing date 7th July, 1956. 1328

BOROUGH OF BARKING
DEPARTMENT OF THE BOROUGH ARCHITECT
QUANTITY SURVEYING ASSISTANT

Assistant for working-up required on a salary scale of £530—£610 per annum plus London Weighting £10—£30 per annum according to age. Written Applications should reach the undersigned not later than 9 a.m. Friday, 22nd June, 1956.

E. R. FARR,
Town Clerk.

Town Hall,
Barking. 1329

BASILDON DEVELOPMENT CORPORATION
DEPARTMENT OF ARCHITECTURE & PLANNING

require ASSISTANT PLANNERS to assist in implementation of Master Plans. Experience and ability in planning design essential. Salary (A) Grade IVB £845—£960 (B) Grade IVA (£715—£845 post (A) is for an Architect Planner, qualified in both professions for Post (B) planning qualifications essential, Architectural experience desirable. Appointments superannuable. Housing available for renting. Applications on special form (obtainable from Chief Architect) to General Manager, Gifford House, Basildon, Essex, by Friday, 13th July, 1956. 1366

HUNTINGDONSHIRE
COUNTY ARCHITECT'S DEPARTMENT

Applications are invited for the following appointments :—

(*a*) SENIOR ARCHITECTURAL ASSISTANTS, A.P.T. IV—V (£710—£970).

(*b*) SENIOR ARCHITECTURAL ASSISTANT, A.P.T. IV (£710—£885).

(*c*) ARCHITECTURAL ASSISTANT, A.P.T. II—III (£595—£765).

Appointments will be made within these grades subject to qualifications and experience.

Further details and application forms may be obtained from the County Architect, County Buildings, Huntingdon. Completed application forms should be forwarded by Friday, 29th June, 1956, to the undersigned.

A. C. AYLWARD,
Clerk of the Council.

County Buildings,
Huntingdon.
4th June, 1956. 1326

CITY OF WORCESTER
APPOINTMENT OF SENIOR ASSISTANT ARCHITECT

Applications are invited from qualified architects for this appointment in the department of the City Engineer and Surveyor within A.P.T. Grade V (salary £795—£970 per annum).

Candidates must be Registered Architects and Associate Members of the R.I.B.A. and should have had experience in municipal work.

Accommodation in a Corporation house will be made available to the successful candidate if required and a casual user's car allowance will also be available.

Applications with the names of two referees are to be sent to the City Engineer and Surveyor, 22, Bridge Street, Worcester, by 30th June, 1956.

BERTRAM WEBSTER,
Town Clerk.

Guildhall,
Worcester. 1313

ARCHITECTURAL DRAUGHTSMAN required by ADEN GOVERNMENT P.W.D. on contract for tour of 18 to 24 months in first instance. Salary according to experience in scale (including pay differential) £930 rising to £1,452 a year. Gratuity at rate £100/£150 a year. Outfit allowance £60. Free passages for officer and wife. Free passages for four children under age 18. Education allowance in lieu of passages for children between 8 and 18 years undergoing full time education in U.K. Liberal leave on full salary. Candidates must have sound knowledge of architectural drawing, building construction and measurement of existing buildings. Candidates who have passed R.I.B.A. Inter. Exam. or recognised equivalent given preference. Write to the Crown Agents, 4, Millbank, London, S.W.1. State age, name in block letters, full qualifications and experience and quote M2B/41744/AG. 1312

NORTH WEST METROPOLITAN REGIONAL HOSPITAL BOARD

ASSISTANT QUANTITY SURVEYOR required. Applicants should be Associate Members of the R.I.C.S. and be thoroughly experienced in taking-off, abstracting and billing of quantities, measurement of work in progress and settlement of final accounts. Salary scale : £640 × £25 (4) × £30 (4) × £35 (2)—£930 plus £20—£40 London Weighting.

Salary above minimum may be paid according to appropriate experience since obtaining qualification.

Applications, stating age, qualifications (with dates) and experience, together with names of two referees to Secretary, North West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, by 30th June. 1311

LEYTON COMMITTEE FOR EDUCATION
JUNIOR ARCHITECTURAL ASSISTANT

Applications are invited for the permanent appointment of a JUNIOR ARCHITECTURAL ASSISTANT, A.P.T. GRADE I, £560—£640 per annum including London Weighting (£30) which is reduced according to scale where age is less than 26.

The successful applicant will be employed by the Essex County Council and will work in the School Architect's Section of the Borough Engineer and Surveyor's Department, Town Hall, Leyton, London, E.10.

Alternate Saturday mornings free of duty and canteen facilities available.

Details and form of application from the Borough Education Officer, Kirkdale Road, Leytonstone, E.11, to whom they should be returned by Thursday, 5th July, 1956.

D. J. OSBORNE,
Town Clerk.

Town Hall,
Leyton, E.10. 1373

NATIONAL COAL BOARD
NORTH EASTERN DIVISION

Applications are invited for the following appointments in the office of the Divisional Chief Architect situated at Conisborough, near Doncaster :—

QUANTITY SURVEYOR, Grade II.
(Salary Scale : £700 × £30—£1,000 per annum).
Qualifications : A.R.I.C.S.

ARCHITECTURAL ASSISTANTS, Grade II.
(Salary Scale : £520 × £20—£615 per annum).
Qualifications : Preferably Intermediate R.I.B.A. or studying for such Examination.

JUNIOR ARCHITECTURAL ASSISTANTS
(Salary Scale : according to age. £4 5s. per week at 18 to £8 15s. per week at 25).

Full details and application forms obtainable from Hugh Smith, F.R.I.B.A., Deputy Chief Architect, National Coal Board, P.O. Box No. 4, Denaby, near Doncaster. 1344

NEWCASTLE REGIONAL HOSPITAL BOARD
APPOINTMENT OF DEPUTY REGIONAL ARCHITECT

Applications are invited for the appointment of Deputy Regional Architect on the permanent establishment of the Board's Headquarters Staff at a salary of £1,195 × £50(4) × £30(1) — £1,425 per annum, subject to recently negotiated salaries increase.

Applicants must be Registered Architects and Associate Members of the Royal Institute of British Architects. Good administrative and architectural experience is an essential qualification as are also ability to supervise technical staff efficiently and possession of an intimate knowledge of the design and construction of all types of hospital buildings.

The successful applicant will be expected to deputise whenever necessary in respect of the whole range of the Regional Architect's duties and responsibilities.

The conditions of service will be as laid down by the Whitley Council, and the appointment will be subject to superannuation and be terminable by one month's notice from either side. The successful applicant, if not already employed in the National Health Service, will be required to pass a medical examination before the appointment is confirmed.

Applicants should furnish full details as to age, training, qualifications, past and present appointments, present salary and professional experience, together with the names and addresses of three referees, and should reach the Secretary to the Board not later than Saturday the 30th June, 1956.

Walker Gate Hospital,
Benfield Road,
Newcastle-upon-Tyne, 6. 1372

NOTTINGHAMSHIRE COUNTY COUNCIL
COUNTY PLANNING DEPARTMENT
APPOINTMENT OF ASSISTANT ARCHITECT

Applications are invited for the appointment of Assistant Architect. Salary £710—£885 per annum. Applicants must be qualified Architects and membership of the Town Planning Institute would be an advantage. Experience in the design and grouping of buildings, the re-development of built-up areas and the preparation of housing layouts required.

Further particulars from County Director of Planning, Shire Hall, Nottingham, to whom applications must be submitted not later than 28th June, 1956.

A. R. DAVIS,
Clerk of the County Council.
1370

NORTHERN IRELAND HOUSING TRUST
SENIOR ASSISTANT ARCHITECT

The Trust invites applications for the post of Senior Assistant Architect on the salary scale £960 × £30—£1,050 × £10—£1,050.

Candidates must be Associate Members of the Royal Institute of British Architects and should have considerable experience.

Preference will be given to ex-Service candidates.

The person appointed will be required to participate in a contributory superannuation scheme which allows for the reciprocal transfer of benefits in Local Government schemes in suitable cases.

Assistance in obtaining housing accommodation may be given in suitable circumstances to the successful candidate.

Please apply not later than 28th June, 1956, giving full details of age, education, qualifications and experience, including present post and salary, to the General Manager, Northern Ireland Housing Trust, 12, Hope Street, Belfast.

Please mark envelope 33/55. 1369

NORTH WEST METROPOLITAN REGIONAL HOSPITAL BOARD

Applications are invited from Associate Members of the R.I.B.A. for the three following newly created posts. The Board are engaged on a number of new building projects including a new hospital at Welwyn.

SENIOR ASSISTANT ARCHITECTS—Salary scale £920 × £30(5) × £25—£1,095 plus £40—£50 London Weighting. Improvided scale awaited. Applicants must have had considerable experience in design and construction, preferably in hospitals and associated buildings.

Apply, giving age, qualifications and experience, together with names of two referees, to Secretary, North Western Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, by 2nd July. 1367

LINDSEY COUNTY COUNCIL
PLANNING DEPARTMENT

Applications are invited for the appointment of SENIOR ASSISTANT (ARCHITECTURAL), at Lincoln. Grade A.P.T. IV (£710—£885). Successful candidate should be suitably qualified and have some experience in dealing with redevelopment schemes, housing layouts, and architectural control. Superannuation and N.J.C. conditions of service as approved by the County Council. Post requires officer to provide own car for official journeys, for which allowance will be paid at essential user's rate for car not exceeding 10 h.p. or 1,199 c.c., subject to review according to Council's decision on application of new allowance scales. Canvassing will disqualify. Relationship to any member or senior officer of the Council to be disclosed in writing by applicants.

Applications, with particulars of age, training, experience, and names and addresses of two referees, to County Planning Officer, The Castle, Lincoln, not later than 30th June, 1956. 1381

KENT COUNTY COUNCIL requires, in connection with extensive building programme, SENIOR QUANTITY SURVEYOR, with experience in the preparation of estimates, bills of quantities, and final accounts. Candidates should be familiar with recent developments in cost analysis and cost planning, and must be Corporate Members of the Royal Institution of Chartered Surveyors (Quantity Surveying Section). Salary within scale £795—£970. Application forms from County Architect, Springfield, Maidstone. Closing date: 3rd July, 1956. 1377

CITY OF EDMONTON, ALBERTA

Four qualified PLANNING ASSISTANTS are required in the Town Planning Department, at a salary between $3,315 and $4,750 per annum.

Applications, giving particulars of qualifications and experience, should be sent to the undersigned, from whom further details may be obtained.

W. R. BROWN,
Town Planner.
Civic Block, Edmonton, Alberta. 1378

LANCASHIRE COUNTY COUNCIL
PLANNING DEPARTMENT

PLANNING ASSISTANTS, A.P.T. Grades IV/V (£710—£970) required at PRESTON, WIGAN AND MANCHESTER. Applicants should possess a recognised qualification in architecture, surveying, engineering and/or town planning and should have had experience in a planning office. The commencing salary of the successful candidates will be within A.P.T. IV (£710—£885).

Applications stating appointment applied for, giving age, qualifications, present appointment, experience, etc., and two referees to the County Planning Officer, East Cliff County Offices, Preston, by 25th June, 1956. 1343

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-West Divisional Area, based at Dudley, 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, F.R.I.B.A., County Education Architect, Green Hall, Lichfield Road, Stafford.

T. H. EVANS,
Clerk of the County Council.
1380

COUNTY LONDONDERRY EDUCATION COMMITTEE
SECTION ARCHITECT

Applications are invited for the above position in the Committee's Offices in Coleraine. Applicants must be Associates of the R.I.B.A. or have equivalent qualifications. Remuneration, within the range £756—£1,150, point of entry according to experience and qualifications. Travelling expenses at County Council rates.

Application forms and conditions of appointment may be obtained from the Director of Education, Education Offices, New Row, Coleraine, and completed forms should be returned not later than 21st June, 1956. 1379

COUNTY OF ESSEX
BOROUGH OF WALTHAMSTOW
COMMITTEE FOR EDUCATION

Applications are invited for the appointment of SENIOR ASSISTANT ARCHITECT in the Office of the Education Architect, Mr. T. L. Rampton, A.R.I.B.A., A.R.I.C.S.

Salary in accordance with A.P.T. Grade V, £795 × £35 increments to £970 per annum, plus London Weighting of £30 (under 26 years of age £20).

Applicants must be Associate Members of the R.I.B.A. and have had experience in the design and construction of schools. Experience in contract administration and control of staff an advantage.

The appointment is superannuable and subject to medical examination.

Applications on forms to be obtained from and returned to the Borough Education Officer, Town Hall, Forest Road, Walthamstow, E.17, within two weeks of the appearance of this notice. 1345

CITY OF SHEFFIELD
CITY ENGINEER AND SURVEYOR'S DEPARTMENT
SENIOR PLANNING ASSISTANT, GRADE A.P.T. VI

Applications are invited for the position of Senior Planning Assistant, Grade A.P.T. VI (£880—£1,080), on the Staff of the City Engineer and Surveyor and Town Planning Officer (H. Foster, M.I.C.E., M.I.Mun.E.).

Qualifications: A.M.T.P.I. or A.R.I.B.A. or A.R.I.C.S.; preference will be given to candidates with Planning and Architectural experience.

Housing accommodation will be made available if required.

Superannuable post. N.J.C. conditions of service medical examination.

Applications, stating age, education and training, qualifications, experience, present and past appointments (with dates and salaries), and quoting the names of two referees, should be submitted to the undersigned by the 2nd July, 1956.

JOHN HEYS,
Town Clerk.
Town Hall, Sheffield, 1. 1383

COUNTY BOROUGH OF DEWSBURY
BOROUGH ARCHITECT AND BUILDINGS SURVEYOR'S DEPARTMENT

Applications are invited for the appointment of an ASSISTANT ARCHITECT (Education Section) at a salary in accordance with A.P.T., Grade IV (£710—£885 per annum), the commencing salary to be fixed within the scope of this grade according to qualifications and experience. Applicants should be Registered Architects, with good architectural experience and a knowledge of local government procedure.

Housing accommodation will be made available if required.

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

Applications, stating age, education, qualifications, full particulars of training and experience, together with copies of two recent testimonials, should be sent to the undersigned not later than Monday, 2nd July, 1956, in envelopes endorsed "Assistant Architect."

A. NORMAN JAMES,
Town Clerk.
Town Hall, Dewsbury.
30th May, 1956. 1282

COUNTY COUNCIL OF THE COUNTY OF LANARK
PROPERTY DEPARTMENT

Applications are invited for the following appointments to the staff of the County Architect at Albert Street, Motherwell:—

ARCHITECTS

(*a*) SENIOR ASSISTANT ARCHITECTS. Salary £1,100—£1,150.

(*b*) ARCHITECTURAL ASSISTANTS. Salary scale A.P.T., Grades I to VIII (£550—£980).

Applicants for posts (*a*) must be fully qualified. In addition to an all-round knowledge of architectural practice, they should have some knowledge of modern School building and be capable of assuming a position of responsibility.

Applicants for posts (*b*) should possess the necessary qualifications for placing on these grades.

In addition to a large School Building Programme, work in this Department embraces every aspect of building, with the exception of Housing; these appointments, therefore, provide an excellent opportunity for extending experience on an interesting and varied programme.

ASSISTANT QUANTITY SURVEYOR. Salary £1,100—£1,150.

Applicants for this post must have passed Final Examination of the R.I.C.S., and have had practical experience in the preparation of estimates and Schedules of Quantities, measuring up and checking of final accounts of all trades. Medical examination. Superannuation. No canvassing.

Applications, stating age, qualifications and experience, together with the names of three referees, should be lodged with the undersigned not later than 30th June, 1956.

IAN V. PATERSON,
County Clerk.
Lanarkshire House, 191, Ingram Street,
Glasgow. 1385

BILLINGHAM URBAN DISTRICT COUNCIL
JUNIOR ARCHITECTURAL ASSISTANT

Applications are invited for this appointment in the Engineer and Surveyor's Department. Salary A.P.T. I (£530—£610 per annum). The post offers opportunities for experience in the Council's housing schemes.

Consideration will be given to housing accommodation. Applications, stating age, qualifications present and previous employment and experience, with names and addresses of two referees, should reach me by not later than Thursday, the 28th June, 1956.

FRED M. DAWSON,
Clerk of the Council.
Council Offices, Haverton Hill, Billingham. 1382

DEVON COUNTY COUNCIL require ASSISTANT ARCHITECT, Grade IV (£710 × £35—£885). Particulars and Application Form, returnable by 25th June, 1956, from County Architect, 97, Heavitree Road, Exeter. 1371

Tenders Invited

6 lines or under, 12s. 6d.; each additional line, 2s.

GREATER EALING OLD PEOPLE'S HOMES LIMITED
HOSTEL FOR AGED PEOPLE, NORTHOLT PARK

Greater Ealing Old People's Homes Ltd. propose to erect on the Northolt Park Estate a hostel for 47 aged people and contractors are invited to submit their names for this work. Those who have not carried out similar or substantial housing works should enclose with their application particulars of contracts and the type of work executed by them. The Society will then select contractors whom they consider most suitable for the work and their decision will be final.

It is expected that the tender documents will be ready during August, 1956. Applications should be sent to me, at the Town Hall, Ealing, W.5. Closing date 30th June, 1956.

D. HERMAN,
Hon. Secretary.
1368

Architectural Appointments Vacant

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

LONDON Consultants require ARCHITECTURAL ASSISTANTS for design work on Atomic Power Stations. The vacancies offer great opportunities and scope for the right applicants, who should be qualified or have reached Final Standard for A.R.I.B.A. Staff Pension Scheme. Please apply in confidence to Box 353, Glovers Advertising, Ltd., 351, Oxford Street, London, W.1 9078

ARCHITECTURAL ASSISTANTS, Senior and Junior required, preferably with London practice experience, office and factory buildings. Write, giving particulars of experience, etc., to Messrs. Bates & Sinning, 89, Chancery Lane, W.C.2. 2508

CO-OPERATIVE WHOLESALE SOCIETY, LTD. ARCHITECT'S DEPARTMENT, MANCHESTER. APPLICATIONS are invited for the following appointments:—

(*a*) SENIOR ASSISTANT ARCHITECTS, with experience of work on commercial and industrial projects.

(Salary range £820 to £975 per annum.)

(*b*) ASSISTANT ARCHITECTS, capable of preparing working drawings from preliminary details.

(Salary range £550 to £820 per annum.)

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

Applications, stating age, experience, qualifications and salary required, to G. S. Hay, A.R.I.B.A., Chief Architect, Co-operative Wholesale Society, Ltd., 1, Balloon Street, Manchester, 4. 3871

ARCHITECTURAL ASSISTANTS required for small West End Office. Good salaries. Write to Box 9580.

LONDON Consultants require immediately ASSISTANTS of both Inter. and Final R.I.B.A. standard for varied and interesting contemporary industrial projects. Responsibility given to applicants with good design sense and constructional ability. Apply, giving full particulars and salary required, to Box No. 401, Glovers Advertising Ltd., 351, Oxford Street, London, W.1. 9341

SENIOR ARCHITECT required for work in South Wales on the design and co-ordination of industrial projects. Candidates must be qualified A.R.I.B.A.—Please write, giving details of previous experience and salary required, to Box No. 417, Glovers Advertising, Ltd., 351, Oxford Street, London, W.1. 9693

SEELY & PAGET have two vacancies in their City office, recently qualified or near final standard. The work is varied and covers ecclesiastical, colleges, schools, domestic and general work. Salary by agreement according to experience. Telephone CEN 0321. 1269

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. 1300

MALE ARCHITECTURAL ASSISTANTS of all grades urgently required for work on university buildings. 5-day week. Write full particulars, Lanchester & Lodge, 10, Woburn Square, London, W.C.1. 1287

A SENIOR REPRESENTATIVE is required for the North of England by leading nationally known manufacturers of prefabricated timber buildings. Sound knowledge of building construction is essential. Architectural background with experience of prefabrication or timber structures would be a considerable asset. This is an opportunity for a capable sales executive able to initiate, maintain and successfully finalise technical and commercial negotiations at high level. Send fullest details of qualifications and experience and career with age and salary levels in chronological order to Box 1297.

QUALIFIED ARCHITECTURAL ASSISTANT required. Write full particulars to T. Mitchell & Partners, 20, Bedford Square, W.C.1. 1259

EXPERIENCED ARCHITECTURAL ASSISTANTS wanted. London practice, contemporary outlook, varied projects. Reply Box 1141.

WESTMINSTER BANK have vacancy in their Architect's Office for ASSISTANT of intermediate standard. Must be quick, accurate draughtsman and used to work of good class. Write giving age, experience and salary required to The Architect, 51, Threadneedle Street, E.C.2. 1250

CO-OPERATIVE WHOLESALE SOCIETY, LTD. ARCHITECT'S DEPARTMENT, BIRMINGHAM. APPLICATIONS are invited for the following appointments in a newly formed Branch Office. Interesting and varied commercial and industrial projects.

(*a*) SENIOR ASSISTANT ARCHITECT, with experience in Store and Shop Design.

(Salary range £820 to £975 per annum.)

(*b*) ASSISTANT ARCHITECTS, capable of preparing working drawings and details from preliminary sketches.

(Salary range £550 to £820 per annum.)

Both appointments offer prospects of upgrading.

Applications, stating age, experience, qualifications, and salary required, to G. S. Hay, A.R.I.B.A., Chief Architect, Co-operative Wholesale Society, Ltd., 1, Balloon Street, Manchester, 4. 3872

"THE ARCHITECTS' JOURNAL" requires a full-time DRAUGHTSMAN to assist in the preparation of Information Sheets and Working Details. First class draughtsmanship, knowledge of building construction and a keen interest in the compilation of technical information. Write to the Editor (Information Sheets), 9, Queen Anne's Gate, S.W.1, stating age, architectural training, and experience. 913

ARCHITECTURAL ASSISTANTS required for St. Albans office for work on School, Commercial and Housing projects. Should be good draughtsman with contemporary outlook. Good Salaries. Write to Box 9579.

ARCHITECTURAL ASSISTANT required in busy London office with varied practice. Good salary and prospects for suitable applicant. 5-day week. Write, giving particulars of age, qualifications, experience, etc., to Box 775, c/o 7, Coptic Street, W.C.1. 9313

CROYDON office. ARCHITECTURAL ASSISTANT required, with initiative, preferably qualified. Varied and interesting work. Write stating experience, age and salary required to George Lowe & Partner, 4, High Street, Croydon, Surrey. 1105

ARCHITECT'S ASSISTANT.—Assistant, passed Intermediate R.I.B.A., required for City office, to assist in the preparation of drawings for substantial contracts, including Research Laboratories, Factories, Hospitals, Schools and Licensed Premises. Work includes visits to Building Sites and work in progress. Salary up to £600 per year, according to qualifications and experience. Good prospects for keen man. 5-day week. Free lunch vouchers and overtime if desired. Later summer holidays by arrangement. —Write, giving full particulars, to Stewart & Hendry, FF./R.I.B.A., A.M.T.P.I., 90, Fenchurch Street, E.C.3. 1194

SENIOR ASSISTANT ARCHITECTS and INTERMEDIATE ASSISTANTS required in busy West End office. Senior Assistants should be capable of taking complete charge of jobs. Practice is varied, and includes Housing Schemes, Office Blocks, Private Houses, and miscellaneous schemes.—Write, stating training, experience, and salary, to Thomas Sibthorp, F.R.I.B.A., A.R.I.C.S., A.M.T.P.I., 10, Manchester Square, London, W.1. 1187

ASSISTANT ARCHITECT.—Fully qualified (A.R.I.B.A.) and experienced Assistant Architect, age not over 40, required immediately in City office to assist Principals in the running of substantial contracts, including Research Laboratories, Factories, Hospitals, Schools and Licensed Premises. Salary up to £850 per year, according to qualifications and experience. Good prospects for the right man, able and willing to accept responsibility and possessing initiative. 5-day week, free lunch vouchers and overtime if desired. Late summer holidays by arrangement.—Write, giving full particulars, to Stewart & Hendry, FF./R.I.B.A., A.M.T.P.I., 90, Fenchurch Street, E.C.3. 1193

SCHERRER & HICKS, of 19, Cavendish Square, W.1 (Tel. Museum 1105), require immediately a number of ARCHITECTURAL ASSISTANTS, with imagination and initiative. The work is varied, and covers Research Laboratories, Offices, Housing and Schools. 5-day week. Salary by arrangement. 1163

LOUIS DE SOISSONS, PEACOCK, HODGES & ROBERTSON have vacancies in their Welwyn Garden City office for SENIOR and JUNIOR ARCHITECTURAL STAFF.—Write, stating age, salary, and experience, to Louis de Soissons, Peacock, Hodges & Robertson, 3, Park Square Mews, Upper Harley Street, N.W.1. 1209

NORMAN-BAILEY & PARTNERS require capable experienced ASSISTANTS who are able to carry out jobs from start to completion. Contemporary and varied work.—Ring Victoria 7088 for appointment. 9802

ARCHITECTS' Co-partnership require ASSISTANT for working drawings and detailed design. Salary according to experience. Office doing work in U.K. and West Africa. Write 44, Charlotte Street, London, W.1, or telephone Langham 5791. 1215

QUALIFIED ASSISTANT required immediately. Apply in writing, stating age, details of practical experience and when available, to S. P. Jordan, A.R.I.B.A., M.S.I.A., Dip.T.P., 11, King's Road, Sloane Square, S.W.3. 1145

ARCHITECTS' ASSISTANT, male or female, required for domestic and commercial work from inter-standard upwards. Good draughtsmanship and office experience required. Salary £500 to £800 according to experience. 5-day week. Write stating experience to R. Jelinek-Karl, F.R.I.B.A., 22, Chancery Lane, W.C.2. 1220

SENIOR AND JUNIOR ASSISTANTS required for large schemes of contemporary nature. Excellent opportunities to suitable applicants. Five-day week. Please write giving full particulars of experience and salary required to Johns, Slater & Haward, F/A.R.I.B.A., 32, Foundation Street, Ipswich. 1230

A SENIOR and a JUNIOR ARCHITECT for Belfast (Northern Ireland) office.—Please reply, stating details of experience and salary required, etc., to P. & B. Gregory, F./A.R.I.B.A., M./M.R.I.A.I., Chartered Architects, 25, Gresham Street, Belfast. 1307

PRIVATE practice office has vacancy for ASSISTANT, willing to take control of jobs. Work includes domestic, ecclesiastical, commercial and industrial, modern and traditional. Urgent.—Send details age, experience, and salary suggested to Forsyth Lawson, Cunningham & Partners, 30, Horse Fair, Banbury, Oxon. 1352

ARCHITECTURAL ASSISTANT required in busy West End office. Salary up to £1,000 p.a., according to experience. 5-day week.—Apply in writing, with all details, to Mewes & Davis, 1, Old Burlington Street, W.1. 1351

W. H. WATKINS, GRAY & PARTNERS require ASSISTANTS of Intermediate standard for interesting work on hospitals and schools. Pension scheme in operation.—Write or 'phone 57, Catherine Place, S.W.1. Victoria 7761. 1350

ARCHITECTURAL DRAUGHTSMAN urgently required by firm of Architects practising in Woking and Haslemere, Surrey. Applicant should have comprehensive knowledge of building construction and be able to prepare working drawings with minimum of supervision. Salary £500—£600.—Apply Percy Hopkins & Partners, 19, Commercial Road, Woking. Tel. 4730. 1349

HIGH grade ARCHITECTURAL DRAUGHTSMAN required for permanent, interesting work.—Box 1348.

FURTHER opportunities exist in the London office of this organisation which offer interesting, well-paid positions to SENIOR ARCHITECTURAL ASSISTANTS who are first-class draughtsmen, possessing a progressive architectural outlook and, in addition, are interested and preferably experienced in housing. When making your application we should like to know of your past experience, present position, ambitions, and any other details which will enable us to assess personality and suitability.—Kendrick Findlay & Partners, 35, Tavistock Square, London, W.C.1. 1347

WELL-KNOWN Architect in Eastern Canada requires a SENIOR ASSISTANT, aged 35-45. Commercial experience in connection with offices and schools preferred.—Write, stating full details, to Box 1150.

ARCHITECTURAL DRAUGHTSMEN required for leading firm of Consulting Civil Engineers, Westminster. 5-day week—bonus and pension schemes.—'Phone Mr. Simmons, ABBey 1122, for appointment. 1361

MONTREAL.—Canadian firm of Architects and Engineers, engaged on large projects, require additional ARCHITECTURAL STAFF, qualified or unqualified, with minimum of 6 years' experience. Good salaries, bonus, health scheme, passage paid.—Further details, quoting OSS.101/1, from O.T.S., 5, Welldon Crescent, Harrow, Middx. 1356

NAIROBI.—Small expanding firm require first-class SENIOR ASSISTANT ARCHITECT. Qualified man with good education, able to deal with clients, good experience, with ideas of his own. Salary in region of £1,500 p.a. Free passage, leave, bonus, etc.—Further details, quoting OSS.70/3, from O.T.S., 5, Welldon Crescent, Harrow, Middx. 1357

ASSISTANT (R.I.B.A.), Intermediate standard, required for estate department of a Yorkshire brewery company.—Write, giving age, experience, and salary required, to Box 1358.

ARCHITECTS (London), doing interesting work in England, Africa, and Middle East, require ASSISTANTS of varying experience, at salaries ranging from £400 to £800. 5-day week. Luncheon vouchers.—Reply Box 1359.

ARCHITECTS.—One experienced Senior and one competent Junior Assistant required by West End Architects for interesting airport projects. Aptitude for engineering and industrial detail essential. Salary according to experience.—Box 1360.

ARCHITECTURAL ASSISTANT.—Must be qualified and have had good general experience, including Industrial projects; also must be capable of preparing designs, working drawings and specifications, site supervision and surveys. Annual bonus. Paid overtime. Scope for individual expression in office with progressive approach to Architecture. Private practice, approximately 7 miles south of Manchester.—Box 1362.

ARCHITECT with small City office requires responsible ASSISTANT. Salary £650—£750 per annum.—Ring Central 5766 or write Box 1364.

LADY ARCHITECTURAL ASSISTANT required, Intermediate to Final standard.—Write, stating experience and salary, to Frederick Gibberd, 8, Percy Street, London, W.1. 1363

COMPETENT ARCHITECTURAL ASSISTANT (preferably qualified) required for small expanding department of N.W. London Contractors' office engaged on Industrial, Commercial, and high quality private house development. Experience in design, specification writing, supervision. Salary up to £850 per annum. 5-day week, superannuation scheme.—Please write details of age, etc., to Box 1365.

ARCHITECTURAL ASSISTANT required, up to Intermediate standard, Westminster office. Pension and Bonus schemes. 5-day week.—Write, stating experience, age, and salary required, to Box 1339.

ARCHITECTURAL ASSISTANT required, of R.I.B.A. Intermediate or Final standard. Give details of qualifications, age, experience, and salary required, to Howells & Doherty, Architects and Quantity Surveyors, Masonic Buildings, Bangor, N. Wales. 1342

SENIOR ASSISTANT for early Partnership with small expanding City practice. Initial salary approx. £1,000. Prospects dependent on ability.—Apply in writing, stating experience and present position, to Knapton & Deane, 6, Martin Lane, E.C.4. 1340

JUNIOR ASSISTANTS for small busy City office. Salary up to approx. £500.—Knapton & Deane, 6, Martin Lane, E.C.4. 1341

RHODESIAN firm of Architects, engaged on stimulating and contemporary projects of magnitude, require two or three ARCHITECTURAL ASSISTANTS for service in Northern or Southern Rhodesia. Initial 3-year contracts; commencing salaries in region of £750—£850 p.a., but constantly reviewed.—Further details, quoting OSS.22/6, from O.T.S., 5, Welldon Crescent, Harrow, Middlesex. 1338

ARCHITECTURAL Practice, West End, require two ASSISTANTS. Salary £850 to £950, according to experience.—Reply to Box 1337.

ARCHITECTURAL ASSISTANT required for small busy West London practice. Intermediate or R.I.B.A. Final standard, with office experience. No Saturdays; holiday bookings respected.—Shaw & Lloyd, Museum 9693. 1336

ARCHITECTURAL ASSISTANT, of Inter.-standard, required for offices, London, N.1. Some office experience and neat draughtsmanship essential. Permanent position with good prospects.—Full details and salary required to Box 1335.

ARCHITECTURAL ASSISTANT, Intermediate standard, required in busy South-West London office.—Reply, stating age, salary, and experience, to Box 1334.

QUALIFIED ARCHITECT required for service in Tehran, Iran, on airports. Initial agreement for 18 months. Salary not less than £1,500 p.a., free of Iranian income tax, with free passage, accommodation, and medical facilities. Paid home leave at end of initial agreement. Young single man preferred.—Box 1320.

CO-OPERATIVE WHOLESALE SOCIETY, LTD., Architect's Department, London: (*a*) TAKER-OFF; (*b*) WORKER-UP. Applicants are invited from suitably qualified persons. Salary on the scales: (*a*) £850—£1,005; (*b*) £580—£850, both inclusive of L.W., with placing according to age, qualifications and experience. The posts are superannuable, subject to medical examinations. 5-day week in operation.—Applicants, stating age, experience, qualifications and salary required, to W. J. Reed, F.R.I.B.A., Chief Architect, Co-operative Wholesale Society, Ltd., 99, Leman Street, London, E.1. 1325

ARCHITECTURAL ASSISTANT, Intermediate standard, required immediately.—Apply in writing, giving details of experience, etc., to William & Egbert Leah, Chartered Architects and Surveyors, 10, Clarence Street, Gloucester. 1324

TWO ARCHITECTURAL DRAUGHTSMEN required by London Brewery Company for interesting and varied work.—Applicants, who should be good draughtsmen with sound knowledge of building construction, are invited to submit full details to Box 1321.

ARCHITECT'S ASSISTANT required immediately for medium sized office, preferably with Intermediate Examination, having contemporary outlook. Salary £11 per week.—Write, with details, giving age and experience, J. Roland Sidwell, A.R.I.B.A., 27, Union Street, Coventry. Tel. 2393 (3 lines). 1276

DRAUGHTSMAN, who has completed National Service, required by the John Lewis Partnership for planning and shop fitting, detailing of work in progress, and contemplated rebuilding at various centres, including Oxford Street. Pay according to experience, but not less than £500 p.a. Shopping discount, good holidays and amenities. Non-contributory pension scheme.—Write in first instance, giving full details of past experience, to Director of Personnel, John Lewis & Co., Ltd., Oxford Street, W.1. 1318

HADFIELD, CAWKWELL & DAVIDSON, F./F.R.I.B.A., require JUNIOR ARCHITECTURAL ASSISTANTS of either sex for their small London office. 5-day week. Good draughtsmanship essential.—Apply, with age, experience, and salary required, to 50, Pall Mall, S.W.1. 1384

GRENFELL BAINES & HARGREAVES.—Full opportunities for ASSISTANT ARCHITECTS to practice Architecture in progressive office. Pleasant working conditions, good company. Some School training preferred; 5 years' office experience necessary. Basic salary and guaranteed bonus £1,000 per annum, plus overtime on basic rates, for minimum of one year, following three months' trial period. Possibility of permanence, with established superannuation scheme.—Apply 12, Guildhall Street, Preston. 1376

Architectural Appointments Wanted

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

A.R.I.B.A. (Recognised School Diploma), with 6 years' experience since qualifying, at present in the private practice jungle on own account and being badly mauled, seeks refuge as slave in the Bognor Regis, Chichester, Littlehampton area. Anything considered.—Box 1346.

SOUTH AFRICAN Architect (26), 2½ years' post graduate experience in London and abroad, seeks whole- or part-time employment in London or Manchester. Preferably contemporary.—Reply Mrs. T. Longrigg, South Africa House, London. 1374

SENIOR ASSISTANT, A.R.I.B.A., 10 years' practical experience, seeks progressive post, with opportunity to use initiative to the full.—Box 1333.

EXPERIENCED ASSISTANT seeks responsible position in a progressive, small, or medium sized London office. Salary in the region of £1,100 p.a.—Box 1319.

A.R.I.B.A. (31), 10 years' experience, just returned from 2-year contract controlling million pound scheme in Middle East, seeks new contract overseas.—Box 1375.

Other Appointments Vacant

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

CLERICAL ASSISTANT (S/T) part-time required in Architect's office South Kensington. Able to trace and keep records of costs, orders and general routine. Some experience in an Architect's or Builder's office preferable but not essential. Write in first instance giving age, sex and salary required to Mr. R. G. Smith, L.R.I.B.A., 19-23 Gloucester Road, S.W.7. 1247

CLERK OF WORKS required for a City building in Central London. Please apply in writing giving particulars of experience, etc., to Messrs. Bates & Sinning, 89, Chancery Lane, London, W.C.2. 1103

Competition

6 lines or under, 12s. 6d.; each additional line, 2s.

ARCHITECTURAL COMPETITION FOR NEW TECHNICAL COLLEGE BUILDINGS, PAISLEY, SCOTLAND

The Governors of the above College invite Architects registered under the architects Registration Acts and resident in Great Britain, Northern Ireland, or the Republic of Ireland to submit in competition designs for new Technical College Buildings in Paisley, Scotland.

Assessor: Professor R. Gardner-Medwin, F.R.I.B.A., M.T.P.I.

Premiums: (1) £1,500; (2) £1,000; (3) £500.

Last day for submitting designs: Noon on 27th March, 1957.

Last day for questions: 3rd September, 1956.

Conditions may be obtained from J. & A. Gardner, Clerks to the Governors, 3, County Place, Paisley, Renfrewshire, on payment of a deposit of £2. An applicant for the conditions must state his registration number or the number of the receipt issued to him by the Architects' Registration Council in respect of the admission fee. 1267

Services Offered

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

THE SITE SURVEY COMPANY, BLACKHEATH, S.E.3. Specialists in all types of Architectural and Engineering Surveys, grid and contour lay-outs. Telephone LEE Green 7444-5. 4018

GOOD LETTERING is essential for Commemorative Wall Tablets, Foundation Stones, etc. Designs prepared and estimates given for the finished work in any suitable material. Renowned as a Centre for Lettering since 1934. Sculptured Memorials, 67, Ebury Street, S.W.1. 9170

SURVEYS of sites and buildings, levels, grids, contours, also detailed specifications prepared. LIV. 1839. 1073

ARCHITECTURAL MODELS.—Highest workmanship guaranteed from my team of expert modellers. Send plans for quotations to W. Roberts, 13, Campden Grove, W.8. 9262

ESTIMATES for Conversions, Alterations, New Houses, Industrial Developments in London and Surrey. 'Phone Parsons & Co., (Builders), 323, Kennington Road, London, S.E.11. TUL. 3952 for immediate attention. 1060

TYPEWRITING/DUPLICATING. — Specifications, etc., undertaken by experts. Reasonable charges. Stone's Secretarial Services, 446, Strand. Tem. 5984. 1197

SMALL West End Practice can undertake work for other Architects. Presentation, Working Drawings, Perspectives.—Box 9726.

NAMEPLATES, PLAQUES, CRESTS, etc., in bronze, brass and plastic, quotations and lay-outs submitted. Abbey Craftsmen Ltd., 78, Osnaburgh Street, London, N.W.1 Euston 5722. 4165

NAMEPLATES AND SIGNS, Bronze, Brass and Plastics. Church Metalwork. Quick delivery. Austin, Luce & Company, 19, College Road, Harrow, Middlesex. Tel.: Harrow 3839. 1174

"DON" ARCHITECTURAL MODEL MAKERS. We offer speed, courtesy and reliability. Please 'phone Erith 3843 (or Hastings 1807 between 2—3 p.m.). 9308

CHARTERED ARCHITECT, resident in Midlands but prepared to travel, desires to join a Firm or Undertaking where his professional experience and personal connections could be used to advantage on the commercial side of the Building Industry.—Box ZM.582, Deacon's Advertising, 36, Leadenhall Street, London, E.C.3. 1323

EXPERIENCED Architect and Structural Engineer offers part-time assistance to others in the profession. Preparation of Drawings and Structural Design.—Box 1354.

QUANTITY SURVEYORS. — Professionally qualified, with established practice in the Midlands, offer complete services to the professions: Bills of Quantities, Valuations, Final Accounts, Arbitration and Estimates.—Box 1322.

'PHONE Brixton 7177 for immediate assistance from Architect for Preparation of Schemes, Working Drawings, details supervision in or out of your office, or write Box 1353.

SURVEYING and levelling of building sites and measured drawings undertaken by experienced Surveyor at moderate charges.—Box 9905.

For Sale and Wanted

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

RECONDITIONED Ex-Army Huts and Manufactured Buildings, Timber, Asbestos, Nissen Type, Hall Type, etc. All sizes and prices. Write, call or telephone: Universal Supplies (Belvedere) Ltd., Crabtree Manorway, Belvedere, Kent. Tel.: Erith 2948. 1474

EXCEPTIONAL offer 3rd floor at 94, New Bond St., W.1. 1,300 sq. ft. £950 p.a. Long lease available, perfect natural lighting suitable for drawing office. Tel. GRO. 6601. 8231

PHOTO-PRINTING MACHINE.—One Hand-operated horizontal Photo-Printing Machine (M.V. lighting), by J. Halden, Ltd. Good condition. £50 o.n.o.—British Filters, Ltd., Cox Green, Maidenhead. Telephone Maidenhead 4144. 1355

Miscellaneous

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

A. J. BINNS, LTD., Specialists in the supply and fixing of all types of Fencing, Gates and Cloakroom Equipment. Harvest Works 96/107, St. Paul's Road, N.1. Canonbury 2061.

Educational Announcements

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

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 in assn.), prepare Students by correspondence, 10, Adelaide Street, Strand, W.C.2. TRM. 1603/4.

WELL qualified LECTURER will coach students in Design. Personal or postal tuition. Write Box 1072.

FIRST FOLD HERE

AJ enquiry service

If you require catalogues and further information on building products and services referred to in the advertisements appearing in this issue of the Architects' Journal please mark with a tick the relevant names given in the index to advertisers overleaf. Then detach this page, write in block letters, or type, your name, profession or trade and address in the space overleaf, fold the page so that the post-paid address is on the outside and despatch. We will ensure that your request reaches the advertisers concerned.

FOLD HERE

Postage will be paid by Licensee

No Postage Stamp necessary if posted in Great Britain or Northern Ireland

BUSINESS REPLY FOLDER
Licence No. S.W. 1761

THE ARCHITECTS' JOURNAL

9-13 Queen Anne's Gate

London, S.W.1.

FOLD HERE

TUCK IN THIS END

Alphabetical index to advertisers

For Appointments (Wanted or Vacant), Competitions Open, Drawings, Tracings, etc., Education, Legal Notices, Miscellaneous Property and Land Sales, see 111, 112, 113, 114, 115, 116.

Write in block letters, or type, your name, profession and address below, and fold so that the post-paid address is on the outside.

NAME_____

PROFESSION_____

ADDRESS_____

14.6.56

PAGE

16
46
78
95
33

83
59
71

114

103
36
60
70
91
26
94
103
107
107

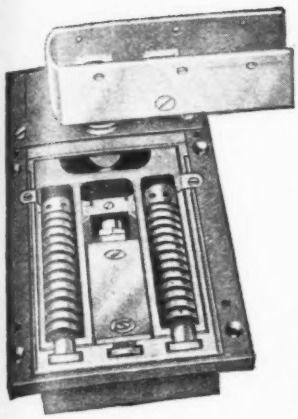
10
107
41
11
23

81
9
96
114
106
104
68
19
37
68
4
38
66

101
114
87
89
55
33

102
73

14.6.56



DOORS NEED NOT S-L-A-M

—specify

"Victor" DOOR SPRINGS

An essential fitting with self-contained check for Public Buildings, Housing Schemes, Office Blocks, etc. In shallow and watertight floor patterns. Overhead types to suit every purpose.

ALSO

- WINDOW GEARING AND FANLIGHT OPENERS
- 'X-IT' PANIC BOLTS
- LOCKS
- DOOR FURNITURE
- CASEMENT FITTINGS
- SPRING SASH BALANCES

"VICTOR" fittings are specified by all leading Architects.

ROBERT ADAMS (VICTOR) LTD
139 STAINES ROAD, HOUNSLOW, MIDDX
Telephone: Hounslow 5714

---

specify *"Teco", "Bulldog" & "Trip-L-grip" connectors for all construction in timber, and make practicable cuts in timber and hardware requirements.* ***Fullest data gladly furnished.***

Timber connectors by

MACANDREWS & FORBES LIMITED,
2 CAXTON STREET, LONDON, S.W.1. Telephone: ABBey 4451-3.

Facts about plastaweld

Another MANGER product

PERMANENT BONDING FLUID FOR GYPSUM PLASTERS

What it is: PLASTAWELD is a non-toxic fluid used straight from the can. Does *NOT* require stippling or blinding with sand.

What it does: Permanently bonds gypsum plasters to all sound surfaces, however smooth, WITHOUT PRELIMINARY HACKING.

How much it costs: 46/9 per gallon for 70 to 120 sq. yards coverage, according to type of surface.

Advantages: *NO HACKING, NOISE, DUST OR DIRT.* Very simple to apply with brush or spraygun.

How we can help: Our technical department is at your service to assist in particular problems.

Technical Representatives are ready to call on you or visit your sites. Telephone or write to Dept. A.J.

J. MANGER & SON LTD.
57d KINGSLAND HIGH STREET
LONDON E.8
Phone · CLissold 5307/10

Printed in Great Britain for the Proprietors of "THE ARCHITECTS' JOURNAL" (The Architectural Press Ltd.), 9, 11 and 13, Queen Anne's Gate, Westminster, S.W.1, by HARRISON & SONS LTD., by Appointment to Her Majesty The Queen, Printers, London, Hayes (Middx.), and High Wycombe. Editorial illustrations engraved by THE ENGRAVERS' GUILD LTD., Windsor House, 23/26, Cursitor Street, London, E.C.4.

N

RD
elfast
-W.744