The Architects' JOURNAL for November 27, 1958

THE ARCHITECTS' JOURNAL

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THE ARCHITECTURAL PRESS

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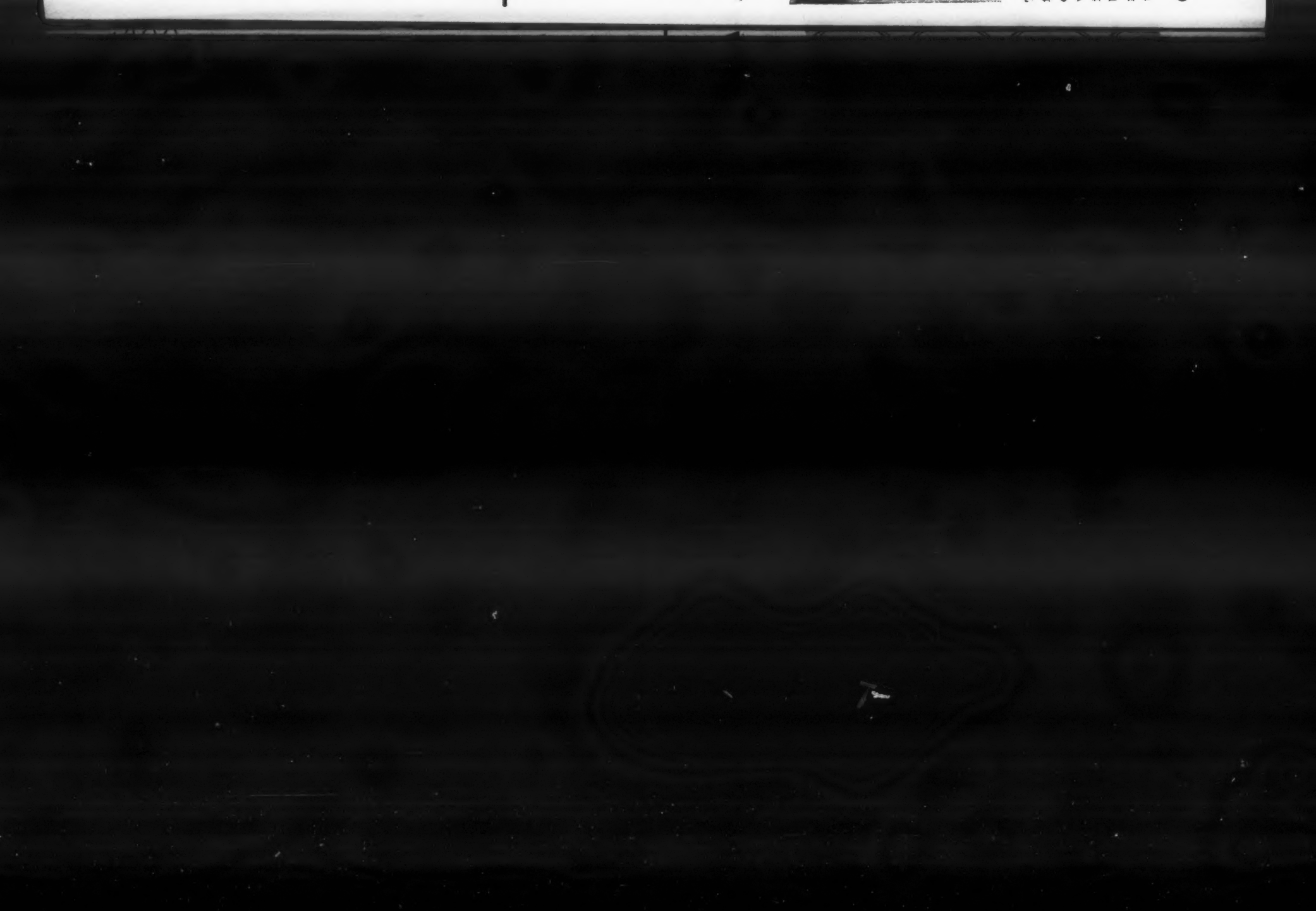
★ A glossary of abbreviations of Government Departments and Societies and Committees of all kinds, together with their full address and telephone numbers. The glossary is published in two parts—A to Ii one week, Il to Z the next. In all cases where the town is not mentioned the word LONDON is implicit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

AA	Architectural Association, 34/6, Bedford Square, W.C.1. Museum 0974
AAI	Association of Art Institutions. Secy.: W. L. Stevenson, College of Art, Hope Street, Liverpool 1. Royal 1826
ABS	Architects' Benevolent Society. 66, Portland Place, W.1. Langham 5533
ABT	Association of Building Technicians. 1, Ashley Place, S.W.1. Victoria 0447-8
ACGB	Arts Council of Great Britain. 4, St. James's 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 5861
BAE	Board of Architectural Education. 66, Portland Place, W.1. Langham 5721
BC	Building Centre. 26, Store Street, Tottenham Court Road, W.C.1. Museum 5400
BCC	British Colour Council. 13, Portman Square, W.1. Welbeck 4185
BCCF	British Cast Concrete Federation. 105, Uxbridge Road, Ealing, W.5. Ealing 9621
BCIRA	British Cast Iron Research Association. Alvechurch, Birmingham. Redditch 716
BDA	British Door Association. 10, The Boltons, S.W.10. Fremantle 8494
BEDA	British Electrical Development Association. 2, Savoy Hill, W.C.2. Temple Bar 9434
BIA	British Ironfounders' Association. 145, Vincent Street, Glasgow, C.2. Glasgow Central 2891
BID	Building Industries Distributors. 52, High Holborn, W.C.1. Chancery 7772
BINC	Building Industries National Council. 11, Weymouth Street, W.1. Langham 2785
BOT	Board of Trade. Whitehall Gardens, Horseguards Avenue, Whitehall, S.W.1. Trafalgar 8855
BRS	Building Research Station. Bucknalls Lane, Watford. Garston 4040
BSA	Building Societies Association. 14, Park Street, W.1. Mayfair 0515
BSI	British Standards Institution. British Standards House, 2, Park St.,W.1. Mayfair 9000
BTE	Building Trades Exhibition. 32, Millbank, S.W.1. Tate Gallery 8134
CABAS	City and Borough Architects Society. C/o S. A. G. Cook, A.R.I.B.A., Borough Architect and Director of Housing, Town Hall, High Holborn, W.C.1. Holborn 3411
CAS	County Architects' Society. C/o S. Vincent Goodman, F.R.I.B.A., Shire Hall, Bedford. Bedford 67444
CCA	Cement and Concrete Association. 52, Grosvenor Gardens, S.W.1. Belgravia 6661
CDA	Copper Development Association. 55, South Audley Street, W.1. Grosvenor 8811
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
DIA	Design and Industries Association. 13, Suffolk Street, S.W.1. Whitehall 0540
EJMA	English Joinery Manufacturers' Association (Incorporated). Sackville House, 40, Piccadilly, W.1. Regent 4448
EPNS	English Place-Name Society. 7, Selwyn Gardens, Cambridge.
FAS	Faculty of Architects and Surveyors. 68, Gloucester Place, W.1. Welbeck 9966
FASS	Federation of Associations of Specialists and Sub-Contractors, 14, Bryanston Street, W.1. Welbeck 1781
FBBDO	Fibre Building Board Development Organization Ltd. (Fidor), Stafford House, Norfolk Street, W.C.2. Covent Garden 3008
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. 33, John Street, W.C.1. Tel.: Chancery 7583 (6 lines)
FPC	The Federation of Painting Contractors, St. Stephen's House, S.W.1. Whitehall 3902
FRHB	Federation of Registered House Builders. 82, New Cavendish Street, W.1. Langham 4341
GPDA	Gypsum Plasterboard Development Association. 11, Ironmonger Lane, E.C.2. Monarch 8888
GC	Gas Council. 1, Grosvenor Place, S.W.1. Sloane 4554
GG	Georgian Group. 2, Chester Street, S.W.1. Belgravia 3081
HC	Housing Centre. 13, Suffolk Street, Pall Mall, S.W.1. Whitehall 2881
IAAS	Incorporated Association of Architects and Surveyors. 29, Belgrave Square, S.W.1. Belgravia 3755
ICA	Institute of Contemporary Arts. 17-18, Dover Street, Piccadilly, W.1. Grosvenor 6186
ICE	Institution of Civil Engineers. 1, Great George Street, S.W.1. Whitehall 4577
IEE	Institution of Electrical Engineers. Savoy Place, Victoria Embankment, W.C.2. Temple Bar 7676
IES	Illuminating Engineering Society. 32, Victoria Street, S.W.1. Abbey 5215
IGE	Institution of Gas Engineers. 17, Grosvenor Crescent, S.W.1. Sloane 8266
IHVE	Institution of Heating and Ventilating Engineers. 49, Cadogan Square. Sloane 1601/3158
IIBDID	Incorporated Institute of British Decorators and Interior Designers. 100, Park Street, Grosvenor Square, W.1. Mayfair 7086



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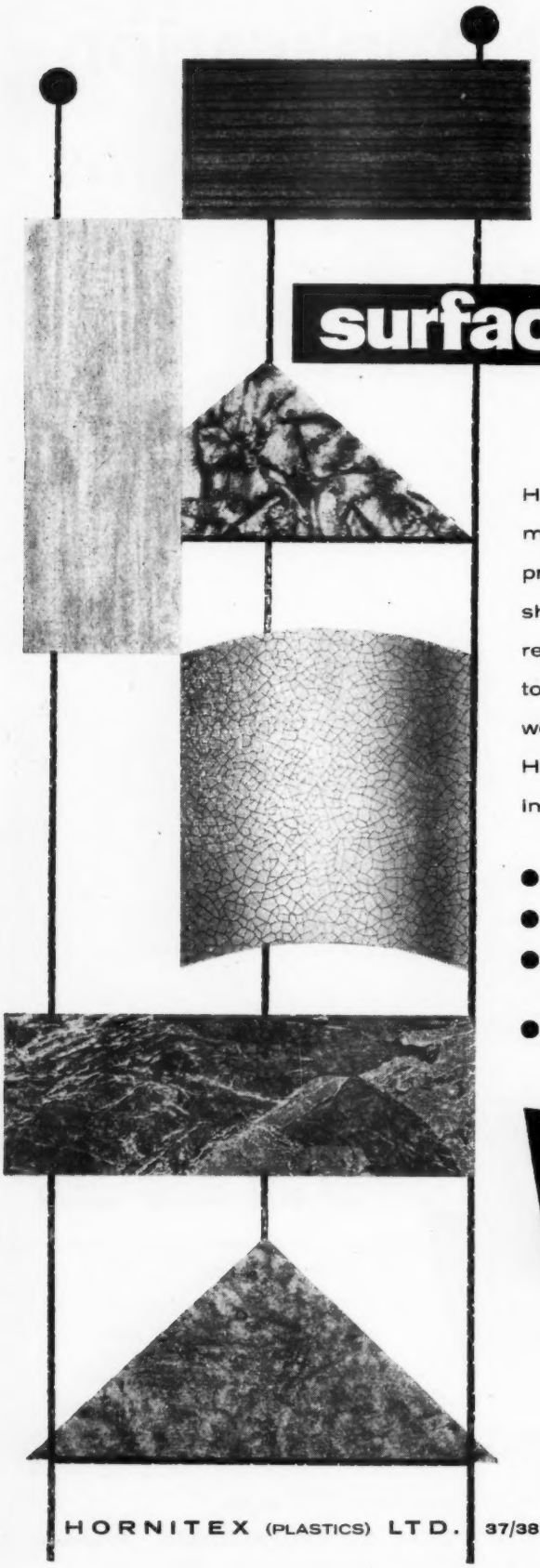

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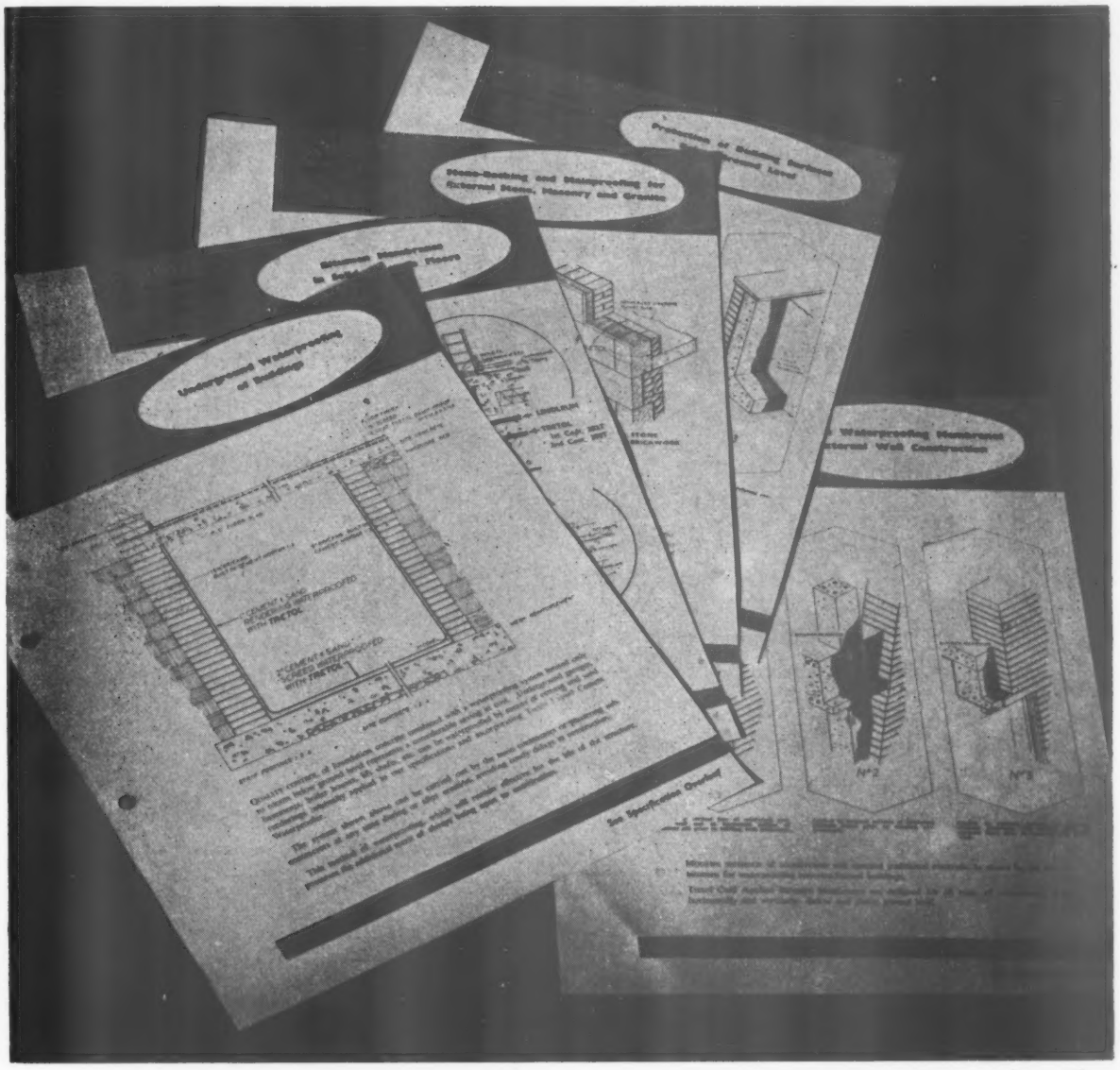

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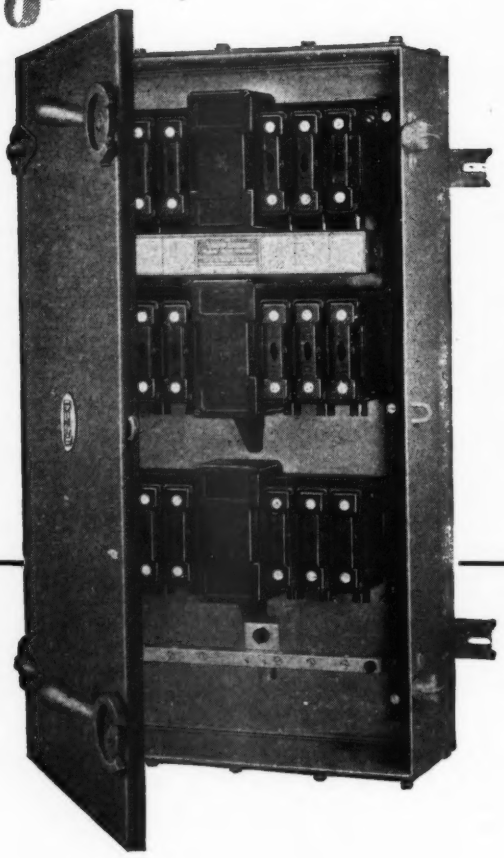

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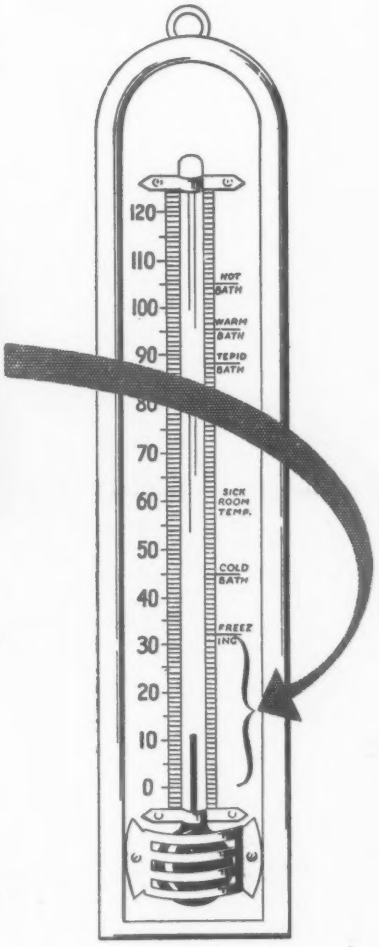

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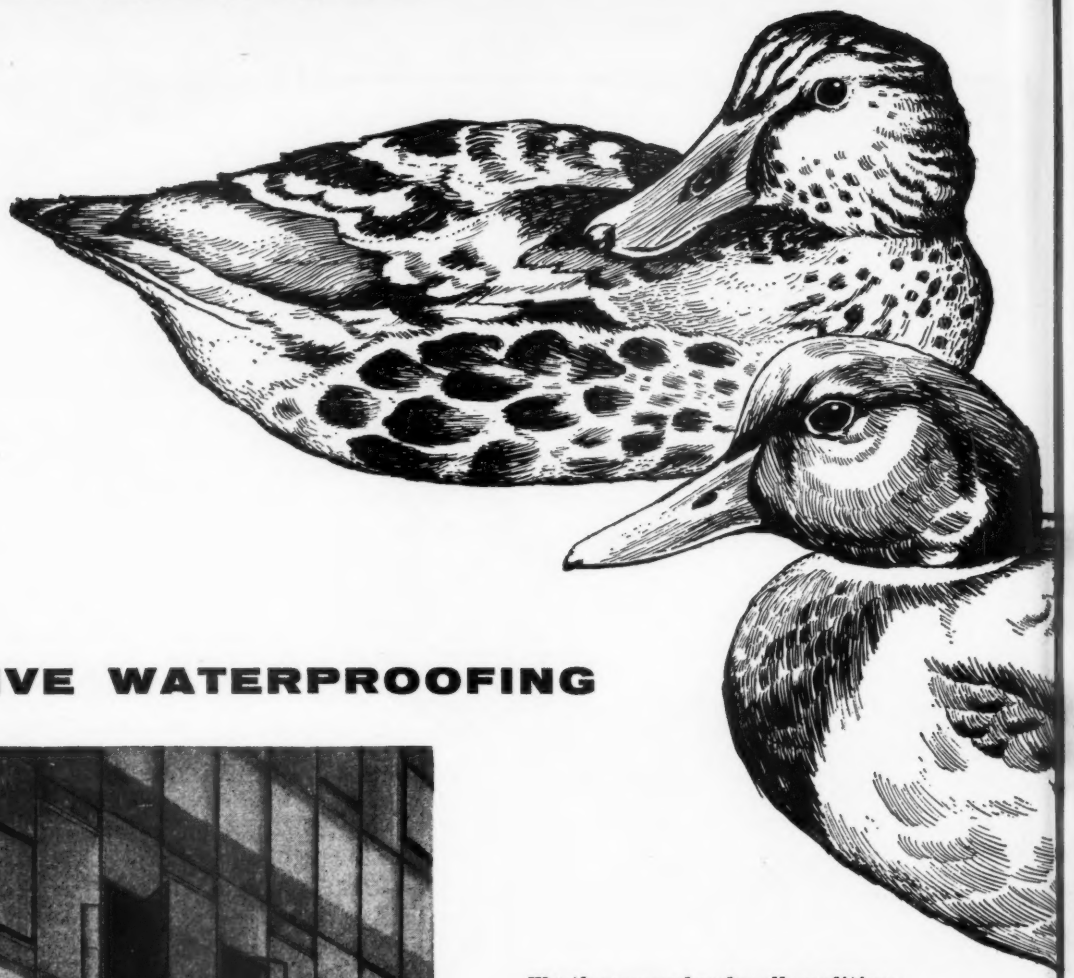

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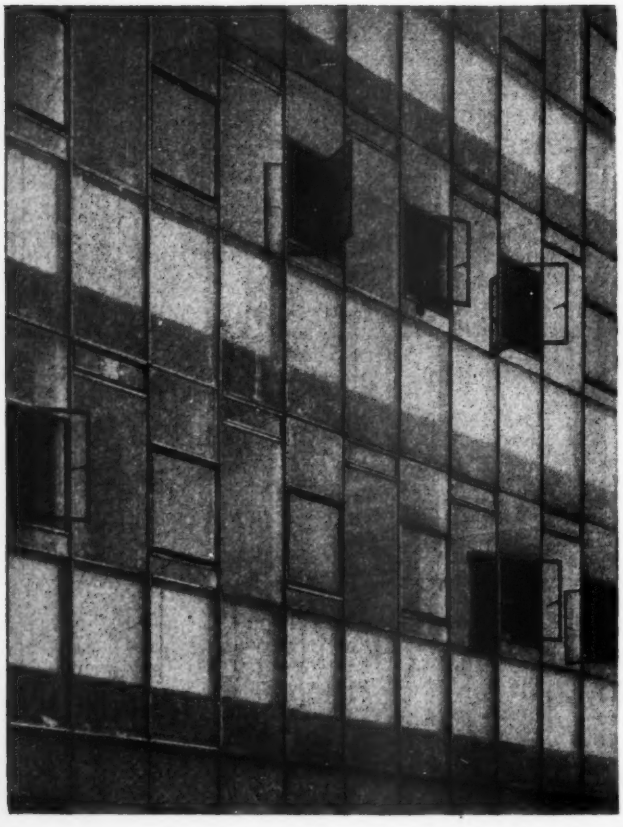

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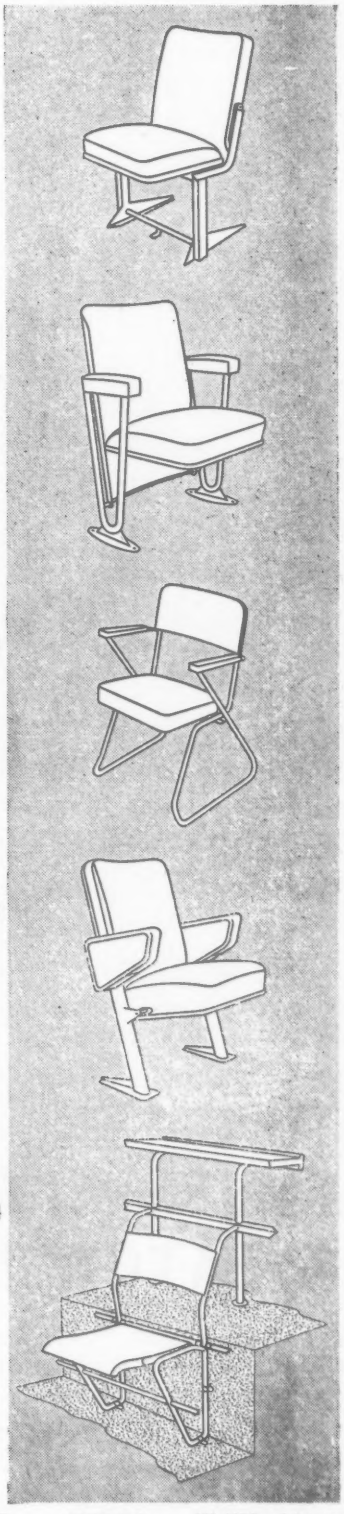

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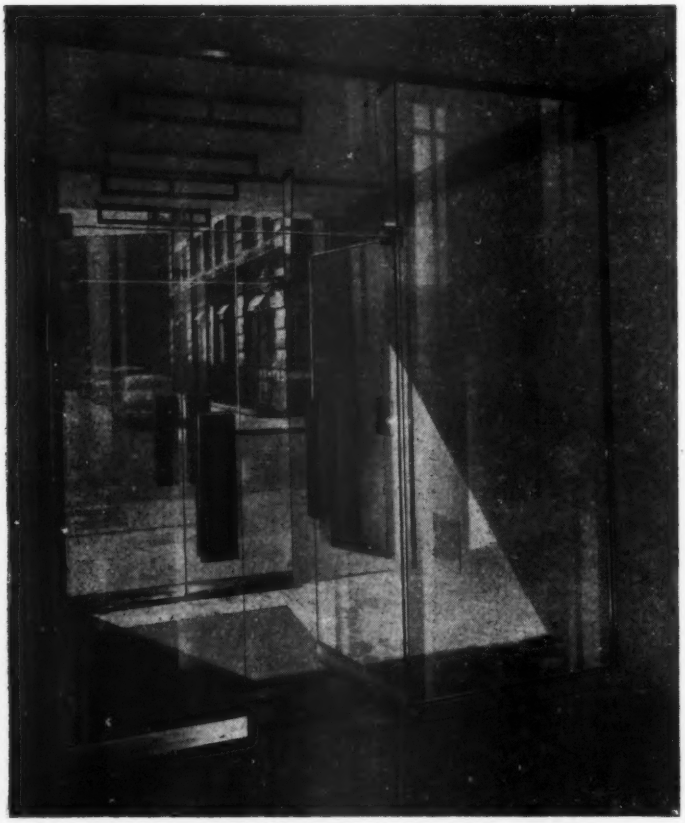

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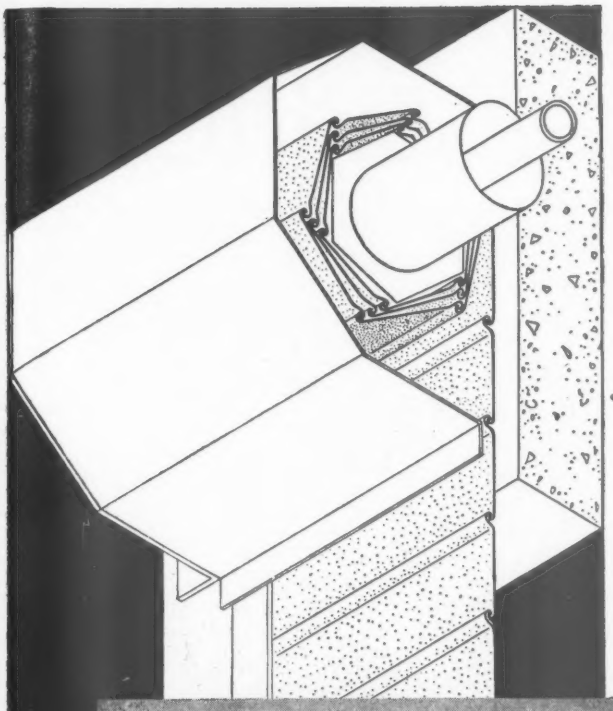

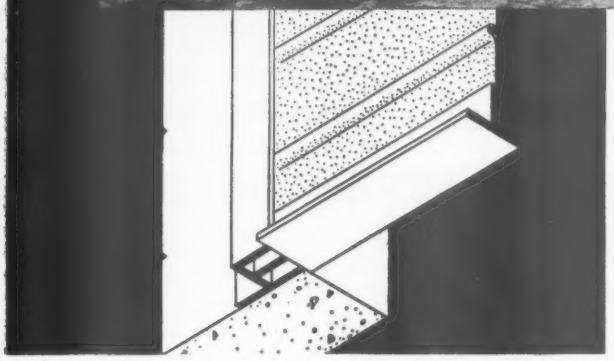

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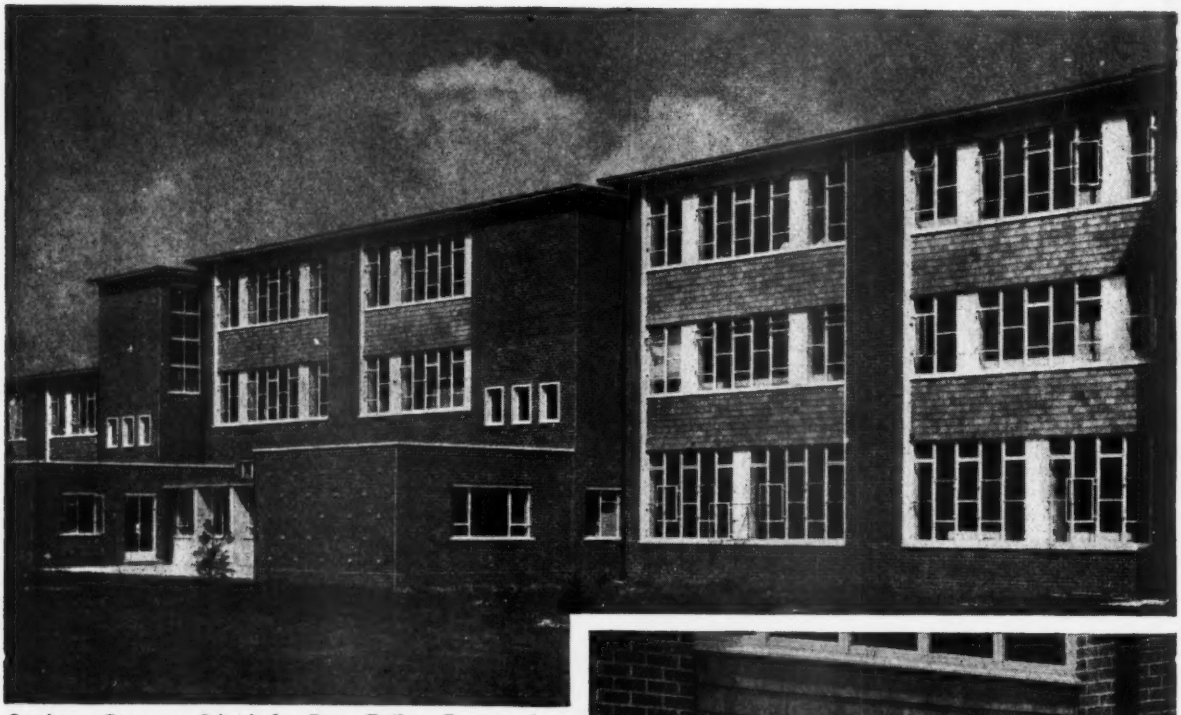

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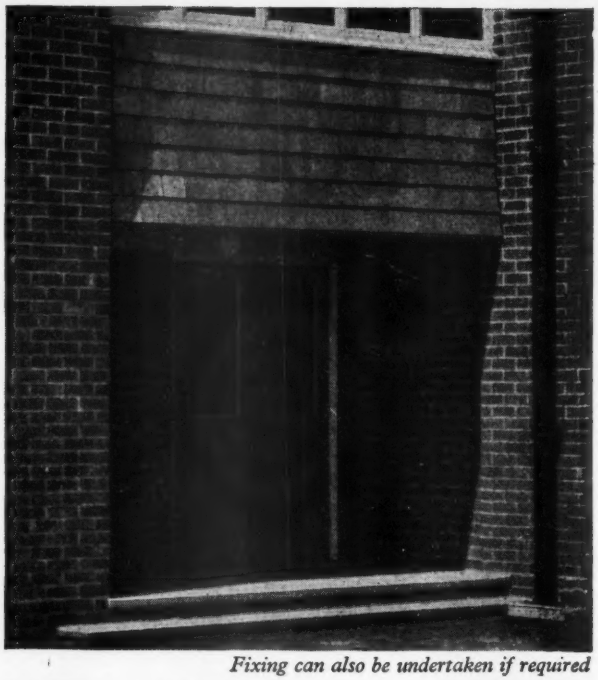

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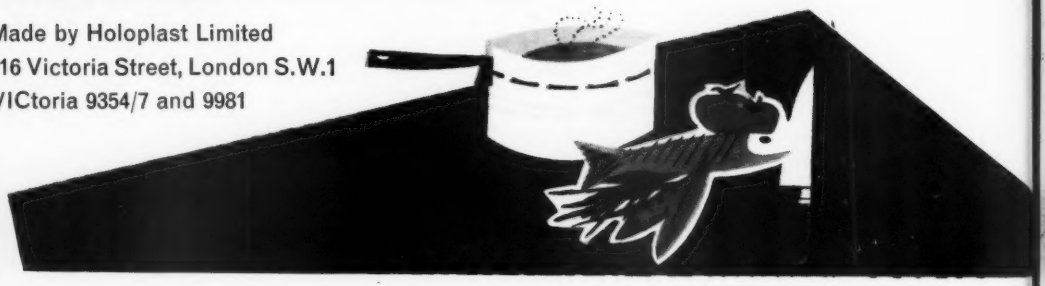

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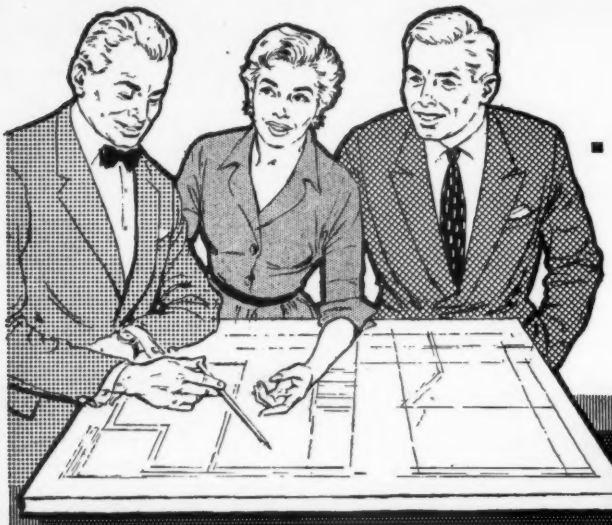

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With perfection in mind, a Bilston bath is the natural choice. Bilston design and finish have instant appeal. Bilston quality is appreciated year after year, as its beauty remains unimpaired by the passing of time. The Bilston range includes the exact colour required for any decorative scheme.

WE HAVE AN EXHIBIT AT THE BUILDING CENTRE 26 STORE STREET W.C.1

Bilston

— the bath *SPECIALISTS*

Atlanta • Magna • Cresta • Marina • Mermaid • Bermuda •

A BILSTON BATH

BILSTON FOUNDRIES LTD · BILSTON · STAFFORDSHIRE · *Illustrated literature is available on request.*

ESCOL

PORCELAIN ENAMELLED STEEL INFILLING PANELS

(BONDING PATENT No. 796118)

Project for:
Phipps Brewery, Northampton, Office Extension
Architect:
F. C. J. Smith, L.R.I.B.A., of the Company
Contractor: **Henry Martin Ltd.**
The Type C ESCOL panels are coloured maroon (B.S.I. 0-006)

Stewart and Gray are the patentees and sole manufacturers of ESCOL. The process has been entirely developed in the U.K. during the past four years, and the Company, which is entirely British and has no connections with foreign manufacturers, are unrivalled leaders in the manufacture of porcelain enamelled steel infilling panels.

ESCOL HAS BEEN SPECIFIED AT HOME AND OVERSEAS FOR

SCHOOLS
OFFICE & FACTORY BUILDINGS
LABORATORIES
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RAILWAY STATION BUILDINGS & BRIDGES
AIRPORT INSTALLATIONS
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MULTI-STOREY FLATS
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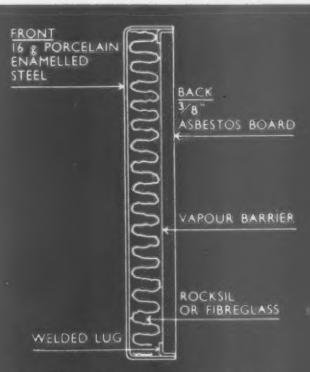
Our experience gained in 4 years of panel production backed by our research and development organisation is at your service.

There is an ESCOL panel to meet your specific requirements



PANEL SECTION TYPE B

Panel consisting of 16 gauge, porcelain enamelled face, flanged all sides with welded corners. The face panel is filled with Rocksil or Fibreglass and backed with ⅜" asbestos board. A vapour barrier of aluminium foil is placed between the insulating material and the asbestos back. Total thickness approximately 1½". Weight 5 lb. sq. ft. U value: 0.20.

ESCOL PANELS ARE MANUFACTURED IN THEIR ENTIRETY BY

STEWART & GRAY LTD
SWAINS ROAD TOOTING S.W.17

Telephone: MITcham 1634

MEMBERS OF THE VITREOUS ENAMEL DEVELOPMENT COUNCIL AND THE PORCELAIN ENAMEL INSTITUTE

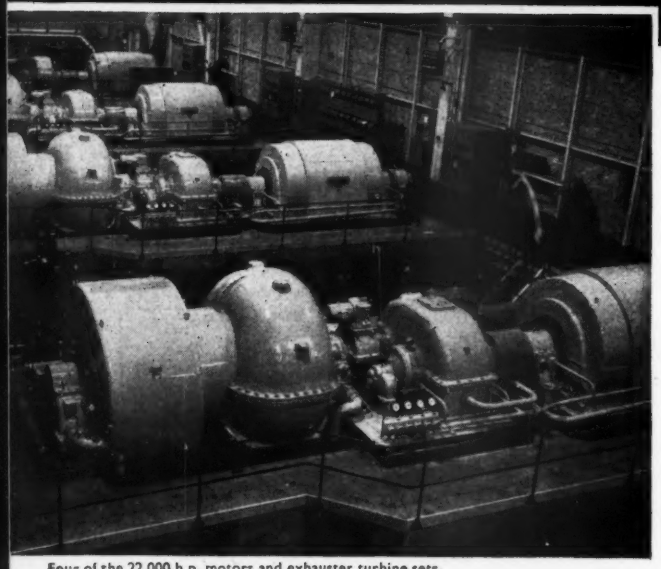
TECHNICAL SERVICE FOR

ROLLS ROYCE

ALTITUDE TEST PLANT

Aerial view of the new plant.

OVER 3,000 GALLONS OF JOSEPH MASON PAINTS USED ON THE ROLLS-ROYCE AERO ENGINE ALTITUDE TEST PLANT -a privately owned national asset



Four of the 22,000 h.p. motors and exhauster turbine sets.

MASOPAR Synthetic Enamels
MASOTEX Emulsion Paints

The value of Joseph Mason's long experience in paint manufacture and application was exemplified in the painting treatment of this new Rolls-Royce establishment.

The Technical Service Department had to contend with temperatures ranging from normal to 600 deg. F. These and other special problems, presented by the cooling equipment, were successfully overcome, and over 3,000 gallons of Joseph Mason's oil and heat-resisting paints were used on this vast plant.

Main Consulting Engineers	*McLellan & Partners, in association with Merz & McLellan.*
Consulting Civil Engineers	*R. T. James & Partners.*
Architects	*Ramsey, Murray, White & Ward.*
Main Contractors	*Gee, Walker & Slater Ltd.*
Painting Sub-Contractors	*T. & G. Saxton.*

joseph mason paints

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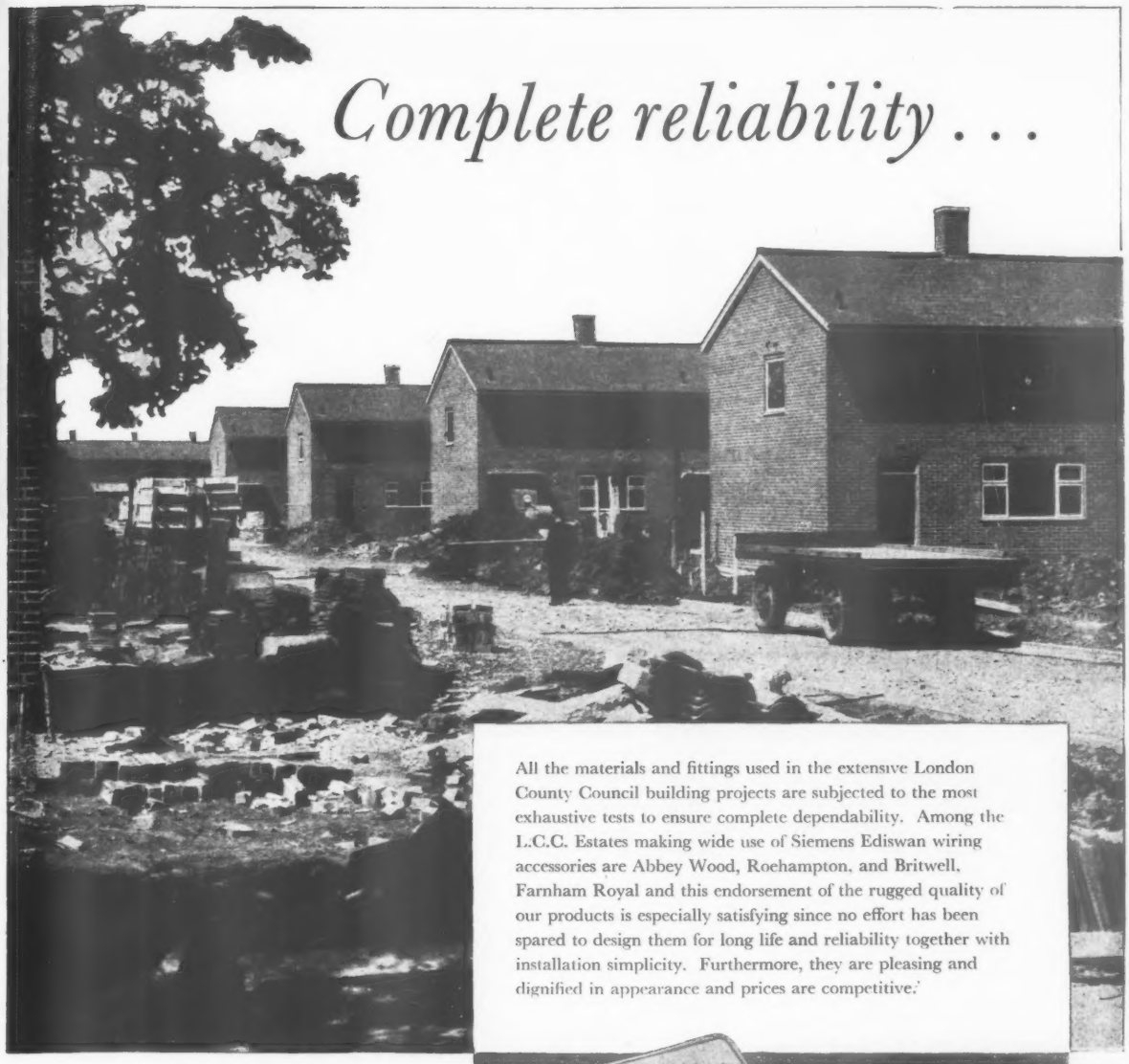
MANUFACTURERS OF VERY GOOD PAINTS SINCE 1800

Photographs by courtesy of Rolls-Royce Ltd.

Complete reliability . . .



All the materials and fittings used in the extensive London County Council building projects are subjected to the most exhaustive tests to ensure complete dependability. Among the L.C.C. Estates making wide use of Siemens Ediswan wiring accessories are Abbey Wood, Roehampton, and Britwell. Farnham Royal and this endorsement of the rugged quality of our products is especially satisfying since no effort has been spared to design them for long life and reliability together with installation simplicity. Furthermore, they are pleasing and dignified in appearance and prices are competitive.'

Part of the L.C.C. estate at Abbey Wood.

ARCHITECT: Hubert Bennett, Esq., F.R.I.B.A.
ENGINEERING SERVICES: Joseph Rawlinson, C.B.E., M.Eng., M.I.C.E., M.I.Mech.E.
BUILDERS: Unit Construction Co. Ltd., 34 St. James Street, LONDON, S.W.1.
ELECTRICAL CONTRACTORS: Holliday & Sun (Electrical) Ltd., Balham High Road, LONDON, S.W.12.

Siemens Ediswan manufacture a complete range of wiring accessories for all types of housing projects

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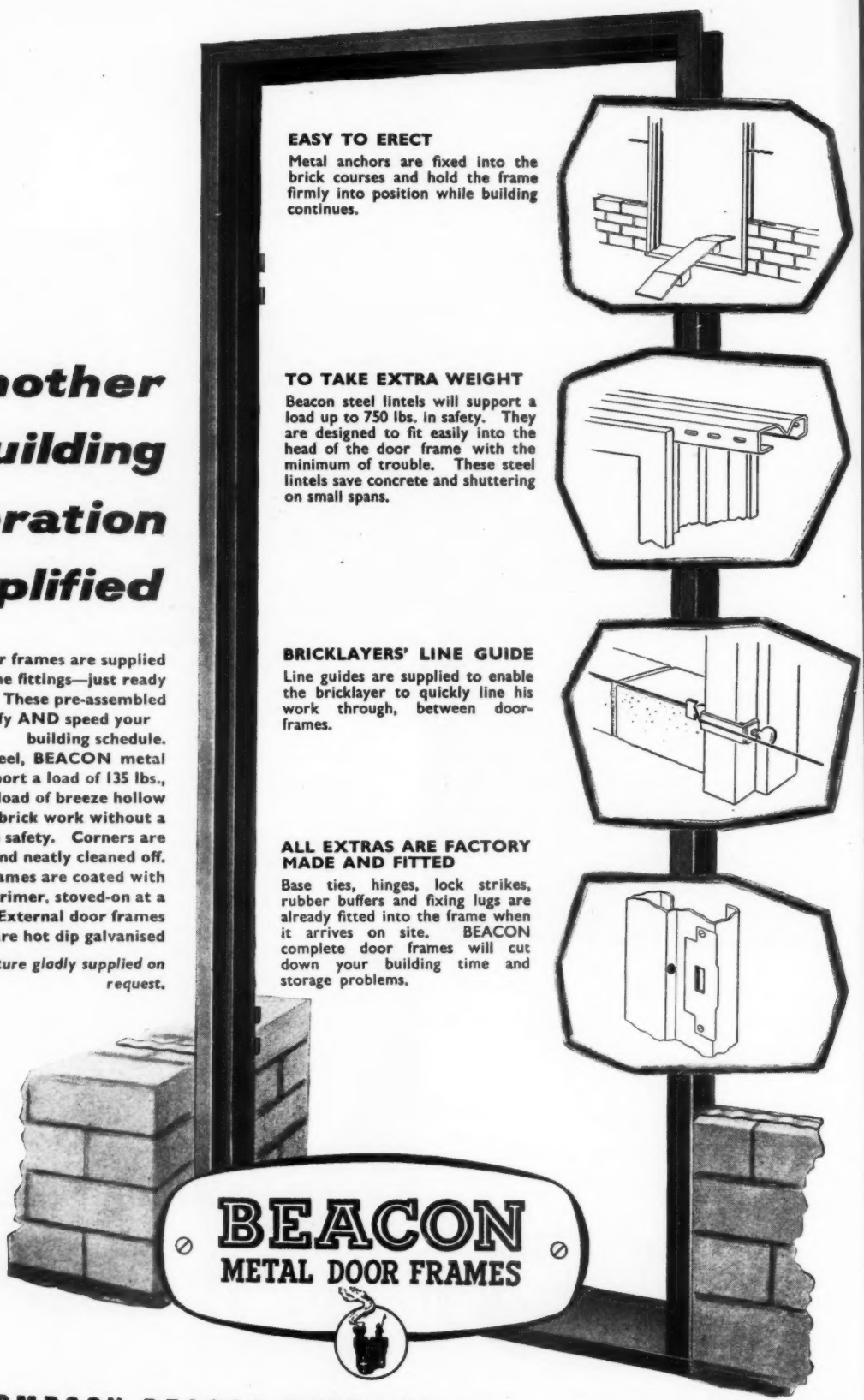
Another Building Operation Simplified

BEACON steel door frames are supplied **COMPLETE** with the fittings—just ready to be built in! These pre-assembled units will simplify **AND** speed your building schedule.

Made of Zinc-coated steel, **BEACON** metal door frames will support a load of 135 lbs., carry the usual load of breeze hollow block and 4½in. brick work without a lintel in complete safety. Corners are electrically welded and neatly cleaned off. Internal door frames are coated with a rust inhibiting primer, stoved-on at a high temperature. External door frames are hot dip galvanised

Comprehensive literature gladly supplied on request.



EASY TO ERECT

Metal anchors are fixed into the brick courses and hold the frame firmly into position while building continues.

TO TAKE EXTRA WEIGHT

Beacon steel lintels will support a load up to 750 lbs. in safety. They are designed to fit easily into the head of the door frame with the minimum of trouble. These steel lintels save concrete and shuttering on small spans.

BRICKLAYERS' LINE GUIDE

Line guides are supplied to enable the bricklayer to quickly line his work through, between door-frames.

ALL EXTRAS ARE FACTORY MADE AND FITTED

Base ties, hinges, lock strikes, rubber buffers and fixing lugs are already fitted into the frame when it arrives on site. BEACON complete door frames will cut down your building time and storage problems.

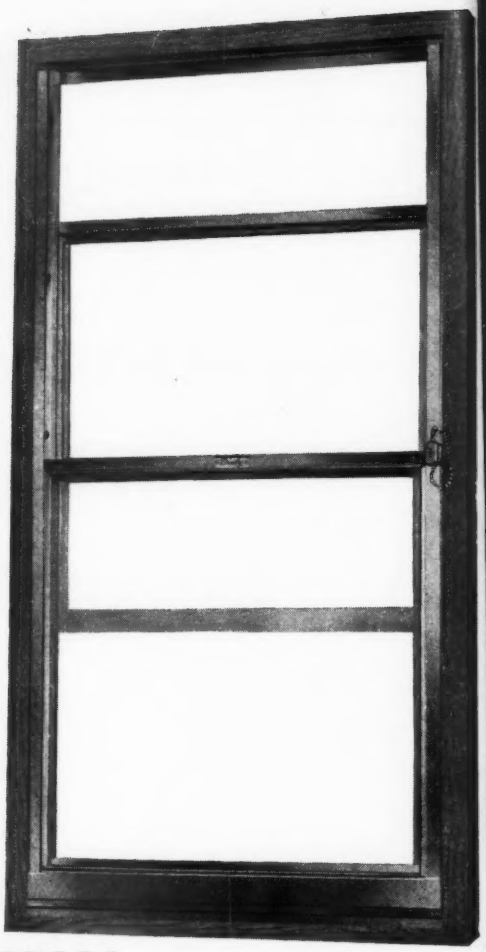
BEACON
METAL DOOR FRAMES

JOHN THOMPSON BEACON WINDOWS LTD · WOLVERHAMPTON

Introducing

BRABY

Aluminium Alloy VERTICAL SLIDING SASH



This new addition to the wide range of efficient, economical BRABY products is the result of several years testing and development work.

SIZES — *Supplied in standard units as under—*
2 ft 0 in. x 4 ft 0 in. high,
2 ft 6 in. x 5 ft 0 in. high, and
3 ft 0 in. x 6 ft 0 in. high
or in sizes to suit special requirements.

IMPORTANT FEATURES

Adaptability
Can be inserted into timber frames, composite metal windows, pressed sub-frames, curtain walling.

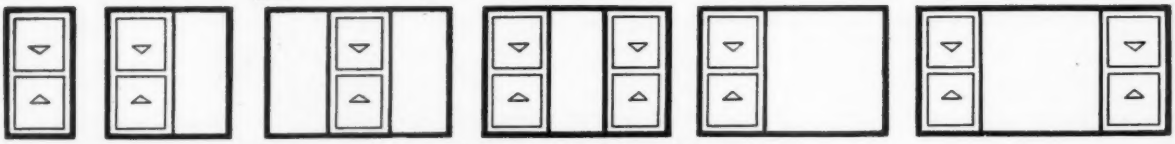
Simple, Positive Control
A foolproof device ensures suspension in required position. Balance weights are incorporated in units over 2 ft 6 in. x 5 ft 0 in. high.

New Glazing Technique
Glass inserted from the inside and easily replaced. Units supplied glazed if required.

Security
A device locks sliding sashes when in closed position.

Transom Ventilator
Ventilation at transom is obtained by specially-arranged sliding ventilator.

Some Suggestions for fitting **BRABY** *Vertical Sliding Sash*



WRITE FOR ILLUSTRATED LEAFLET

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Ashton Gate Works, Bristol, 3 TELEPHONE: Bristol 64041 And Falkirk
OTHER OFFICES: 352-364 Euston Road, London, N.W.1 (Head Office). TELEPHONE: EUSton 3456
110 Cannon Street, London, E.C.4 (Export) TELEPHONE: MANsion House 6034
Queen's Buildings 10 Royal Avenue, Belfast. TELEPHONE: 26509
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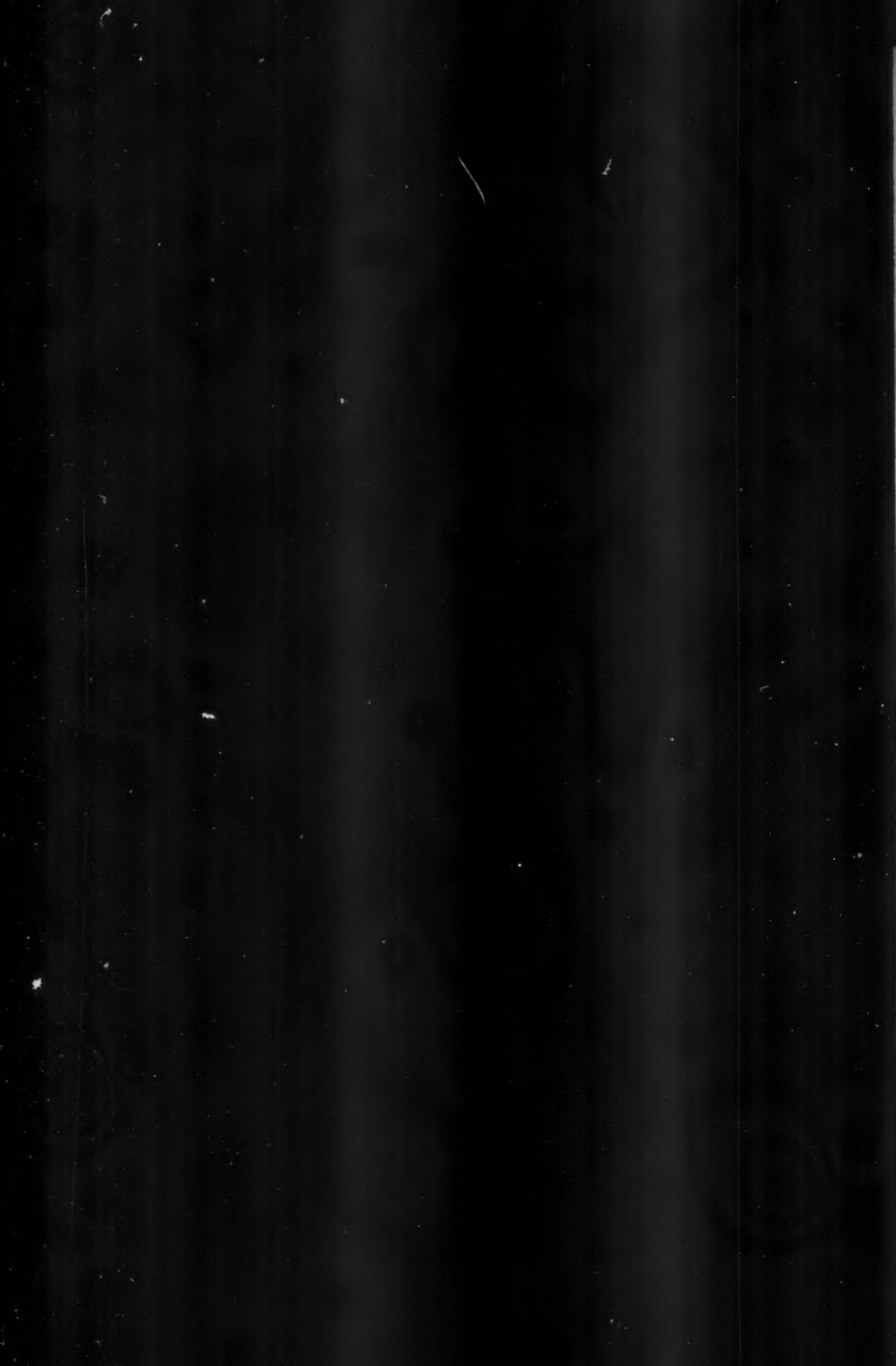
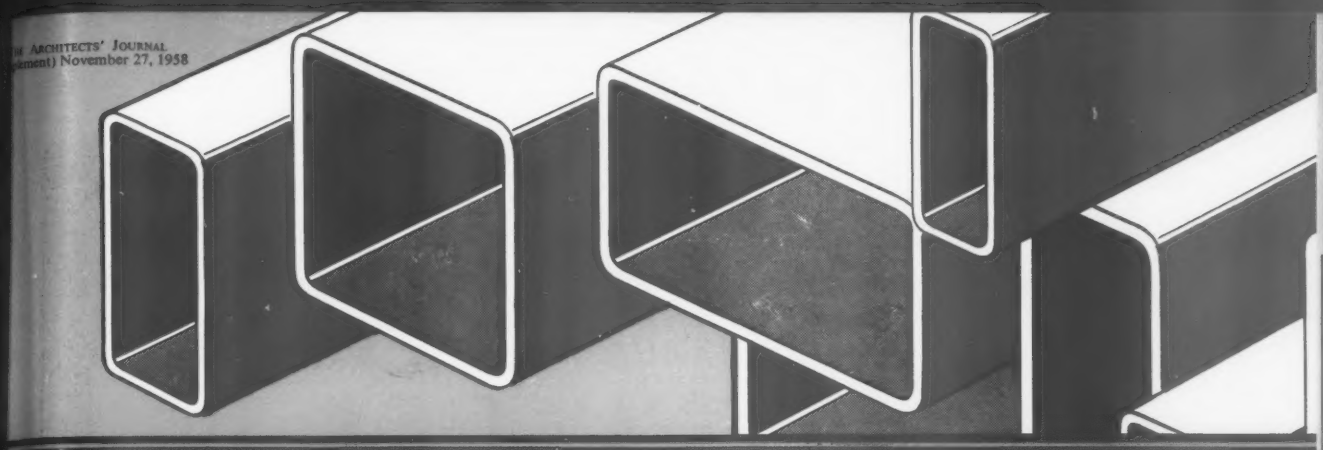
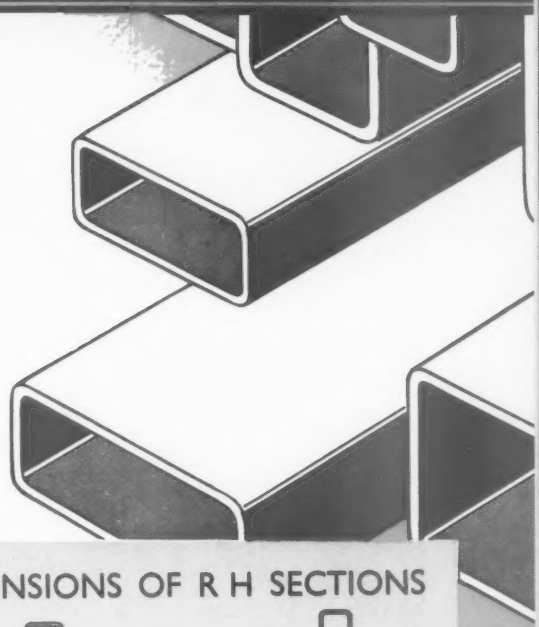




A further advance in tubular steelwork:

RECTANGULAR HOLLOW SECTIONS



Welded tubular construction has made great progress in recent years in its applications to mechanical handling and similar equipment. A further step forward is being made with our new range of hot-rolled Rectangular Hollow Sections. These have been developed in conjunction with our subsidiary, Tubewrights Ltd., who are acknowledged specialists in tubular construction.

SIMPLICITY

R.H. Sections eliminate the need for special shaping of component members prior to welding. Any straight cut R.H.S. or tube will fit accurately against their flat sides whether square-on or at an angle and, moreover, lugs of various kinds produced from tube or bar are easily attached. Welding is simple and no bevelling is necessary.

SIZES

16 standard sizes of hot-rolled R.H. Sections are available, each in two thicknesses; they range from $1\frac{3}{8}$" square to 5" x $2\frac{1}{8}$". Several sections have matching dimensions and this is of advantage in the production of neat fabricated structures. The 1·90" square R.H.S., for example, matches the short sides of a 3·68" by 1·90" R.H.S.; these matching dimensions are made clear in our pamphlet, and in the accompanying table.

DIMENSIONS OF R H SECTIONS

INCHES	S.W.G	INCHES	S.W.G
1·36 x 1·36;	11g, 10g	2·44 x 1·36;	11g, 9g
1·90 x 1·90;	11g, 9g	3·17 x 1·59;	10g, 9g
2·125 x 2·125;	10g, 9g	3·68 x 1·90;	10g, 8g
2·38 x 2·38;	10g, 9g	4·76 x 2·38;	9g, 7g
2·50 x 2·50;	10g, 8g	1·90 x ·82;	11g, 10g
2·79 x 2·79;	10g, 8g	2·79 x 1·01;	11g, 9g
3·57 x 3·57;	9g, 7g	3·40 x 1·36;	10g, 9g
MATCHING DIMENSIONS ARE SHOWN IN HEAVY TYPE		3·99 x 1·59;	10g, 8g
		5·01 x 2·125;	9g, 7g

Our subsidiary, Tubewrights Ltd., of 25 Buckingham Gate, London, S.W.1, is willing to advise on or quote for any welded sub-assemblies or complete units in R.H.S., in tubes, or in a combination of both.

STEWARTS AND LLOYDS WAREHOUSES THROUGHOUT THE COUNTRY STOCK R.H S.

Pamphlet giving full dimensions, properties and prices will be sent on application to:

STEWARTS AND LLOYDS S&L RECTANGULAR HOLLOW SECTIONS TUBEWRIGHTS

Stewarts and Lloyds Ltd

STRUCTURAL STEEL DEPARTMENT, BROAD STREET CHAMBERS, BIRMINGHAM, 1

The 'Placarol' core is one of the exclusive features used to ensure the complete stability of Hills doors.

Fit Hills doors and forget about maintenance

Maintenance problems cease the moment you specify Hills doors. They are made to give enduring service. The use of first-grade materials, kiln-dried and correctly conditioned, together with balanced construction, ensures complete stability.

Hills doors are expertly designed, soundly constructed and carefully inspected at every stage of the specialised line production. A century of progressive thought, scientific research and knowledgeable operation of precision machinery goes into every Hills door.

The patented 'Kreibord' and 'Placarol' cores exclusive to Hills, cannot be equalled for flush doors. They give maximum support for door facings, ensure freedom from undulation and economy in weight. Economy? Yes, economy in every way. Highest quality. Value for money. A three year guarantee. Reduced maintenance costs.

There is a Hills door for any building project you may have in mind, interior or exterior. We deliver standard doors immediately from stock, either from our factory, or from our new South-of-England Depot at Cuffley, Herts.

Our local representative will gladly supply full details and answer your questions. A card or call to the Hills office nearest you will put you in touch with him.

Hills

a good name to have on your doors

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SOUTHERN OFFICE: F. HILLS & SONS LTD., SOPERS ROAD, CUFFLEY, HERTS. TEL: CUFFLEY 2824/5

The virtue of pre-cast floors

lies primarily in their economy and in the speed with which they can be put into position. They are particularly suitable for industrial buildings where the traffic is unusually heavy.

The above sketch was made of a recent installation by Bradfords at Hays Wharf, London.

Other Bradford specialities

HOLLOW-BLOCK FLOORS

PRE-CAST UNITS

GRANOLITHIC PAVING

STAIRCASES · CAST STONE

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FOR CONCRETE DESIGN & CONSTRUCTION

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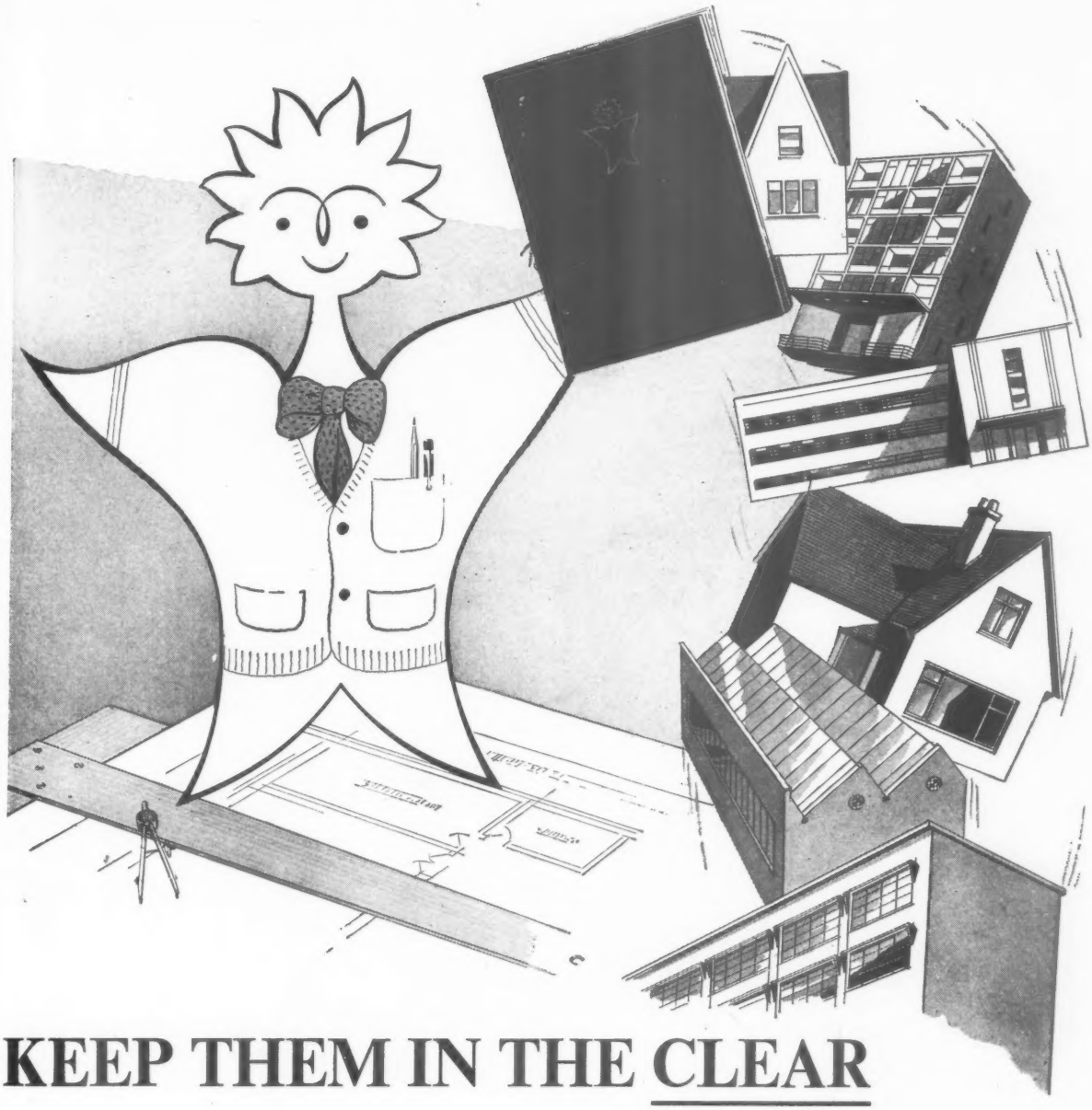

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A Series of informative articles on smokeless coke and gas appliances

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The following, together with binder, are now available

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Sections 1, 2, 3, 4

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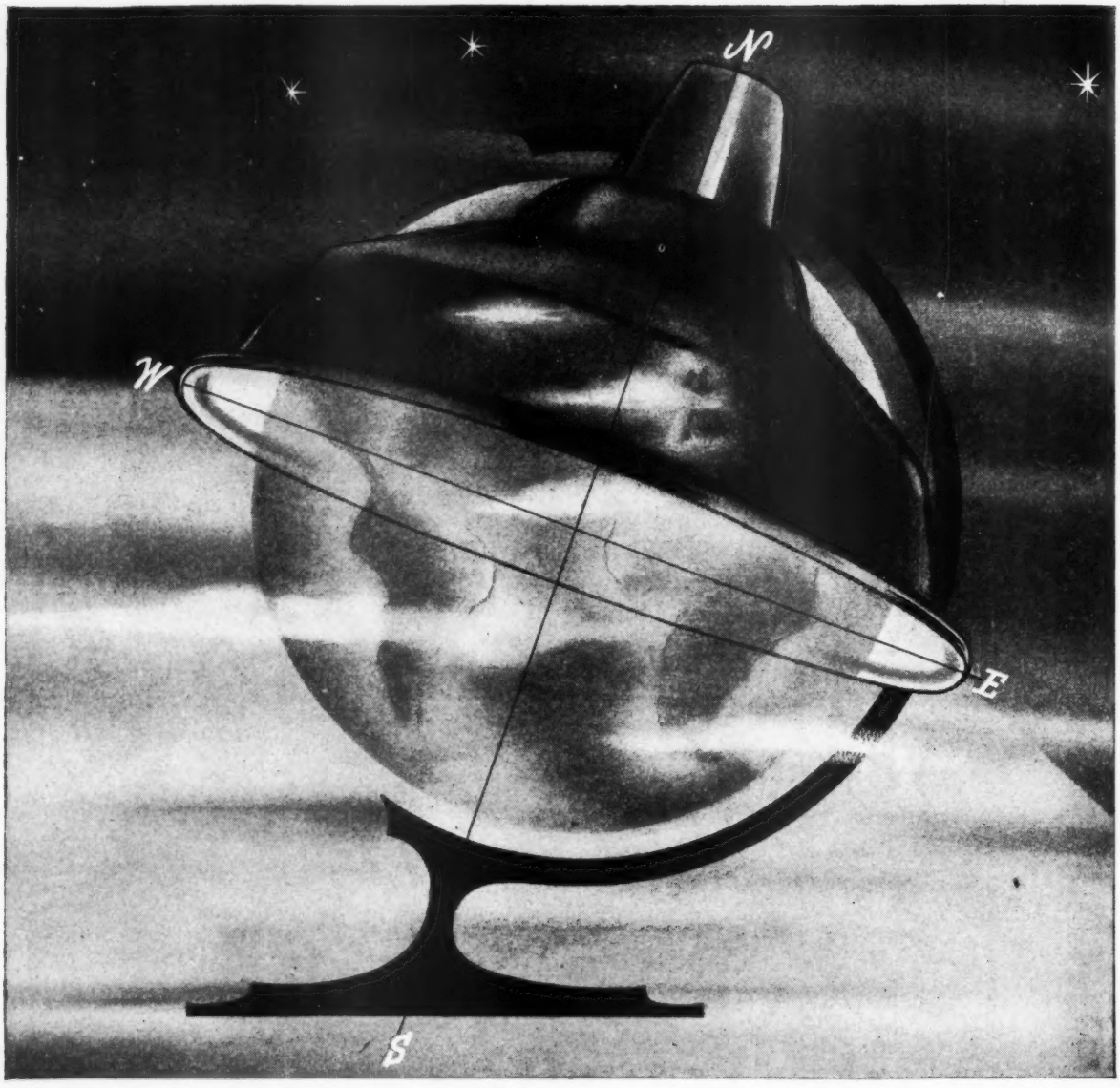

A word or two on illumination

A switch is pressed in the home . . . night shifts of Industry concentrate on intricate problems . . . across the globe hundreds of thousands of fans roar at floodlit soccer matches . . . ports and dockyards work on throughout the night. In these, and countless other ways, Benjamin Lighting Fittings are efficiently and reliably carrying out their tasks all over the world.

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better lighting by BENJAMIN REGD.

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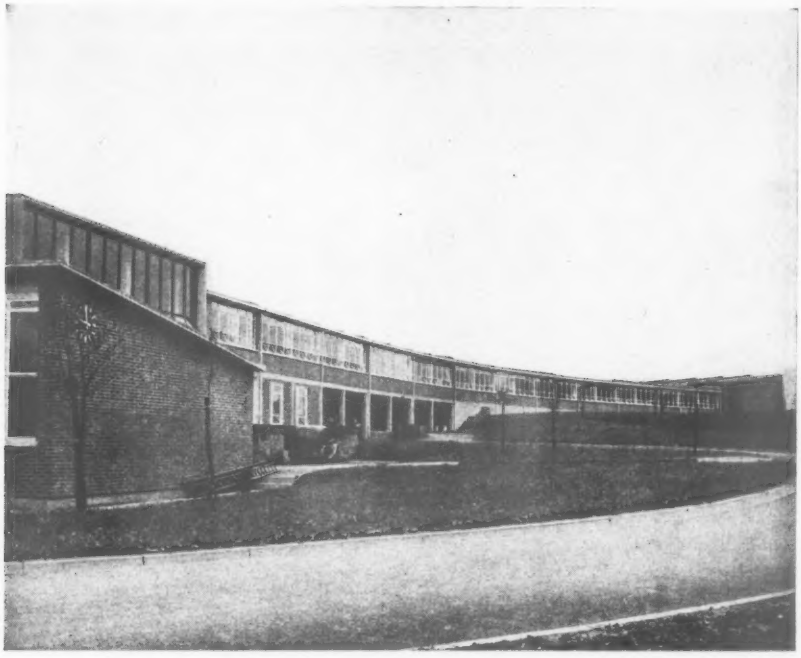
Manufactured by the largest exclusive manufacturers of Putty and similar compositions in Great Britain.



Blurton County Secondary Modern School, Blurton, Stoke-on-Trent.
Architect: J. R. Piggott, Esq., T.D., F.R.I.B.A., City Architect, Stoke-on Trent.
Contractors: The Public Works Department, Stoke-on-Trent.
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A ready mixed putty, soft and easy to work, for glazing into metal frames. Sealon will adhere to glass, painted metal, etched galvanised steel or pre-treated aluminium.

QUANTITIES

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Domestic Frames.....3½ ozs per running foot.
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Obtainable through glass, Builders and Plumbers Merchants. Despatch can be made within 24 hours.

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Trusses and beams built up of laminae can be of any span and dimensions, thus freeing the Architect from the restrictions of conventional materials. They are aesthetically pleasing, compare favourably in cost, dispense with the need for heavy lifting tackle and generally reduce site labour costs. R.T.E. timber trusses and beams are being used in many new schools and two examples are shown here:—

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For the Assembly Hall, Dining and Entrance Halls and Cloakrooms of this school, R.T.E. supplied straight glued laminated timber beams, 20 in. deep by 3¾ in. wide, spanning up to 32 ft. 9½ in.
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Boxed trusses for classrooms. Laminated timber main members, with stressed skin plywood facing; painted finish.
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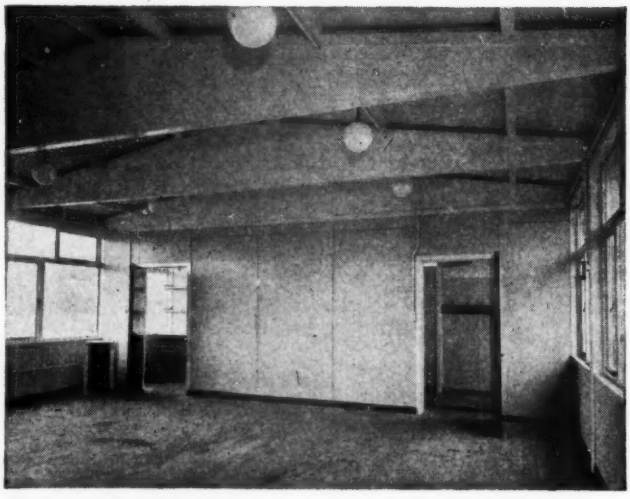
For further information on R.T.E. Glued Laminated and Bolted & Connectored timber, send for illustrated brochure.



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T·D·A Approved Manufacturer
CONSTRUCTION IN GLUED LAMINATED AND BOLTED & CONNECTORED TIMBER
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First ESCALATOR in Belfast

The Departmental Store of Anderson & McAuley Ltd. is the proud possessor of Belfast's first escalator. It was installed, of course, by J. & E. Hall. Decorative features of the balustrade casings include aluminium alloy deckings and mouldings, left natural satin finish, with the inner panels faced with Formica—Opaline Green for one escalator and Buff Linnette for the other.

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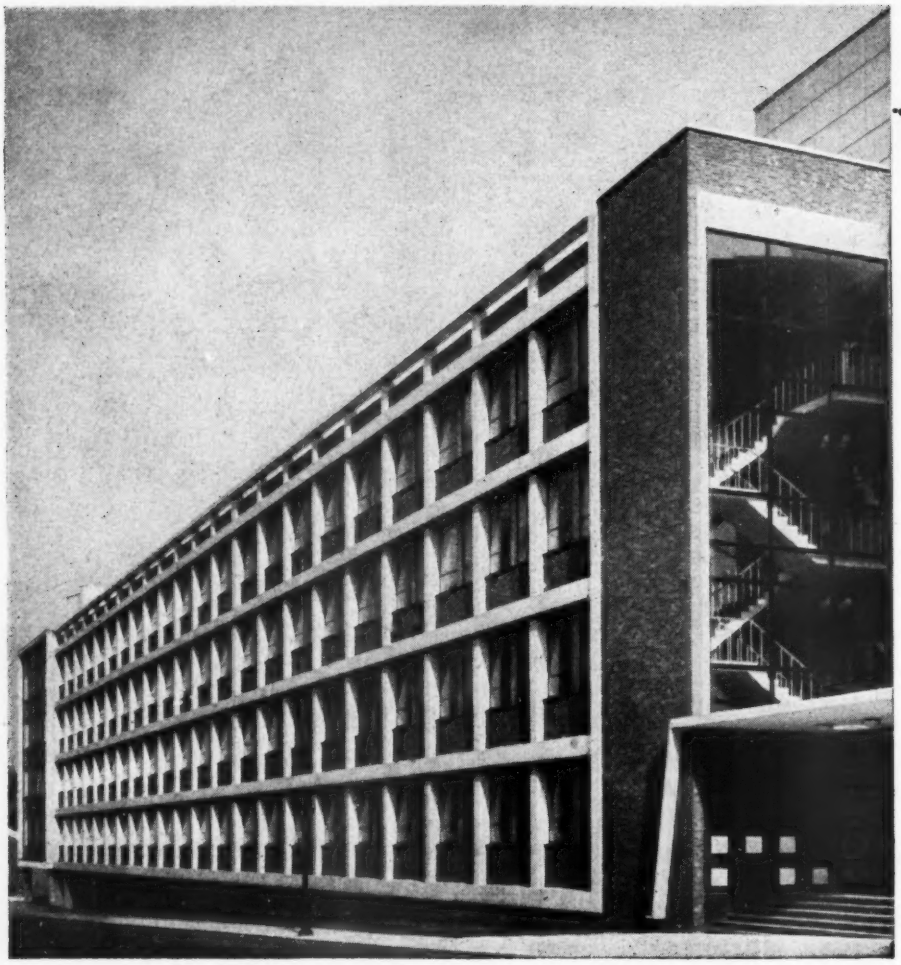
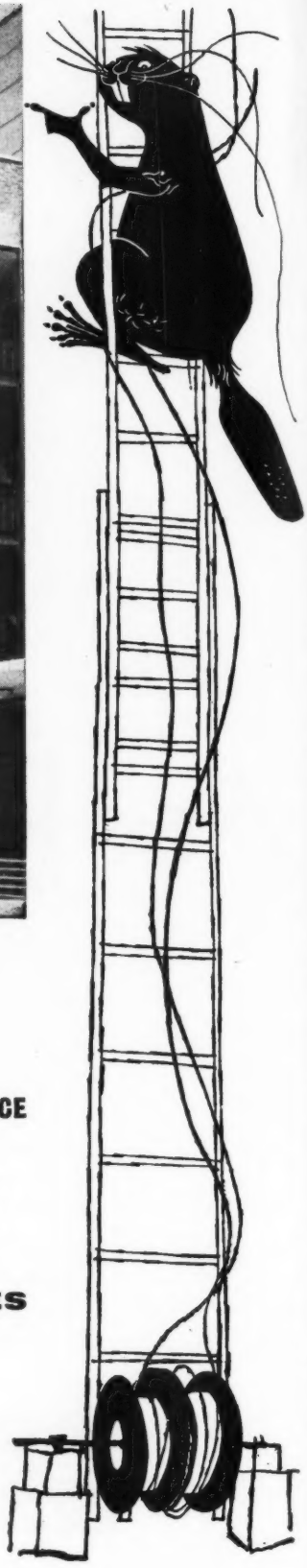


Architects:
Messrs. Weightman & Bullen, Liverpool
Electrical Contractors:
Messrs. McGoff & Vickers Ltd., Liverpool & London



INSTALLATIONS LIKE THIS CALL FOR *EAGER BEAVER* SERVICE

The impressive new School of Medicine building, Liverpool University. The wing shown here houses specialised research laboratories, photographic rooms, workshops and museums. One hundred miles of Henley cables thread their way through scores of orderly ducts to provide essential electrical services.

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These are but a few of the wide range of wires and cables available from stock

V.R. Braided and Compounded
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—is designed for consistent high-combustion efficiencies

Riley pressure jet oil burners exploit higher air and oil pressures than generally obtain in present day practice. They are factory set to give high CO_2, thus dispensing with the need for site adjustment.

There are Riley Oil Burners with throughputs ranging up to 700 lbs. per hour.

Type HL Burner

HIGH/LOW/OFF OPERATION

For capacities above 10 gallons per hour using 220 secs and 950 secs oil. Gives clean combustion and 13% CO_2 at variable firing loads. Incorporates one small and one large air register, each with its own atomiser. On low load only the small burner is alight, at high load both are working at optimum efficiency. Large burner has tip shut off, arranged for hot oil circulation to start and self cooling on shut down.

Type F Burner

ON/OFF OPERATION

Available in capacities from 20 lbs. to 90 lbs. per hour, using 220 secs oil. Air/Oil ratios and pressures are factory set to give suspended intense flame with 13% CO_2, and do not require further adjustment on site.

Type G Burner

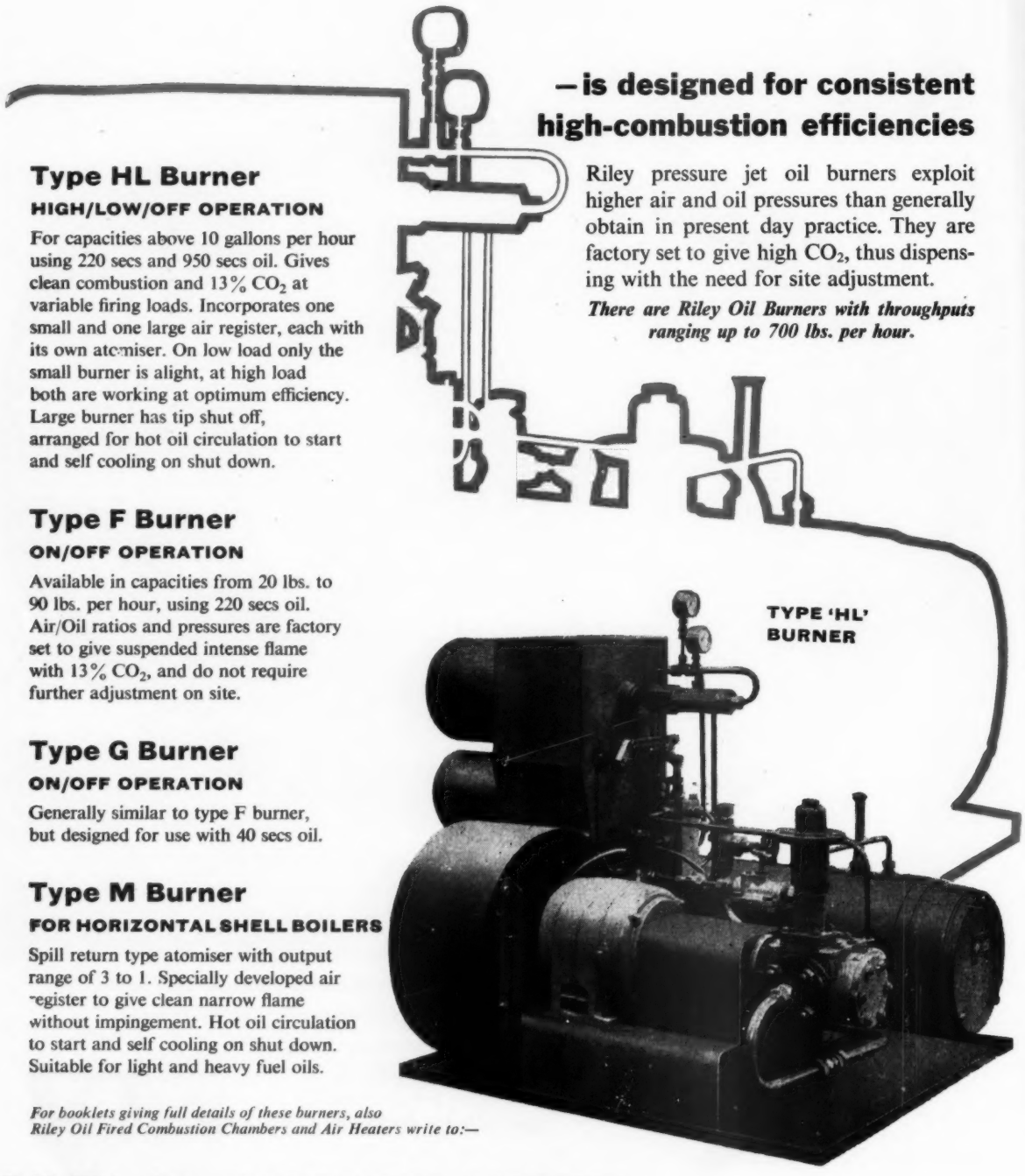
ON/OFF OPERATION

Generally similar to type F burner, but designed for use with 40 secs oil.

Type M Burner

FOR HORIZONTAL SHELL BOILERS

Spill return type atomiser with output range of 3 to 1. Specially developed air register to give clean narrow flame without impingement. Hot oil circulation to start and self cooling on shut down. Suitable for light and heavy fuel oils.



TYPE 'HL' BURNER

For booklets giving full details of these burners, also Riley Oil Fired Combustion Chambers and Air Heaters write to:—

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The SECO systems of building components or complete structures allow you to provide a modern functional building—*yet can save you much trouble and valuable time.* SECO buildings are available in single and multi-storeys, for every imaginable purpose. And whether you wish to create new components, use existing SECO materials or a complete SECO building our service of final detail design saves you many unprofitable hours tied to your drawing board.

Are you on our mailing list yet?
At about three-monthly intervals we print and mail information sheets in our series DESIGN IN SECO. If you are not already receiving these helpful sheets please write now to our PLANNING DEPARTMENT asking for copies to be sent you.

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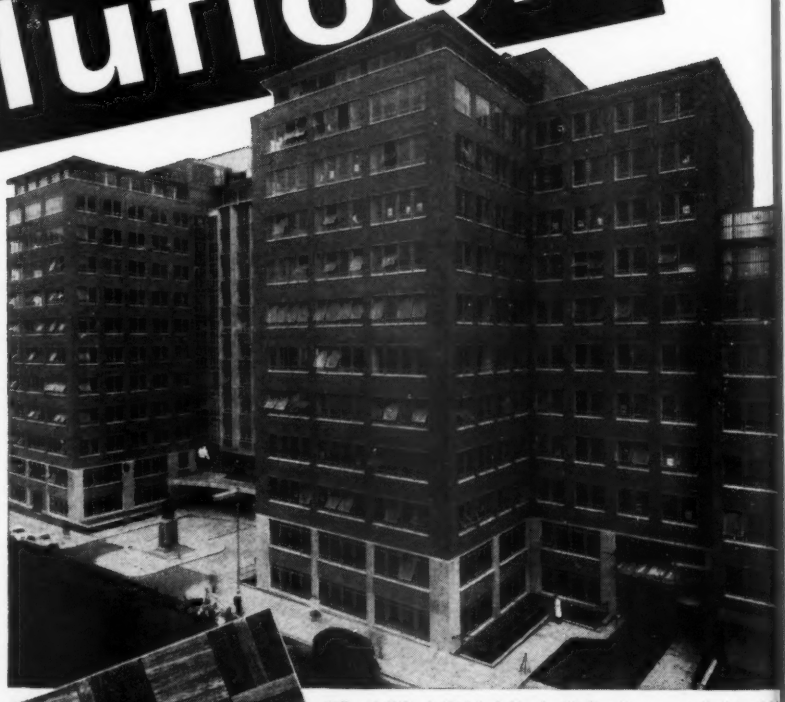
Both sides of Knig

All over Britain it's ALUFLOOR

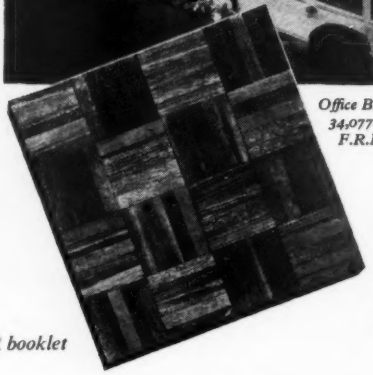
In the space of a few months **Alufloor was laid completely throughout for two of the largest flooring contracts ever placed** — totalling 61,641 sq. yds! While, in the past year alone, over **a quarter of a million square yards** of this quality wood flooring has been laid in buildings all over Britain.

Alufloor, manufactured by a new, revolutionary technique, retains the beauty and durability of hardwoods while incorporating many unique advantages hitherto unassociated with wood flooring.

Write today for fully informative ALUFLOOR booklet



Office Building in Knightsbridge for Malkay Investments Ltd. in which 34,077 sq. yards of Alufloor have been laid. Architect: Guy Morgan F.R.I.B.A., A.I.Struct.E.



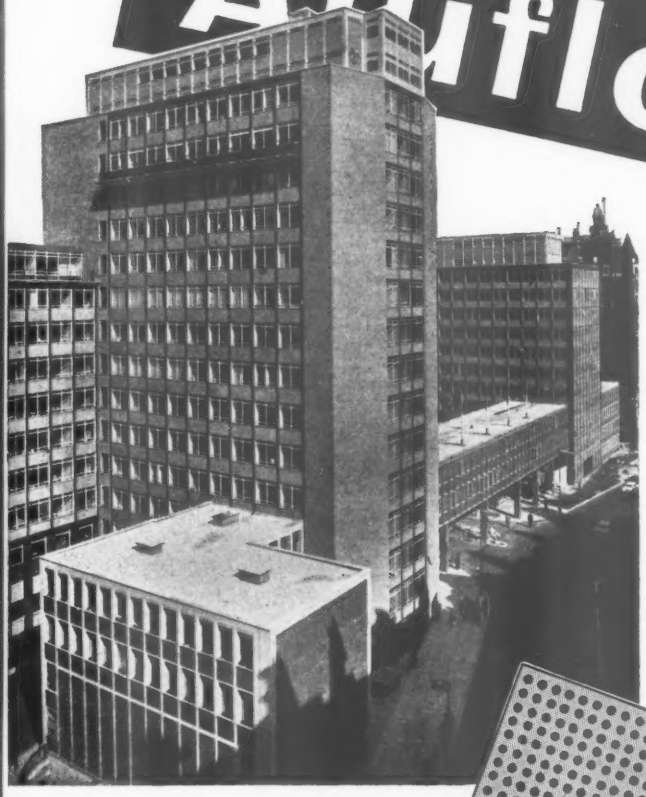
ALUFLOOR is completely stable over under floor heating.

CALDERS LIMITED

Ploug
Biddi

27,564 sq. yards of wood flooring and all Alufloor

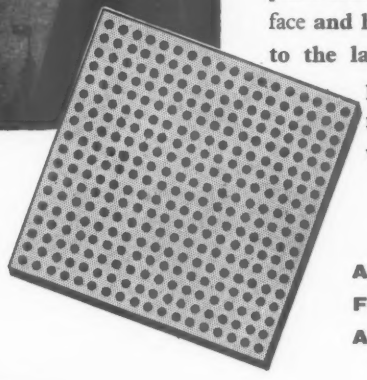
Knightsbridge



Bowater House, Knightsbridge, in which 27,564 sq. yards of Alufloor have been laid. Architect: Guy Morgan, F.R.I.B.A., A.I.Struct.E.

Only ALUFLOOR has all these advantages

Alufloor, the only wood flooring with a perforated aluminium foil backing, is precision prefabricated and factory sanded. It eliminates pinning and experimental positioning. It provides a quieter surface **and has solved the problems pertaining to the laying of wood flooring over floor panel and above ceiling heating.** It remains completely stable and has a very low heat emission loss.



Look for the aluminium backing, the hallmark of genuine ALUFLOOR.

ALUFLOOR CAN BE PRODUCED FROM ANY HARDWOOD TO ARCHITECT'S SPECIFICATIONS

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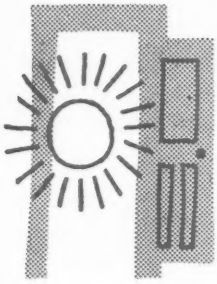
'MODULUME'
Brings the sky indoors!



Modulume serves the small and the large shop and provides excellent lighting with economy and comfort.

The completeness of 'Modulume' ceilings enabled this shoe shop installation to be carried out in less than two days.

Our advisory service is readily and freely available to you so that problems, simple or complex, can be solved correctly first time.

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Luminous Ceilings

CROMPTON PARKINSON LTD., CROMPTON HOUSE, ALDWYCH, LONDON, W.C.2.

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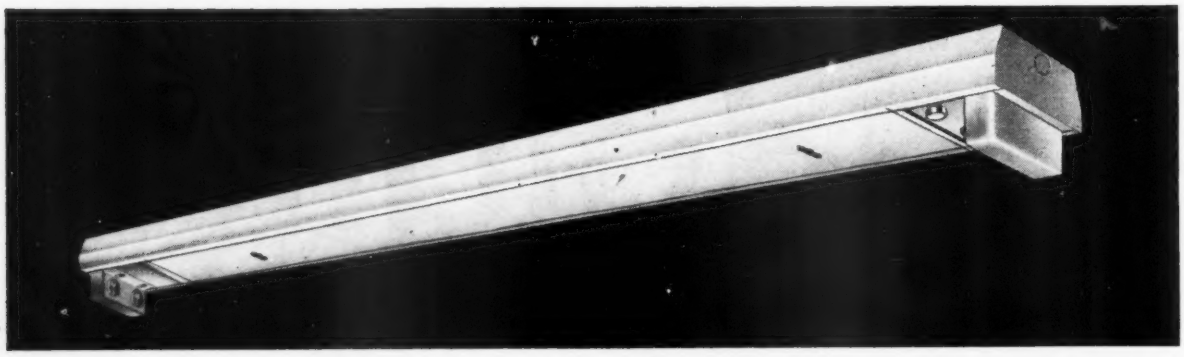
You must see the

* Revolutionary

EKCO Essex Range

PATENT APPLIED FOR

Over 200 Fluorescent Fittings from One Basic Spine



Fittings designed with the User in mind. An entirely new range of fluorescent lighting fittings, produced by experts with many years experience, to combat the ever-rising costs of installation and maintenance.

The **Essex Range** prices are very competitive with those of any fittings of the same standard, but only the **Essex Range** has all the precision built-in refinements such as:—

Detachable control gear tray, quick-fix reflectors and diffusers, heavy duty bi-pin lampholders permitting lamping from one position, no projecting screwheads on spine and many others.

Ask for a copy of the **Ekco Essex Range** Catalogue and see how good fluorescent lighting fittings can be.

- ***Installation and maintenance cost halved.***
- ***Assembly by one man in two minutes.***
- ***Full range of quick-fix metal and plastic reflectors with open or closed ends.***
- ***Modern diffusers with coloured endplates—quickly detachable for ease of maintenance.***

INSTALLATION IS A ONE MAN JOB!

1 *Empty spine easily fixed to conduit, chain, universal suspension or ceiling. The 5ft. spine weighs only 7 lbs.*

2 *Control gear tray hooked at one end into spine, hangs vertically leaving both hands free to make connections. Tray swung into final position and firmly fixed with captive wing nut.*

3 *Ready wired lampholder assemblies slotted into spine. The gear tray and lampholders for the single 80W fitting weigh only 9 lbs.*

4 *Reflector or coverplate attached to fitting by two turn-buttons. Tube(s) inserted into spring-loaded lampholders.*

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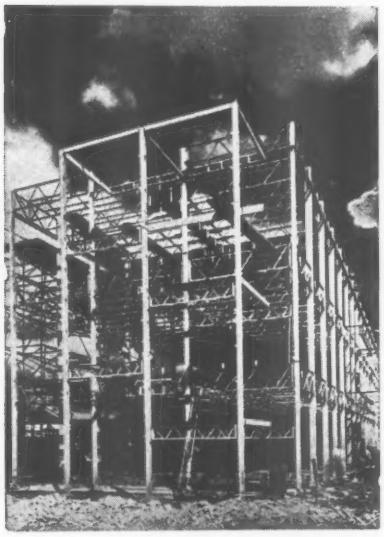
structural steelwork

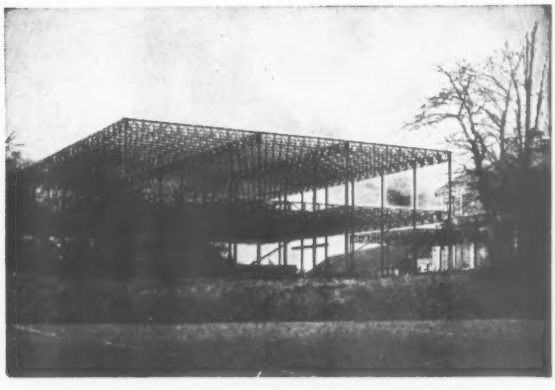
THE BOWATER PAPER CORPORATION LIMITED. The Architects for the new Office Blocks at both Mersey and Northfleet designed for Lattice Steelwork on a modular grid which allowed service lines to be run between floor and ceiling and gave complete flexibility for internal arrangements.

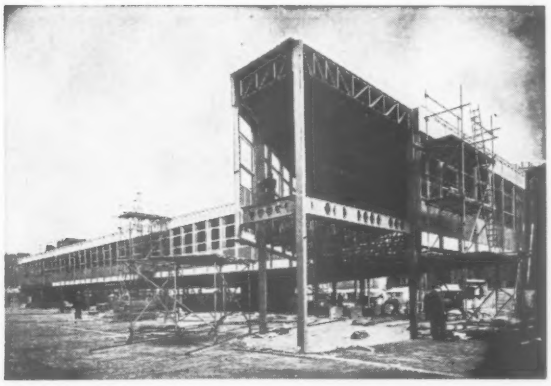
Architects: Messrs. Farmer & Dark.



YORK. For the City of York a Grammar School. Sommerfelds designed the Steelwork on a 3ft. 4in. modular grid allowing complete freedom for the Architect to use curtain walling and internal arrangements.

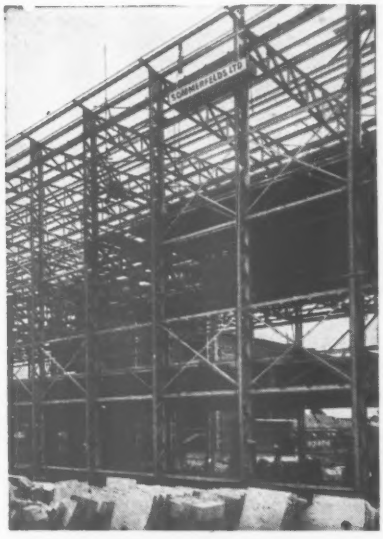
Architect: E. Firth, F.R.I.B.A., A.M.T.P.I., City Architect.





B.E.A. For this B.E.A. Building, speed was the essence of the Contract. Sommerfelds designed the Steelwork and from unloading the first lorry on site to the completion of a 250 ton steelwork erection took three weeks.

General Contractors: Messrs. Richard Costain Limited.



I.C.I. For I.C.I. a Laboratory Block. A multi-storey building with a height to eaves of 44ft. and uninterrupted spans of 50ft. on each floor. Deep Lattice Beams and light stanchions were used with considerable saving in steel requirements.

Architects: Messrs. J. Douglass Matthews & Partners.

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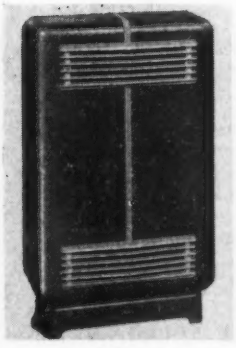
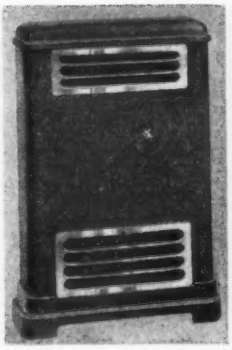
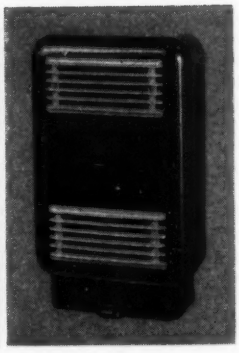
Why should I specify Harper Gas Radiators?



Model No. 3161. *Finish—Base and body heat resisting coinage bronze paint. Baffle vitreous enamelled. Louvres cream vitreous enamelled. Burner—Cast iron with luminous bray jets. ¼in. gas inlet, can be fitted for R.H. or L.H. feed. Governor—Constant pressure. Gas Consumption—18 cu. ft. per hour at 2½in. W.G. Maximum output per hour—8,100 B.Th.U. at 500 c.v. Dimensions—Height 29½in. Width 17¾in. Depth 7in. Weight 42 lb.*



Model No. 3160. *Finish—Heat resisting coinage bronze. The top louvre and the door (which has concealed hinges) are cream vitreous enamelled. Burner—Cast iron with luminous bray jets ¼in. B.S.P. inlet for R.H. or L.H. feed. Governor—Constant volume. Gas Consumption 12 cu. ft. per hour at 2½in. W.G. Maximum Output per hour—5,400 B.Th.U. at 500 c.v. Dimensions—Height 25in. Width 17in. Depth 6¼in. Weight 31 lb.*

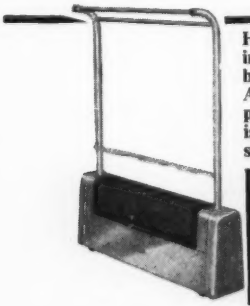


Model No. 4008. *Finish—Base and body heat resisting coinage bronze or pearl blue. Baffle vitreous enamelled, Louvres cream vitreous enamelled. Burner—Cast Iron with luminous bray jets ¼in. gas inlet, can be fitted for R.H. or L.H. feed. Governor—Constant Pressure. Gas Consumption—8 cu. ft. per hour at 2½in. W.G. Maximum Output per hour—3,600 B.Th.U. at 500 c.v. Dimensions—Height 20⅜in. Width 12⅝in. Depth 5¾in.*

Harper Radiators fit in to so many plans conveniently because they are so economical, require virtually no maintenance and are available in a range which meets the most fastidious tastes in design.

We shall be happy to send you illustrated leaflets of the full range.

Also makers of Harper castings, Harper Meehanite and Harper Ductile Castings.



Harper No. 325 Gas Heated Towel Rail. Easily installed, compact and economical. A single luminous burner keeps bathroom towels warm and dry. A governor controls gas consumption (4½ cu. ft. per hour). Finished in ivory and green. Provision is made for screwing to the floor although it is stable enough to stand unsupported.

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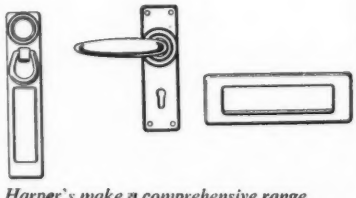

Harper's make a comprehensive range of door furniture in cast iron and finished in bronze lustre vitreous enamel to withstand exposure to severe weather conditions. May we send you details of the full range?

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ANNOUNCING OUR ACTIVITIES...

Here is the NEWS SUMMARY

The recent revival of timber as a building material possessing great beauty and strength, has not passed unnoticed. Leading the way in this new field is the Timber Engineering firm of H. Newsum Sons & Co. Ltd., Lincoln, who are combining over 100 years' experience in the handling and working of timber with modern scientific and technological advances. This welding of the old with the new brings to the Architect a wide range of timber engineered products and gives him the means to interpret his ideas into practical form.

Natural beauty
Economy
Workmanship
Strength
Unique thermal insulation
Minimum weight
Stability

NEWSUM PRODUCTS:

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PORTAL FRAMES · **TRUSSES** and Special Joinery to Architects' Designs

✻ Using low cost curtain walling and Trofdek roofing. Unlike other systems of prefabrication there are no modular restrictions.

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for STRUCTURAL *insulation*

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3. Structural insulating roof deck over timber joists.
4. Structural insulating roof deck over concrete purlins.
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6. Structural insulation under all types of metal roofing.
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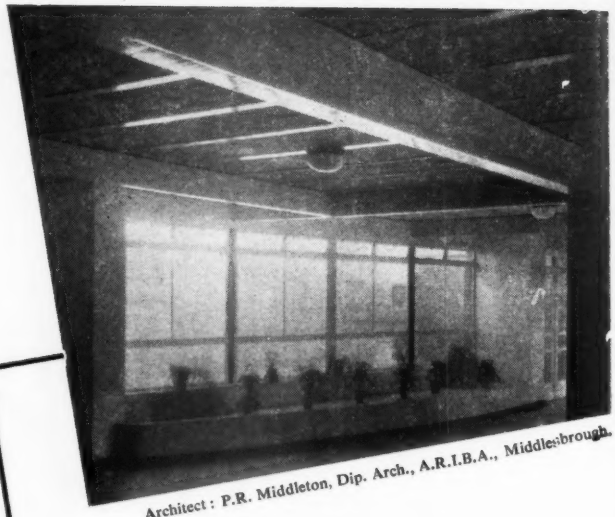
10. Insulation over concrete roofs.
11. Permanent insulating shuttering to roofs and floors.
12. Permanent insulating shuttering to walls.
13. Self-supporting partitions.
14. Timber stud partitions.
15. Insulating lining to brick walls.
16. External wall cladding.
17. Insulating tank and cistern cladding.



Architect: P.R. Middleton, Dip. Arch., A.R.I.B.A., Middlesbrough.

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with Special Finishes

We can now supply

STELLITH with Fair Faced Finish on Soffite.

STELLITH lined with Insulation Board on Soffite.

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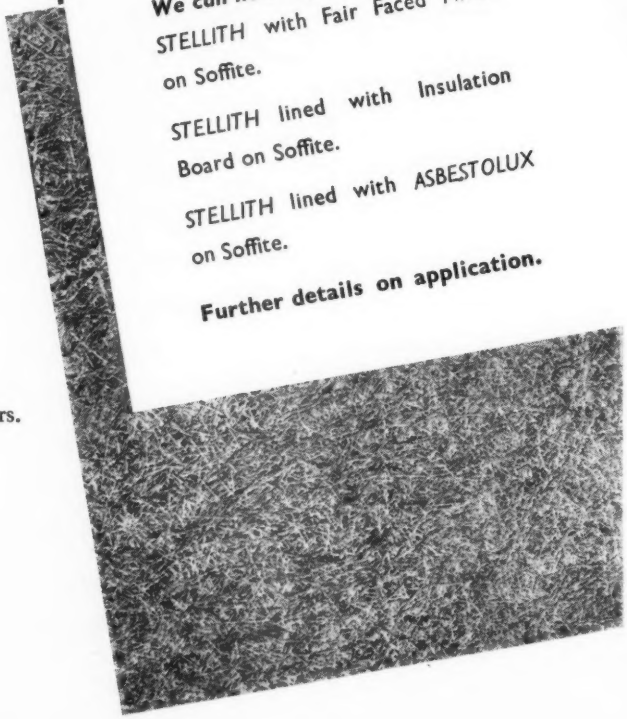
Further details on application.



*STELLITH

wood wool slabs and channel reinforced roofing slabs

Technical information sheets on the above, and other uses of STELLITH available on request from

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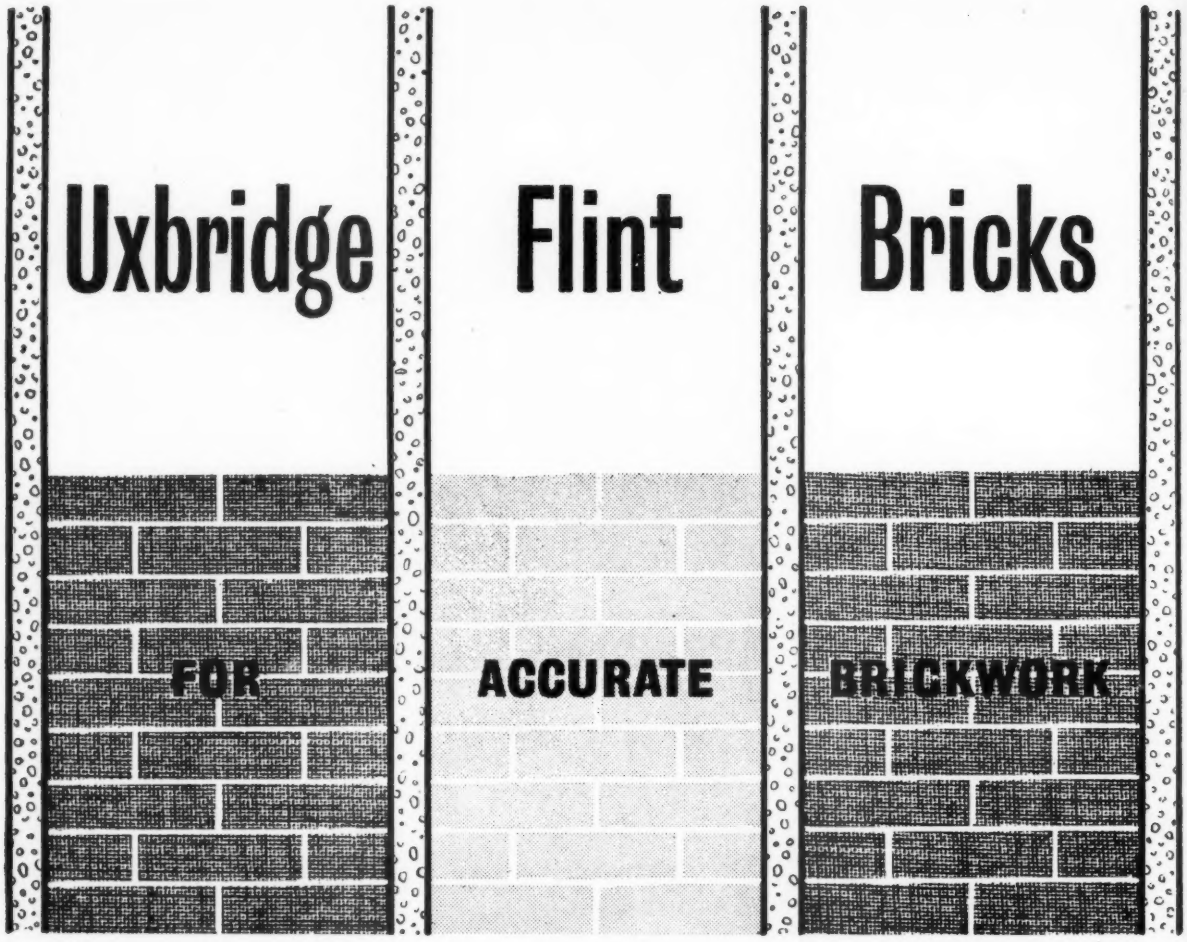
London Office: Bath House, 82 Piccadilly, London, W.1. *Grosvenor 4617/9*

S65/6



Uxbridge Flint Bricks are particularly suitable for modular designed buildings. They are exceptionally accurately made and therefore can be laid to controlled dimensions. The bricks are available in many shades within the following colour range:

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Standard $2\frac{5}{8}$" bricks are normally supplied, but 2" and $2\frac{7}{8}$" bricks can be quoted on request, also other special sizes and shapes to suit requirements.

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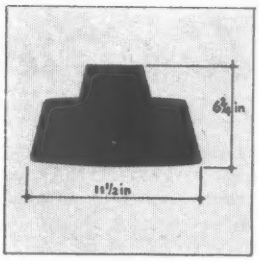
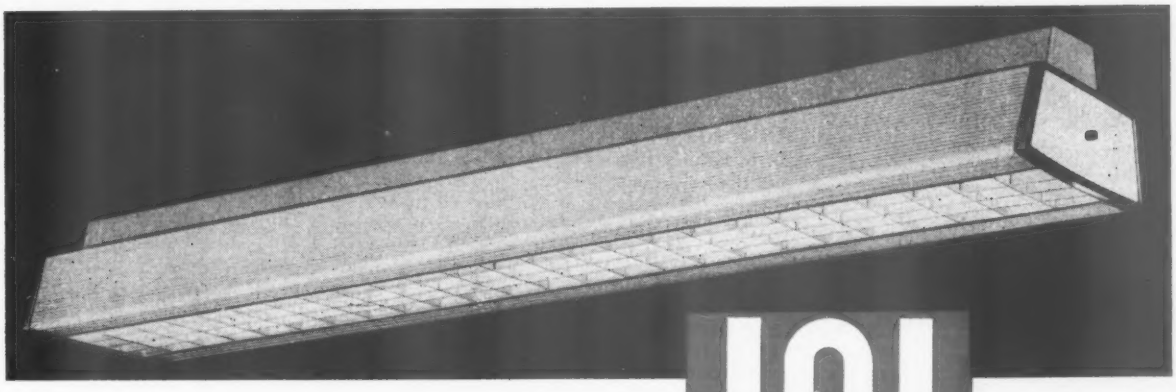


one of many decorative designs

The brilliantly successful G.E.C. 101 range of fluorescent fittings offers a wide choice of designs for every lighting requirement — in executive offices, showrooms, shops and stores, as well as factory areas. They are made for 1½ to 8 ft. single or twin Osram guaranteed tubes, and all employ the famous G.E.C. Basic Channel with its proven advantages of versatility and economy in installation and maintenance.

The fitting illustrated, F41130/1, has sides of reeded 030 'Perspex' and a white louvre. The ends are polished brass with an inset white panel. The top and bottom openings of the 'Perspex' are similar and the enclosure can be used as shown, or inverted.



101 range

fluorescent lighting fittings

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Series No. 6

Exceeds all others

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The first turbine ship was the " Turbinia " built in 1894 to the design of the Hon. Charles Parsons. The " Turbinia " was 100 feet long and 44½ tons displacement with machinery consisting of three steam turbines totalling about 2,000 shaft horse-power. At the first demonstration of the vessel, she reached a speed of over 32 knots (37 m.p.h.).

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Discounting bamboo not botanically classified as a tree, the fastest growing tree is the Eucalyptus saligna which in Uganda, Central Africa, has been measured to grow 45 feet in two years. The bamboo (Dendrocalamus giganteus) has been observed, in Ceylon, to grow as much as 16 inches in a day on its way to a maximum height of 120 feet.

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The swordfish, which include marlins (Makaira mitsukurii), are regarded as unrivalled for speed though the practical difficulties of measurement makes data extremely hard to secure. A maximum of 50 knots (57·5 m.p.h.) has been quoted, but 30 to 35 knots is the most that will be conceded by some experts.

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The oldest map in the world is a cadastral clay tablet of c. 2,200 B.C. preserved in Istanbul Museum, Turkey. The oldest papyrus map is the Turin Papyrus of an unidentified Egyptian gold mine dated 1,320 B.C. The earliest representation of Great Britain is that by Ptolemy dated A.D. c. 150. The oldest native map of the British Isles is the Anglo-Saxon map from Battle Abbey dated A.D. c. 980 now in the British Museum.

THE HIGHEST SUSPENSION BRIDGE

The highest suspension bridge in the world is the bridge over the Royal Gorge of the Arkansas River 1,053 feet above the water level. It has a main span of 880 feet. The longest suspension bridge in the United Kingdom is that designed by I. K. Brunel spanning the Clifton Gorge of the River Avon, near Bristol, it is 702 feet between uprights. It was completed in 1864.

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Paints by the Dentolite Process—Fungi-Chek, Germ-Chek and Satin E with A.P.R.—are the latest advance in paint technology. They are NON-POISONOUS finest quality finishes in a complete range of types and shades made continuously Fungicidal and Bactericidal by a unique reaction (the Dentolite Process—World Patents applied for) which occurs during the drying of the film and lasts throughout its entire life. Thus for many years (tests after five years still show Bactericidal activity) the coatings inhibit the growth of mould, fungi and germs (disease producing or otherwise). All paints by the Dentolite Process are NON-POISONOUS and harmless to men or animals.

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★ Full details and copies of Scientific and Technical reports available on request.

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When early man found that natural clay became hard when baked in fire he was soon to discover that the clay retained the shape received from his probing fingers. So began the process of making bricks, pottery and flooring materials — in principle unchanged to this day.

Floor Quarries remain one of the hardest wearing floor coverings known to us and are made from natural clay and nothing else. Only fire can produce their subtle range of colours so popular with architects and designers. Floor Quarries are utterly clean and dustless and are resistant to oils, acids and alkalis. Detailed information can be obtained from Builder's Merchants and Fixing Specialists.

THE **FLOOR QUARRY** *Association*

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You can offer your industrial clients earlier possession and a quicker return on invested capital if you base your designs on Sherbourne buildings. They will be able to get into production earlier and you will be able to offer a very distinctive structure at a very modest cost.

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AJ

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NOT QUITE ARCHITECTURE

WHO WOULD MARRY ONE?

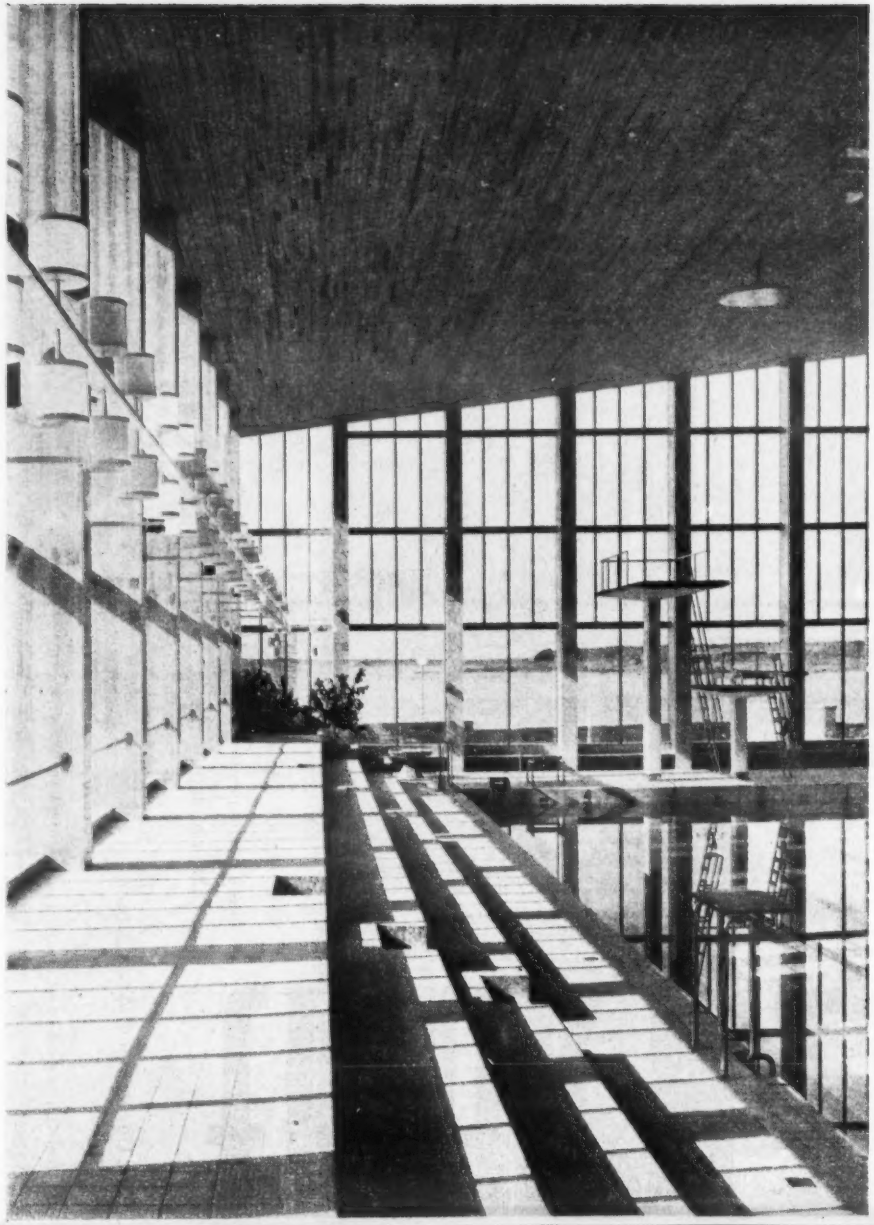
Have you (the architect) ever paused to consider how you appear to ordinary citizens or to your faithful secretary who devotes her life to your care and attention and stands up for you against the abuse of the outside world?

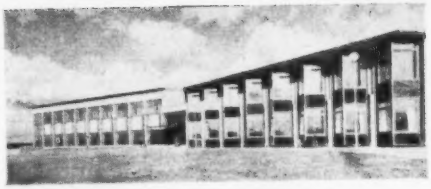
*

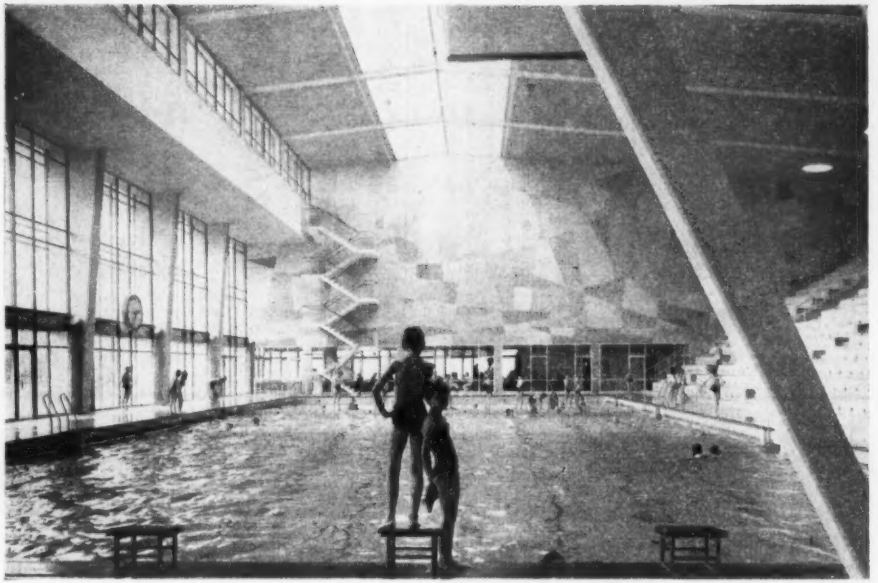
My dictionary tells me an architect is "one who prepares plans for building." The dictionary publisher was either not acquainted or there was insufficient space to print a fully comprehensive explanation on that strange vocation "an architect." My work has always been with the architectural profession and although I admit my knowledge is limited regarding the technical side of the subject, I think I am qualified to give an opinion on the characteristics of architects and their work as seen by one from behind the scenes. From now on my pen is on dangerous ground and this may cost me my job, so if any kind, benevolent architect would like a secretary with a mind and a voice of her own. . . . . .

*

Architects are looked upon by society as being definitely different, aloof—set apart from the rest of mankind. Just as the man bound for the City is recognized by his black bowler hat, rolled umbrella, bulging briefcase of sandwiches and neatly folded newspaper, the architect is distinguished in a crowd with his bow tie, suede shoes, assortment of pencils peeping from his pocket and roll of drawings under his arm. If a poor innocent female is lured to working for him for any length of time, she too becomes associated as "one of those." Suitors are kept at bay as this Great Man detects that if she marries she may leave him in the lurch—thus many secretaries are spinsters through no fault of their own (this being no reflection on myself of course).







Bathing Beauties

This week we publish, on pages 785-798, the first public swimming baths to be designed and built since the war in this country. There is, therefore, no yardstick by which we can assess their standard in architectural terms. These illustrations however, taken from *Byggmästaren Arkitektur*, show what has been achieved in Sweden during the same period. It would not be unfair to say that these designs have greater sophistication and assurance than the British baths. Yet E. Thelaus, writing in *Byggmästaren*, while commending the actual swimming hall, states sternly that "what is least convincing is the external construction and design of the great mass of surfaces." If such criticism is valid of these Swedish designs, how much more vulnerable are ours. For some years now it has been customary for some of the profession to belittle the standards of the Scandinavians, and in one or two limited aspects of design we may now be able to hold our own. But over the whole range of building our average standard of design is well below the Swedes as these baths at Lulea (left and top left, by J. Ericson, T. Gynnerstedt, B. Ågren), Malmo (top right, by K. Ödeen), and Gothenburg (above, by G. Samuelsson) conclusively demonstrate.

Romance does bud even in an architect's office, but after working with an architect, who would want to marry one!

*

While other men toil, the architect is permitted to sit and gaze into space at his desk or drawing board as he is thinking, meditating over some new born creation for the moral, cultural, spiritual and material welfare of humanity to be built from the clouds on earth in unprecedented form. Although at home this man with the power to make or destroy may be meek and mild, his wife would not know him in the office where he is transformed into a king with the roar of a lion.

*

To be an architect is to have certain qualifications; predominantly he has to be mad—not in the literal sense, but he is expected to have the craziest notions, not only regarding work, but in his outlook on life as a whole. Another qualification is disorganization. His office must never be tidy; drawings, rolled, unrolled and folded are to litter his abode; however old, wrinkled and torn they may be they are all vital and must not be confiscated or touched. He knows every one of them and in his castle reigns organized chaos, kept by his secretary in subtle order so that he believes it is his own initiative when he finds the object he requires by his hand.

*

If he slinks in late one morning breathing heavily, slams the door and retreats into the inner sanctuary of his private office, one then deduces that he wants to be left alone for a while as maybe he is feeling under the weather having had a drop too much to drink the night before—all in the line of duty of course, just having to have one more when pressed by that important client. He most likely met him (by a strange coincidence) after having left the office with his old colleagues, Tracey, Cartridge and Rule, who are now installed in the Building Department of some place in the City and who are always trying to inveigle their poor, unfortunate colleague in private practice to join them.

VALERIE TOMKIN

DIARY

A Chartered Surveyor Looks at Soviet Russia. Talk by Henry W. Wells at the RICS, 12, Great George Street, S.W.1. 5.45 p.m. DECEMBER 1

The Consulting Engineer and his Contribution to the National Economy. Talk by Julian S. Tritton, President, International Federation of Consulting Engineers. J. K. Vaughan Morgan, M.P., Minister of State, BOT, will preside. At the RSA, John Adam Street, W.C.2. 2.30 p.m. DECEMBER 3

A Visit to China. Talk by Eugene Rosenberg. At the AA, 34, Bedford Square, W.C.1. 6.15 p.m. DECEMBER 11

Out in the Mid-day Sun. Two illustrated Christmas holiday lectures for boys and girls. By L. M. De Syllas. At the RIBA, 66, DECEMBER 31 AND JANUARY 2

The Editors

FIRE

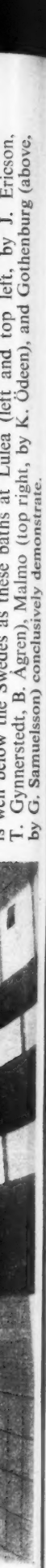
IF fire protection as a subject is regarded by architects as, at best, uninteresting and, at worst, a nuisance, this is not because they want to be careless about their responsibilities towards life and property, but because they are not convinced of the technical rightness of all of the requirements which fire protection enjoins. The matter was put in its true perspective by two excellent lectures given at the RIBA last Tuesday.* The trouble with the existing regulations is that they are on the one hand incomplete, leaving too many buildings unprotected and too many eventualities unprovided for; and on the other, that they are " blanket " regulations, framed at a time when we knew all too little and were, therefore, prone to cover known risks excessively. Eric Bird rightly insisted that in changing the nature of building, architects have incurred new responsibilities for fire protection which must be scrupulously and accurately discharged. He also reminded listeners of how completely fire specialists have changed their ideas in recent years to meet the demands of architects: of their abandonment, for instance, of such basic principles as that all people must be got out of the building and that all fires must be fought from ground level. It is clear from these two lectures that our knowledge of fire protection has been moving fast during the last few years and in the right direction; and that much of the credit for this is due to the capable way in which Eric Bird has kept up the architect's end in fire protection circles.

WHISTLE-STOP AGAIN?

The Ministry of Housing and Local Government's circular on capital investment seems better calculated to produce headlines than to produce houses. To invite local authorities to submit for loan sanction within three months new projects that can be finished in 1959 is either a bit of pre-election window-dressing, or a panicky attempt to do something about unemployment, or simply another attack of whistle-stop planning—of which we hoped we had seen the last. To jam on all the brakes for twelve months, starving the local authorities of subsidies and capital and making them pay through the nose for any money they get, and then suddenly to urge them into a frenzied burst of activity without solving their financial problems cannot produce any serious results. It might even do harm.

We find it hard to believe that the circular is really intended to mean very much. We said last week that the government's latest forecast of capital expenditure for 1959-60 was not consistent with sudden upsurges of fresh approvals, for " relatively little investment has so short a ' cycle-time ' that it can be approved, designed, started and finished within twelve months." To suggest otherwise is misleading.

* Summarised on page 773 of this issue.



As well below the Swedes as these baths at Lulea (left and top left, by J. Ericson, T. Gynnerstedt, B. Agren), Malmo (top right, by K. Ödeen), and Gothenburg (above, by G. Samuelsson) conclusively demonstrate.

WESTMINSTER REGAINED?

It is good to hear the government has decided not to go ahead with the ponderous, municipal-classic Colonial Office opposite Westminster Abbey. This 90-ft.-high building, designed by the late T. S. Tait, would have been awkwardly related to the Abbey and very much out of scale with it. Some years ago the JOURNAL was involved in the battle which resulted in an agreement that the building should be set back a little, to give a clearer view from the north-west side of the Abbey. Now we are all anxious that the right thing shall be done with the half-excavated site and part basement, which is said to have cost the Government about £1m. What about a two-storey garage with a garden on top?

*

A modest office block to be built on the northern part of the site will conceal the dreary elevations of the buildings facing Great George Street. Would it be too much to expect the owners and occupants of these buildings (including the RICS, the ICE and the MCC) to get together and produce a three-dimensional phased development plan for the whole site? It could be an object lesson worth looking at from all sides.

MODESTY FORBIDS?

After my laudatory remarks about the Bucks. county architect, Fred Pooley, published two weeks ago, the county architect of Northamptonshire wrote accusing me of nepotism. In his letter (see last week's AJ) Mr. Harris says I am not likely to hear of development in other counties unless I make enquiries. And the borough architect of Darlington also wrote, claiming that he was "unashamedly satisfied with the results of our own efforts." Why don't these and other counties write up their achievements—as any scientist or research worker would—and persuade the Press to publish them, so that others can profit? Are they waiting for the achitectural magazines to seek them out? Or is it simply that despite productivity courses and 10 years of intensive building they have no precise *facts* describing their architectural advances?

VERY NICE TOO

It is relevant to mention here a recent article in the Bulletin of the Society of Housing Managers. H. J. Dive, the director of the Metropolitan Boroughs' Organisation and Methods Committee, said that the O and M job is one of ensuring that "the right information is available at the right time—and to release people from routine work so that they may concentrate on creative aspects—or so that the total amount of effort can be reduced." He gave as an example the compiling of a "repair history" of property so as to discover faults in design, degrees of deterioration with different frequencies of maintenance, and so on. Good. But where is the result of all this methodology and study? How many local authorities can show how they have profited from their own, and others', work? It is something that must be seen to be believed.

RED ONIONS FOR BRITAIN

Should Coventry have onion domes? Arthur Ling, the city's architect, talked about this when he chaired Cleeve Barr's talk on the Soviet Union at the AA last week. Mr. Ling thinks that Coventry would like something *very* Russian from Stalingrad if that city's suggestion of an exchange of architecture is accepted. Would Coventry then be expected to design a Ye Olde Cotswolde Tea House to stand on the Volga?

*

It is surprising that neither Mr. Barr nor his audience were very critical of post-war Soviet architecture. *Why* did the Russians design this way? And is it really going to be any better if the New Thought stops at eliminating extravagant and tasteless detail to cut costs, and makes it possible for the engineers to go in for prefabrication? A well-designed Coventry school in Stalingrad might do more than anything else to get the Russians to think along different lines.

ARTERIAL MOTIVES

I hope architects will have a go at the competition for a new London highway system. The assessors appointed by the Roads Campaign Council include two architect-planners. This, as Sir William Holford indicated at a Press conference, will ensure that competitors won't get anywhere if they threaten town life by the indiscriminate carving of motorways.

*

The Government has so far refused to supply money for a bold attack on the traffic problem. (In the 1951 Development Plan the LCC was forbidden to include any fundamentally new road proposals, and was allowed only to get on with the tinkering improvements now in hand.) It would be useful if the Government agreed to consider some of the winning schemes (none of the competitors in this five-months' limit competition can hope to provide more than the basis for discussion) and allowed the Minister of Transport and the LCC to get ahead with research and design.

EMINENCE AWARD

Nikolaus Pevsner has just served on the Milan jury for the award of the "Golden Compasses"—an award (*really* golden) that is given annually for eminence in industrial design by Italy's leading store, the Rinascente. The jury, which included the highly intelligent and abtruse Argan, from Italy, and the accomplished Gummerus from Finland, made its awards to Franco Albini (the Italian Prize) and the Copenhagen store, Den Permanente (the International Prize). It was said that this is the only shop in Europe which, in 20 years, has never shown anything that wasn't worth showing from the design point of view.

GOOD TIME HAD, ETC.

This year's dinner of the Chartered Surveyors included turbot, pheasant,

The proposed hall of residence at Whiteknights Park, the new and handsome site for Reading University. It has been designed by Easton and Robertson, who have already designed and had built the first building at Whiteknights: the Faculty of Letters. This second building is similarly restrained in design and seems to indicate that no radical attempt is going to be made to solve the problems of university design in a contemporary manner.

the Royal Engineers' Light Orchestra, Cyril Smith and Phyllis Sellick. Sir Edward Muir stood in for the indisposed Minister of Works and told the best story of the evening. When the late Lord Portal was Minister of Works he asked for figures "within half an hour" showing the country's total requirements for post-war housing. "The figures we gave him," said Sir Edward, amid knowing laughs from the top table, "took a very long time to live down."

*

The evening did not pass without the usual jokes about elemental bills and architects not writing their own specifications. Its high spot was the offering of regret and felicitations to three retiring figures—Sir Alexander Killick, the RICS secretary; Stanley Hearder, the NFBTE secretary, and C. D. Spragg, secretary of the RIBA. As these three gentlemen bent their heads in modesty among the compliments, doughy jokes and thunderous applause, ASTRAGAL wondered why their three successors had not been invited to attend the dinner.

THE NEW BOSTON MANNER

Congratulations to everyone concerned with the BBC's "Monitor" feature about urban redevelopment last Sunday night. After a brief film had been shown of the dreariness and hazards of living in a suburb like Boston Manor, Middlesex, Graeme Shankland and Peter Chamberlin discussed their proposals (first published in *Architecture and Building*) for the redevelopment of this area. This week Middlesex County Council has made a strong objection to the scheme drawn up by Messrs. Chamberlin and Shankland and their colleagues, and it was good to see this well-timed television programme which must have penetrated the understanding of the most conventional suburbanite. The architects spoke with conviction and knowledge that bulldozed through the timid objections of the interviewer, Huw Wheldon. And their film included shots showing planning both in this country and abroad (Roehampton, Guildford's roof garden and Vallingby, Sweden) of the kind that is incorporated in the Boston Manor scheme. This was a good way of shooting down arguments that planning was something that never happened.

*

Huw Wheldon's "Monitor" programme always includes architecture in its *Radio Times* list of promised items, but this is the first time it has done justice to the subject. It is an intelligent programme and one that could have a lot of influence.

CHINK, CHINK, ANOTHER DRINK

I'm always fascinated by the overtones that ping to mind when I see that familiar advertisement in theatre programmes, "George, George, I want *everything* Chinese tonight." If George, or anybody else, wants a really Chinese evening it can be obtained among the chink of glasses at the ABS Ball at Grosvenor House on December 10. I'm told that a lot of the decôr is being provided by the University of Hong Kong, and that part of the gift is a Chinese scroll, valued at £50, which will be auctioned.

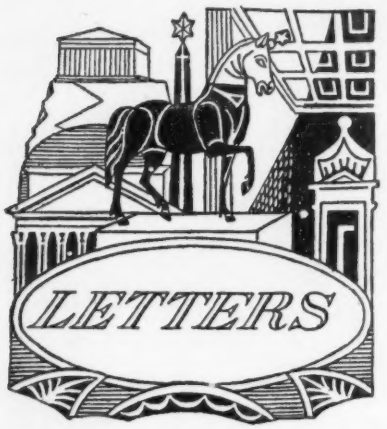
NINEPENNY CASSON, TWELVE PENCE CULLEN

This seems a good moment to remind you of the ABS Christmas cards. There are four this year; a humorous drawing by Brian Bagnall (7d.), a reproduction of colour plates for two of the Coventry Cathedral windows (1s. 6d.), and sketches by Gordon Cullen (1s.) and Sir Hugh Casson (9d.). My favourite is the Casson drawing of Kings Parade, Cambridge, but I intend to get some of each. It is pleasant to be able to recommend the cards for themselves, and not only because their sales will help a deserving cause.

COLLAPSE OF ELDERLY JOKER

Did you read the AJ's ads on November 13? Only four of you applied for the job of handling "applications for imaginary planning permissions for purposes of assessing market value under the 1958 Town and Country Planning Bill." The vacancy was said to be in the County Planning Department of Yorkshire South Riding County Council. ASTRAGAL was disappointed that the applications were not hilarious enough for publication, but thanks the applicants for having the good humour to write.

ASTRAGAL



Transair Hangars

SIR,—Your account of the Transair hangar (November 13) closes with the conclusion that it has resulted in a most successful building at a cost of about half that of similar maintenance bases built since the war.

As you have printed the detailed costs of the project without any specification, it is not possible to compare the Transair base directly with others within my experience, but there are certain aspects which might be appreciated by those who have had some experience of aircraft maintenance.

The mechanical and electrical services for the Transair Base are quoted at only 8s. 10d. for the hangar and 8s. 10½d. for the workshops, *i.e.*, about 12 per cent of the total cost. The comparable figure for bases of the major airlines of Britain and America is more like 25 per cent and as these complex services involve more structural and builders' work it is not surprising to find as much as 40 per cent of the base costs directly or indirectly attributable to the services. One conclusion to be drawn immediately from your figures is, therefore, that a considerable saving has been effected by lowering standards. This may be appropriate to the methods of a charter airline, but would be inadequate for a major airline which has to operate schedule services at all times.

The Transair hangar appears from the information available to be a considerable fire risk. Flameproofing has been restricted to 4 ft. 6 in. from the ground, compared with 25 ft. in other bases and no deluge system is built into the roof. With the bottom boom high tensile cables having only a moderate rendered cover, the overall result is a risk to both building and aircraft.

The article refers to the aircraft dock "a fantastic assembly which might cost £20,000." Any figure could have been quoted here depending on the services built into the dock, but from my own experience, £10,000 is more appropriate. No aircraft which requires maintenance higher than wing level can be serviced entirely without scaffold even if lying on its belly and one suspects a little exaggeration in the claims in this respect. Again, the cost of the dock can only be related to the service it provides.

Without wishing to criticise adversely a roof structure which is extremely clever in design, the method of assembly on site and lifting into position prevent other trades making use of the hangar floor area for many weeks. In a more elaborately serviced building, this could be a considerable waste of time, preventing earlier occupation by the client. Referring to the cost of the structure, one must consider this in relation to the door span of 140 ft. and transverse span of 105 ft. with hoist capacities of maximum one ton, all of which figures are small by modern standards. Adding to this the door height of 30 ft., we have a structure which cannot accommodate any of the aircraft now being developed by the major airlines, and this would suggest a comparatively short life for the building, thus making it anything but an economical proposition.

ALLAN HODGKINSON.

London.

The Supplanting Developer

SIR,—I have been encouraged by the support which my recent letter to the JOURNAL has received, but would like to reply to some of the points raised in the letters published in your issues of November 6 and 13.

Mr. Chamberlain quite properly suggests that if the architect has not satisfied his client he deserves to be supplanted. I agree, but if he would again refer to my letter he will find that *my client asked the developer to use my services and the developer refused.* Is the developer's architect ignorant of his master's action in this respect? It is hard for me to believe that this is so.

Mr. Chamberlain also suggests that I should ensure that my clients are not men of straw. In this case I investigated the financial position as far as I was able and suggested to my client that he should develop in stages as and when finance was available. This method was agreed and my design was arranged accordingly.

"LAH" disagrees that the RIBA should ban the "package service" and the "all in" service. I am convinced that the RIBA would be belittling it's status and its power to command respect from industry and commerce in this country if it were to hold the view that it would lose membership by banning this kind of activity. Unless some action is taken the present Code of Conduct is meaningless and serves only to restrict those architects who are conscientious in their interpretation of the various Clauses—there is far too great a tendency these days for everybody, be he architect or barrow boy, to approach all money matters with the "I'm all right, Jack . . ." attitude, forgetting that there are such things as morals in business as well as in life itself.

Good luck to the architect who resigns from the ARCUK register and from the RIBA. Somehow I don't think the package or all-in services would last long because the developer could not tell his prospective client that he was getting an "architect designed" building—unless the architect is registered there can be no "architect" no matter how well qualified the designer may be, and unless he is an "architect" he has no power to use the RIBA form of contract to protect the developer's client. The RIBA must have a very poor opinion of its standing amongst its own members if it is afraid of banning architects for infringing its own Code of Conduct.

Mr. Samuels has studiously avoided keeping to the point at issue, the Code of Conduct. He has gone to considerable lengths to explain why industrialists may turn to his organization—because it is supposed to have "a wealth of industrial experience." I must remind Mr. Samuels that in the case concerning my firm the commission was for an office block, not a factory. In any case, he admits to employing an architect in his team which suggests that he acknowledges the value of our professional services.

He "eliminates P.C. and Provisional Sums and does his thinking before starting to build." How does he eliminate the P.C. and Provisional Sums? In the case which I quoted I believe the developer did this by nominating his own sub-contractors and suppliers—there was no competitive tendering for the specialist items as the developer probably had a financial interest in the firms he nominated, thus getting the benefit of their profit as well as the interest upon the money loaned to the client to finance the project! I have no proof that all architects build before they think; I don't believe my profession would long survive if they did. The inference in Mr. Samuels' statement is merely impudent and discourteous so long as it remains unsupported by evidence.

He "relieves the client of never knowing where he stands financially." I presume from this statement that no variations involving extras will be charged to the client—or are no variations allowed? If the former, then one is led to the conclusion that the developer must have covered himself generously in his estimate of the value of the contract. If the latter, how inconvenient for the client! In any case, we adjust contract sums each time variations occur and clients are informed. I believe a great many architects do this as a matter of routine.

I am not quite sure what Mr. Samuels means by "bringing commercial control into the construction side of the job." Most architects select their tenderers and from experience know their abilities to control the jobs "commercially."

He brings in the financial aspect "at the bottom of the list." This is to give the impression, presumably, that the profit in the developer's pocket is the last, and least, consideration.

In my case when my client asked the developer if my firm could be the architects the developer refused, saying he already had an architect in his organization. Was the real reason that the developer did not welcome the eyes of a properly appointed and unbiased architect prying into his accounts?

Mr. Samuels calls all these statements "facts" and goes on to say that his organization produces "more cheaply, better, and more quickly than by conventional standards." I defy him to produce solid proof that what he says is true. At best it is a very dangerous generalization which, if taken seriously, could be most damaging to the architectural profession. Indeed, I understand that during the recent recession in the United States the industrialist has tended to turn away from the developer and his organization and revert to the employment of the architect in his proper rôle *as the latter method tends to be cheaper.* It is these generalizations—these so-called "facts"—which developers are using in their approaches to prospective clients and in their advertising literature to persuade and entice those clients away from the employment of the architect in his proper and independent rôle.

As Mr. Samuels says, it is up to the RIBA to do something about all this—under the Code of Professional Conduct as it stands at present we architects cannot compete with him, he knows it and he is taking full advantage of our inability to deal with the problem.

PETER G. ELPHICK.

Newcastle-upon-Tyne.

Planning Or Snobbery

SIR,—I offer my sympathy to Mr. Dry who at the beginning of his career had the in-

furiating experience of clashing with the dictatorial and autocratic power which the Town Planning Act gives to one individual: the Minister or his representative. I am all the more sympathetic because in addition Mr. Dry had also to take some ill-tempered scratching from two architects (Roy T. Hawkins and Alan R. Ferguson: AJ, November 13) who thought that as defenders of *bon ton* they might use their claws.

Lay people, naturally, are interested in developments in their vicinity and it is not democratic to deny them the right of representation and voice in such matters. I think it extremely undesirable that decisions on such issues should be left entirely in the hand of planning bureaucrats, worse, architectural bureaucrats. I shudder to think of the days to come when elderly Corbusier-ites will sit in the seats of power and refuse to look at any gargoyle-free design that may then be submitted. They will prove not one jot better than the present Polytechnic-Georgians, Garden-City-ites and General Enlightened-Modern-Ecclecticists. Dog eats dog.

Who does not know that lay members of planning committees usually—unless they consider themselves *arbitri elegantiarum* like the egregious Minister of Town Planning who once headed a local Preservation Society—meekly follow expert advice, guidance and direction? So why all this hypocrisy? Let us firmly assume that behind most refusals of planning applications stands a town planner or an architect who wields the lay vote of his committee.

Now in matters of visual things most people are—to use a gentle word—innocents; their visual sensitivity is low-grade. Otherwise they would not live and dress, decorate their houses and plan their gardens as they do. And, of course, the same applies to many architects.

Insensitive architects can look after themselves; they have but to join a faction and emulate their gods. A membership ticket of an architectural party is no short-cut to talent. In the next 10 years we shall see the insensitive chaps of the "progressive" tribe firmly entrenched in the places of their reactionary predecessors. If we then submit modern designs we shall have to endure the same rigmarole. Why?

This nonsense must stop. The layman and particularly those in whose vicinity development is to take place must be protected against the faction-expert, town planner or architect alike. Otherwise the affair of Mr. Dry will be repeated *ad infinitum*.

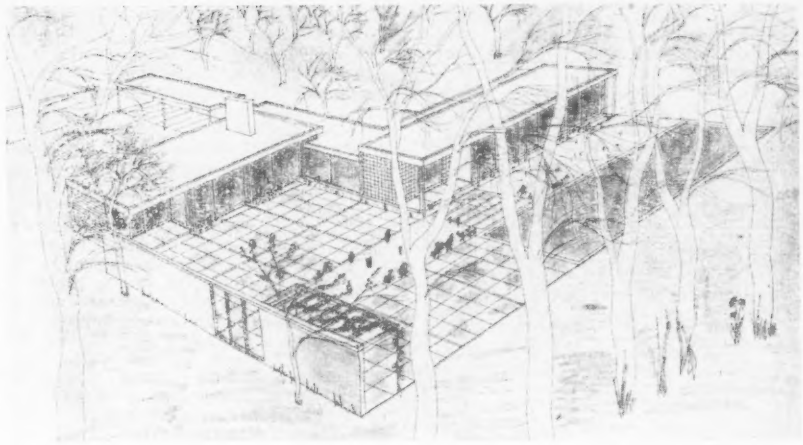
I suggest an architect who submits a scheme for town planning approval—and even if this scheme looks like an elephant and stands on four legs with trunk and tail—should have the right to attend committee and present the scheme to the lay members. Architects must learn to be more articulate and this can be taught and I wish the schools would concentrate on this task rather than on so much of the aesthetic nonsense they teach. An architect's place is in society and with laymen. The victories that are won on the studio drawing board are lost to the world because nobody teaches the poor chaps how to become sufficiently articulate to present them properly. Had Mr. Dry had an opportunity of addressing the lay members of the committee who knows he might have succeeded in convincing them that his design was very much better than all those in the area and that they should vote for it without further ado. The future Mr. Dry must have this chance.

Further, on the architect's request an independent outside expert should attend to increase the chances of a decision on merit instead of a decision of faction, *e.g.*, "style."

Lastly, I think the present procedure of submitting appeals to the autocratic (for there is no redress against it) decision of an individual in the Ministry is a disgrace. Wonderful the competence of the lawyers who thought this one up! From the anonymous democracy of a committee where the expert cunningly shields behind the laymen we ascend to the top of a hierarchic order when the final decision is put into the able hands of one individual, God himself. Woe to the wretch who does not belong to his faction.

I suggest that appeals should be handled by something equivalent to the Royal Fine Art Commission instead of an individual in the Ministry, and that the Ministry should have a representative on this "Appeal Commission."

London. WALTER SEGAL.



This house, designed by Walter Segal, although literally a "glass box" was passed by the same Epsom and Ewell Council that rejected David Dry's design. See "Planning or Snobbery."

Thermal Insulation Of Dwellings

SIR,—From the papers it seems as though Mr. Nabarro is no longer to continue with his Thermal Insulation (Dwellings) Bill, but may be holding it suspended, as it were, like the sword of Damocles, over the heads of the Ministry of Housing and Local Government, in an endeavour to persuade them not only to revise the bye-law very quickly but also to do it very well.

In this connection, it is interesting to see that the proposals set out for the revision of the bye-law (showing U figures for external walls of 0·30, for ground floors of 0·40, for roofs of 0·25) fall far short of recommendations made by:

(i) important Government Committees which have considered this matter;

(ii) the Ministry of Works in their recently published wallsheet, widely distributed by the Central Office of Information; and

(iii) even the recommendations of those bodies most interested in the sale of fuel and who you would not think would be unduly influenced by any proposals designed to limit its sale.

In a booklet published some time ago under the auspices of the British Electrical Development Association, the Coal Utilisation Council and the Gas Council entitled *Building for Warmth*, being advice to those about to build or buy a house, the following occurs:

"It has been established that to give satisfactory results the various parts of a house should have the U values shown on the right. Lower U values (*i.e.* a higher degree of insulation) will, of course, give even better results."

	U value
External walls	0·20–0·25
Ground floor	0·15–0·20
Roof	0·15–0·20

These opinions would seem to indicate that the present proposals of the Ministry of Housing and Local Government with regard to the U figures now suggested fall far short of what is desirable and necessary, particularly if the main purposes of Mr. Nabarro's Bill and the revision of the bye-law are to be gained, *i.e.*, the conservation and efficient use of the nation's fuel resources and an increased standard of comfort for the occupants of all dwellings erected in the future, coupled with smaller fuel bills.

Pinner. G. A. BENDELL.

Flagging Enthusiasm

SIR,—In reply to ASTRAGAL's questions about our progress flags on the Thorn Electrical Building in St. Martin's Lane, we hope that the general public—and ASTRAGAL, too—will be impressed by the speed of erection. A floor a week is good going by any standards, but especially so to this design and to the high quality standards of Basil Spence, the architect. When the public's attitude to the building industry is usually one of sarcastic contempt, this sort of performance should be made known.

We shall display the date on which the superstructure has been completed, and finish up by displaying the date on which the building is handed over to the owners. Many thanks to ASTRAGAL for giving us the idea.

London. F. J. COSFORD.

Don Mills

SIR,—Derek Wren's letter has drawn to my attention that the omission of part of my article on timber construction in Canada, due to lack of space, may have given the impression that the Don Mills work referred to was also in timber. This, of course, is not so and both steel and concrete, together with superbly colour-glazed imported American bricks (mainly as panel filling) are used with imagination and great effect here.

The general standard of design of individual buildings at Don Mills is considerably higher than in many other areas, certainly than Toronto itself, and I would agree that this is largely due to the industrial, commercial and individual housing work of John B. Parkin Associates. The standard in the schools, general housing and the churches at Don Mills I found less impressive, and in the case of the last, frankly ostentatious and crude.

While the description of Don Mills as a a residential suburb may be strictly inaccurate, I hold to its description as a *suburb*. Designing an area as an entity with mixed development does not in itself necessarily make a new town (or, indeed, urbanity) whatever the intentions may be, and with the commuting habits of the North American continent the few miles between Don Mills and Toronto mean little except more cars and more commuting.

Hampton Court. KENNETH WOOD

ROADS COMPETITION

£4,000 Prizes for London Highways System

A two-stage competition for a long-term plan of highway development in the London area was announced last week by the Roads Campaign Council. It is open to individual or joint entries from architects, engineers, surveyors, town planners, landscape architects and other interested in civic design. The assessors are Sir William Holford, Professor of Town Planning, University College, London, Professor W. Fisher Cassie, Professor of Civil Engineering, King's College, University of Durham, and Colin D. Buchanan, A.R.I.B.A., A.M.I.C.E., M.T.P.I., author of *Mixed Blessing: The Motor in Britain*.

The six competitors selected in the first stage will each receive an award of £250. The first prizewinner in the final stage will receive an additional £1,750, the second prizewinner £750 and the third prizewinner £250. The designs must be submitted for the preliminary stage not later than Thursday, April 30, 1959, and for the final stage Friday, October 30, 1959. Questions may be submitted up to Saturday, January 17, 1959. Application should be made to the Roads Campaign Council, 15, Dartmouth Street, London, S.W.1.

The preliminary stage requires a sketch scheme showing in small scale plans, elevations and sections sufficient detail to explain broadly the general planning and composition of the scheme. Each competitor is required to submit an outline plan in diagrammatic form superimposed on the 1/25000 Ordnance Survey showing long-term proposals for urban motorways and parking facilities, and a plan to a scale of 1/2500 for any area not more than 1¼ miles square chosen by the competitor within a radius of 6 miles of Charing Cross, to show the general scheme and illustrate such details as a major interchange between two motorways, an access point between the motorway and the existing street system, a major off-street parking facility, and improved circulation on the existing streets, with modified layout where necessary.

In the final stage a plan and section to a scale of 1/1250 for part of the selected area to illustrate the detailed treatment of the motorway relative to its immediate surroundings, and two 1,2500 scale models, will be required. No estimate of cost is required, but the assessors will have regard to the general economic assessment of land property and historic values made by each competitor.

All the designs will be exhibited, but as this is essentially a propaganda competition no question of the winners being asked to execute the work can arise.

At a press conference Sir William Holford said that the competition would do a great deal to get people interested in the problem, and help to get public sanction for a huge job. People had to be prepared to see a greater part of the national income going into this job than in the past.

"We are not out to destroy the town," he added. "We are not out to burst the town by bringing the Yorkshire Motorway into Charing Cross, or to make the town a place for motorists to pass through. We want to make the town fit for people to use. We are trying to combine an improvement in the circulation and an improvement in the town itself, and it is from that that all competitors will have to start."

The Road Campaign Council's reasons for launching the competition were explained by T. Stuart Malcolm, a member of the Council, as follows:

"Our object is to find a long-term highway development plan in the London area—a plan which will enable vehicles to move easily about our streets and park within reasonable distance of their destination, a plan which will provide not only for the immediate future but for the traffic which we know is coming on to our roads in the coming decades.

"It must be a plan that takes into account the existing character of London but which does not ignore the possibilities that some buildings are bound to be affected and some people are bound to be inconvenienced if we are all to be able to move freely."

The following information supplied to competitors indicates the approach to the problem of the promoters and assessors:

1. In the process of post-war redevelopment in London, the very urgent and constantly growing needs of road traffic and access have lost their place in the queue and it is now essential that a long-term programme for highway development should be agreed. Improvements to existing streets alone, though overdue, cannot be expected to bring more than minor localized improvement, and a network of urban motorways (divided arterial highways with full control of access and with grade separation at all intersections) may offer the best if not the only means of handling road traffic safely and econ mically.

2. Correctly designed urban motorways are capable of carrying traffic flows of over 1,000 vehicles per hour per lane under good driving conditions. These high volumes can only be achieved with comfort at a limited speed and it may therefore be sound to adopt relatively low design speeds for urban motorways in central areas. Such a policy would allow comparatively sharp horizontal and vertical curves to be used in design, and these in turn should ease siting problems.

3. The choice of new routes should be governed by the following considerations:
(*a*) Known (1954) and expected future average hourly road traffic volumes, as shown on the Diagrams accompanying these conditions and instructions.
(*b*) Existing development and proposed future development of land, bearing in mind that it is certain that the decentralization policy adopted by the London County Council will, in itself, not solve London's traffic problem.
(*c*) The road development proposals now agreed outside the County boundary.
(*d*) Existing and proposed public transport facilities.
(*e*) Topographical and geological features.

4. The attention of competitors is drawn to the need for a network of new roads in the directions of the major traffic flows, as shown on the Diagrams supplied, and they are particularly warned against the adoption of some pre-conceived overall geometrical road pattern.

5. In central London, there is a wide area of fairly uniform density, and here the aim should be to provide a closely spaced network of access points to the motorways, with as little interference as possible with existing high-value development.

6. A destination survey in London in 1948 at about 2½ miles radius from Charing Cross showed that 85 per cent. of the entering traffic would stop within this 5-mile diameter circle and only about 4 per cent. was travelling for distances in excess of 10 miles. Urban motorways should therefore be designed to serve short journeys and access to them must be frequent. It is suggested that access points could be provided at a minimum spacing of three per mile near the centre of the system and at a maximum spacing of one per two miles at the County boundary.

7. Terminal facilities, such as off-street car parks, bus stations, service stations and wholesale markets, need direct access to the motorways, through link roads independent of the local street system, in order to avoid the dangers of merely adding to central area congestions by improving access.

8. In a parking survey of some 6¾ square miles of inner London (including Pimlico and Belgravia) it was found that in 1955 there was an average of 6,300 vehicles parked to the square mile. It is suggested that, with the provision of better access, the demand for parking may well rise to 18,000 vehicles to the square mile, of which a possible 40 per cent. will wish to park for more than two hours.

NATIONAL GALLERY

"Sunday Times" Competition

The *Sunday Times* announces an open competition with a substantial prize for a design for a permanent gallery building on the Hamptons site, recently bought by the Government for an eventual enlargement of the National Gallery in Trafalgar Square. Full particulars will appear in the *Sunday Times* this weekend.

ILLUMINATED SIGNS

Third Competition

The Electrical Sign Manufacturers' Association announce the third illuminated sign design competition. There are ten cash prizes: first, £150; second, £75; third, £40; fourth, £20; five consolation prizes of £10 and £20 for the best entry from a competitor under 21. The sign is for an actual building forming part of the main shopping street of a new town. The panel of judges has not yet been announced; particulars from the Electrical Sign Manufacturers' Association, 13, Bedford Row, London, W.C.1.

CAMBRIDGE

Tripos in Architecture

Cambridge University has decided to establish a Tripos in Architecture and Fine Arts, beginning in October, 1959. The new course is not intended to provide a vocational training, but will provide an opportunity for an undergraduate to develop, by serious study, an understanding of Architecture and the Fine Arts.

The reorganization of the courses in Architecture and the Fine Arts has been studied by the Faculty Board since the appointment of Sir Leslie Martin to the new Chair of Architecture in 1956. The Board had these considerations in mind: raising the standard of the study of Architecture; taking advantage of the exceptional contributions which could be made by other Faculties; developing courses that would lead to advanced study, and the possible extension of studies in Architecture and Fine Arts, so that special

courses might be available to under graduates who were not architects.

There will be a Preliminary Examination at the end of the first year, and examinations for Part I and Part II will take place at the end of the second and third years. The courses taken by architects will be developed by a more thorough study of the History of Architecture in which leading authorities will take part: lectures dealing with the construction of buildings will be strengthened by the introduction of new courses in Building Science: a course in the Theory of Architecture will be considerably developed, so that it occupies a significant place in the training of architects. The lecture courses will form an essential background to studio-work.

At the Part II stage, it is proposed that special courses in the History and Theory of Architecture and Fine Arts should be developed, so that these subjects can be studied as a sequel to other subjects. A student who has obtained honours in Part I in any other honours examination of the University (for example, English, History, or Mechanical Sciences) may present himself for honours in Part II of the Architecture and Fine Arts Tripos. A candidate for this combined course would be required to take certain compulsory papers but would be allowed some measure of choice among the remainder.

A new addition now being built to the Cambridge School of Architecture (to provide a new lecture room, criticism room and staff rooms) was developed as a live project for the School. It is expected that the building will be completed before next summer, in time for the new Tripos courses beginning in October.

Architecture Society

The Cambridge University Architecture Society has been formed. Its aim is to act as a focal point for architectural interest in the University and the town. Membership is open to members of the University and all who live in the area. Application should be made to the secretary, John Ady, 1, Scroope Terrace, Cambridge.

FIRE PROTECTION

Discussion at RIBA

On Tuesday, November 25, two lectures were given at the RIBA on Fire Protection. The first of these, by Eric Bird, was entitled "Structural Fire Protection Today" and the second, by S. D. Studd, Chief Building Surveyor, Manchester, was entitled "Whither Fire Protection?"

Eric Bird began by considering multi-storey buildings and by applying to them the three principles of structural fire protection: the division into compartments, and the providing for means of escape and for firefighting.

On the means of escape, he pointed out that the adoption of the principle of compartmented buildings meant that it may not always be necessary to "get people out of the building" and instanced the concept of "two-stage" escape advanced by the Fire Panel of the Nuffield Provincial Hospitals Trust in which patients were merely moved from the "compartment" affected into the next one; and only out altogether in the unlikely event of the fire growing.

On firefighting he remarked that our acceptance of tall buildings and consequent departure from the age-old idea that fires must be fought by ladders from the ground, had imposed new obligations on design: in particular, those of providing sufficient pressure of water at the top through wet or dry risers to all storeys and the firemen's special lift. He then proceeded to comment on the same principles as related to other types of building. On the small house he remarked on the risks which attach to linings with a high flame spread and to flues of ill-considered non-traditional design; and on the long horizontal building of two or more storeys he called for differentiation according to the user and acknowledgment of whether this involved "sleeping risk" or "infirmity risk." The standards he suggested for these are tabulated below:

	Building type	*Fire resistance requirement*
Sleeping risk	Hotels Hostels Blocks of flats Boarding schools	One hour
Infirmity risk	Hospitals Nursing homes Maternity homes Old peoples' home	Two hours

On the large single-storey factory he commented on the clash between the demands of fire protection, which called for compartmenting and of linear production, which called for unbroken floor areas. Pointing out the lack of basic research on this subject he drew attention to the current American solution of providing wide hoods (called "curtain boards") over items of plant with special fire hazard.

After remarking on our lack of a universal code for places of public assembly, he concluded this part of his paper by insisting on the paramount importance of providing a single, properly protected staircase, instancing the Swedish and American practice of relying on a central artificially-lit and heavily protected stair, added that if such stairs are used, they must be kept clear and Local Authority Officers must have a right of entry to inspect them.

Eric Bird finished his paper with a brief history of structural fire protection in this country, starting with the formation of the British Fire Prevention Committee (largely from RIBA initiative) at the beginning of the century and concluding with the appointment last year by BSI of a committee to draft a Code of Practice. Pointing out that the Ad-hoc committees (on which we have had to rely up to now) cease to exist once they have made their reports, he suggested that the Government ought to set up a permanent central technical body—an "Advisory Council for Safety in Buildings," similar in form and standing to the Royal Fine Art Commission.

Mr. Studd was mainly concerned to point out the respects in which our existing legislation (and particularly the Clauses in the Model Byelaws of 1952) are known to be inadequate. He first considered the principle of grading by occupancy as understood in 1952 and the division of all buildings into the three classes of "domestic," "public," and "buildings of the warehouse class." The implication of this is that all the buildings within each class have a similar "fire load." In practice, however, fire loads vary considerably and he was of the opinion that it would be more equitable to make this, rather than the building class, the criterion.

Next he pointed out that the regulations were designed to ensure that structure was fire resistant but took insufficient account of the principle of compartmenting. Thus, where internal walls were required to have a certain fire resistance, there was nothing to prevent their having non-fire-resistant openings, an omission which would make them of no value as fire or smoke barriers. A point which is now being considered by the Advisory Committee on the Control of Construction of Buildings in London is whether or not relaxations should be allowed when a building is fitted with a sprinkler system or an effective fire alarm system; and the Committee appointed to examine Scottish Building Law have raised the question of whether it is equitable to compel a building owner to provide a greater degree of fire resistance if escape in the event of fire is easy and if no damage could be done to adjoining property.

Mr. Studd next asked why the existing Byelaws impose siting restrictions on light framed buildings clad inside and out with materials offering high fire resistance and yet impose no such restrictions on buildings of high fire load classification with large areas of external glazing and which may afford no resistance to fire. Referring briefly to current investigations to establish whether or not the present fire restrictions on curtain walling are justified, he went on to consider the case of the roof and drew attention to the illogicality of our present regulations which require that the roof *covering* must afford protection against the spread of fire, but fail to insist that this must be supported by an incombustible frame and thus offer no safeguard against a fire starting within the building.

On large buildings, he called for nation wide statutory powers to impose a rational compartmenting, but insisted that the size of the compartment must be related to the different users and must be based on respectable scientific evidence; since the 250,000 cu. ft. which figures in some existing regulations is arbitrary and can be unduly restrictive.

On safe escape from buildings, he gave his opinion that the relevant clauses in the Public Health Act, 1936, and the Factories Act, 1937, are too vague, leading to conflicting practical requirements and that these must always be based on a scientific appraisal of the actual life risk.

Summing up, he said that our revolution in building technique has called for a more fundamental approach to structural fire protection: in the Byelaws of 1952 we were concerned chiefly in preventing a burning building from collapsing on those fighting the fire; the next stage is to prevent the fire's spread. But no large reduction can be expected in the yearly loss by fire until legislation covers all buildings, new and old. In this respect the Factory Acts offer a precedent and more comprehensive regulations for safety against fire in factories are now under way; but, if people are to be made safe in factories, why should they not be made safe in other, equally hazardous, types of building?

TCPA

National Conference, 1958

"Positive Planning" was the theme of the two-day National Conference held this month in London by the Town & Country Planning Association. Four principal speakers—Sir Frederic Osborn, R. L. Stirling, L. P. Ellicott, and J. F. Q. Switzer—each examined a particular aspect of this central theme. The conference met under the shadow of the new Town and Country Planning Bill—the Government's latest contribution to positive planning—which had been published on the previous day—a contribution received by many with mixed feelings, judging by the comments made by Herbert Morrison in his opening address. Mr. Morrison was afraid that the provisions of the new Bill, however just it might be to the individual owner, might make compensation so expensive that the vital process of town and country planning would be held up yet again. He could not but regret this. The great tragedy of British planning, he thought, was that it had not got started a great deal earlier, so that now we were left a legacy of severe problems in town and country alike. Now, the only thing to do with Greater London was to build more new towns. He hoped the LCC would get some money out of the Government to build one of its own.

He was followed by Sir Frederic Osborn who, as a self-confessed "angry old Victorian," stood forward as the champion of the inarticulate many against the articulate few. In his view, the main justification for planning was that it could make "the greatest good of the greatest number" a practical possibility, not just an ideal. The planners' purpose should be to provide proper living conditions not for people in the mass but for people as individuals. This, however, was what they had failed to do in Sir Frederic's view. Planning policy today, particularly in city redevelopment, reflected the imposed views of an influential minority who are alert and insistent: it paid little regard to the desires of the majority of individuals who are relatively dumb and inert. It was up to the planners and local councillors to redress the balance, for there was no one else who could undertake the task.

Sir Frederic's suggestion as to how this might be done was to establish a "social minimum"; a standard of house and curtilage space which every individual could, if he chose, claim as his entitlement. This objective was, he declared, perfectly feasible. He was in no doubt that the "social minimum" could and should be applied wherever new development or redevelopment schemes occurred. As to the possible consequences of such a policy, Sir Frederic brushed all objections aside by roundly declaring that there was no risk at all either of land wastage or excessive urban sprawl.

Urban renewal

The next two papers were more technical in scope and content. R. L. Stirling, County Planning Officer of Lindsey, Lincolnshire, discussed the impact of dispersal on planning in rural areas; L. P. Ellicott, Deputy Chief Technical Planner, Ministry of Housing and Local Government, examined urban renewal in practice. Mr. Stirling pressed for the further development of industry in the smaller country towns, not only on the ground that this would assist dispersal, but also because it would sustain an important and valuable national asset. Smaller country towns, he believed, were a necessary counterpoise to excessive urbanization and the social discontents it produced. As a further positive aid to dispersal, Mr. Stirling supported the operation of the present green belt policy, but he was strongly in favour of its extension to other towns and cities outside the large conurbations. This, he believed, would help to establish much firmer and more positive planning policies throughout rural areas.

Mr. Ellicott, having first described the rapid changes that are now taking place in the functions performed by British towns, went on to discuss the adjustments needed to meet these changes and the powers available to local authorities for carrying them into effect. He showed two examples of effective urban renewal in response to change, illustrated with slides: one, a rapidly expanding historic market centre, the other a static Victorian industrial town. In describing the results achieved, Mr. Ellicott was at pains to emphasize the vital part that private enterprise must play in schemes of this kind. He pointed out that although urban renewal is essentially the function of local government its realization can only come as a result of joint action by public and private investors, a type of joint action that as yet is far more widely practised and far better understood in the United States than it is here.

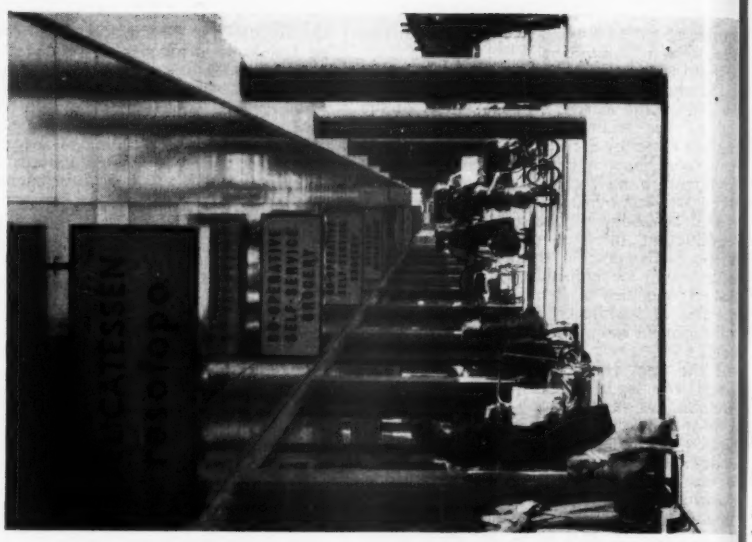
J. F. Q. Switzer in the final paper on "Enterprize in Planning" set out to develop this theme—the role of the private investor in planned development. Unfortunately he devoted so much of his energy to a forthright denunciation of some of the current absurdities of planning control (criticisms, incidentally, that were very ably met by B. J. Collins who opened the discussion on

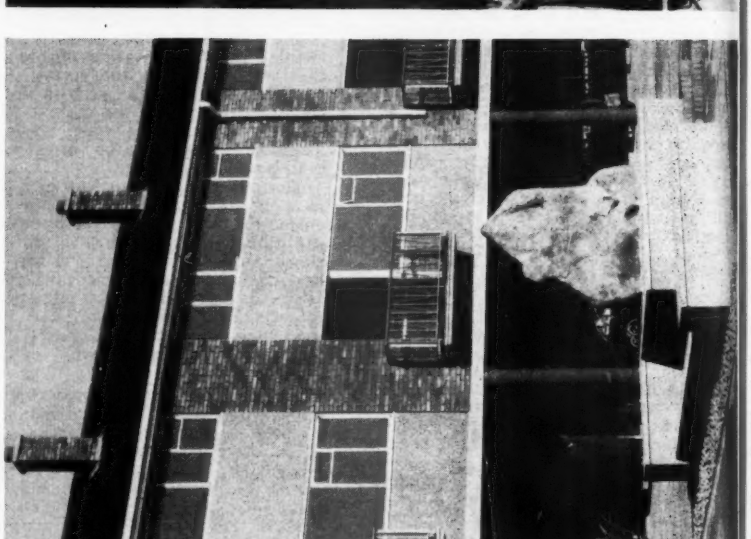
(*Continued on page* 776)

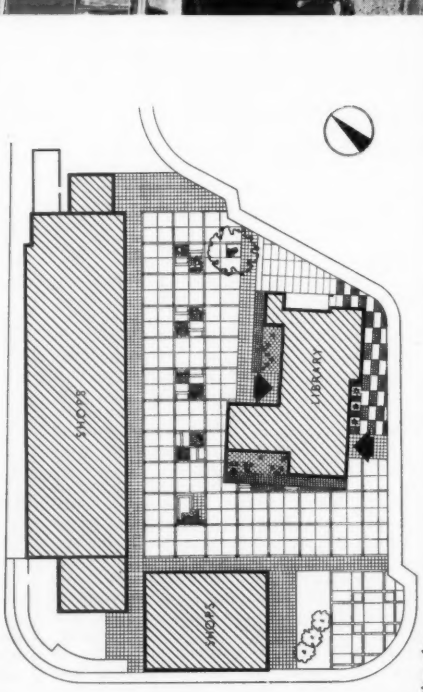
SHOPPING PRECINCTS IN SWINDON AND CANTERBURY

Sussex Square Neighbourhood Centre, Swindon

Two shopping precincts in very different towns, industrial Swindon and ecclesiastical Canterbury, show how the idea of shops surrounding a pedestrian area are spreading. Swindon's borough architect, John Loring Morgan, designed the recently completed Sussex Square neighbourhood centre, seen alongside (site plan below), to serve the needs of 9,000 people living on the new estates around this area, which are expanding rapidly to take some of London's "overspill." The square is enclosed by 14 arcaded shops with 15 maisonettes above, and a branch library and common room







Site plan

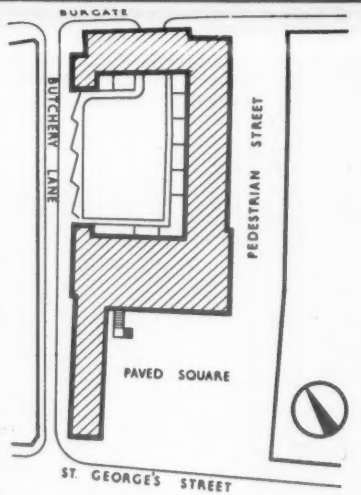
the City Architect, J. L. Berbiers, and recently approved by the Royal

Site plan

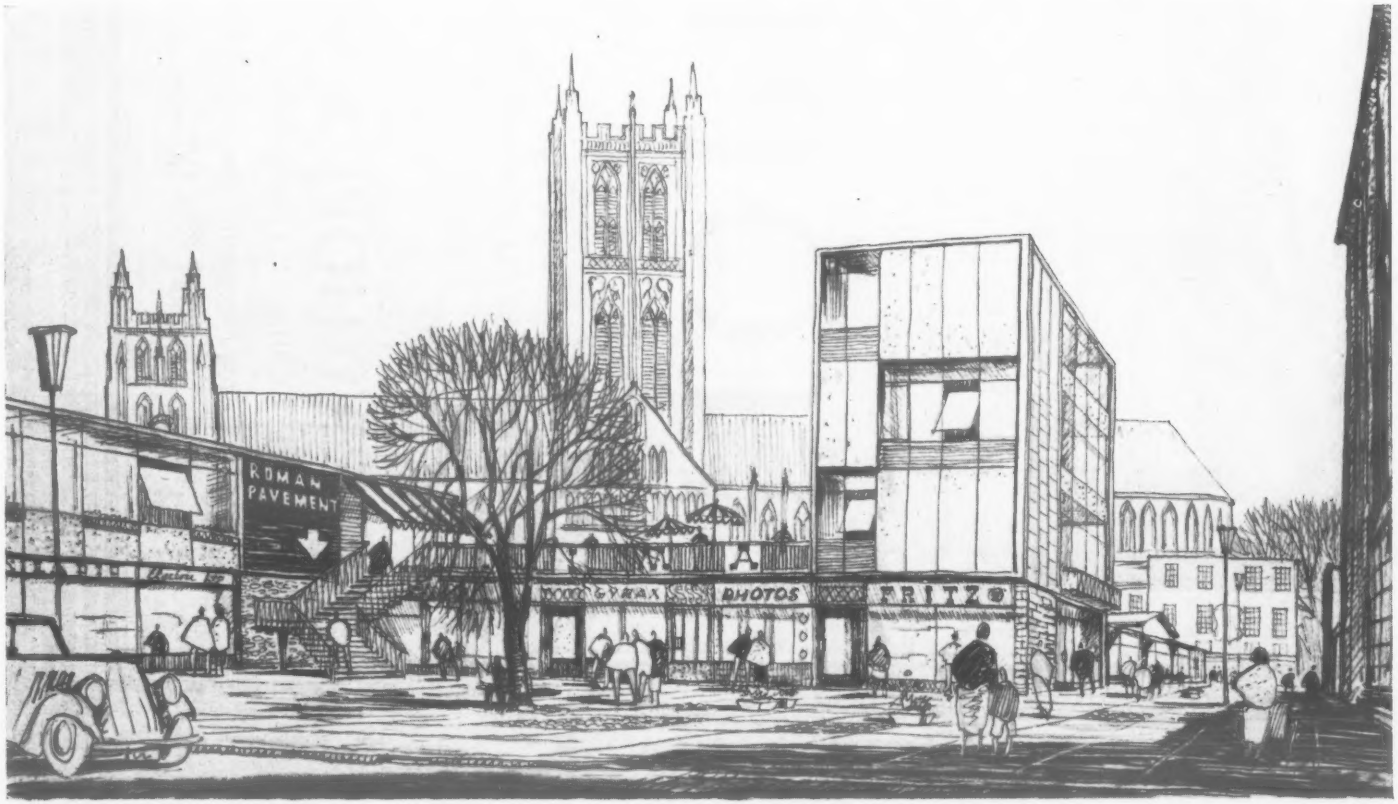
shops with 15 maisonettes above, and a branch library and common room for social events. The Sarsen Stone—a local Druid stone from the Marlborough Downs—set up by way of decoration in the square, is a reminder that Stonehenge and Avebury are Swindon's neighbours.

Longmarket Shopping Precinct, Canterbury

The area of Canterbury to be developed as the Longmarket Shopping Precinct was cleared by a German Baedeker raid in 1942 and is to be developed by private enterprise in accordance with designs prepared by the City Architect, J. L. Berbiers, and recently approved by the Royal Fine Art Commission. It lies between the old City to the north, where buildings are small and mediaeval in character, and the newly rebuilt central area, where buildings are modern and large in scale, and the great south elevation of the Cathedral rises behind it. It was therefore decided to plan the shopping precinct with a small square which would give variety to the new central area, and would satisfactorily link the old and new, with the buildings arranged to emphasize the beauty of the Central and Norman towers of the Cathedral. For this purpose the Longmarket was designed with a two-storey block along the north-west side of the square, maintaining



Site plan



the scale and intimate character of Butchery Lane, a four-storey block flanking the approach to the pedestrian way and increasing the scale towards the south-east side to accord with new buildings on that side, and a single-storey block on the north-east of the square, linking the two, on top of which will be a roof terrace, perhaps with a tea garden. A Roman pavement beneath the Longmarket will be preserved and the entrance to it incorporated in the buildings on the north-west side of the square.

the paper) that the impact of the positive proposals he had to make tended to be obscured.

He made five main points—all of them valuable. In the first place he thought that planners needed to have a much better understanding of the mechanisms by which development can be financed and carried out. This was important for development was after all the *raison d'etre* of planning. Secondly the development plans themselves needed to be much more specific. In their present form too much was vague or left unsaid. Mr. Switzer's third point related to compensation, but here the Government had anticipated a great deal of what he had to say in their new Bill.

His last two points dealt with the need to inspire public confidence in planning. To win this confidence, not only did we need to have sustained and intelligent propaganda from the Ministry and the local authorities designed to explain the scope and purpose of planning schemes, it was also essential to raise the professional status of the planner. This last, in Mr. Switzer's opinion, was vital if planning was to attract men of the calibre needed for work in this important and complex field.

PAUL BRENIKOV.

THE TOWN AND COUNTRY PLANNING BILL

Debate (But No Division) In The Commons

By our Parliamentary Correspondent

Town and Country Planning has become so esoteric a science that it arouses neither the emotion nor the interest of more than a small fraction of the House of Commons these days. Indeed, it is becoming increasingly difficult to find anything that does stir the House from its end-of-Parliament lethargy. When Col. Wigg has to pull down the shutters and proclaim a secret session to get a headline which neither he nor anybody else can hope to get in normal debate, things have evidently reached a pretty low ebb.

The only surprising thing about the second reading debate on the Town and Country Planning Bill was the decision of the Labour Party not to oppose it. Their principal spokesman, G. R. Mitchison, Q.C., described it as a Bill "to correct a grave and deliberate mistake made by the Government in 1952 when the present Prime Minister was the Minister of Housing and Local Government. . . . Now that the Government have admitted our criticisms and seek to rectify their error, we shall not vote against this very limited Bill." But the debate did reveal an important difference between the two sides which, at some later date, must cause a sharp cleavage. Mr. Mitchison said that the Bill, while remedying the injustice inherent in the two-price system for land, did nothing to remedy the injustice between the community as a whole and landlords generally. To this the Government answered that all attempts to recover betterment values in land for the State or the local authorities had failed, and always will fail. J. R. Bevins, the Parliamentary Secretary to the Ministry of Housing and Local Government, argued that the nationalization of development rights in land by the 1947 Act, and the attempt to recover "betterment" by means of the development charge, had acted as a brake on development, and had not been understood. The subsequent two-price system, one price for private sales and another for public purchases, had caused injustice and hindered local authorities in selecting the best sites. A chasm had developed between the market value of undeveloped land and what was payable on compulsory purchase —sometimes the market price could be as much as three or four times the compulsory purchase price. Mr. Bevins respected the view of Labour members that increases in compensation should be financed not from public funds but from the landowners' unearned increment, but challenged the Labour Party to say in practical terms what it proposed to do about it.

This challenge the Labour Party did not exactly meet. But before coming to it Mr. Mitchison recalled the reasons given by the Government for rejecting market value as the basis for compulsory purchase in 1952 and in 1954. Mr. Macmillan, for example, gave two reasons: "First, in many cases these values will have been created by the efforts of the community, and secondly, the landowners have had no expectation of receiving more than the 1947 claim." The first reason, said Mr. Mitchison was no temporary one. It was just as true today.

Compensation assessed on the assumption that planning permission had been given would, he thought, certainly result in overvaluation, because the market value of an area to be acquired was necessarily less than the sum of the market values of the parcels comprising the area.

Mr. Mitchison indicated three possible lines on which the Labour Party might ultimately tackle this problem. The first was the Uthwatt Committee's recommendation of a levy on the increase in annual site value. The second was by the taxation of capital gains. The third was that betterment would obviously form part of the review of the financial relations between local and central government to which the Party was pledged. But he refused to commit the Party in advance to any specific policy.

A number of problems were raised by back-bench members. The Scottish members renewed their complaints that there was not a separate Scottish Bill. Mrs. Corbet wanted the same safeguards for town development as the Bill provides for comprehensive development areas and new towns. Two Conservative members wanted the owner of commercial property no less than the owner-occupier of domestic premises to be safeguarded from "planning blight." The new rights to be given to owner-occupiers to compel planning authorities to buy property adversely affected by planning received their warmest welcome from a Welsh Labour member, Arthur Probert.

But on the basic issue of compensation and betterment there was no agreement. James McColl, for the Labour Party, warned that dangers would arise from the government's decision to keep the two-price system for planning restrictions. He also foresaw that extraordinary anomalies would arise from the local authorities' attempts to imagine (for assessing market value) what possible planning permissions might have been given under hypothetical circumstances.

Henry Brooke contrasted the "carping criticism" by the opposition with the almost universal welcome given to the Bill by the press and the public. The local authority world, although it would have to pay more as a result of the Bill, nevertheless welcomed its general principles. His reply to Mr. Mitchison was that the Uthwatt Committee's report had been out-dated by the establishment of a system of planning control. The mess the government was clearing up was not that of the 1953 and 1954 Acts, but of the 1947 Act.

He could not give an unqualified promise that local authorities would always be given loan sanction for advance purchase of land, but the government's general view was that local authorities should have greater independence in carrying out land transactions by agreement. They could not speculate in land, but they might well desire, when the Bill was passed, to buy more extensively in advance than hitherto. They would have the same freedom to purchase in advance for town development as they already had for housing purchases.

LE CORBUSIER

Liverpool Exhibition

The Le Corbusier Exhibition at the Walker Art Gallery, Liverpool, will be opened on December 8 at 7.30 p.m. by Maxwell Fry. The private view is on December 9, and it will be open to the public from December 10 to January 17 (the gallery will be closed from December 24 to 26). Admission charges are 2s. for adults, 6d. for children, and 5s. for season tickets, but cheap rates for organized parties (adults 1s., children 3d.) can be arranged in advance by a recognized group, society or school. Further information from The Director, Le Corbusier Exhibition, Walker Art Gallery, Liverpool.

MOHLG

Capital Investment

The Ministry of Housing & Local Government has issued a circular to local authorities on capital investment, which refers to the statement made by the Chancellor of the Exchequer in the House of Commons on November 3. It continues:

The Chancellor said that for 1959-60 the Government envisaged a level of public sector investment somewhat higher than that of last year, and he made it clear that this would include work in the local authority field. I am to draw your attention to his statement that increasing capital expenditure is expected in water supplies, sewerage and quite a wide range of other services. But much of this work is necessarily of a fairly long-term nature and will fall within the normal programme arrangements.

This Circular is particularly concerned with capital expenditure over the next twelve months. The Chancellor explained that it is desired to bring forward into the next twelve months some of the expenditure which would otherwise have to be incurred later. I am therefore to invite your Council to consider whether there are any projects which they are anxious to undertake and which could be submitted for loan sanction within a matter of three months or so and completed by the end of 1959. I am to say that any such proposals will be sympathetically considered by the Minister concerned, more especially if the area is one where unemployment is, for the time being, high.

This Circular does not apply to projects within the education or roads programmes. The Departments responsible for those programmes will be getting into touch separately with the local authorities concerned.

It does apply to housing. Provided that additional houses can be started within the next four to five months the programme for next year can be rather larger than that for the current year; and the Minister is accordingly prepared to approve the building of an increased number of houses by individual authorities, whether for general needs or slum clearance, if tenders are submitted in the early part of the year. His officers are prepared to discuss programmes for 1959 with authorities as soon as they wish.

underground tank in concrete

waterproofed with

'Pudlo' brand waterproofer

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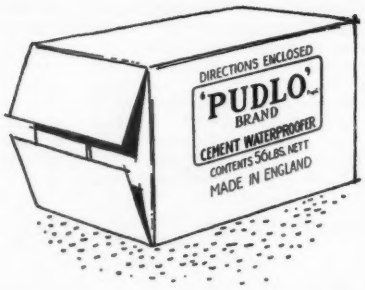

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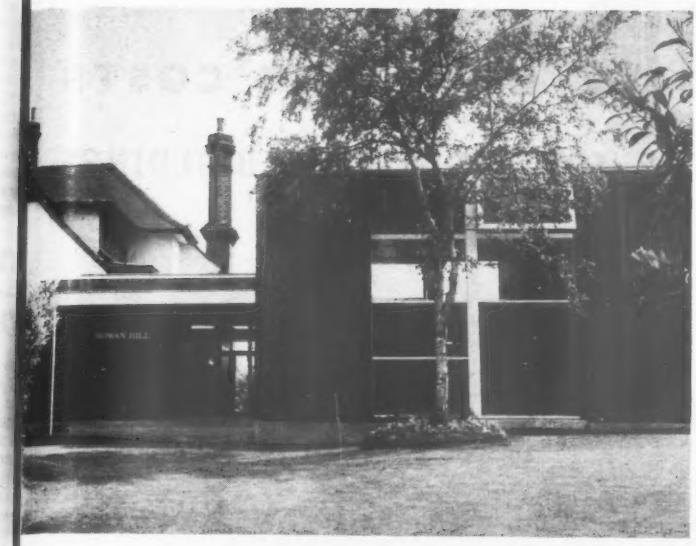
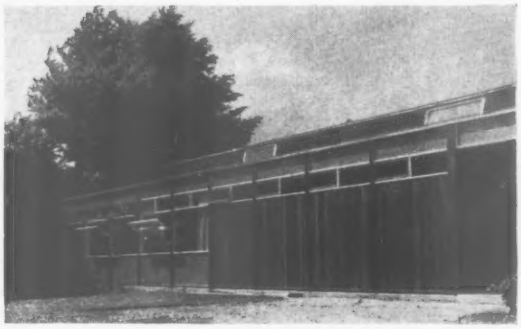
EXTENSION TO ROWAN MILL GIRLS' SCHOOL, CLAYGATE, SURREY



Extensions to an old private school too often look like a collection of outbuildings round an elderly house: when Rowan Hill Girls' Preparatory School at Claygate, Surrey, needed a new assembly hall, the architect, F. G. Lees, decided to treat the extension as a chance for the school to present a new face to the world and the new building was boldly placed between the existing Edwardian house and the main road, and linked to it by a new entrance hall (seen left). As the extension was to be built quickly in the summer holidays, a system of timber prefabrication, A.75 by A. H. Henderson Ltd., was finally chosen. This consists of a system of solid timber posts, box-beams and timber roof and wall panels, assembled from a wide variety of standard units. External finish is of varnished Yang boarding, internal



finish is painted hardboard-faced gypsum panels. The ceilings are of natural varnished softwood. Left, the front of the new hall with roof to floor windows; above, from the south with ancillary rooms ranged alongside—a dressing room for stage shows, staff room, changing rooms, lavatories, and a servery from which meals cooked in the school kitchen are served in the hall. Hot cupboards and washing-up facilities are provided here. Stores for stationery and equipment have also been provided, opening out of the entrance hall, which is top-lit, and provides a pleasant view of the garden behind. No attempt has been made here to "harmonise" the new building with the original red brick and stucco house (visible on left of top picture) but the two form an agreeable contrast and the timber walls of the new building fit in well with the mature trees and garden that surround it.

HOW HY-RIB CUTS THE COSTS

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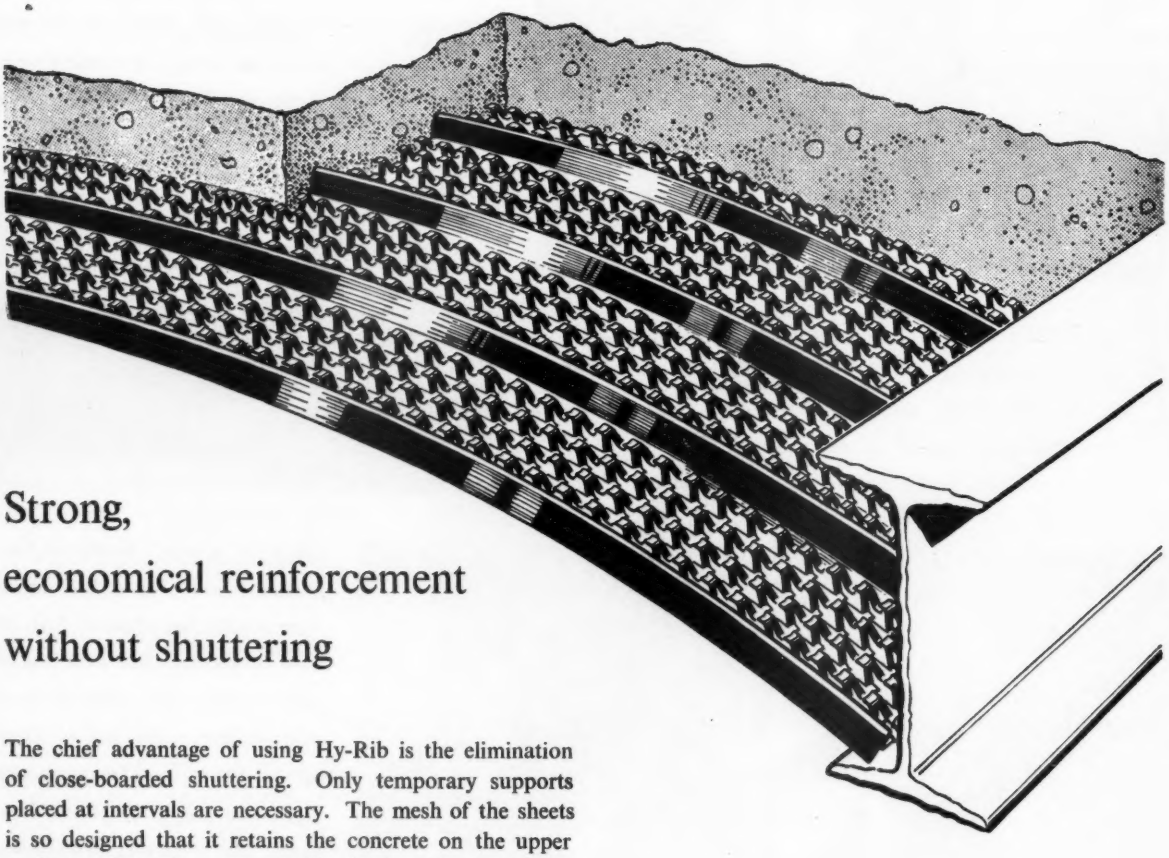

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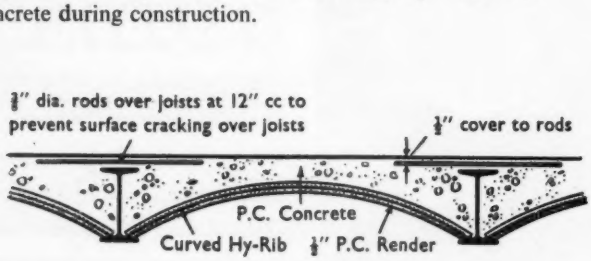

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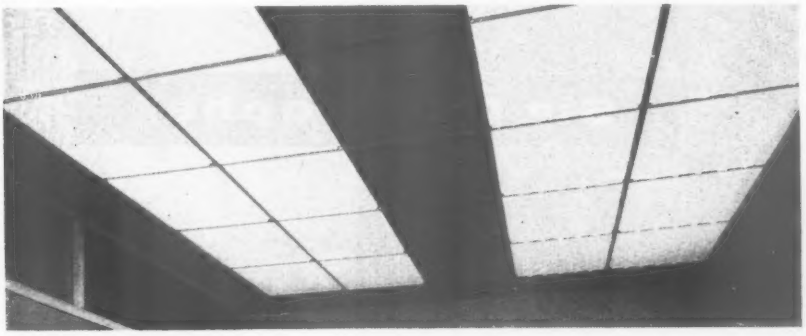
technical section

THE INDUSTRY

Brian Grant describes illuminated ceilings, a catalogue of glass sink traps and wastes, a convection heater, a new range of acoustic tiles, multiple garages and extruded plastics.



New Pyramidal panels in a Luminated ceiling.

Illuminated ceilings

Four new designs of transparent panels have just been introduced by Lumenated Ceilings. They are based on a repeating pyramidal pattern and can be used in conjunction with each other or with the standard Lumenated panels (plain or patterned) or with panels of acoustic board or tiles. Each panel is made from vacuum formed vinyl sheet, the pattern itself providing the necessary rigidity, and is subjected to an anti-static process to reduce the collection of dust. Cost of the ceiling remains the same as before, about 10s. a sq. ft., not including lamps. For the suspension of these ceilings a new type of hanger has been involved, made of two aluminium tubes each with one end flattened to provide fixing holes. One of the tubes has a shaped steel spring riveted to its end, and the second tube is slid through the spring. The overall length of the hanger can be adjusted with great accuracy by sliding the second tube to the required position, and a single hanger covers all suspension depths between 6 in. and 6 ft. and at the same time can produce a level ceiling even if the supporting structural floor is off level here and there. (*Lumenated Ceilings Ltd., Alliance House, Caxton Street, London, S.W.*1.)

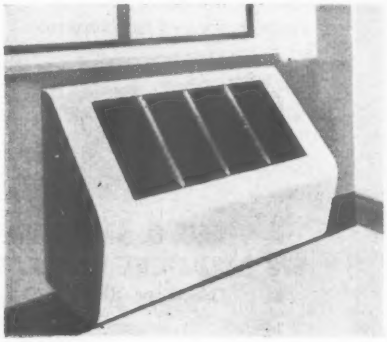
Glass sink traps and wastes

For some years QVF Ltd. have been installing glass sink traps and waste lines in chemically resistant borosilicate glass for chemical and other laboratories, and they have now produced a catalogue to show the types of fitting available. Glass has the obvious advantage that any build-up of solids can be spotted with ease and dealt with before it has a chance to produce a complete stoppage, while the glass is resistant to practically all chemicals and acids except hydrofluoric and glacial phosphoric. A recent catalogue shows a number of different types of trap, which are normally connected to ebonite waste fittings; standard pipeline fittings, bends, tees and elbows, and different types of coupling for the glass pipes. This is a good catalogue with properly dimensioned drawings and photographs to show typical installations. (*QVF Ltd., Duke Street, Fenton, Stoke-on-Trent.*)

New space heater

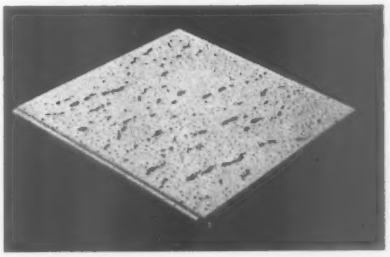
A new forced air convection heater for use with hot water or steam has been produced by Fenton Byrn & Co. The heater is intended for wall mounting and contains electric fans which draw in air from a grille in the base of the cabinet and pass it through a bank of finned heating tubes. The unit is fitted with thermostatic controls and is made in two models with outputs of 25,000 and 35,000 B.Th.Us per hour. Each model is suitable for mounting below 2 ft. 6 in. window sills and all connections and pipes are concealed. The cabinet is in rust-proofed steel, stove enamelled or primed for decoration on site. (*Fenton Byrn & Co. Ltd., Surbiton, Surrey.*)

Forced air convection heater by Fenton Byrn & Co.

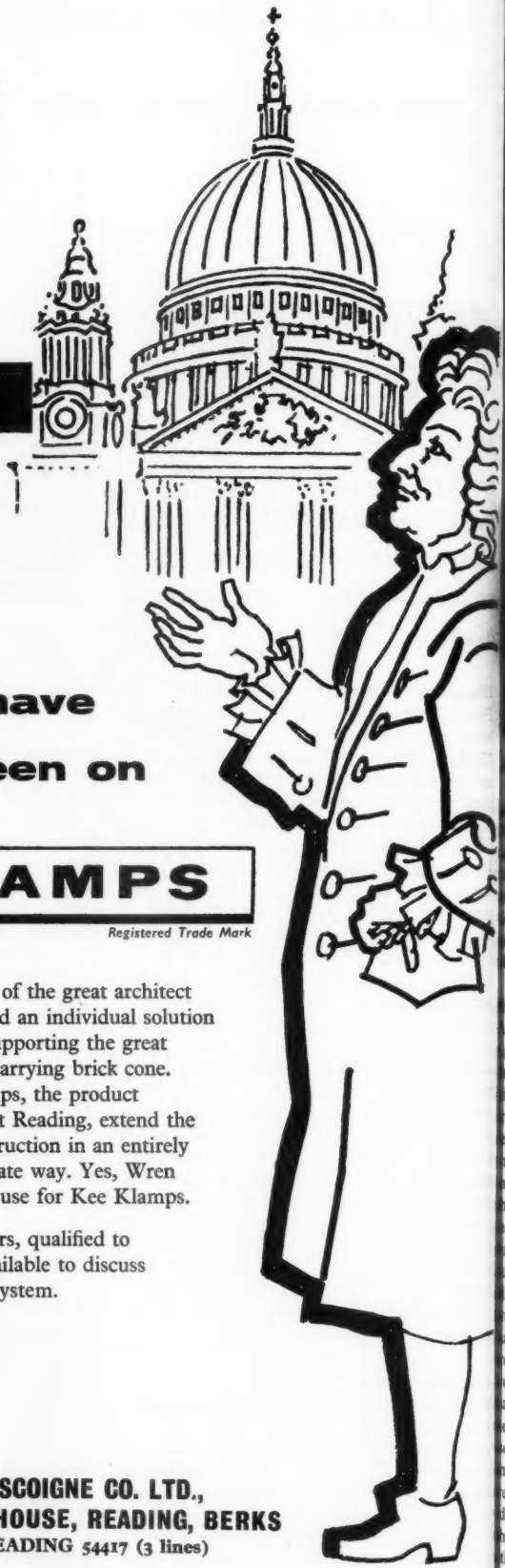


Acoustic tiles

Armstrong Cork have just announced a new range of acoustic tiles known as Cushiontone. These are wood fibre tiles made of strong tough pine fibres with a washable white painted finish which is easily maintained and which has a light reflection coefficient of 79 per cent. There are three distinct patterns, Textured, with a fissured surface, as shown in the photograph, to give an interesting variation to the usual



The Textured Cushiontone acoustic tile by Armstrong Cork.



Sir Christopher

would have been keen on

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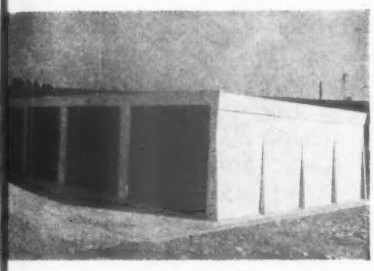
egular perforations or slots, Random Perforated with a combination of $\frac{3}{16}$- and $\frac{1}{4}$-in. dispersed perforations, and Standard regular straight row perforations. The tiles are produced with tongued and grooved edges and can be nailed, screwed or mechanically stapled to wood firring strips, while butt-edged tiles can be installed by cementing them to a firm hard surface. The perforated types are made in 12-in. by 12-in., 12-in. by 24-in., and 24-in. by 24-in. sizes, the textured in 12-in. by 12-in. only. (*The Armstrong Cork Co. Ltd., Acoustics Department, Honeypot Lane, Kingsbury, London, N.W.9.*)

Garages on housing estates

Chippenham Borough Council is installing Marley multiple precast concrete garages in a number of housing estates, for they are quick to erect, being made of precast concrete, and occupy a minimum of space. As can be seen from the photograph, the



row of Marley multiple garages.

garages are of quite simple design and are finished with Snowcem to give a bright appearance. Welrise up-and-over doors are standard equipment, though timber doors are also available. The system of construction allows any number of garages to be grouped together to fit the available space. (*Marley Concrete Ltd., Sevenoaks, Kent.*)

Extruded plastics

A booklet describing the range of Rockite rigid extrusions has just been published by British Resin Products. The extrusions, which are made from phenolic material, are available in any length, do not need polishing; are permanent in colour and can be used for many purposes among them as trim, lippings, ets. Since phenolic resins are thermo-setting, the sections cannot be bent after manufacture, but it is sometimes possible to bend them during the extrusion process. The booklet illustrates a limited range of sections which are already available, and provides information on the design of new sections, which are at the moment limited to a maximum cross-sectional dimension of $5\frac{1}{2}$ in. and a maximum thickness of $\frac{5}{8}$ in. Judging from the illustrations in the booklet the presses used for the extrusions are comparatively small, and as the pressures required are presumably not large, it is likely that considerably larger sections may be available when further experience has been gained with the process. (*British Resin Products Ltd., Devonshire House, Piccadilly, London, W.1.*)

designing for thermal comfort, 2

In his first article (AJ, November 20) the author, Alexander Hardy, outlined the conditions of thermal comfort and described how to calculate the mean radiant temperature of the inside wall surfaces and the rate at which a building will heat up. In this, his concluding article, he shows, first, how these calculations can be applied to the design of low thermal capacity linings. He then turns to the question of economy and shows how it is possible, by calculating the volumetric specific heat of the outside walls of a building intended for intermittent use, to ensure that solar heat gains will penetrate the walls at a time of day when they can assist the heating plant. He then considers the likely seasonal economies deriving from shorter heating-up periods and concludes by discussing the thermal behaviour of light weight, highly glazed buildings as brought to light by the MOE's school heating experiments.

After Dufton's proposal of the concept of " equivalent temperature " the next important development was that of Griffith and Horton who discovered that in a two layer wall, if the internal lining material was over a certain thickness, the rate of temperature rise of this surface was determined by the thermal characteristics of this material only and that the backing material only affected the final temperature reached after the pre-heating period; the critical thickness required for the lining material to act in this way being not less than $\frac{3}{4}$ in. If, therefore, a wall of relatively high thermal capacity was lined with a material of low temperature conductivity, a very short period of pre-heating would be required. If this lining material was isolated from the backing wall by an insulating airspace, then the effect would be improved, as heat absorbed by the lining material could not be conducted directly into the backing material. The pre-heating time for such a wall, lined with $\frac{3}{4}$-in. insulating board would be:

(insulation board data: d=·75, k=·40, P=18·0, c=·34. See previous article for formula).

$$t = \left[\frac{4\left(\frac{\cdot 75}{12}\right)^2}{5\left(\frac{\cdot 40}{12\times 18\times \cdot 34}\right)}\right]\frac{1}{2^2} = \cdot 14 \text{ hrs, i.e. } 8 \text{ mins.}$$

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technical section

Not only do we now have a wall which will reach a determined MRT in a very short time, but the final temperature reached will also be higher:
Unlined 13½ in. brick.

$$65 - \left(\frac{\cdot 70}{2 \cdot 69} \times 35 \right) = 55 \cdot 9^\circ \text{F}$$

13½ in. brick lined with ¾ in. insulation board.

$$65 - \left(\frac{\cdot 70}{5 \cdot 57} = 35 \right) = 60 \cdot 6^\circ \text{F}$$

The effect of lining an enclosure with a material of low temperature conductivity is to ensure that it has a very short heating up period, a high internal surface temperature and a reduced rate of heat loss.

Solar heat gains

So far we have only considered the effect of internal air temperature on internal wall temperatures. What is the effect of external temperature changes on these surfaces? The volumetric specific heat of a material gives an indication of the rate at which it will heat up. Although it is possible to calculate the actual time that it will take for temperature changes to be transmitted through a material, such calculations are usually complex; but as this property of building materials is relevant to a study of internal conditions a table of the "time lag factors" for some building materials is given:

Material	*Thickness*	*Time lag*
Brickwork	13½ in.	11 h. 15 m.
	9 in.	7 h. 30 m.
	4½ in.	3 h. 45 m.
Concrete	6 in.	4 h. 20 m.
	4 in.	2 h. 55 m.
Foam slag	4 in.	4 h. 50 m.
Timber	1 in.	1 h. 30 m.

The time lag factor is the time taken for a temperature change in the surface of a material to be transmitted through a given thickness to the other face. If an east facing wall was built of 4 in. foam slag blocks, its time lag is 4 hours 50 minutes, and if it received its maximum amount of solar heat by 8 a.m. in summer then this heat would reach the internal face by 12.50 p.m., a time when additional heat is usually not required. If the wall had been of 13½ in. brick, with a time lag of 11 hours 15 minutes, this heat would not reach the internal surface until 7.15 p.m. when such additional heat would be useful. Under certain conditions, therefore, consideration of the time lag factor can ensure a reduction in the maximum temperature reached due to solar gains and spread these over a period such that they are usefully employed. Note that no mention has been made of the effect of wall constructions on the quantity of heat transmitted into the interior, but only the time factor. The quantity being determined by the thermal capacity of the wall. Comparison can now be made between the thermal characteristics of traditional load bearing wall construction and light-weight panel-filled frame construction. The first, of high thermal capacity, will spread solar gains over a long period and these will be small when reaching the internal surface. A considerable amount of heat is stored within the structure and this indicates that the time taken to heat up and cool down will be very great. The second, of low thermal capacity, will react to solar gains and transmit these to reach the internal face in a few hours. The amount of heat stored in the structure will be small and so the rate of heating up and cooling down will be fast. These are, therefore, two different thermal environments, one in which conditions remain stable throughout the heating season regardless of fluctuations in heat input and external temperatures, the second where diurnal temperature changes effect the internal conditions and where fluctuations in heat input are reflected in changes in internal temperature in a short time.

Economic effect of short heating-up time

Having considered the broad aspects of the relationship between physiological requirements and thermal environment, it is possible to design with the aim of providing a high degree of thermal comfort. What other advantages can be gained from the application of this information? Consider the relationship between the period of occupation of a building and the period during which the heating plant will be operating. Take for example an office building; the usual period of occupation will be eight hours out of 24 for five days a week. If the building was of traditional high thermal capacity construction, then the heating plant would be operating for about eleven hours at normal rate and thirteen hours banked, assuming a three-hour heat-up period daily for a solid fuel fired plant. For an eight-month heating season this amounts to 1,900 hours at normal rate and 3,940 hours banked. If the building was of low thermal capacity construction, with linings of low temperature conductivity and high thermal resistance, then the building would react quickly to heat input and, if the plant was able to react quickly to demand, the daily time of operation could be reduced to nine hours; taking a ½-hr. pre-heating time at twice the normal output as one hour at normal rate. It would not require the plant to operate other than during these periods, except possibly for frost protection. The annual total hours of operation would now be reduced to 1,560. For comparative purposes, if it is assumed that a solid fuel boiler operates at 16 per cent. of its normal working consumption when banked, then the 3,940 hours banked can be translated into 630 normal hours, making a total of 2,530 compared with 1,560, a saving of 970 hours.

In addition to this saving in hours of operation over the whole of the heating season, there are also savings over the occupation periods. The heat-up temperature can be controlled so that the additional heat output of the occupants brings the internal temperature up to the required standard at the beginning of the period. During the period, if the plant is geared to

technical section

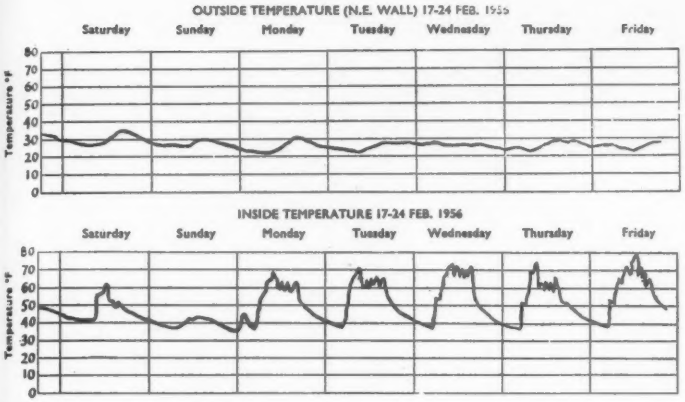

Chart showing inside/outside temperatures relating to a room facing north-east in typical light-weight school during a week of continuous cold weather (reprinted from MOE Bulletin No. 13). The most interesting column is Sunday, when there was no heating. Note that the internal temperature was never less than 10 deg. F. higher indoors than outdoors and the additional rise due to solar heat.

react directly to demand, the amount of heat required should fall, due to solar gains received direct through glazing and later through the enclosing materials. If the time lag of the external walls had been estimated to the greatest advantage, increased heat would not normally be required until later in the afternoon. There are also many days in spring and autumn when heat is only necessary in the early morning and late afternoon, due to long periods of solar radiation at a low altitude, giving deep penetration; with solid fuel fired plants in high thermal capacity buildings on such days over-heating occurs with no saving in fuel. There are, therefore, gains in thermal comfort and saving in daily fuel consumption, if full advantage is taken of all incidental heat gained and over-heating is avoided.

Behaviour of low thermal capacity structures

It is interesting to note that in the MOE Bulletin No. 13 dealing with the heating of schools, the most economical installation quoted was a fan-operated convector heating system supplied from an automatic oil-fired boiler, installed in a school of relatively low thermal capacity. The economy in running costs was shown to be due to the intermittent operation of the plant and the fact that the demand on the boiler was geared directly to the thermostatic control of the convector fans in each room. This school did not, however, have linings of especially low temperature conductivity, but it did have large areas of glazing. Before plants of this type were installed it was thought that it would be necessary to operate them at a reduced output throughout the unoccupied period to avoid excessive temperature gradients within the building, causing thermal movement in the structure and temporary condensation; and to reduce the heat-up period. In practice it has been found that the rate of cooling of these buildings has been much slower than predicted and that the temperatures reached at the end of the unoccupied periods was not as low as estimated. The reason for this is that although the walls and roofs of these schools are of low thermal capacity, a considerable amount of heat is stored in the solid floors, the internal partitions and the furniture and equipment. As this heat is stored mostly away from the external surfaces of the enclosure, it is re-radiated into the interior during the period when there is no heating. For this reason the cooling of the internal structure has little effect on the time of pre-heating. The other factor is that the large areas of glazing allow solar gains to be transmitted into the interior immediately, the amount of heat lost through the same windows being less than that admitted, due to the diathermic property of the glass.

A study of the thermograph readings taken at a school of low thermal capacity during a period when it was unheated and unoccupied show that internal temperatures, during what would be normally occupied periods, are usually as much as 10 deg. F. above external air temperatures and at times 20 deg. F. during what would be considered part of the heating season. Rooms with east facing glass showed internal air temperatures two to three degrees F. above those having south or west glazing, this being due to the sun penetration early in the occupation being added to later by solar gains transmitted through the walls and roof after the time-lag period. These records show that if such incidental gains can be used during the occupation period, by reducing the heat introduced into the environment to avoid over heating, there can be a noticeable saving in fuel consumption.

Conclusions

Although some application has been made of the thermal properties of buildings to reduce the heating costs, without reducing standards of thermal comfort, these applications have been few and restricted to schools and some domestic installations. It is considered in view of present day conditions that much more use could be made of this knowledge, particularly as oil, gas and electricity are all fuels capable of intermittent operation and quick reaction to fluctuating demands. The installation of direct electric heating, being cheaper in first cost than any other heating system, may become a more economic possibility if an environment can be designed with a high thermal insulation value, with linings of low temperature conductivity giving a very short heat-up period and with external walls of a time lag suited to the period of occupation.

If his office sounds like a bear garden....

.... he surely needs advice on noise abatement; help him back to peaceful efficiency by introducing him to Armstrong Acoustical Tiles.

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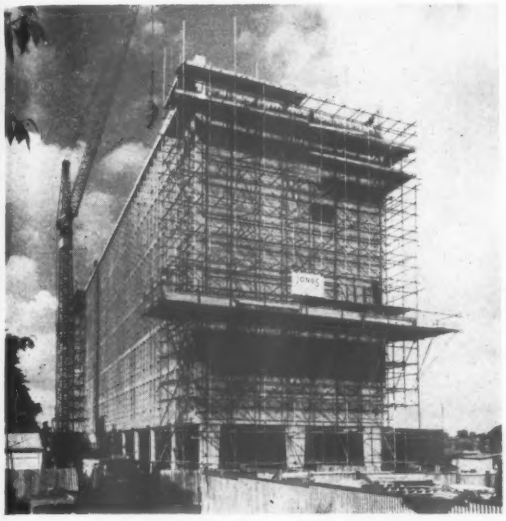
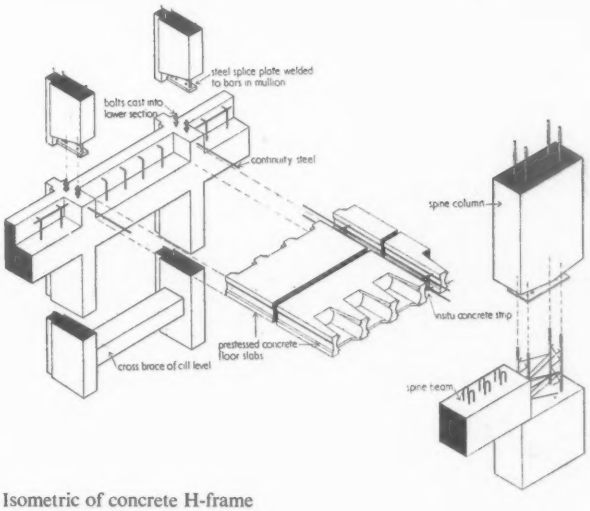
AT.3

structure study

COVENTRY COLLEGE OF ART AND TECHNOLOGY



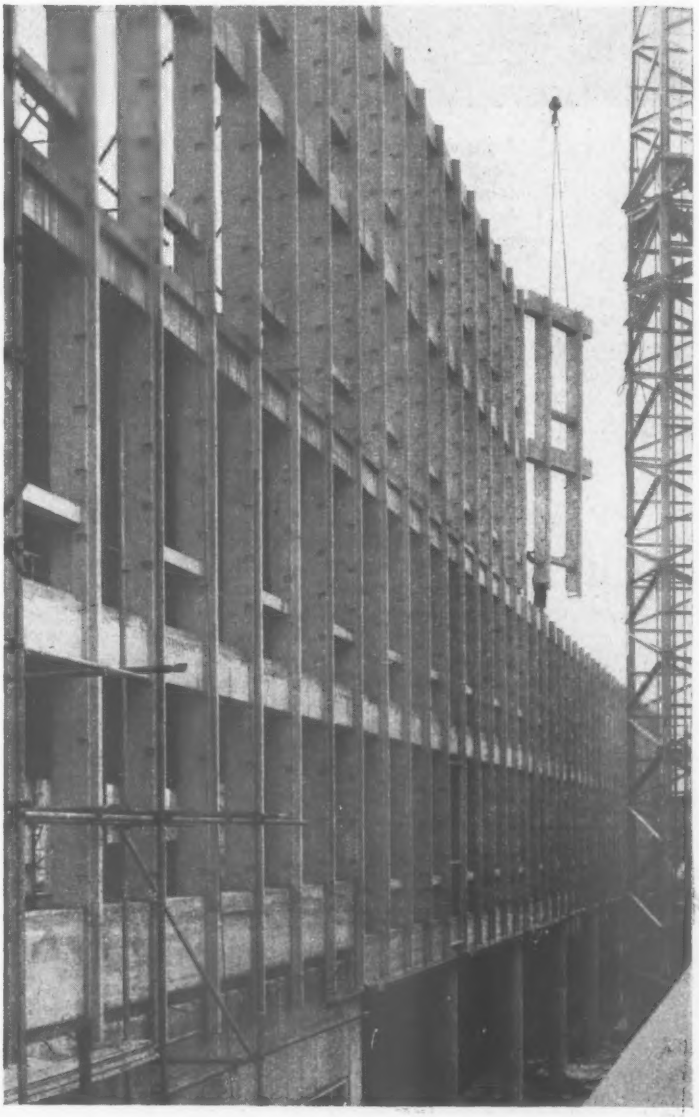


Isometric of concrete H-frame

The structure of the second stage of the Coventry College of Art and Technology, designed by Arthur Ling, Coventry city architect and planning officer (W. Kretchmer, schools architect, R. Grainger, group leader, and M. J. Bench, job architect) is now complete. This was originally planned as a steel-framed building, but later a reinforced concrete structure was substituted, the long elevations of which have been split into precast H-frames above first floor level. The system was used for reasons of speed and economy and these reasons have been justified in practice.

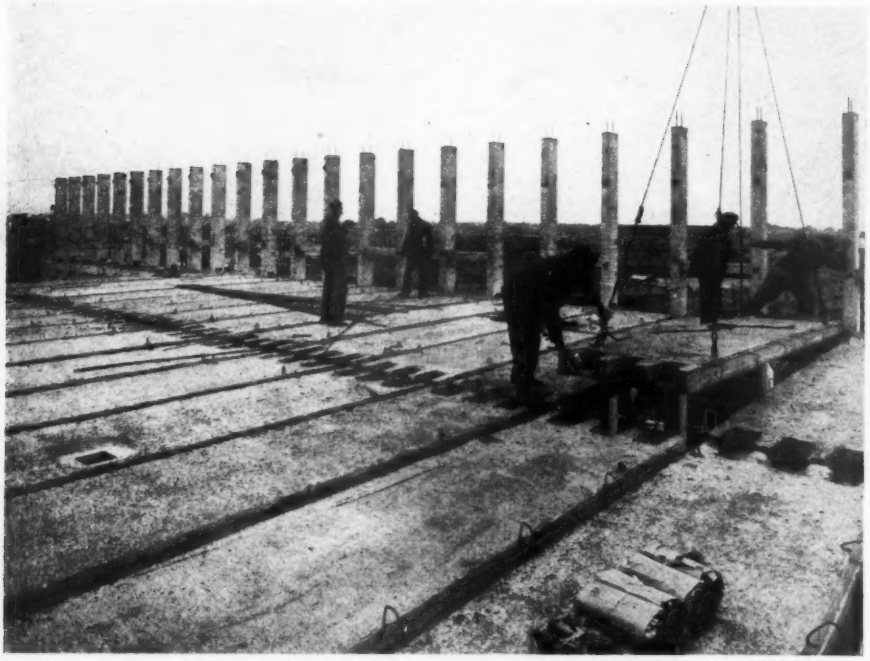
A typical two-storey H-frame weighing 3 tons can be seen, right, being positioned on the west elevation; the integral cross beams and sill ties provide bracing. Owing to the lower load capacity of the crane towards the end of the 90-ft. jib, the frames for the east elevation have been split into two units, each of approximately 30 cwt. Steel dividing plates were set in the standard mould, and the equivalent thickness made up on site with lead sheet. Only the mullion facings will be exposed to the weather and these are cast in steel moulds to give a smooth surface. The frames are made to a fine tolerance to ensure accurate fitting of the wall cladding. Straight plumb mullions took precedence over accuracy of horizontal joints which can be lost in the floor construction. Floor to floor height is standard at 11 ft. 6 in.

The mullions occur on a 4-ft. module and the tie beams are cast with a haunch to carry prestressed floor beams spanning 20 ft. to a row of spine columns also precast in two-storey heights. Precast pretensioned rectangular beams connect the spine columns and the top half of the beam is formed *in-situ* with reinforcement to tie in the floor units.



structure study

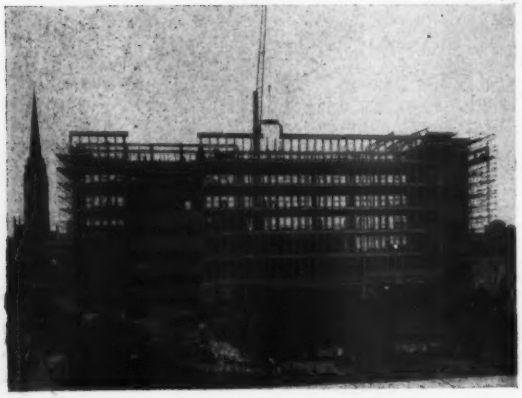
COVENTRY COLLEGE OF ART AND TECHNOLOGY: continued



Large openings for services are cast-in along external walls.

Stirrups can be seen above projecting into a 6-in. wide strip between floor beams which is then filled with *in-situ* concrete to form a continuous floor, which acts as a wind girder spanning between the lift and staircase blocks and the south end wall. Note the notched ends of floor beams at the spine which form the flange of the spine beam described above.

Similar thought has been given to simplifying *in-situ* wall construction. A complete set of shuttering of half-storey height was made and this was repeated for the full height of the building. Right, the shutter about to be placed by crane against concrete spacers, which also help to locate the steel reinforcement. The precast corner column has a projecting 8-in. wide nib to which the shutter can be bolted direct. Below can be seen the external face of these walls; the fascia is being placed on the east elevation. Note the steel trusses at roof level, which give a clear span of 40 ft. without intermediate columns. Owing to repetitive floor heights, the stairs were also precast.



Work up to first floor level was complicated by site-welded connections to r.s.j. column caps already built during stage 1. A gutter at first floor level to catch rainwater from the long elevations feeds into downpipes which have been cast into the ground floor *in-situ* concrete columns.

The whole structure above first floor has been completed in only five months and the whole building is programmed for completion in twenty-one months. The structural engineers are Husband & Co.; chief quantity surveyor, R. S. Lear; general contractors, W. M. Jones & Sons Ltd.; sub-contractors for concrete work, Concrete Ltd.

building illustrated

SWIMMING POOLS

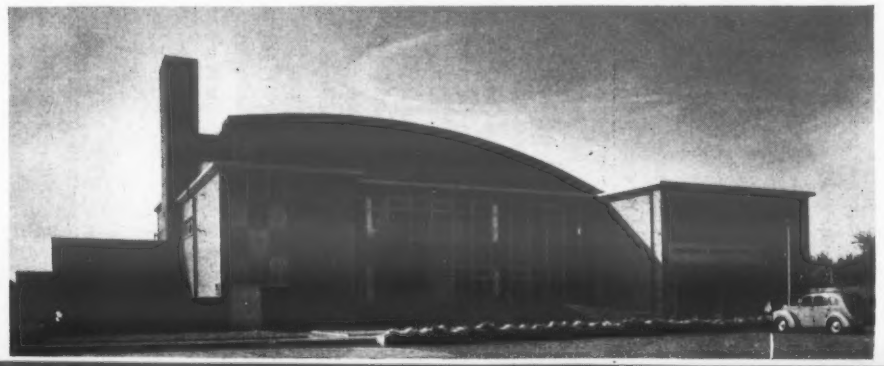
1. THE WALES EMPIRE POOL, WOOD STREET, CARDIFF, designed by E. C. ROBERTS, city surveyor; erection of building supervised by JOHN DRYBURGH, city architect, appointed in 1957; chief assistant A. L. PRIEST; assistants A. C. VICKERY, R. JOHN, L. GOWER, E. S. ROBERTS; quantity surveyor C. LOCKTON; chief assistant G. HILL; consultants (elevational treatment) SIR PERCY THOMAS and SONS; (structure, heating, ventilating, electrical services) OSCAR FABER and PARTNERS

2. HORNCHURCH SWIMMING BATHS, for HORNCHURCH URBAN DISTRICT COUNCIL, ESSEX; designed by VINCENT WILLIAMS, council engineer and surveyor; D. PEARCY, council architect; assistant D. TREVALLION; quantity surveyors A. E. SEADEN; consultants (steelwork) T. F. BURNS and PARTNERS

Two of the first public swimming baths to be built in this country since the war are here compared and cost analysed: most local authorities which planned such buildings were prevented from proceeding with them by the credit squeeze, but now that squeezing credit has become a highly unfashionable occupation we can perhaps hope for a gush of swimming pools in the next year or so, and this prospect adds interest to the examination of the two examples published this week, the first swimming pools to be cost analysed in the JOURNAL.

Main entrance, Wales Empire Pool.

Main entrance from the car park, Hornchurch baths.



The pool at Cardiff from above. The photograph, however, could be of any large swimming pool. This is the given, unalterable element; the architect does not "design" it, except in a purely technical sense. His main job is to provide a sympathetic setting for the activities which take place; the sense of excitement and sparkle created by the water must not be diminished by the environment, but unfortunately this can happen too readily through preoccupation with the technical problems involved.

A building which houses a swimming pool is basically simple: it is another variation on the large hall served by ancillary buildings, comparable with a cinema, a theatre or a school assembly hall, for example. The functions of such buildings vary, of course, and make different demands: The cinema and theatre house a mainly inactive audience, action coming only from the stage; a school assembly hall must also be capable of fulfilling this role but must be designed with such flexibility that functions in which all take part can also be housed. In this sense a swimming pool closely resembles a school assembly hall, for here individuals participate and create the function; an audience is unimportant.

Designing a swimming pool, however, is, or should be, a project of intense fascination, for here water is the material upon which the users of the building act—an element is to be contained and used for an exciting, pleasurable sport of great popular appeal.

Both Cardiff and Hornchurch are to be congratulated for putting up buildings which serve an obvious need, but can never show an economic return for their construction costs. Both buildings are adequate for their stated requirements, circulation problems are handled competently, and attempts have been made to counter the inherent difficulties of reverberation and condensation in the pool hall. If one asks, however, whether these buildings measure up to their opportunity, and give expression to the vastly exciting activities going on inside them, one must sadly answer, in both cases, no.

On the one hand, Cardiff: a building which comes at the tail end of the worn-out tradition of embodying Civic Dignity. Its designers suffered by never having a clearly defined budget and one suspects that fear of over-spending, added to a feeling that times and tastes have changed, produced this sample of watered down neo-classicism, which lacks both the grace and lightness possible with modern techniques and the pomposity, not to say vulgarity, that gives some buildings of this type character. Cardiff's pool is planned about its axis. This helps internal space and there is a feeling of relationship between the parts throughout the building: one always knows where one is. The axis also results, as it always does, in some gloomy corners and rooms of a shape and character not defined by their needs.

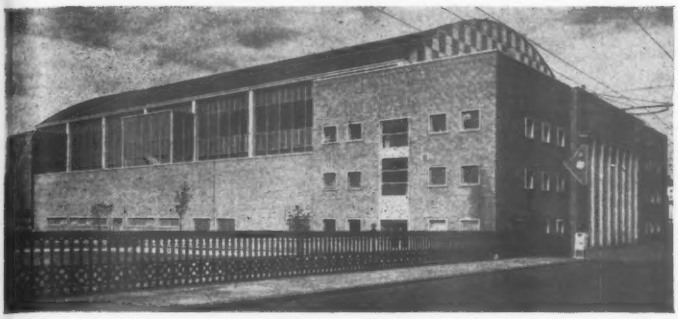
On the other hand, Hornchurch: admittedly here is a building conceived in terms of manifestations of modern architecture, but insensitivity has resulted in one which is externally a collection of unrelated lumps—a sight with which we are becoming all too familiar. Inside, this lack of continuity of thought is even more apparent. Important door openings, staircases and rooms appear as accidents of location rather than as flowing from an organic plan. Removing the discipline of obvious symmetry implies greater freedom for planning but also imposes the need for intense care in the balance and relation of parts.

One fact of importance emerges from the study of these two buildings: site conditions can seriously affect the cost of a swimming pool, so thorough investigation of alternative sites would be well worth while in planning such buildings in future. The problem arises, not from the weight of the pool when full (which is an evenly distributed and fairly light load, 18 ft. of water giving only a half ton load per square foot), but from the upthrust of ground water pressure when the pool is empty.

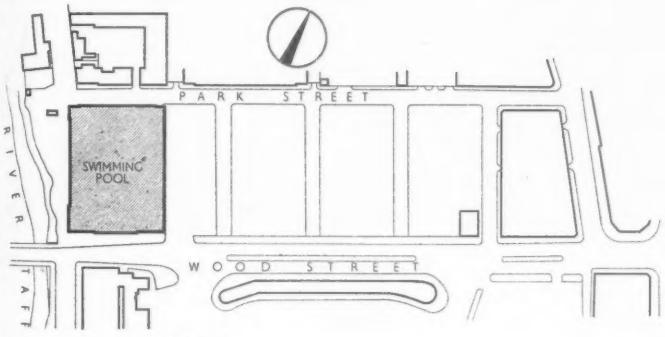
Cardiff is a special case, having a tidal water table, and the pool had to be built at first floor level; at Hornchurch, which has a good site, the pool was built with drainage runs embedded in no-fines concrete below the structural floor, so as to avoid designing the pool as a tank, which would have to take the full upward thrust of water pressure.

building illustrated

Wales Empire Pool



Cardiff pool is in the centre of the town in an area of civic buildings and relatively high office property. The site is restricted on one side by a turgid black tidal stream, which flows under the bridge seen in the foreground. The building is faced with the sort of red brick which is always nowadays associated with Portland stone, used here for the styling about the main entrance and the surrounds to the windows. The chequer pattern on the high level gable is of white and blue faience. The street pattern prevents one from getting far enough away to see the symmetrical elevation as it was no doubt conceived on the drawing board.



Site plan

The rear elevation faces onto a narrow service road and it is here that one becomes most aware of the vast bulk of the building. Behind these apparently load bearing brick walls there is a reinforced concrete frame. The large louvred grilles at high level are for air intake and extract and along the pavement the various doors serve the filtration plant room, boiler room, etc.

analysis

CLIENT'S REQUIREMENTS

1. A building to be completed in just over two years to accommodate international swimming events and in particular the sixth British Empire and Commonwealth Games, held in Cardiff in July, 1958. The standards required for this purpose were: a pool 165 ft. × 60 ft. × 16 ft. deep under the diving stage, comprising 10-, 7½- and 5-metre firm boards, two 3-metre springboards and two 1-metre springboards. Accommodation for about 2,000 spectators.
2. To serve the general swimming needs of the City and to become a place of public resort all the year round, with a restaurant preferably overlooking the pool.
3. In addition to swimming, to serve a need for slipper mikvah (Jewish ritual baths) and therapeutic, foam, aerotone and Turkish baths.
4. To be up to date in mechanical services, with a laundry for the use of the building and of other swimming baths, and an efficient pre-cleansing section for bathers. Special attention to be paid to the acoustics of the main pool hall.

PLANNING AIMS

1. The plan was governed by the restricted length of the site, and the form of the building by the high tidal water table, which suggested that the pool be constructed above ground, with the surround at first floor level.
2. The obvious symmetrical plan shape was adopted, with a central pool, the diving stage at the north end and tiered seating at both sides. The area under the seating was then available for changing rooms and slipper baths.
3. Part of the ground floor was required for mechanical services and general storage space, the remaining area being available for the therapeutic baths.
4. One main entrance for the public to all parts of the building, controlled by one central cash desk.

SUMMARY

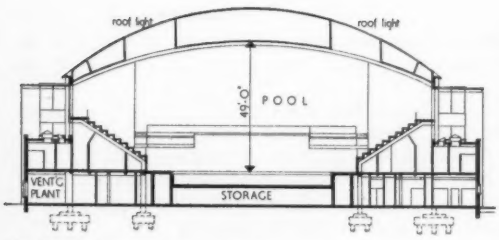
Ground floor area: 34,300 sq. ft.
Total floor area: 102,201 sq. ft.
Type of contracts: RIBA for main building. ICE for separate contracts for piling, reinforced concrete superstructure, ground floor drainage, roof steelwork, and main roof covering.
Tender date for piling: December 1955. Other contracts in sequence.
Work began: January 1956.
Work finished: July 1958.
Tender price of foundations, superstructure, installations and finishes: £609,444.
Final contract price: £634,728.
Final price for external works (including drainage): £20,997.
Total: £655,725.

	Cost per sq. ft.	s	d
Preliminaries and insurances		2	8¾
Contingencies		3	0¾
Work below ground floor level		11	11½
Reinforced concrete piling, excavation, r.c. pile caps, ground floor suspended r.c. beams and slabs, r.c. ducts. Cost includes work in connection with mikvah and medicinal baths and insulation space for hot rooms of Turkish bath unit.			

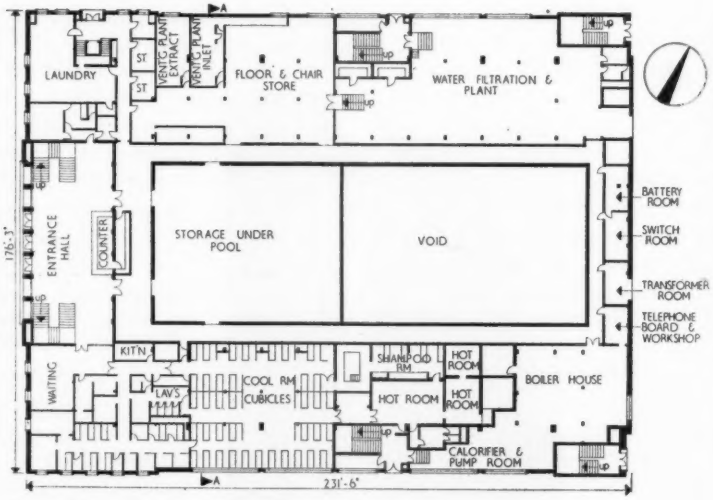
building illustrated

Wales Empire Pool

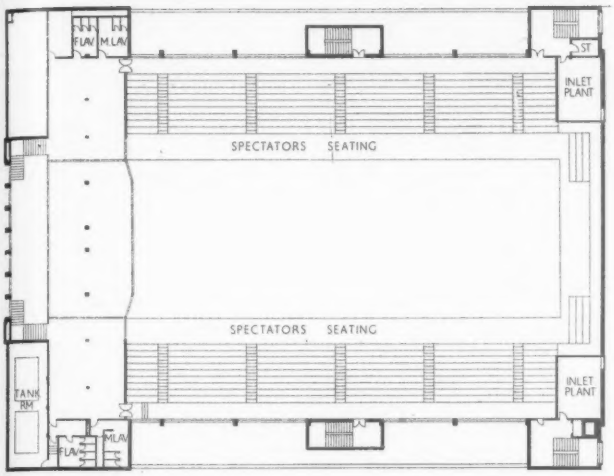
A general view of the pool from the surround, looking towards the restaurant which is at second floor level. The strips of louvres on both sides of the ceiling conceal continuous patent glazing for natural lighting and 96 floodlights designed to illuminate the bottom of the pool at the deep end in competitions, and to give satisfactory conditions for television filming. Extract grilles for the plenum system are also placed behind the louvres. There are four air changes an hour, warm filtered air being forced through grilles placed just above the side glazing. The hall is further heated by radiators beneath the windows and pipe coils embedded behind the tiling on the wall enclosing the surround. 1,722 tip-up seats are provided for spectators, who have separate sanitary accommodation and emergency exit stairs. No provision has as yet been made for converting the pool for other purposes, although it is structurally designed to carry a floor and the diving boards and bath ladders are all removable.



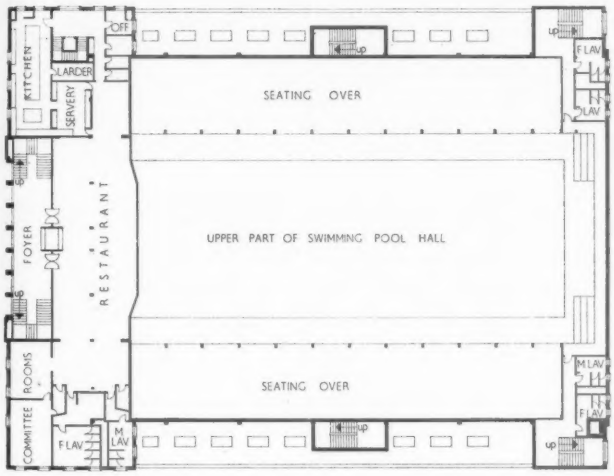
Section A-A [Scale: $\frac{1}{16}$" = 1' 0"]



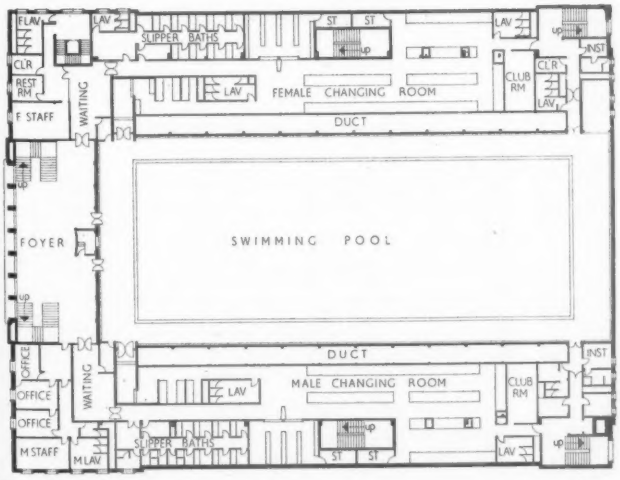
Ground floor plan [Scale: $\frac{1}{16}$" = 1' 0"]



Third floor plan



Second floor plan



First floor plan

analysis

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Pool and surround 4 2½
R.c. floor and walls of swimming pool with store under shallow end, complete with columns supporting the bath floor and surround.
Cost includes underwater lighting panels.

STRUCTURAL ELEMENTS

Frame or load bearing element 8 9½
R.c. columns and beams including r.c. rakers to support stepping of terraces.

External walls 4 10½
Cavity construction generally with 9-in. outer brick skin round structural frame to depth of 4½-in., 2-in. cavity and 4-in. inner skin of light-weight concrete blocks.
Front elevation, 9-in. outer brick skin, 4½-in. cavity and 4½-in. inner brick skin. Front gable faced with faience. Portland-stone window surrounds and copings.

$$\text{Ratio: } \frac{\text{solid walls}}{\text{floor area}} = \frac{0{\cdot}348}{1}$$

Windows 3 0½
Purpose-made steel windows constructed from medium and large universal sections, hot dip galvanised. Aluminium curtain walling mill finish with hermetically sealed hollow glass units backed with asbestos insulation board. Cost includes glazing to curtain walling.

$$\text{Ratio: } \frac{\text{windows}}{\text{floor area}} = \frac{0{\cdot}109}{1}$$

External doors 2
Main entrance, 2-in. mahogany, fully glazed. Kitchen and rear entrances, 2-in. softwood, fully glazed. Transformer room, ¼-in steel plate. Remainder, 1¾-in flush.

$$\text{Ratio: } \frac{\text{doors}}{\text{floor area}} = \frac{0{\cdot}008}{1}$$

Upper floors 4 1½
R.c. floor slabs and steppings of varying spans.
Superloads: Kitchen and lavatories, 80 lb. per sq. ft. Plant rooms and bath surround, 112 lb. per sq. ft. First floor changing rooms, etc., 70 lb. per sq. ft. Restaurant and balconies, 100 lb. per sq. ft.

Staircases 2 4½
R.c. flights and landings.
No. of staircases: 7.

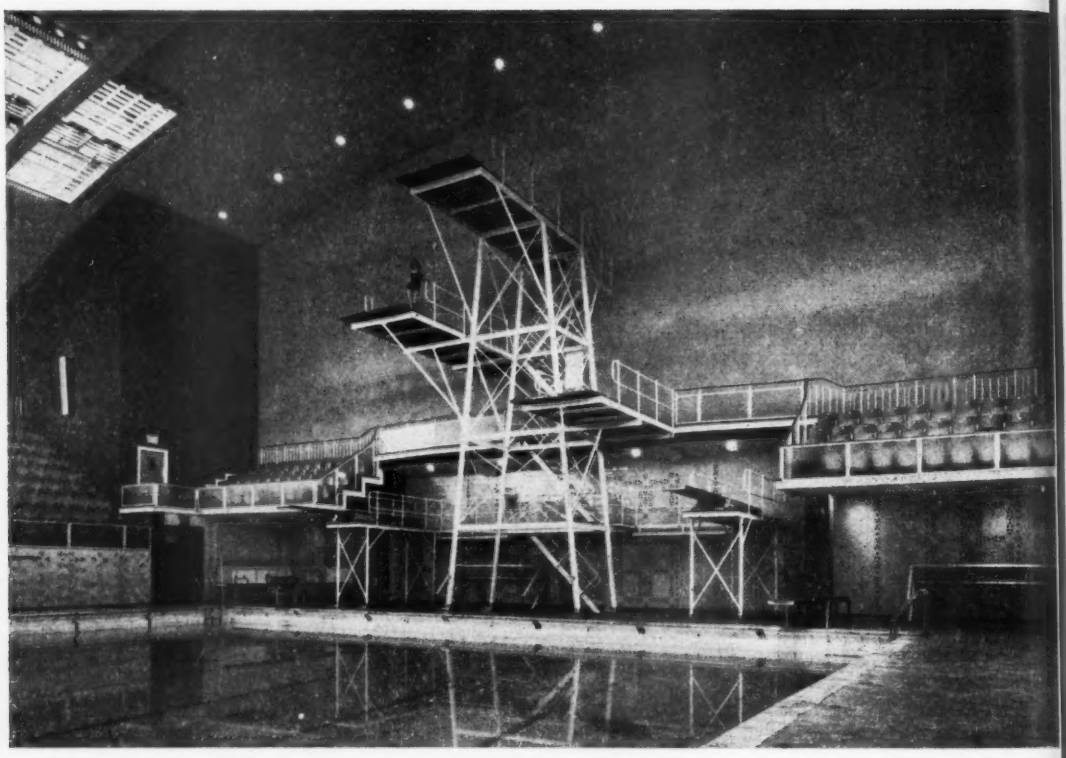
Location	*Width*	*Total rise*
Main entrance (2)	6 ft.	34 ft.
Kitchen (1)	3 ft. 6 in.	24 ft.
Emergency (2)	5 ft.	33 ft. 6 in.
Rear entrances (2)	5 ft.	34 ft.

Roof construction 7 8

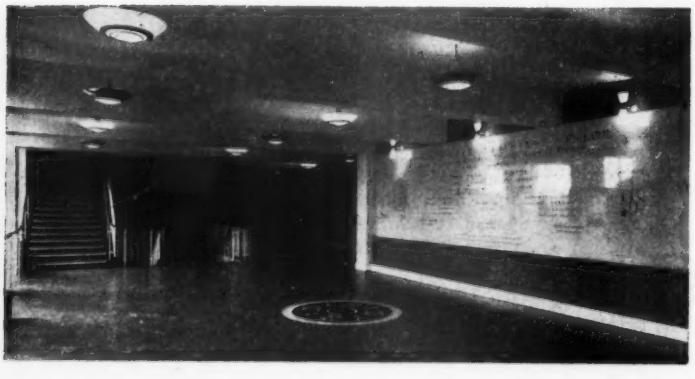
Type of roof	*Area of each type*
Over pool hall, curved steel main trusses, 139-ft. 6-in. span with secondary lattice girders and beams including walkways and gratings	2,547 sq. yds.
Flat roofs of 5-in. r.c.	1,068 sq. yds.

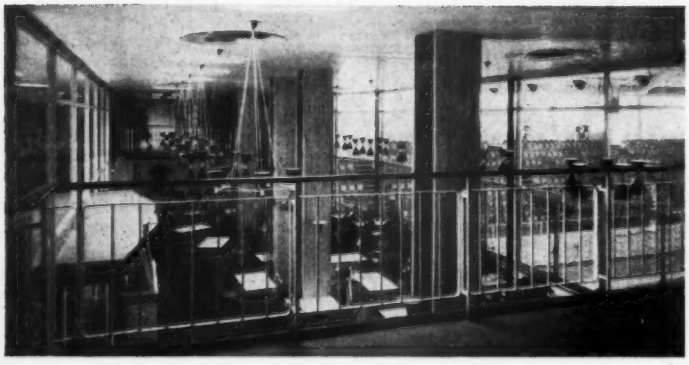
building illustrated

Wales Empire Pool

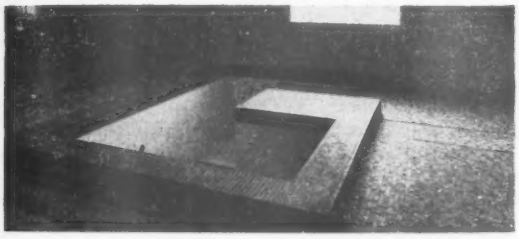


The diving boards, above, are to international standards (the top board is 10 metres high). Four spotlights are provided for competition diving and also a spray of water to ripple the surface so that divers can judge heights. The pool surround is 10 ft. wide at the sides and 15 ft. wide at the ends and is covered with serrated non-slip tiles falling away from the pool to a continuous drainage channel beneath the enclosing wall. The pool is lined with white faience with a combined scum channel and hand-grip. The top 3 ft. of tiling is rough textured to give a better "tread" when turning. The upper wall surface is sprayed with exfoliated vermiculite and the ceiling with an asbestos compound. These finishes help to counteract condensation but are used primarily to shorten reverberation times. This is a difficult problem for swimming pools; despite the precautions taken, the Cardiff pool is far from quiet. Owing to the tidal water level and site restrictions, the surface of the pool is placed at first floor level with changing rooms at either side. Two staircases lead up from the ground floor entrance hall to serve changing rooms on the first floor, the restaurant on the second floor, and spectators' galleries on the third floor. Centre left is a view of the first floor lobby. Behind the marble plaque is the control room which looks out onto the pool at surround level. After changing, bathers must pass through a foot bath which has a photo-electric cell controlling overhead showers. On the day the baths were visited the foot bath was empty and the shower not working, the reason given being that there was no other way for the bath attendants (who are clothed) to gain access to the pool surround. On the third floor there is a balcony landing from each staircase which overlooks the restaurant (bottom left). This is open to the general public as well as to bathers and can seat 156. It has its own kitchen with separate entrance and service lift. A wood strip floor is provided and the room has been used for dancing. Adjoining the restaurant are two large rooms which are let for meetings. This double-height space contains the junction of many elements and the fussy light fittings chosen do little but confuse the issue. The timber upstand edging below the balustrade was a later addition to stop dirt being kicked over onto the tables below. It is only partly successful, for there are still complaints of cigarette butts and ash being thrown over. The restaurant and other ancillary areas are heated from an independent plenum system.





The Cardiff pool (unlike Hornchurch) has many additional services: it provides slipper baths, Turkish baths and therapeutic baths and among the latter are two stainless steel Aerotone baths, above, in which the bather is immersed seated and then subjected to a massage by means of large bubbles of compressed air passing through the water. Another bath is the Mikvah, below, a Jewish ritual bath supplied with rainwater which must not have passed through metal pipes: asbestos cement was used instead.



Below, the filtration plant for the main pool at Cardiff. The capacity of the pool is 636,000 gallons and the water circulates continually from the inlets in the walls at the shallow end to the outlets in the floor at the deep end. There is a complete circulation every four hours. Before passing through one of the four large tanks, which contain fine sand, the water is pumped through removable strainers, treated with alum, which forms a gel on top of the sand, bi-carbonate to correct alkilinity and chlorine to kill bacteria. After filtration it passes through the calorifiers in the left foreground to be warmed and through another plant which aerates it before it goes into the pool. Theoretically there is no reason why the water in the pool should ever be changed, but in practice it will be changed about once every three years.

analysis

	s	d
Rooflights		4¾
15 domelights.		
25 patent rooflights.		
Area: 711 sq. ft.		
Glazing		3½
¼-in. clear polished plate.		
¼-in. polished plate fine stippled on acid obscured.		
¼-in. polished plate sand blasted obscured on one face.		
Plain cathedral		
Two stretches of three-tiered patent glazing in main roof over pool hall.		4¾
Total of structural elements	**32s**	**1¼d**

PARTITIONS AND FITTINGS

Internal partitions	**2**	**0½**
11-in. brick cavity; 9-in. and 4½-in. brick; 4-in. lightweight concrete blocks; 12-in. × 9-in. × 2½-in. glazed partition blocks to slipper baths and foam baths.		
Screens		**10¾**
Internal restaurant screen of anodized aluminium section, ¼-in. plate clear glazing with matt finished metal panels to lower sections.		
Vertical plastic panels near main staircases.		
Glazed timber screens of Honduras mahogany and painted softwood, with obscured and clear glazing.		
Internal doors	**1**	**0½**
172 single doors; 38 pairs double doors; 60 access panels; 9 roller shutters.		
Double doors generally 2-in. softwood, glazed; single doors and access panels, 1¾-in. semi-solid flush.		
Doors to pool surround, slipper baths and Turkish bath unit, teak or hollow laminated plastic sheet with teak edging.		
Ironmongery		**8½**
Bronze metal to main entrances, polished anodized aluminium elsewhere. Includes roller towel fitments, coat hooks, toilet roll holders and coin boxes.		
Fittings	**8**	**9¾**
Balustrading, guard rails and handrails.		
Two stainless-steel medicinal baths.		
Terrazzo changing room cubicles and seating for Turkish baths.		
Turkish bath cool room cubicles.		
Main entrance counter with automatic ticket machines.		
Restaurant kiosk and cash desk.		
Terrace seating, including channels for fixing.		
10-metre diving stage, one 1-metre springboard and bath ladders.		
W.c. and shower cubicles.		
Club room seats and coat hooks.		
Clothes storage equipment for changing rooms.		
Laundry equipment.		
Kitchen equipment.		
Shelving to stores, etc.		
Office enquiry counter.		
Counters to male and female clothes storage rooms.		
Marble slabs in shampoo room of Turkish bath unit.		
Total of partitions and fittings	**13s**	**6d**

analysis

Wales Empire Pool

FINISHINGS

Floor finishes — 5s 6½d

Type of finish (all including screeds)	*Area in sq. ft.*	*Price per sq.yd.*
Granolithic	16,614	17s 6d
Coloured grano. to stairs	11,619	37s 6d
Quarry tiles	2,727	45s
Sheet rubber	1,503	58s 6d
P.v.c.	3,618	37s
	11,700	35s
Thermoplastic tiles	5,841	27s 9d
½-in. tiles	27,477	62s 3d
Terrazzo tiles	2,700	33s
Faience	10,314	92s 3d
Hardwood strip	2,475	54s
Non-slip nosings	1,978	36s
Grano. risers to terrace seating and stairs	6,316	36s
Grano. skirtings	5,077 ft. run	4s per ft. run

Wall finishes — 4s 7¼d

Fairface brickwork to stores, filtration plant room and boiler house.
Sprayed exfoliated vermiculite render to pool hall above terrace level.
Tiles to dado height in lavatories, laundry, mikvah, medicinal baths and kitchen. Full height tiling in Turkish bath hot rooms and walls adjacent to pool surrou .d.
Elsewhere, generally plastered.

Ceiling finishes — 3s 8¾d

Pool hall, asbestos spray. Other areas, suspended plaster on expanded metal and asbestos panel where access is required above ceiling.

Roof finishes — 2s 1¼d

Over pool hall, metal decking with insulation and mineral surfaced roofing felt. Area: 22,923 sq. ft.
Flat roofs: three layer roofing felt on foamed slag screed, 9,612 sq. ft.

Decorations — 9½d

Generally, primer where required and three coats paint, gloss on softwood and galvanized surfaces, emulsion, gloss or flat oil on plaster, distemper on internal fairfaced surfaces.
Waterproof cement walls, requiring acidproof treatment, alkali resisting primer, 2 coats enamel paint.
Internal lagged pipes, boiler surfaces and machinery, undercoat and 1 coat industrial enamel.
Internal steelwork, tannate coating, plumbate primer and gloss finish.
Unlagged pipes and radiators, primer, undercoat and industrial enamel.

Total of finishes — **16s 9¼d**

SERVICES

External plumbing and drainage below ground floor — 1s 3½d

Hot and cold water installation — 8s 10½d

Copper piping throughout. Hot water from steam calorifiers. Cost includes ancillary services.

Sanitary fittings — 1s 0d

Type of fitting	*No. of each type*
Lavatory basins	85
Baths	20
W.c.s	64
Urinal stalls	39
Shower trays and fittings	33
Slop hopper suites	3
Drinking fountains	6
Needle spray	1
Shampoo basin	1
Wash tubs	2
Combined sinks and drainers	3
Foot pedestals	8

Heating and ventilation — 12s 4¼d

Oil fired steam boiler plant. Heating by embedded panels and radiators. Ventilation of bath hall, a maximum of 4,000 occupants at 1,000 cu. ft. per hr. Inlet air filtered and heated Separate ventilation plant serves other areas.

Gas installation — 0¼d

Number of points: 5 in kitchen. Cost includes installation of gas main and meter.

Electrical installation — 11s 1½d

Galvanized conduit generally. M.i.c.s. cable for sub-mains and Turkish bath areas.

Lifts and other mechanical services — 5s

Single speed goods/passenger lift to main kitchen.

Filtration plant — 4s 1½d

Comprises four horizontal filters at 4-hour turnover rates, 3 hours on boost. Compressed air agitation, three circulating pumps, two running and one standby or boost. Alum dieing gear. Aeration by venturi induction.

Chlorination equipment — 9½d

Break point system accompanied by p.h. control. Chlorine stored in 17-cwt. drums with automatic changeover. Price includes cranes for lifting drums.

Total of services — **39s 11½d**

Drainage — 2s 7½d

Complete internal system of soil and waste water drainage with all necessary anti-syphonage and rainwater services in cast-iron and copper. Cost includes for fixing sanitary fittings.

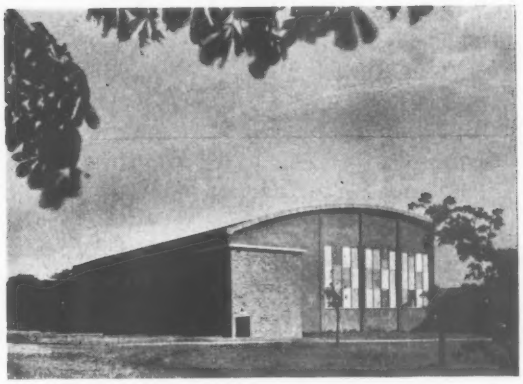
External works — 1s 5½d

R.c. housing for oil storage in car park, paving to car park and external paths.

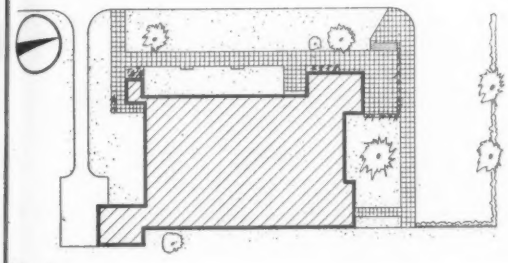
Total per sq. ft. :
£634,728 (net cost excluding external works) / 102,201 (floor measured inside external walls) = **124 2¾**

building illustrated

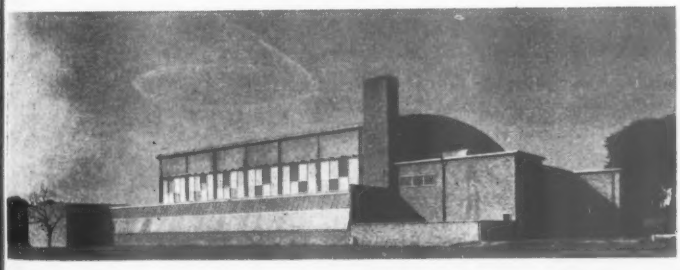
Hornchurch Swimming Baths



Hornchurch baths from the south. The main hall is entirely side lit and the roof is raised on one side to allow sufficient glazing. At its lowest side it covers the spectators' gallery. The building is in pleasantly wooded parkland. The external walls to the main hall are of concrete block cavity construction sprayed inside and out with exfoliated vermiculite render. Outside it is light brown in colour.



Site plan



The baths from the east. In the middle foreground is the site for the larger, stage-two pool, and spoil from the foundations of the first stage building has already been placed where it will be required later. The two buildings will be linked by means of a first floor bridge, which will join on approximately where the small window is placed to the right of the boiler flue. The air inlet duct for the pool plenum system is included in the chimney stack and joins the roof-space via a small brick bridge. The metal trunking visible is the plenum extract which snakes across the roof down into the plant room where the re-circulation fans are located.

analysis

CLIENT'S REQUIREMENTS

Hornchurch Council wanted municipal baths which would eventually contain two swimming pools with a common plant room and administration block, so designed that the smaller pool could be built first and the larger added at a later date. Ancillary accommodation was needed for a main entrance foyer, changing room and cloakroom, lavatories, and a buffet bar, restaurant and kitchen. A spectators' gallery to overlook the swimming pool, which must be suitable for galas and aqua shows and for the televising of these when required.

SITE

The pool is sited in Harrow Lodge Park, easily accessible from the main Hornchurch Road and from Abbs Cross Lane, on rising ground with a clay subsoil, the sulphate content of which is low, and fairly close to a stream into which surface water is discharged and the pool can be emptied on occasion.

PLANNING AIMS

The pool is 110 ft. long by 42 ft. wide, with a depth of 3 ft. at the shallow end and 12 ft. 6 in. at the deep end under the diving stage, where there is provision for a 5-metre fixed diving stage, a 3-metre fixed board, and a 3-metre springboard and 1-metre springboard.

In order to avoid designing the pool structure as a tank and thereby having to make allowance for the full upward thrust due to water pressure, a system of underfloor drainage was adopted, and to assist drainage and provide a foundation for the structural concrete a 6-in. layer of no-fine concrete was laid at foundation level.

The pool was sited to one side of the pool hall, allowing a large public gallery on the west side, with permanent accommodation for 474 spectators. A further 276 spectators can be accommodated in free standing seats on part of the pool surround. Adjoining the pool hall the two-storey administration block includes main entrance foyer, offices, changing rooms, cloakroom and lavatories on the ground floor, and buffet bar, restaurant, kitchen, lavatories, tank and fan rooms on the first floor. A small gallery off the restaurant overlooks the north end of the pool hall and is used by patrons of the restaurant and distinguished visitors on gala nights.

The plant room is large enough for all present plant requirements and for those that will be necessary when a larger pool is added. A loading tower at one end facilitates the easy handling and fixing of further plant.

Complete segregation of bathers from non-bathers can easily be obtained, as non-bathers cannot enter the pool hall without passing through the pre-cleansing pools which all have to enter before entering the pool.

All costs in the following cost analysis are based on final contract price.

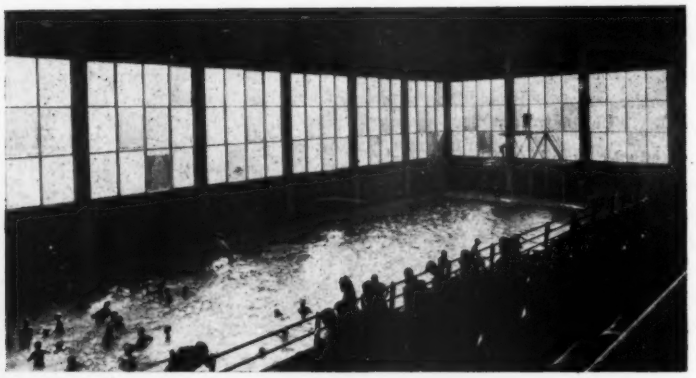
SUMMARY

Ground floor area: 17,080 sq. ft.
Total floor area: 33,977 sq. ft.
Type of contract: RIBA.
Tender date: January, 1955.
Work began: May, 1955.
Work finished: December, 1956.
Tender price of foundations, superstructure, installations and finishes: £136,347 8s. 7d.
Final contract price: £149,650.
Tender price of external works: £7,000.
Final contract price: £10,350.
Total final price: £160,000.

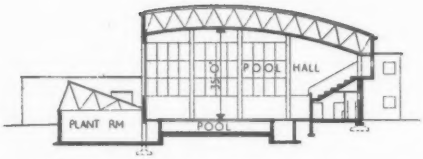
building illustrated

Hornchurch Swimming Baths

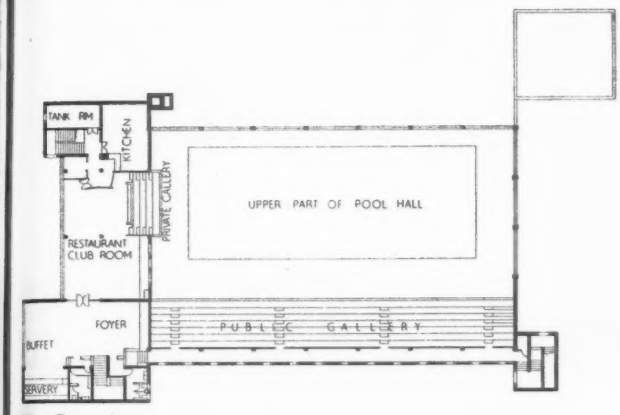
The small gallery in the background, above, looks over the pool from the restaurant which at the moment is only rarely used for hiring out to parties. There is no kitchen staff and presumably little call for one. This situation will probably change when the stage-two building is complete. The pool hall ceiling, like that at Cardiff, is of sprayed vermiculite render and considerable pattern-staining is already apparent. This seems to occur where the channel-reinforced woodwool slabs rest on their supports, which span between trusses, i.e. wherever there is a "cold bridge." Overflow audiences (there are 474 permanent seats) will be accommodated on the wider pool surround below the gallery, across which male bathers must pass to get into the water.



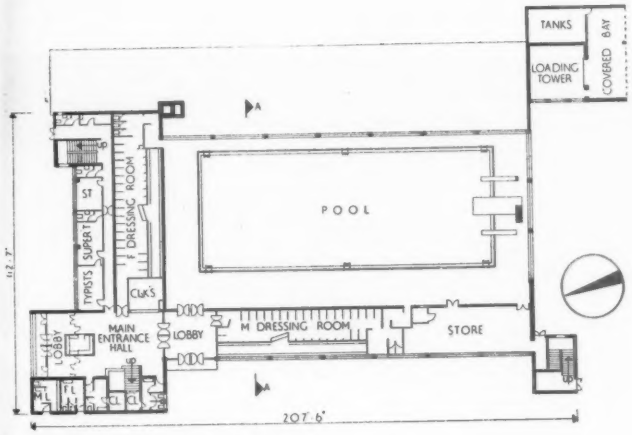
Left, the pool hall from the spectators' gallery. Natural lighting comes from one end and one side wall only. The glass used is laminated and some of it insulated with glass fibre to increase thermal insulation and to diffuse the light. This idea is successful, for there is no bad glare when looking at the water except when there is bright sunlight (and even then the effect of sparkle is not unpleasant as it is reduced by the relatively small areas of clear glass). The gallery itself is however very gloomy and a row of quite small rooflights over this space would have helped.



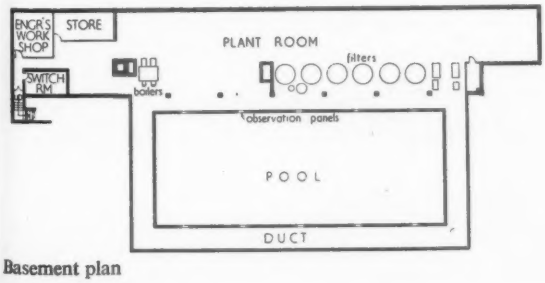
Section A-A [Scale: $\frac{1}{8}$" = 1' 0"]



First floor plan



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



Basement plan

analysis

	Cost per sq. ft.	s	d
Preliminaries and insurances		4	1¾

Work below ground floor level 15 9½

A 6-in. foundation of (no fines) concrete was laid at foundation level and on this pool, walls and floor were constructed of high quality vibrated reinforced concrete, as specified for water retaining structures. Walls are 10½ in. thick, floor 8 in. thick. Pool walls and surrounding duct walls were constructed in bays 20 ft. long, each separated from the next by a 2-ft. gap. These gaps were completed after shrinkage had occurred in the 20-ft. bays.

Floor slabbing was laid as alternate bay construction, again to avoid the effects of shrinkage. At expansion joints between the wall and floor concrete, a water seal consisting of a polythene strip was incorporated. On completion of r.c. work the pool walls were rendered externally with patent plaster and 24-in. × 12-in. × 1-in. faience slabs were applied to walls and floor. There are ten observation windows in the pool walls.

The administration block is a r.c. framed structure with floor of clay hollow pot construction.

STRUCTURAL ELEMENTS

Frame or load-bearing element 8 10½

The pool hall is a steel framed structure, the stanchion bases of which are independent of the pool itself.

The administration block is a reinforced concrete framed structure consisting of beams and columns.

External walls 4 1

External cladding of cavity wall construction, using blocks finished externally and internally with a sprayed finish of coloured micaceous plaster which has good thermal insulation and acoustic properties. Curtain wall glazing on east and south walls provides natural lighting to the hall.

Ratio: $\frac{\text{walls}}{\text{floor area}} = \frac{0{\cdot}53}{1}$

Windows 1 7¼

Standard metal windows and curtain walling.

Ratio: $\frac{\text{windows}}{\text{floor area}} = \frac{0{\cdot}2}{1}$

External doors 1 0¼

Solid core, flush.

Ratio: $\frac{\text{doors}}{\text{floor area}} = \frac{0{\cdot}05}{1}$

Upper floors 11½

Hollow clay pot to administration block. R.c. stepped terraces to gallery.

Staircases 1 4

Reinforced concrete.

No. of staircases: 3. Width: 4 ft. Total rise: 12 ft.

Roof construction 8 0¼

Roof of pool hall consists of steel trusses with both upper and lower booms curved, erected at 20-ft. centres and supported on stanchions consisting of rolled steel joists encased in concrete. The roof and ceiling are both clad with reinforced wood wool slabs. Bituminous felt finished with a green mineral grit to roof and the ceiling slabs rendered on the upper side.

Administrative block, clay hollow pot construction.

Total area: 20,628 sq. ft.

building illustrated

Hornchurch Swimming Baths

Left, a detail of the corridor at the top of the spectators' gallery, with the buffet bar beyond. Sprayed exfoliated vermiculite render has been used extensively in the pool hall and elsewhere to absorb noise and condensation. In this it is partly successful (the pool hall is still noisy) but it has been used without discrimination and flows around from one surface to another with only occasional variation in colour to give definition. The material is quite a pleasant one and does a good job, but it calls for firm handling. Otherwise the building takes on a blurred, furry quality apparent in the photograph. It is also advisable to keep the material away from circulation areas, as it does not stand up well to damage.

The plant room at Hornchurch, below, is large enough to take further equipment when the stage-two building is added. The purification system is more or less the same as that at Cardiff, except that the chlorine is added after the water has passed through the filters. The chlorine is in gas form, stored in cylinders. This seems a questionable decision: one attendant already has got an unhealthy whiff of gas leaking from a faulty connection. The brick stack in the foreground is the air intake shaft for the pool plenum system.

analysis

	s	d
Rooflights		2½
No. of lights: 13. Total area: 108 sq. ft.		
Glazing	1	9
Double glazing has been used throughout the pool hall in order to ensure a high degree of thermal insulation and light diffusion.		
Total of structural elements	27s	10½d

PARTITIONS AND FITTINGS

Internal partitions		2¼
Generally sawdust cement compound blocks.		
Screens		10½
Terrazzo, between cubicles.		
Internal doors	1	2¼
All solid core, flush.		
Number of single: 102.		
Number of double: 13 pairs.		
Ironmongery		4¾
Fittings	3	1¼
Pay boxes, counter grilles and fitments, cloakroom fittings, serving hatch, buffet bar and equipment, turnstiles, diving stage, springboards, steps and handrails into pool, polo goals, starter blocks, hoists, mirrors.		
Total of partitions and fittings	5s	9d

FINISHINGS

Floor finishes 2 2½

Type of finish	*Area in sq. yds.*
Pool surround, non-slip tiles	650
Wood block	230
Quarry tiles	550
Grano	600
Faience tiling	800
Cement and sand	

Wall finishes	4	8½
Acoustical plaster generally. Terrazzo where there is a possibility of splashing.		
Ceiling finishes		10¼
Acoustical plaster and ordinary plaster.		
Roof finishes	1	9½
3-ply felt on wood-wool.		
Area: 20,628 sq. ft.		
Decorations	1	9
Paint and cement glaze.		
Total of finishings	11s	3¾d

SERVICES

External plumbing		5½
Gutters, downpipes, zinc. Standard LCC type.		
Hot and cold water installation	1	6
Standard.		
Sanitary fittings		5¼

Type of fitting	*Number of each type*
Lavatory basins	15
W.c.s	17
Urinals	22
Sinks	4

Heating and ventilation	8	5
Heating of the pool and the buildings is provided by two oil fired boilers, controlled automatically by thermostats. Output of these is 2,600,000 B.Th.U.s per hour, and the water of the pool is maintained at 72 deg. F.		
Space heating of the building is by a low pressure hot water system and radiators at low level, and a plenum hot air system at high level via heater batteries, and the standard temperature is maintained at 74 deg. F. Air change, 1½ hours.		
Gas installation		2¾
Six points, in kitchen and buffet bar.		
Electrical installation	3	2½
290 light points.		
Pool purification plant	6	10½
The pool contains 225,000 gallons of water, and it is not expected that this will be changed more than once in three years, and then the change will be in order to clear sludge from the drainage system.		
The purification plant consists of 6 vertical gravity filters fed by pumps, through which all the water in the pool passes once in every 3 to 6 hours, according to how many pumps are in operation.		
After purification, chlorine is injected into the water on a break point chlorination system and then passes through aerating plant and a calorifier for heating up again to the required temperature.		
The water enters the pool by seven inlets round the shallow end and sides of the pool set at water level, and leaves by two outlet grids in the diving pit.		
Total of services	21s	1½d

Drainage	2	0
Drainage. Separate system in c.i. pipes under building and salt glazed stoneware outside.		
Surface water drains into nearby brook, soil into existing sewer.		
Porous clayware pipes under swimming pool and land drains around outside of building.		
External works	4	1½
Car park, 1,000 sq. yds. of 6-in. hardcore finished with road scrapings.		
Total per sq. ft. = £146,140 (excluding external works) / 33,977 sq. ft. (measured inside external walls)	= 86	0¼

analysis

COST COMMENTS

It is difficult to find in these two analyses a reliable basis for the cost programmes of future swimming baths, owing to the great differences in size, ancillary services and standard of finish. The Cardiff scheme is designed for international standards, and having been opened for this year's Empire Games, prestige considerations must have entered into its design and finish, so that it is rather too grandiose for any but the larger centres of population. On the other hand, Hornchurch is a fairly straightforward example of the more traditional type of municipal bath, and might offer a reasonable cost pattern for similar projects.

While a direct comparison of the costs of the two schemes is therefore misleading, it is nevertheless of value to point out the main differences. Taking the overall cost figures and accommodation schedule, we have the following:

	Hornchurch	*Cardiff*
Floor area	33,977 sq. ft.	102,201 sq. ft.
Cubic bath capacity	225,000 galls.	636,000 galls.
Total cost	£156,650	£655,726
Cost per sq. ft.	86s. 0¼d.	124s. 2¼d.

The Cardiff bath is approximately three times larger in floor area and cubic bath capacity, but the total cost is four times as great.

Where has the extra money been spent at Cardiff? The Cardiff scheme includes considerably more in the way of special baths and services and the furnishings generally are on a more lavish scale and of a higher standard of finish, as can be judged from examination of the costs of the individual elements.

Specifically in this connection:

(*a*) The Hornchurch filtration plant is designed to allow for future expansion.

(*b*) Foundation costs are dissimilar as previously mentioned in the general text, mainly due to the difference of approach in construction and planning.

(*c*) Floor finishes at Cardiff include lining to the bath; this is given as a separate cost at Hornchurch.

(*d*) The electrical installation cost at Cardiff is remarkably high (being nearly four times that at Hornchurch), especially as the underwater lighting panels are included in the cost of pool construction.

It is evident that more analyses will be necessary if we are to gain more precise cost information in this fascinating field of construction.

CONTRACTORS

WALES EMPIRE POOL. *General contractors:* Davies Middleston & Davies Ltd. *Sub-contractors: Curtain walling, metal windows, screens:* John Williams & Sons (Cardiff) Ltd. *Patent roof glazing:* Hills (West Bromwich) Ltd. *Glasscrete rooflights:* J. A. King & Co. Ltd. *Triplex felt roofing:* J. Anderson & Son Ltd. *Semtex, Vinyflex, rubber and Sexflex flooring:* Sexflex Ltd. *Terrazzo paving:* Italian Paving Ltd. *Faience, floor and wall tiling, glazed block partitions, coat of arms:* Leeds Fireclay Co. Ltd. *Acoustical plaster:* C. & T. Pyrok Contracts Ltd. *Limpet asbestos spray:* Newalls Insulation Co. Ltd. *Turnall insulation board suspended ceiling:* John Bland & Co. Ltd. *Expanded metal partitions and suspended ceiling:* Steel Bracketing & Lathing Ltd. *Ceiling lighting louvres:* British Patent Glazing Co. Ltd. *Walkways and stairs in roof space, etc.:* T. C. Jones & Co. Ltd. *Asphalt road surfacing:* Western Trinidad Lake Asphalt Co. Ltd. *Heating and ventilation:* Benham & Sons Ltd. *Electrical installation:* Troughton & Young Ltd. *Sanitary engineering services:* J. Martin (Brockley) Ltd. *Filtration plant:* United Filters & Engineering Ltd. *Boiler plant:* Spanner Boilers Ltd. *Chlorination plant:* Wallace & Tiernan Ltd. *Lightning conductors:* W. J. Furse & Co. Ltd. *Plaster secondary lighting domes:* G. A. Cording & Co. *Balustrading and guard rails:* Best & Lloyd Ltd. *Kitchen equipment:* R. & A. Main Ltd. *Lifts:* Evans Lifts Ltd. *Aeratone baths:* Stainless Steel Vessels (London) Ltd. *Internal telephones:* Communication Systems Ltd. *Roller shutter doors:* G. Brady & Co. Ltd. *Jib crane:* Herbert Morris Ltd. *Terrazzo cubicles and wall lining to changing rooms:* Marble Mosaic Co. Ltd. *Cool room cubicles and wall lining:* Veneercraft Ltd. *Hardwood strip flooring:* Vigers Bros. Ltd. *Entrance counter, restaurant kiosk:* Hyde & Jenks Ltd. *Formica changing room seats, bath and restaurant screen panels:* J. H. Hunts. *Seporeclad restaurant screen panels:* Edward Curran Ltd.

HORNCHURCH SWIMMING BATHS. *General contractors:* W. and C. French Ltd. *Sub-contractors: Metal windows, curtain walling and underwater windows:* Williams & Williams. *Spray:* C. & T. Pyrok Ltd. *Structural steelwork:* Matthew T. Shaw & Co. Ltd. *Faience tiling:* Shaw's Glazed Brick Co. Ltd. *Floor tiling:* Essex Tiling Co. Ltd. *Terrazzo:* Mosaic and Terrazzo Precast Co. (Staines) Ltd. *Wood block flooring:* Vigers Bros. Ltd. *Filtration plant:* United Filters & Engineering Co. Ltd. *Heating and ventilation:* Hobdell Engineering Co. Ltd. *Electrical:* Girdlestone & Co. *Lettering, plaques and shields:* Drakard & Humble Ltd. *Glazing:* Aygee Ltd. *Plyglass:* Plyglass Ltd. *Turnstiles:* W. T. Ellison & Co. Ltd. *Joinery specialists:* W. H. Gaze & Sons Ltd. *Wood wool slabs and roofing:* Engert & Rolfe Ltd. *Bricks:* London Brick Co. Ltd. *Blocks:* Lignacite (Brandon) Ltd. *Reinforced concrete:* W. & C. French Ltd. & Helical Bar Engineering Co. Ltd. *Furniture:* (offices) A. J. Bird Ltd.; (general) W. P. Eglin Ltd. *Ironmongery:* W. N. Froy & Sons Ltd. *Sanitary ware:* General Light Castings. *Cycle stands:* Alfred A. Odoni Ltd. *Balustrading etc.:* Clark Hunt & Co. *Diving stage, polo goals:* H. Hunt & Son Ltd. *Paint and decorative finishes:* Goodlass Wall & Co. Ltd. Denton Edwards (Paints) Ltd. Charles Turner & Sons Ltd. A. T. Morse & Co. Ltd. *Water seals:* Expandite Ltd. *Asbestos cement roofing:* Hall & Co. Ltd. *Ladders and special castings:* Long Humphreys & Co. Ltd. *Seating:* G. B. Kalee Ltd.

working detail

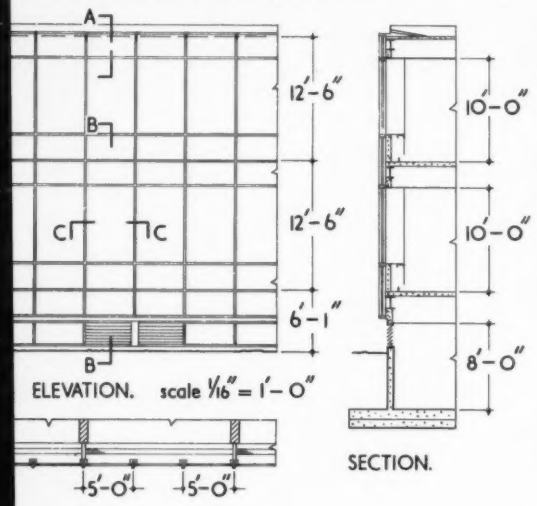
CURTAIN WALL: OFFICE BUILDING IN SARNIA, ONTARIO

John D. Parkin Associates, architects

In this very sophisticated version of the two-storey curtain wall, a steel structure supports precast concrete floors and lightweight precast concrete back-up walls, the curtain itself being of extruded aluminium. Note (on the drawing) the neat detailing at the eaves and at the foot of the cavity.

CURTAIN WALL: OFFICE BUILDING IN SARNIA, ONTARIO

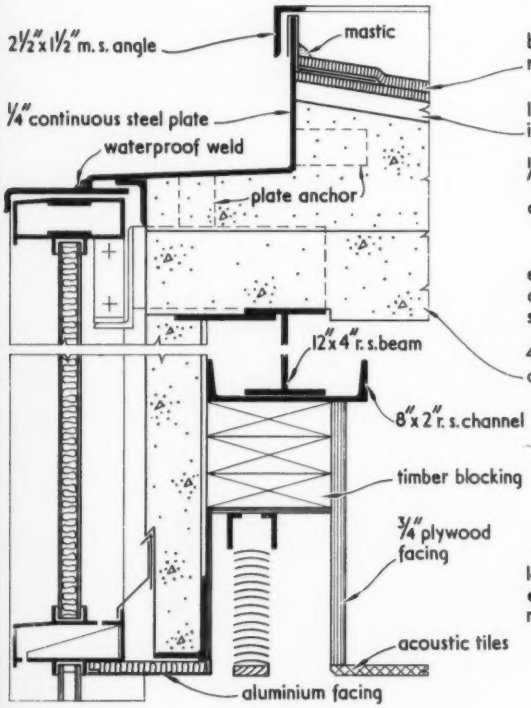
John D. Parkin Associates, architects



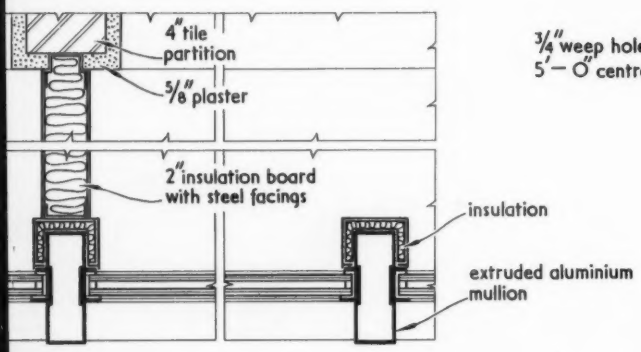
ELEVATION. scale 1/16" = 1'-0"

SECTION.

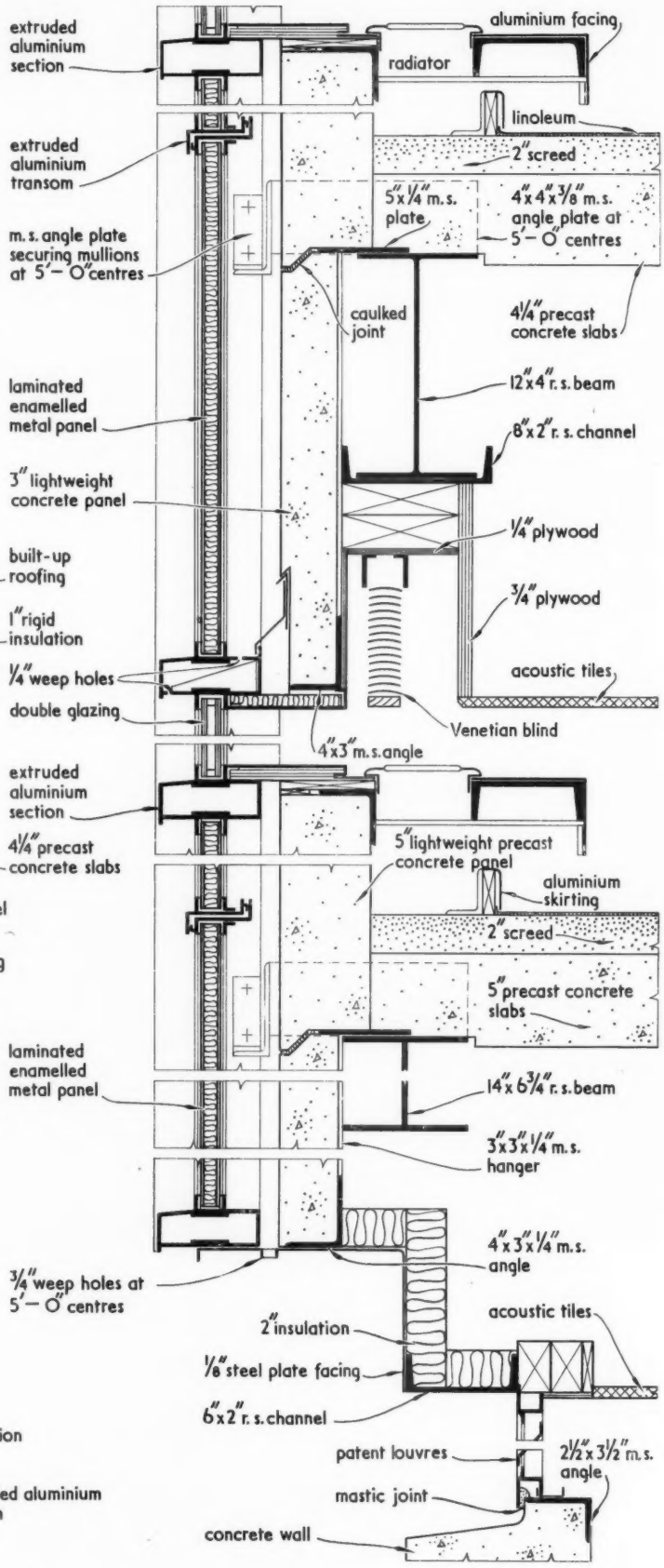
PLAN.



SECTION A—A. scale 1/8 full size



PLAN AT C—C. scale 1/8 full size

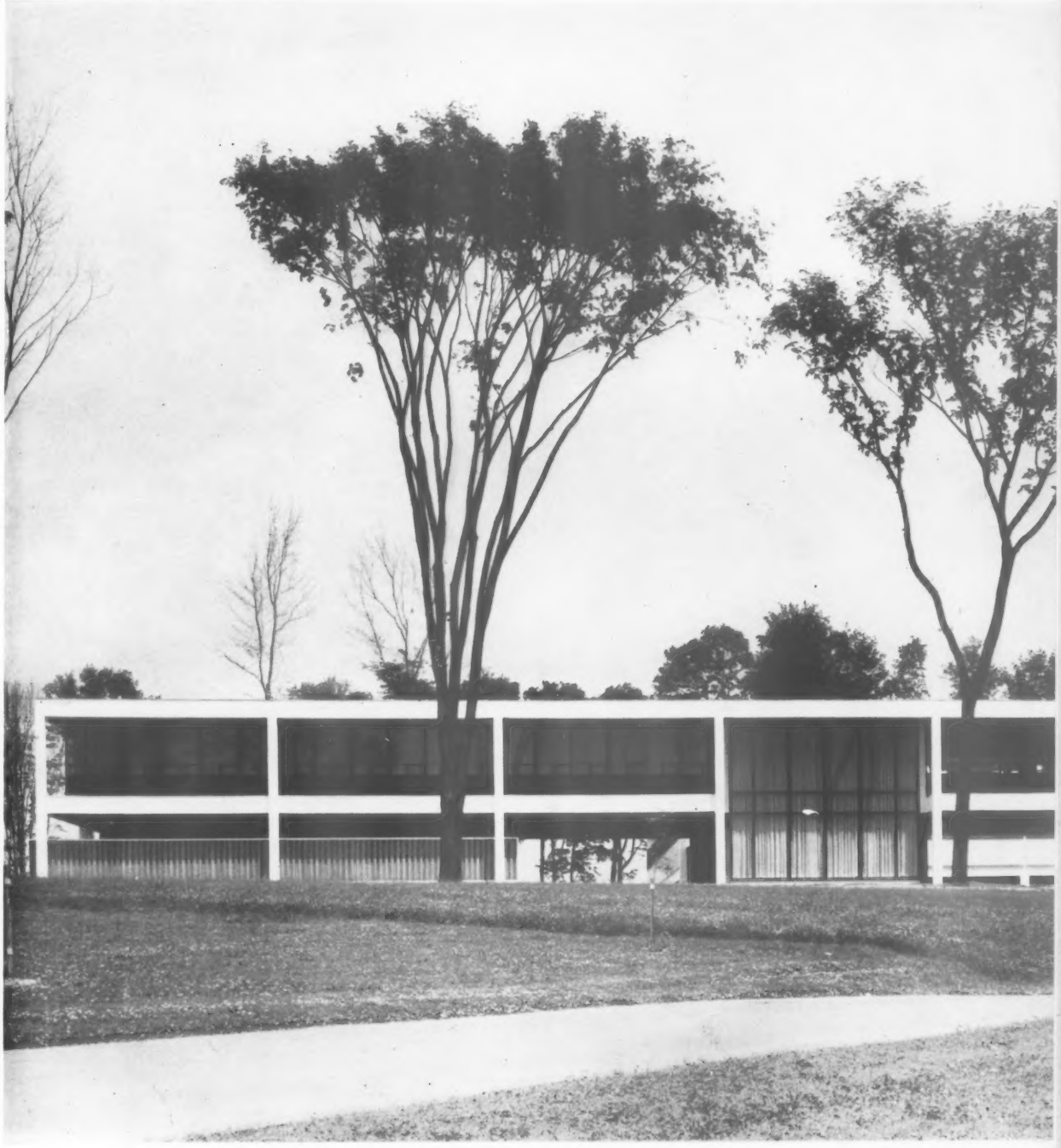


SECTION B—B. scale 1/8 full size

working detail

SCREENS: OFFICE BUILDING IN DON MILLS, ONTARIO

John D. Parkin Associates, architects



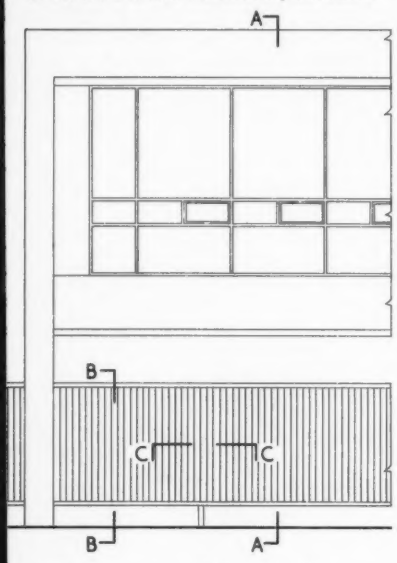
This detail is an example of the accommodation of screens within a traditional concrete-cased steel structure: the screen above shelters fully-serviced office accommodation and the screen below (which is an ingenious detail in its own right) shelters the parking lot.

Architects' Journal 27.11.58

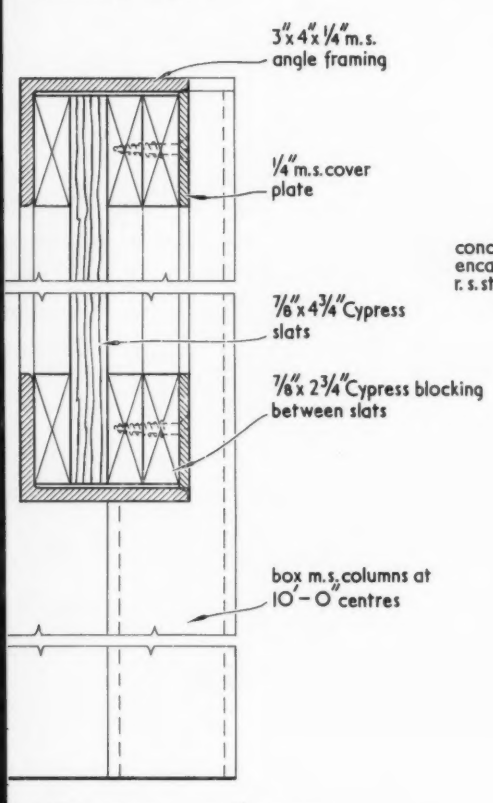
working detail

SCREENS: OFFICE BUILDING IN DON MILLS, ONTARIO

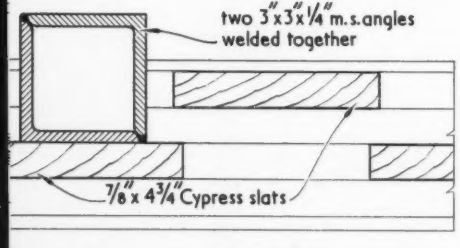
John D. Parkin Associates, architects



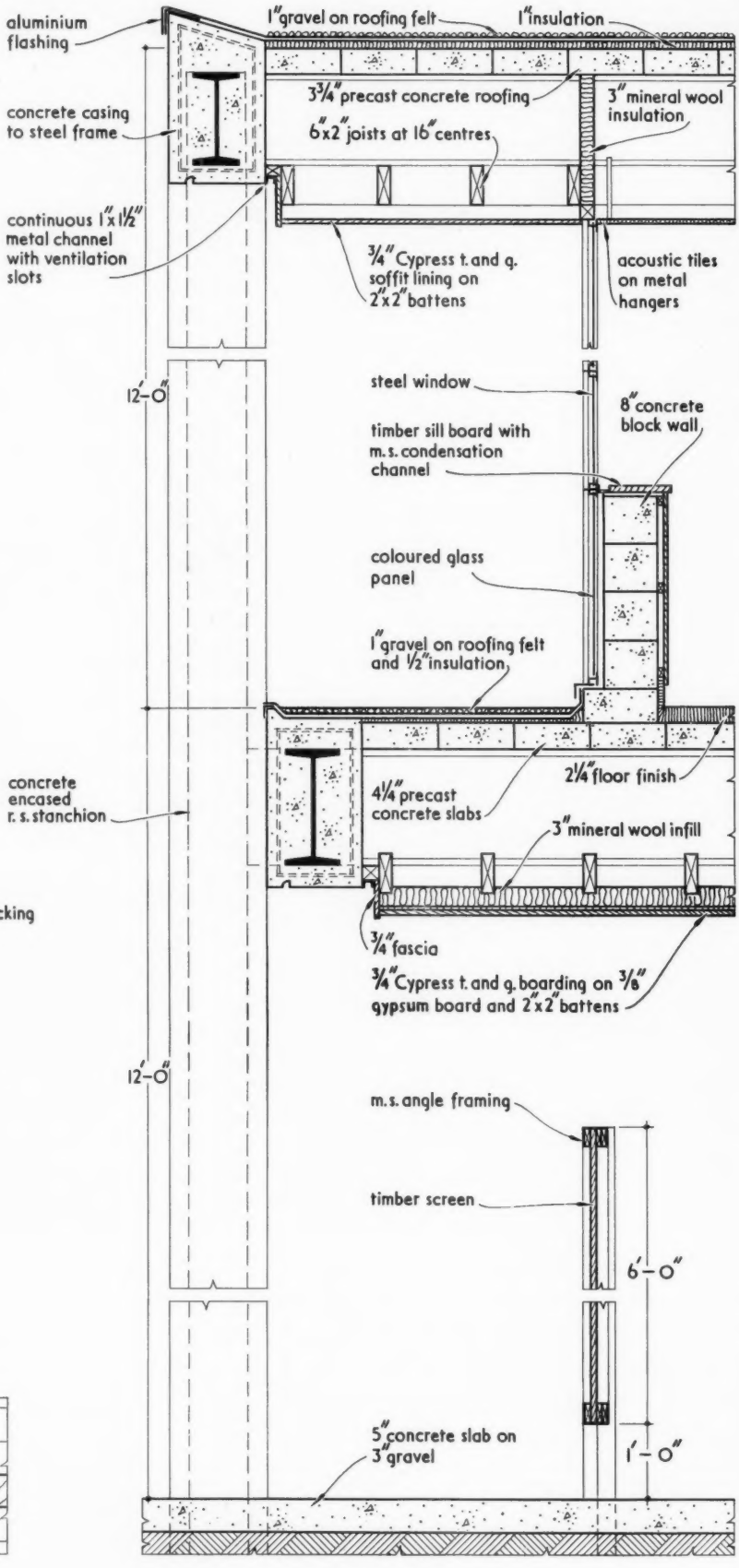
ELEVATION. scale 1/8" = 1'–0"



SECTION B–B. scale 1/4 full size



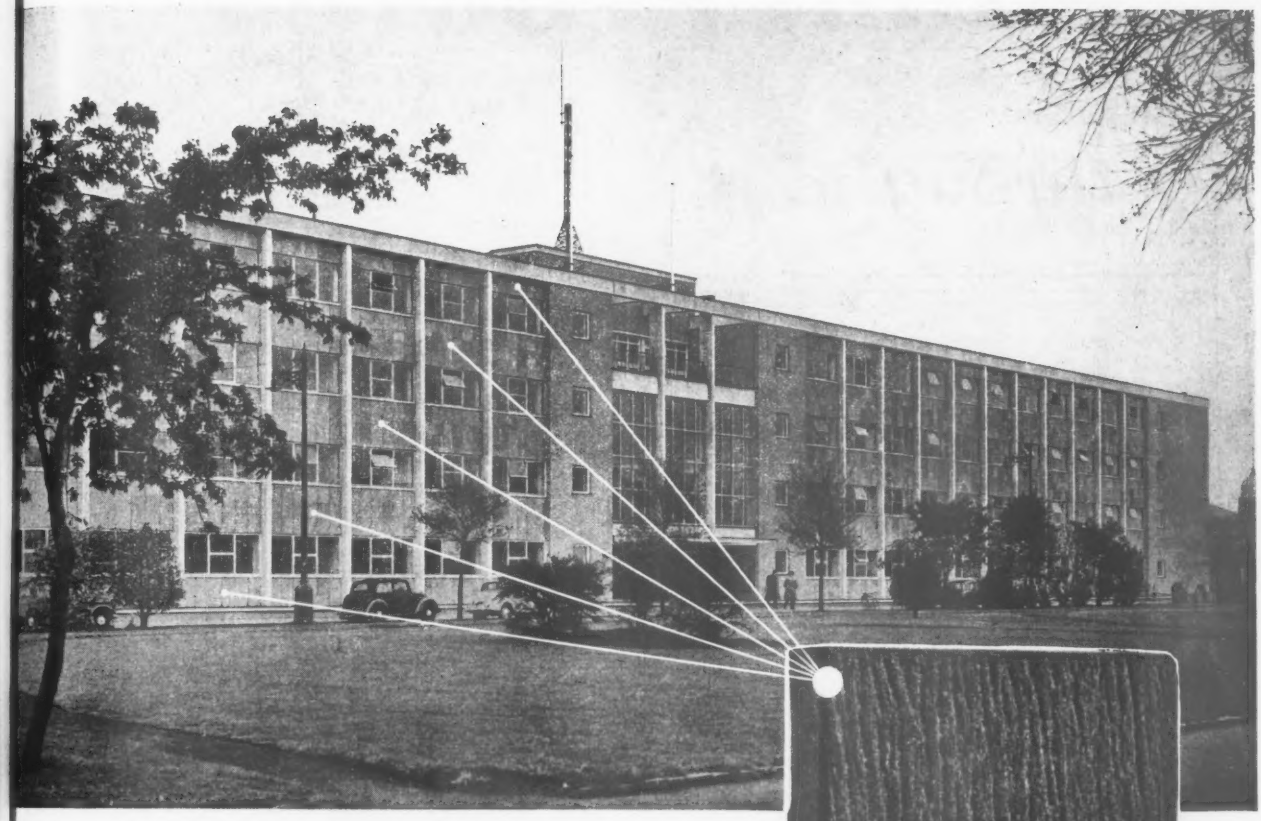
PLAN AT C–C. scale 1/4 full size



SECTION A–A. scale 1/2" = 1'–0"

BROUGHTON MOOR LIGHT SEA GREEN STONE

FRAME-SAWN FINISH



at the new Central Police Headquarters, Hull.
(Architects: Messrs. Priestman & Lazenby.)

Broughton Moor Green Stone is ideally suited for use both as internal and external facing, and remains sound for centuries. It can be supplied in a variety of beautiful finishes, including frame sawn, sanded, fine rubbed or naturally riven. It was these characteristics which caused it to be chosen for the facing of this impressive building. Fixing is normally effected by means of non-ferrous cramps and dowels, grouted into drillings in the stone, and brickwork or concrete.

Approximate area of slabs supplied:—12500 ft. sup. in sizes ranging from 3′ 6″ × 2′ 0″ to 2′ 0″ × 2′ 0″.

A section of Broughton Moor Stone, showing the distinctive appearance and texture of the frame sawn finish.

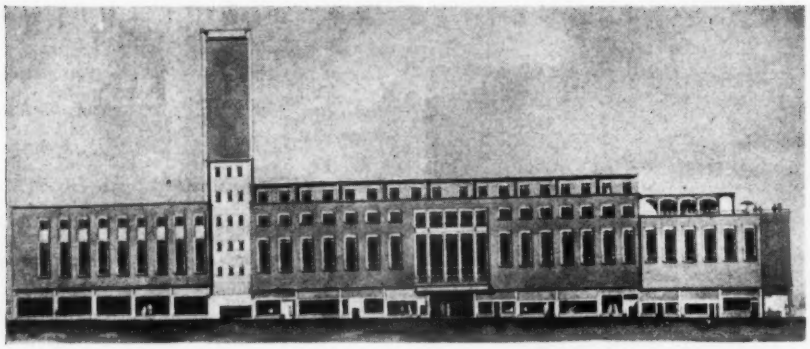
Technical pamphlets showing typical methods of fixing are available as follows: 1, Flooring; 2, Facings; 3, Coping; 4, Cills; 5, Riven Face Slabs.

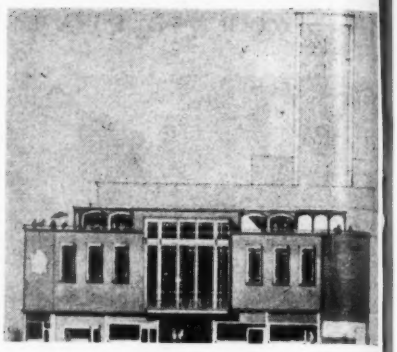
THE BROUGHTON MOOR GREEN SLATE QUARRIES LTD.

Coniston, The Lake District, Lancashire **Telephone: Coniston 225**

16-STOREY FLATS AND MAISONETTES AT ROTHERHITHE

One of two 16-storey blocks of maisonettes, flats and old people's one-room flatlets, being built by the LCC at Rotherhithe, upon which work starts this December. The blocks, which will be the highest in Bermondsey, form part of a comprehensive housing development in this part of London. They will be 150 ft. high, with high speed lifts and under-floor electric heating. Each block will contain 56 maisonettes and 40 flats. The maisonettes will have a living-room and dining-kitchen downstairs, and two bedrooms, bathroom and w.c. upstairs and will be grouped on either side of a central access corridor, with double-height private balconies looking over Southwark Park. The flats are arranged at the south end of each block. On the first floor are one-roomed flats for old people. The rest have two or three rooms and all have their own balconies. General contractors, Wates Ltd.





SHREWSBURY

Town Centre Building

The proposed demolition of the Victorian Gothic Revival market hall (seen in the photograph right), which stands on an island site in the heart of Shrewsbury, is unlikely to cause much heartburning. It provides, indeed, a great opportunity to replace it with a good example of modern architecture, in which Shrewsbury is singularly lacking. The town council, unfortunately, has missed the opportunity and, guided, it seems, mainly by financial considerations invited various private developers to submit schemes that would provide the council with a market at a nominal rent and yield a handsome income as well.

The council has accepted the scheme, illustrated above, of City and Town Buildings for shops, a multiple store, and a market. Offices will be built on the second and third floors round a central light well which lights the market on the first floor. The architect is Lionel E. Gregory. The external walls are to be in facing bricks selected and agreed by the council. Does the council imagine that by selecting the right brick it can ensure that the appearance of the building complies with one of the conditions the council laid down—that it fits in with and preserves the character of the town?

Announcements

Michael Laird, A.R.I.B.A., has resigned his teaching appointment and will in future devote all his time to private practice from his new address, 65, Castle Street, Edinburgh. His telephone number has also changed to Caledonian 5859.

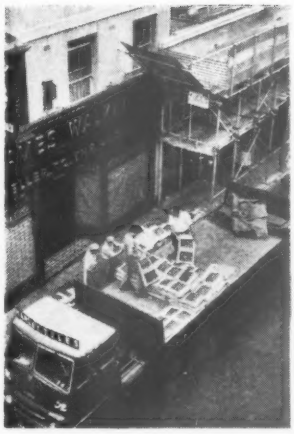
J. H. C. Brown, A.R.I.B.A., has now transferred the business formerly conducted from 36, Townley Street, Middleton, to 35, Manchester New Road, Middleton (telephone: Middleton 2200).

The Liverpool School of Architecture is building up a collection of trade catalogues and will be pleased to receive these from manufacturers. They should be addressed to Dr. Quentin Hughes, Liverpool School of Architecture, The University, Abercromby Square, Liverpool, 7.

Owing to the recent rapid expansion in the work of the York Institute of Architectural Study and to express more clearly the Institute's primary function it has been decided to change its name to The Institute of Advanced Architectural Studies.

Business as usual

. . . thanks to the ingenuity of GILBERT-ASH



Extension behind and above these established premises meant the strengthening of existing foundations and structural steelwork. The use of MarleyMix coarse concrete for infilling and encasing has enabled business to continue normally while these extensions are going on, although the sole means of access to the site is through the shop itself.

To quote the Site Agent, "This job could never have been carried out so economically without the use of MarleyMix. Unloading, handling and storage could not have been overcome so easily by any other method of supply."

MARLEY MIXES INCLUDE:

FINE CONCRETE
for all fine finish work.

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for infilling, path bottoming and similar work.

CEMENT MORTAR
for rendering over brickwork in contact with the earth. Cement screeding. Drainage work and general purposes.

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with water-repellent qualities and excellent bond to bricks. Consistent colour of pointing is assured.

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a cement-lime-sand mix, easy to apply, with good bond to wall and water-repellent qualities.

When materials storage space is limited, specify MarleyMix. The mixes, in sacks of approximately 1 cwt. capacity, need nothing but the addition of water. Absolute control of ingredients ensures consistency and overcomes all the variations which occur with site mixing.

MARLEYMIX **ready-to-use dry mixes in paper sacks**

Deliveries can be pre-arranged to any required schedule but at present are limited to a 30 mile radius of Aveley (this includes the Greater London area).
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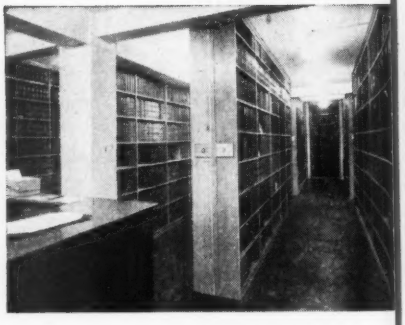

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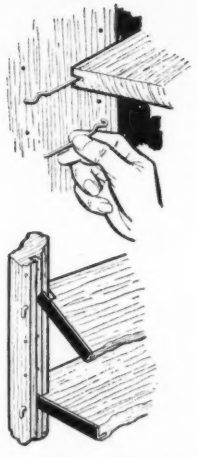

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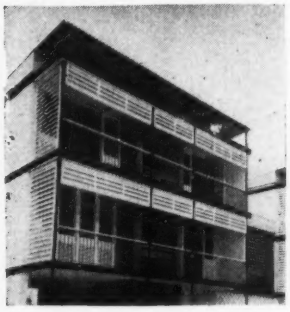
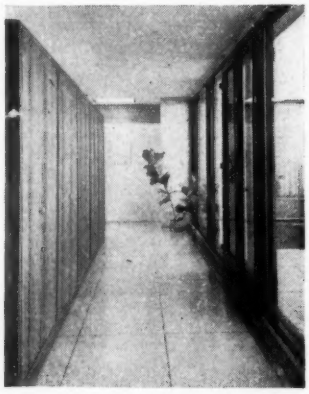
NOVEMBER

Sun-screens in Apapa: housing for the Nigerian Ports authority—this, and other recent work in West Africa by Architects' Co-Partnership will be described and illustrated in the October issue.





Toronto Modern: the centra gallery of the Parkin House, Toronto, one of a group of buildings by the outstanding Canadian design office, John B. Parkin Associates, illustrated in this issue.

Engineering of Excitement; the covered market-hall in Royan by Simon and Morisseau, one of the buildings discussed by Robin Boyd in his article on the impact of new structural shapes on the architectural imagination.

DECEMBER

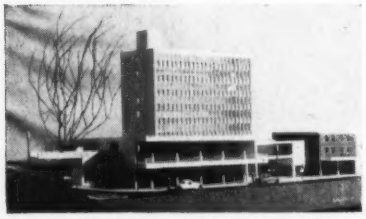
Seagram completed; and dwarfing even the Cadillac in foreground, the glass and bronze Seagram Building by Philip Johnson and Mies van der Rohe will be fully discussed and—tentatively—evaluated.

Workshop Annexe: new stores, paint shops, etc., for the Old Vic, ingeniously packed under some awkward day-lighting angles by Lyons Israel and Ellis, and fully illustrated in this issue.

Pub Front: frame and fill on the facade of the Crown and Mitre, King's Lynn: one of the illustrations to an assessment of the aesthetic and functional aspects of pub exteriors and their future.

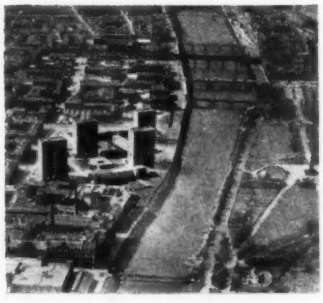
JANUARY

Special Preview Issue

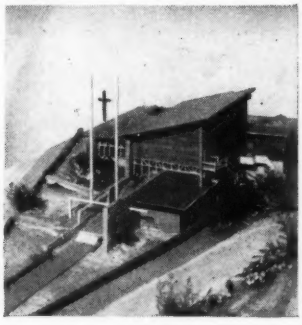


New Town Multi-storey: an office block for the town centre of Hemel Hempstead, designed by H. K. Ablett, chief architect to the Development Corporation.

High Gorbals: a redevelopment area in Glasgow, by Robert Matthew and Johnson Marshall, one of a number of housing-schemes pre-viewed in this issue.

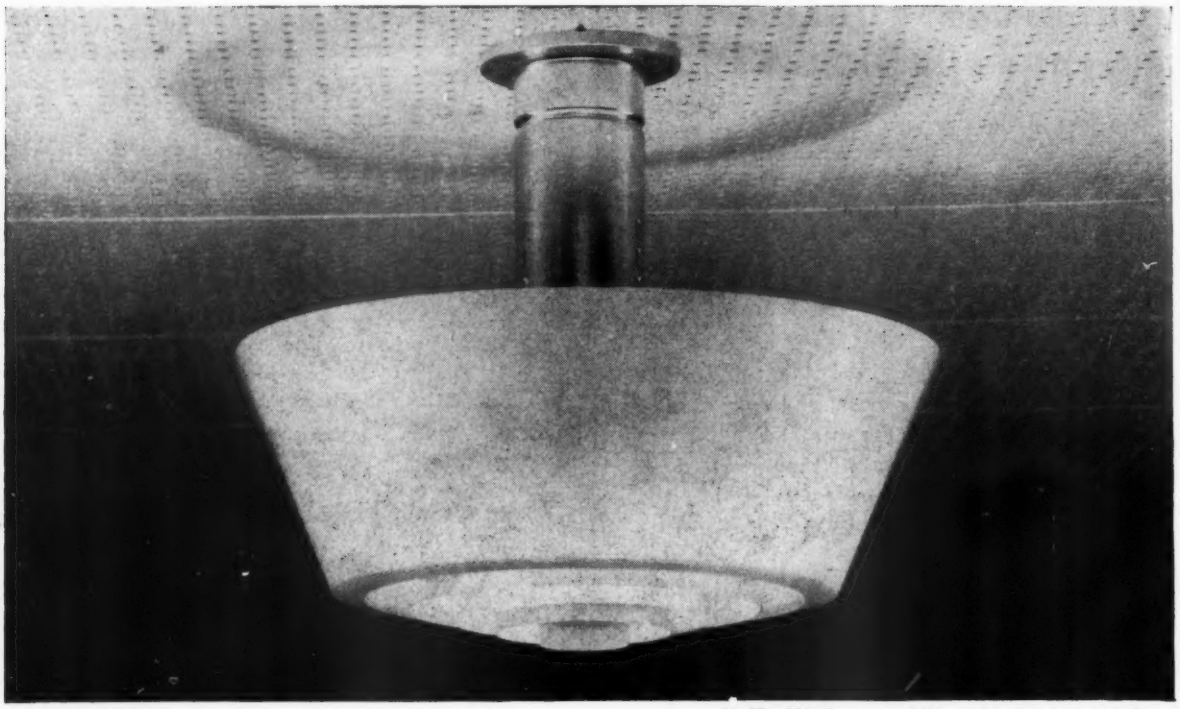


Northern Methodist: a projected church in Fulwell, Co. Durham, designed by S. W. Milburn and Partners for a Methodist congregation.



The Architectural Review's new standard binding, with alternate years bound in black and white, and alternate volumes initialled A and R, makes easier the identification of individual volumes, and their proper replacement on the shelf. The binding is buckram, and the price of binding per volume is 25s. Copies to be bound should be addressed, with the appropriate index, direct to the Architectural Press warehouse, Abbey House, 8 Victoria Street, London, S.W.1.

The annual post free subscription rate payable in advance is £3.3.0 sterling; in U.S.A. and Canada $10.50; elsewhere abroad £3.10.0.



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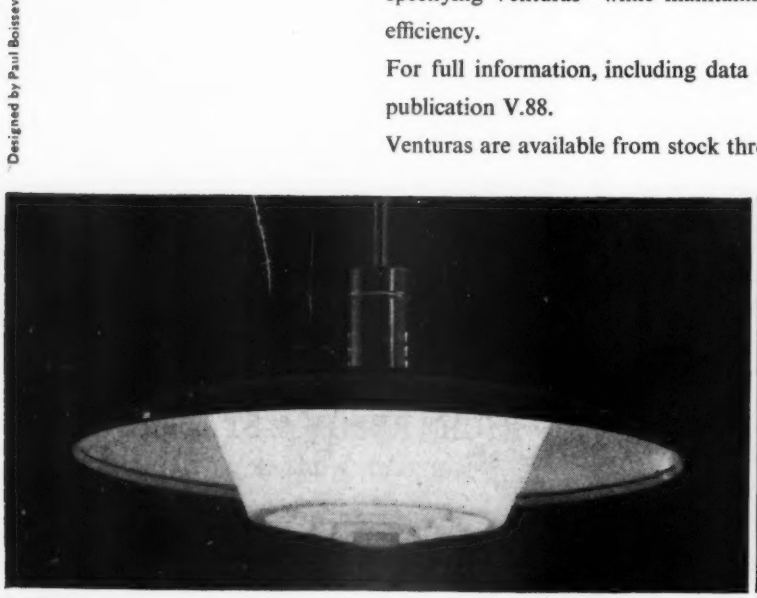

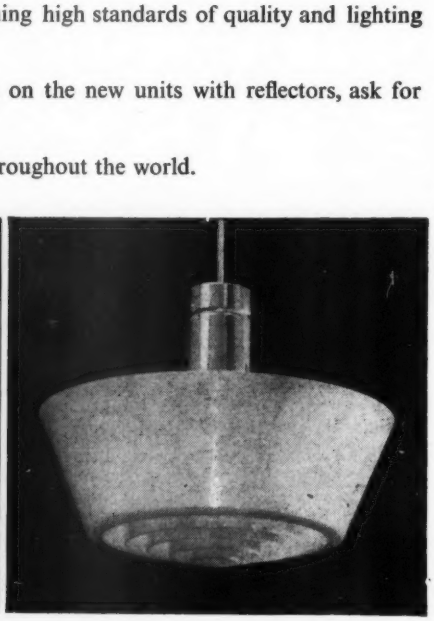

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CLASSIFIED ADVERTISEMENTS

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.

AIR-MAIL SERVICE available on request: *In response to requests from a number of Overseas subscribers for air-mail delivery of Public and Official Appointment details and Other Appointments Vacant, we have been pleased to arrange that cuttings of all such classified advertisements appearing in the A.J., shall be despatched by air-mail on Wednesday of each week (one day prior to A.J. publication date). The cost of this special service to Overseas subscribers will be 5s. for four weeks (1s. 3d. for each additional week) and prepayment should be sent by subscribers wishing to take advantage of this service. The charge we are making represents only the actual cost of the postage involved.*

Public and Official Announcements

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

NEWCASTLE REGIONAL HOSPITAL BOARD
REGIONAL ARCHITECT'S DEPARTMENT

Applications are invited for the following permanent (superannuable) posts on the staff of the Regional Architect.

In addition to its normal building programme the Department is concerned with the planning and execution of a number of major hospital projects and the posts offer ample opportunity for gaining all-round general as well as hospital experience, and for doing good-class work in an expanding department.

(i) **ASSISTANT ARCHITECT.**
Salary—£700×£25(3)×£30(1)×£35(6)—£1,015.

Applicants for this post should be registered architects and should have had practical experience of the planning and construction of public buildings. In this case the commencing salary will be fixed within the Grade by reference to relevant experience and to age.

(ii) **SURVEYING ASSISTANT** (Lands and Buildings). Salary—£525 (at age 21 or over) × £20(4)×£25(5)—£730

Applicants for this post should have passed the Intermediate Examination of the Royal Institution of Chartered Surveyors, or an examination recognised by the Institution as equivalent, and should be experienced in surveying sites and buildings. The successful applicant will be required to assist with the making of a survey of all hospital sites and buildings in the Region and the preparing of record plans.

The commencing salary within the grade will depend upon the applicant's age and the amount of practical experience.

Applications, stating age, qualification, past and present appointments, present salary and details of experience and training, together with the names of three referees (of whom at least two should be architects) should be forwarded to the Secretary to the Board, Benfield Road, Newcastle upon Tyne, 6, not later than 4th December, 1958. 2066

LONDON COUNTY COUNCIL
ARCHITECT'S DEPARTMENT

Vacancies for (1).—**ARCHITECT/PLANNERS.** Tasks include three-dimensional planning within London's eight major comprehensive development areas (including Stepney/Poplar, the South Bank and Elephant and Castle) and other redevelopment areas. Work includes preparation of comprehensive lay-outs for all important areas of new development throughout County, including areas to be redeveloped in connection with road improvements.

(2).—**TOWN PLANNING ASSISTANTS.** Duties include investigation of development proposals, surveys, report writing, preparation of data for Public Inquiries.

Starting salaries in each case up to £860 according to experience and qualifications. Application forms and particulars from Hubert Bennett, F.R.I.B.A., Architect to Council (EK/51/58), County Hall, London, S.E.1. (2167.) 1950

BANFF COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT

Applications are invited for the appointment of an **ARCHITECTURAL ASSISTANT** with placing on Grade A.P.T. V-VI, according to experience.

The post is subject to the Local Government Superannuation (Scotland) Act, 1953.

Applications, stating qualifications, experience, age, etc., together with three recent testimonials, should be submitted to the County Architect, 13, Stony Square, Buckie, by 8th December, 1958. 2085

COUNTY BOROUGH OF ROCHDALE

Applications are invited for the appointment of **ARCHITECTURAL ASSISTANT** on Grade A.P.T. I (£575—£725)/Special Classes Scale (£750—£1,030) Preference will be given to persons already qualified who will be appointed on Special Classes Scale. Applications, however, will be considered from persons not yet fully qualified.

Applications stating age, qualifications, training, experience and names of two referees to the Borough Surveyor, Town Hall, Rochdale, by 1st December, 1958.

K. B. MOORE,
Town Clerk.
2012

LONDON ELECTRICITY BOARD
DRAWING OFFICE JUNIOR

Applications are invited for the above position under the supervision of a Structural Engineer in the Construction Branch of the Chief Engineer's Department in central London (near Waterloo).

Applicants should be interested in structural engineering as a profession, and should preferably possess the General Certificate of Education with passes at Ordinary Level in English, Elementary Mathematics, one or two approved science subjects, etc.

The commencing salary within the General Clerical Grade of the National Joint Council Agreement (Administrative and Clerical Grades), i.e. £255 p.a. at age 16, rising thereafter within scale.

Application forms obtainable from Personnel Officer, 46, New Broad Street, London, E.C.2. Please quote ref. PER/2220/A. 2111

BOROUGH OF REIGATE
SENIOR ARCHITECTURAL ASSISTANT REQUIRED
SALARY ON SPECIAL SCALE (£750 × £40—£1,030)

Commencing salary according to qualifications and experience. Applicants are required to have passed Parts I and II of the R.I.B.A. Final or Special Final examination, and should have experience in design of buildings, estate development and conversion of properties into flats. Housing accommodation provided if necessary for married man. Application Forms from Borough Surveyor, Town Hall, Reigate, to be returned by 4th December, 1958.

HEBER DAVIES,
Town Clerk.

Town Hall,
Reigate.
November, 1958. 2106

COUNTY COUNCIL OF NORTHUMBERLAND
COUNTY ARCHITECT'S DEPARTMENT

Applications are invited from Architects who have passed the R.I.B.A. Final Examination, with considerable practical office experience, for the post of **ASSISTANT ARCHITECT** on the staff of this Department. Salary according to qualifications and experience on Special Grade, £750—£1,030 per annum, with prospects of promotion to higher grades within the office in due course.

The appointment will be subject to the provisions of the Local Government Superannuation Acts and the successful candidates will be required to pass a medical examination.

Application in writing, stating age, qualifications and previous experience, together with the names and addresses of two referees to whom reference can be made, to be forwarded to the County Architect, County Hall, Newcastle upon Tyne, 1, within fourteen days of the publication of this notice. 2088

CARMARTHENSHIRE COUNTY COUNCIL
ARCHITECT'S DEPARTMENT

Applications are invited for the following appointments:—

(*a*) ASSISTANT ARCHITECT. Salary Grade Special Scale, £750—£1,030 per annum.

(*b*) ARCHITECTURAL ASSISTANTS. Salary Grade A.P.T. I, £575—£725 per annum.

Candidates for post (*a*) must be A.R.I.B.A. and those for post (*b*) must have passed the Intermediate Examination of the R.I.B.A.

Details of qualifications, experience and present salary, with copies of three recent testimonials, to County Architect, County Hall, Carmarthen, not later than Saturday, 6th December, 1958.

W. S. THOMAS,
Clerk of the County Council.

County Hall,
Carmarthen.
November, 1958. 2089

CITY OF BIRMINGHAM PUBLIC WORKS DEPARTMENT
TOWN PLANNING SECTION

Applications are invited for the following posts:—

(*a*) PLANNING ASSISTANTS, Special Grade (£750—£1,030 p.a.).

(*b*) PLANNING ASSISTANTS, A.P.T. II (£725—£845 p.a.).

(*c*) PLANNING ASSISTANTS, A.P.T. I (£595—£745 p.a.).

(*d*) DRAUGHTSMAN — Qualified applicants holding Ordinary National Certificate, A.P.T. I (£595—£745 p.a.). Unqualified applicants, but with suitable experience, Misc. IV (£585—£645 p.a.).

Applicants for post (*a*) should be Corporate Members of the Town Planning Institute and have had considerable practical experience in the preparation of development plans and survey work related thereto.

Applicants for posts (*b*) and (*c*) should have passed the Intermediate examination of the Town Planning Institute, or hold a Higher National Certificate or equivalent qualifications. Experience in a planning office would be an advantage.

The appointments are permanent, superannuable, subject to a medical examination and terminable by one month's notice on either side.

Applications endorsed with the heading of the post applied for, stating qualifications, age and experience, together with the names of two persons to whom reference may be made, should reach the undersigned not later than the 20th December, 1958.

Canvassing disqualifies.

HERBERT J. MANZONI,
City Engineer and Surveyor.

Civic Centre,
Birmingham, 1. 2107

CITY OF NOTTINGHAM
CITY ENGINEER'S DEPARTMENT
ASSISTANT ARCHITECTS, GRADE A.P.T. IV (£1,025—£1,175)

Applications are invited for the above positions in the City Engineer's Department, Nottingham.

Applicants should be Associate Members of the R.I.B.A., capable of taking charge of the design and construction of individual projects and should have had at least five years' office experience.

Commencing salary will depend upon qualifications and experience. Forms of application are to be obtained from R. M. Finch, Esq., O.B.E., M.I.C.E., City Engineer and Surveyor, Guildhall, Nottingham, and are to be returned not later than 10th December, 1958. 2040

NORFOLK COUNTY COUNCIL
PLANNING DRAUGHTSMAN

Applications are invited for the above appointment from young men with experience of, or an aptitude for, planning draughtsmanship. The post is primarily a training one, and offers prospects of advancement in a planning career.

Salary within scale £405—£625 p.a., according to experience.

Application (including the names of two referees) should be made to the undersigned by 6th December, 1958.

R. I. MAXWELL,
County Planning Officer.

41/43, Thorpe Road,
Norwich. 2098

BOROUGH OF LEYTON
BOROUGH ENGINEER'S DEPARTMENT
ARCHITECTURAL SECTION

ASSISTANT ARCHITECT. Salary within Special Grade £780—£1,060 per annum inclusive of London Weighting.

ARCHITECTURAL ASSISTANTS. Salary within Grade A.P.T. I, £575—£725 per annum plus London weighting.

Housing accommodation available.

BUILDING INSPECTION SECTION

ASSISTANT BUILDING INSPECTOR. Salary within Grade A.P.T. II, £725—£845 per annum plus London weighting.

Applications to Borough Engineer, Town Hall, Leyton, E.10, stating appointment and names of two referees, not later than 8th December, 1958.

D. J. OSBORNE,
Town Clerk.

Town Hall,
Leyton, E.10. 2039

METROPOLITAN BOROUGH OF LEWISHAM
TEMPORARY CLERK OF WORKS

Applications are invited from suitably qualified persons for the above post. Salary scale £735—£875 p.a. (A.P.T. II, including London "weighting"). Further particulars and form of application from Town Clerk (Dept. H), Lewisham Town Hall, Catford, S.E.6. Closing date 4th December, 1958. 2102

SURREY COUNTY COUNCIL

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

Full details, present salary and three copy testimonials to County Architect, County Hall, Kingston, as soon as possible. 2044

LONDON COUNTY COUNCIL
ARCHITECT'S DEPARTMENT

Vacancies for **ARCHITECTURAL ASSISTANTS**, starting salary up to £860. Full and interesting programmes of houses, flats, schools and general buildings.

Application form and particulars from Hubert Bennett, F.R.I.B.A., Architect to Council (EK/52/58), County Hall, S.E.1. (2168.) 1949

BIRMINGHAM REGIONAL HOSPITAL BOARD

(*a*) **ARCHITECTURAL ASSISTANT** required, £525 × £20 (4) × £30 (1) × £25 (5)—£730. Point of entry according to experience. Intermediate R.I.B.A. essential. Superannuable.

(*b*) **TEMPORARY ARCHITECTURAL ASSISTANT** required (approximately 18 months). Conditions as in (*a*).

Apply naming two referees to Secretary, Regional Hospital Board, 10, Augustus Road, Edgbaston, Birmingham, 15, by 8th December 2029

COUNTY BOROUGH OF BIRKENHEAD
BOROUGH ARCHITECT'S DEPARTMENT

Applications for Two **PRINCIPAL ASSISTANTS**, A.P.T. Grade IV (£1,025—£1,175), are invited from appropriately qualified and experienced persons to take charge as Section Leaders in design and administration of major contracts. Applicants must be Associates of the R.I.B.A. or hold equivalent qualifications. Salaries commensurate on qualifications and experience. The appointments are superannuable and subject to one month's notice on either side. Form of application and further particulars obtainable from the Borough Architect's Department, 3, Conway Street, Birkenhead. Closing date for applications: 4th December, 1958. 2082

ARCHITECTURAL ASSISTANT (Male), Permanent, required by Westminster City Council. £575 × £30—£845 (plus London weighting maximum £30) per annum. Starting salary according to qualifications and experience. Candidates should be good draughtsmen with some experience in the preparation of sketch schemes and perspectives, and must be studying for the examination of the R.I.B.A. Applications, with particulars of previous appointments, age, etc., and names of two referees, to be sent to the Town Clerk, Westminster City Hall, Charing Cross Road, W.C.2, by 1st December, 1958. 2077

THE CORPORATION OF GLASGOW
ARCHITECTURAL AND PLANNING DEPARTMENT
ASSISTANT ARCHITECTS

Vacancies for young architects capable of developing schemes of comprehensive redevelopment. These positions will provide interesting opportunities for the use of modern techniques in relation to multi-storey housing and associated developments. Salary scale £820—£1,240 per annum with placing according to age, qualifications and experience. Form of application may be obtained from the Principal Administrative Officer, 20, Trongate, Glasgow, C.1.

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

2048

GOVERNMENT OF NORTHERN IRELAND
ASSISTANT QUANTITY SURVEYOR

Applications invited from Associates of the Royal Institution of Chartered Surveyors (Quantities) for pensionable post in the Chief Quantity Surveyor's Branch, Ministry of Finance. Experience in "taking off" for large building works essential. Salary scale £780 (age 25)—£1,055 (age 34 or over)—£1,215. Preference for ex-Servicemen. Application forms, obtainable from Secretary, Civil Service Commission, Stormont, Belfast, to be completed and returned by 16th December, 1958. 2026

BOROUGH OF EALING

ARCHITECTURAL ASSISTANT, Salary Scale £780—£1,060 inclusive. Must hold recognised architectural qualification. Experienced in alterations and maintenance of municipal buildings and schools. Full particulars and application forms from Borough Surveyor, Town Hall, Ealing, W.5. Closing date 8th December, 1958.

E. J. COPE-BROWN,
Town Clerk.

Town Hall,
Ealing, W.5. 2076

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

Applications invited for permanent post of ARCHITECTURAL ASSISTANT (A.P.T. Grade I —£575 × £30—£725 p.a. and London Allowance). Applicants should have passed the R.I.B.A. Intermediate Examination.

Starting point in Grade according to qualification and experience.

Application form and details from Borough Architect & Planning Officer, 70, West Ham Lane, Stratford, E.15, returnable by 9th December, 1958. 2055

CITY AND COUNTY OF NEWCASTLE UPON TYNE
CITY ARCHITECT'S DEPARTMENT

The City Architect will be pleased to receive applications for the following vacancies in the New Town Hall, Education, and Housing Sections of the Department:—

(*i*) SENIOR ASSISTANT ARCHITECTS. Special Class (£750—£1,030).

(*ii*) ASSISTANT ARCHITECTS. A.P.T. Division Grade II (£725—£845).

There is a full and interesting programme of work including New Town Hall, Schools, Housing, etc.

Application forms and full particulars may be obtained from George Kenyon, A.R.I.B.A., A.M.T.P.I., City Architect, 18, Cloth Market, Newcastle upon Tyne, 1. Applicants should state the post and section applied for when requesting particulars.

Closing date for receipt of completed applications: Saturday, 13th December, 1958.

JOHN ATKINSON,
Town Clerk.

Town Hall,
Newcastle upon Tyne, 1.
14th November, 1958. 2084

EAST SUFFOLK COUNTY COUNCIL

PLANNING ASSISTANT required. Applicants must have Intermediate qualification. Salary within Grade I A.P.T. (£575—£725). Applications, giving full particulars and names and addresses of two referees, to County Planning Officer, County Hall, Ipswich, by 1st December, 1958. 2099

CITY OF WAKEFIELD
CITY ENGINEER'S DEPARTMENT

Applications are invited for the superannuable appointment of:

ASSISTANT HEATING ENGINEER (Post No. 24), Grade A.P.T. III (£845—£1,025, commencing at £845 p.a.).

Applicants should hold suitable qualifications and have had experience in the design and supervision of the various types of heating installations for schools and other public buildings, etc.

Applications, stating age, training, qualifications and experience, together with the names of two referees, should be sent to the City Engineer, Town Hall, Wakefield, by Monday, the 8th December, 1958. 2100

COUNTY BOROUGH OF GREAT YARMOUTH
EDUCATION COMMITTEE

Applications are invited from Associate Members of the R.I.B.A. to fill the vacancy for a SENIOR ASSISTANT ARCHITECT, within Special Grade £750—£1,030.

Candidates should have a good knowledge of school design and construction.

Housing accommodation will be made available to the successful candidate, if married.

Further particulars may be obtained from the Schools Architect, 22, Euston Road, Great Yarmouth, to whom applications should be sent not later than the 12th December, 1958. 2149

SCOTTISH SPECIAL HOUSING ASSOCIATION LIMITED
CHIEF TECHNICAL OFFICER

The Association, a Government sponsored and financed body developing large scale housing schemes throughout Scotland, invite applications for the whole-time superannuable post of Chief Technical Officer at an annual salary within the range of £2,000—£2,350, according to qualifications and experience. Applicants must possess Architectural and Town Planning qualifications, and have experience of municipal housing work including design of lay-outs, and all types of dwellings including multi-storey flats. Knowledge of alternative methods of construction, particularly no-fines concrete, would be an advantage. The successful applicant, under the general direction of the General Manager, will be responsible for the architectural and planning work and the co-ordination of the technical sections generally. Forms of application obtainable from the Association, 15/21, Palmerston Place, Edinburgh, 12. 2135

KUMASI COLLEGE OF TECHNOLOGY
(*Principal:* W. E. DUNCANSON, PH.D., D.SC., F.INST.P., A.M.I.E.E.)
SCHOOL OF ARCHITECTURE, TOWN PLANNING AND BUILDING

Applications are invited for the post of LECTURER in QUANTITY SURVEYING in the above School.

Applicants should be Associate Members of the Royal Institution of Chartered Surveyors (Quantity Surveying).

Applicants will be required to teach Quantity Surveying, Estimating, Land Surveying and Valuation up to L.I.O.B. and Intermediate R.I.B.A. standards. Ability to instruct in Building Construction and Building Law would be an advantage.

Appointment may be accepted on contract for five years or on pension or the College will be prepared to take over and maintain employers' contributions to former F.S.S.U. policies.

The contract salary scale: £1,017 10s. 0d. × £55—£1,787 10s. 0d. p.a., plus a gratuity payable at the end of the contract at the rate of £12 10s. 0d. for each month of satisfactory service.

The pensionable and F.S.S.U. salary scale: £925 × £50—£1,625 p.a. Entry point will be fixed according to qualifications.

Children's allowances up to a maximum of three at the rate of £50 p.a. per child up to the age of 10 years, and £100 p.a. per child over 10 years in full time education up to 21 years.

Conditions of service include annual leave with free return first class passages for the member of staff and, conditional on a minimum stay in West Africa, for his wife and up to three children under 17 years. Bungalows with basic furniture at low rental are provided. Income tax is low.

Applications (six copies) should be submitted to the Council for Overseas Colleges, 12, Lincoln's Inn Fields, London, W.C.2, giving age, education, qualifications, experience and names of three referees. Closing date 18th December, 1958. 2143

CITY OF LEICESTER
CITY ARCHITECT'S DEPARTMENT

Applications are invited for the appointment of CHIEF QUANTITY SURVEYOR, Scale A (maximum £1,380), commencing salary according to experience and qualifications.

The appointment entails control and organisation of Quantity Surveying Section of City Architect's Office, which is responsible for all public work.

Applicants must be A.R.I.C.S. (Quantities subdivision) and have experience of organisation of all aspects of Quantity Surveying work on major and minor projects.

Previous local government experience is not considered essential.

Applications, stating age, qualifications, full details of experience, and giving names of two referees, should be sent to undersigned not later than 1st December, 1958.

J. H. LLOYD OWEN,
City Architect.

10, Loseby Lane,
Leicester. 2125

COUNTY COUNCIL OF ESSEX
COUNTY PLANNING DEPARTMENT

Applications invited for the following posts:—

(1) ASSISTANT AREA PLANNING OFFICER, Special Grade (£750—£1,030), at Braintree. Applicants must be Corporate Members of the Town Planning Institute or other comparable professional institute and have had a wide experience in development control. Applicants should also be experienced in the preparation of development plans for county towns and large villages, and be able to assume control of a small Area Office of 11 persons during the absence of the Area Officer.

(2) SENIOR PLANNING ASSISTANT, Special Grade (£750—£1,030), at Wanstead. Applicants must have had practical experience in the preparation of development plans in urban areas and be able to take charge of a small section of staff. Experience in, and a flair for, statistical and research work related to planning regarding population, industry, employment, education, etc., will be an advantage. Applicants should be Corporate Members of the Town Planning Institute or other comparable professional institute, or possess a University Degree in Economics or Geography.

Five-day week; day release facilities; medical examinations; superannuation.

Application forms from County Planning Adviser, Broomfield Place, Broomfield, Chelmsford, returnable by 8th December, 1958. 2119

CORPORATION OF LONDON
require for
CITY PLANNING OFFICE (Civic Design Section) TEMPORARY PLANNING ASSISTANT (£560 by 8 increments to £880), point of entry dependent on age and experience.

An architectural background and contemporary approach to design are required. Duties include assistance with redevelopment proposals in the City of London as well as work of a general nature. Local authority experience not essential.

Applications with details of training, experience, age, present salary and two recent references, to The City Planning Officer, Guildhall, London, E.C.2, within fourteen days. 2140

LONDON COUNTY COUNCIL
ARCHITECT'S DEPARTMENT

A vacancy exists in the Historic Buildings Section for an ARCHITECT, Grade II (salary £1,037—£1,305), required to supervise work relating to Sections 29 and 30 of the Town and Country Planning Act, 1947, including collecting relevant historical information, advising on proposals of private owners relating to listed buildings and preparing Building Preservation Orders. Applicants must have special knowledge of the history of architecture in England, preferably with experience in Town and Country Planning.

Application form and further particulars from Hubert Bennett, F.R.I.B.A., Architect to the Council, County Hall, London, S.E.1, returnable by 13th December, 1958, quoting Ref. AR/EK/58/58. (2302.) 2132

LONDON COUNTY COUNCIL
ARCHITECT'S DEPARTMENT

Vacancies in the Historic Buildings Section for:—

(1) ARCHITECT, Grade III (salary £815—£1,090), required for making detailed surveys and measured drawings of historic buildings in connection with the Survey of London. Applicants must have special knowledge of the history of architecture in England, and be first-rate architectural draughtsmen. Ability to write clear and readable architectural descriptions of buildings an advantage.

(2) ARCHITECTURAL ASSISTANTS (salary up to £860) required for maintenance and restoration work on historic buildings owned by the Council. Candidates should have a knowledge of historical architectural detail and special interest in the work. Experience in the maintenance of buildings an advantage.

Application form and further particulars from Hubert Bennett, F.R.I.B.A., Architect to the Council, County Hall, London, S.E.1, returnable by 13th December, 1958, quoting Ref. AR/EK/57/58. (2301.) 2131

MANCHESTER REGIONAL HOSPITAL BOARD

Applications are invited for permanent posts in the following grades for the Board's Architectural Department:—

(*a*) ASSISTANT ARCHITECT: £700—£1,015, or
(*b*) ARCHITECTURAL ASSISTANT: £525—£730.
(*c*) ASSISTANT QUANTITY SURVEYOR: £700—£1,015, or
(*d*) QUANTITY SURVEYING ASSISTANT: £525—£730.

Appointments may be made within the scale, depending upon age and experience. Full professional qualifications required for posts (*a*) and (*c*), and Intermediate qualifications for posts (*b*) and (*d*).

National Health Service Conditions and Superannuation.

Application forms obtainable from the Secretary of the Board, Cheetwood Road, Manchester, 8. 2094

AYCLIFFE DEVELOPMENT CORPORATION
APPOINTMENT OF ARCHITECTURAL ASSISTANT

Applications are invited for the above appointment at a salary in accordance with Grades A.P.T. IV or A.P.T. V of the Whitley Council for New Towns Staff Scale of Salaries, according to qualifications and experience. These salary scales vary from £753 p.a. to £1,029 p.a.

Appointment subject to N.J.C. Conditions, superannuation and medical examination.

Housing accommodation if necessary.

Applications, stating age, qualifications and experience, together with the names of two referees, to arrive not later than Friday, the 5th December, 1958.

A. V. WILLIAMS,
General Manager.

Newton Aycliffe,
Co. Durham. 2120

ARCHITECTS
NEW DEVELOPMENT IN MENTAL DEFICIENCY HOSPITAL FIELD

The Oxford Regional Hospital Board plan to build a large extension to the Borocourt Mental Deficiency Hospital, the architectural work to be undertaken in the Regional Architect's office in association with a consultant architect.

Architects of progressive outlook interested in a new approach to hospital planning, are invited to apply for temporary appointments on the Board's Staff:

(*i*) PRINCIPAL ASSISTANT ARCHITECT, Scale II, £1,150—£1,420 p.a.
(*ii*) SENIOR ASSISTANT ARCHITECT, £1,010—£1,195 p.a.

Applications, with the names of two referees, should be received by the Secretary, Oxford Regional Hospital Board, 43, Banbury Road, Oxford, by not later than 11th December, 1958. 2142

COUNTY BOROUGH OF GREAT YARMOUTH
SCHOOLS ARCHITECT'S DEPARTMENT

Applications are invited to fill the vacancy for a TEMPORARY JUNIOR ASSISTANT within A.P.T. Grade II (£725—£845).

Candidates should have had experience in school construction.

Forms of application may be obtained from F. Jackson, A.R.I.B.A., Schools Architect, 22, Euston Road, Great Yarmouth, and completed forms must be returned by Friday, 12th December, 1958.

D. G. FARROW,
Chief Education Officer.

22, Euston Road,
Great Yarmouth. 2150

BRITISH RAILWAYS, EASTERN REGION

ASSISTANT ARCHITECTS with real ability in contemporary design required for office of Architect, British Railways, King's Cross Station. Applicants should be able to play a responsible part in design, administration and site supervision of buildings which are varied and interesting in character. Also scope for good DESIGNERS with special interest in development work. Starting salary, Post (1) £943 or Post (2) £833, depending on qualifications and experience. Five-day week and concessionary rail travel. Permanency with membership of Superannuation Scheme to suitable applicants after probationary period. Apply in writing, giving age, experience and any qualifications possessed, to Chief Civil Engineer, British Railways, Eastern Region, King's Cross Station, London, N.1. 2121

URBAN DISTRICT COUNCIL OF EAST BARNET

Applications are invited for the following permanent appointments:—

(*a*) DRAUGHTSMAN (ARCHITECTURAL), Grade A.P.T. I (£575 to £725 per annum).
(*b*) DRAUGHTSMAN (CIVIL ENGINEERING), Grade A.P.T. I (£575 to £725 per annum).

The above salaries will be increased by London weighting of £10, £20 or £30 per annum, according to age.

Conditions of Appointment and Forms of Application, returnable by the 3rd December, 1958, may be obtained from the Engineer and Surveyor, Town Hall, Station Road, New Barnet, Herts. 2124

Tenders Invited

6 lines or under, 15s.; each additional line, 2s. 6d. Box Number, including forwarding replies, 2s. extra

BOROUGH OF EALING

(1) Demolition of existing public convenience and erection of new convenience at Dean Gardens, Ealing, W.13.

(2) Site works only for prefabricated garages at:

(*a*) Browning Avenue, W.7—8 Garages.
(*b*) Millet Road, Greenford—8 Garages.
(*c*) Greenhill Gardens, Greenford—7 Garages.
(*d*) Wilsmere Drive, Northolt—7 Garages.

Form of Tender, Specifications and Drawings, etc., obtainable from the Borough Surveyor, Town Hall, Ealing, W.5, upon payment of £5 for each tender, returnable on receipt of a bona fide tender.

Tenders to be delivered to the Town Clerk, Town Hall, Ealing, W.5, not later than 9.30 a.m. on the 30th December, 1958.

E. J. COPE-BROWN,
Town Clerk.
2075

Architectural Appointments Vacant

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

FIRST CLASS SENIOR ASSISTANT required. Must have good office experience in London. Very interesting work. Five-day week. Morris de Metz, F.R.I.B.A., 2, Ludgate Hill, London, E.C.4. Telephone CITy 4086. 1655

ASSISTANT required in busy West End practice, about 25 years of age and R.I.B.A. Intermediate standard. Good opportunities for taking responsibility. Please write giving details of experience, and salary required. Box 1868.

RONALD WARD & PARTNERS require ARCHITECTURAL ASSISTANTS with contemporary outlook, and willing to use own initiative. Salary range £600 to £900. Congenial working conditions. Five-day week. Apply 29, Chesham Place, Belgrave Square, S.W.1. Telephone Belgravia 3361. 1830

ARCHITECT'S ASSISTANT required for the London Office of a firm of Architects with interests throughout the country; must be of Intermediate R.I.B.A. or R.I.C.S. standard. Superannuation scheme. Apply to: Cotton, Ballard & Blow, 5, Baker Street, London, W.1. WELbeck 3364. 1903

ARCHITECTURAL ASSISTANT, Final standard, required for busy and varied practice including hospital, educational and industrial work. Progressive outlook essential. Salary by arrangement. Parker & Roberts, 47, Silver Street, Lincoln. 1974

SENIOR, INTERMEDIATE and JUNIOR ASSISTANTS required by Guy Morgan & Partners in their London office. Phone Sloane 0624 for appointment. 2035

INTERMEDIATE ASSISTANT with office experience required London Office, varied work. Preference given to applicants actively studying for Final. Study time allowed by arrangement. Box 1825.

A COMPETENT ASSISTANT, with several years' experience and capable of working with little supervision, required in Branch Office, Birmingham, engaged on a varied and interesting programme of commercial projects. Applications, giving full particulars and salary required, to: G. S. Hay, A.R.I.B.A., Chief Architect, Co-operative Wholesale Society, Ltd., 1, Balloon Street, Manchester, 4. 1874

SENIOR ASSISTANT ARCHITECT required for busy office in large South-Coast town. The post calls for a man in the 30/40 age group, having ability and experience necessary to take charge of a fair size drawing office and to deputize for the local Partner. Previous experience in schools and commercial work essential. Excellent prospects exist for the right man. Applications giving fullest possible particulars to Box 1964.

LOUIS DE SOISSONS, PEACOCK, HODGES & ROBERTSON have a vacancy for a JUNIOR and SENIOR ASSISTANT. Write stating age, salary and experience to the above at 3, Park Square Mews, Upper Harley Street, N.W.1. 1948

SENIOR and JUNIOR ASSISTANTS required for busy office in the North East. Ability and a sense of responsibility are the essential qualities. Good starting salaries are offered and progress will depend on performance. Pension Scheme and Bonus Scheme are both operated. Box 1962.

LAGOS, NIGERIA.—ASSISTANT ARCHITECT, single, age 25-30, required early 1959, by private firm. Interest in tropical architecture and research essential. Initial contract of 18 months' tour with three months' paid leave. Write stating experience to Box 2021.

ARCHITECTURAL ASSISTANT, must be A.R.I.B.A., preferably 30 to 35 years of age, able to control large contract under direct supervision of Principal; competent detailing and clear, quick draughtsmanship. Salary £1,000—£1,250 per annum, according to experience. Apply Norman Jones, Sons & Rigby, 271, Lord Street, Southport. 2023

ASSISTANT wanted. Inter. standard. 3 or 4 years' office experience. Salary approx. £700. 'Phone Victoria 6100. 2068

SENIOR and INTERMEDIATE ARCHITECTURAL ASSISTANTS required to work on Schools, Industrial, Commercial, Office and Church, etc., projects. Please write or telephone: Dawe, Carter & Partners, 33, Clarendon Road, Watford, Herts. Tel.: Watford 27296/7/8. 2054

ASSISTANT required, not necessarily qualified or qualifying, for varied work offering good prospects for an energetic worker. Details to Naylor, Sale & Widdows, St. Mary's Chambers, St. Mary's Gate, Derby. 2057

PROGRESSIVE YORKSHIRE BREWERY COMPANY, desirous of expanding Architects' Department, requires the following:—

SENIOR ASSISTANTS (age not over 45)

First-class Draughtsmen and Designers, experienced in good-quality works, fully conversant with construction and detailing, and capable of proceeding from Survey and Sketch Plan stage to completion.

ASSISTANTS (age not over 35)

Good Draughtsmen, experienced in surveys of properties, preparing working and detailed drawings of new and/or alteration works.

A sound knowledge of Quantity Surveying and Building Prices, also ability to deal with Contractors' Accounts desirable. Candidates having previous experience in Licensed Property work preferred. Good salaries, assessed on applicants' qualifications, will be paid. Box 2136.

ARCHITECTURAL ASSISTANT of contemporary outlook required from about Intermediate standard to recently qualified, for practice mainly concerned with large commercial projects. Five-day week. Congenial working conditions. Good salary by arrangement. Apply in writing giving full particulars and age to J. Alfred Harper & Son, Union Chambers, 63, Temple Row, Birmingham 2. 2133

ARCHITECTURAL ASSISTANTS required with good office experience. Applicants should send details of education, training and past employment, to Louis de Soissons, Peacock, Hodges, Robertson & Fraser, of 12 Baring Crescent, Exeter. 2134

ARCHITECTURAL ASSISTANT required in small varied practice. Salary £600. Stanley R. Nevell & Partners, 34, Smith Square, Westminster. Abbey 3971. 2128

ARCHITECTURAL ASSISTANT required of R.I.B.A. Intermediate to Final standard, in busy progressive general practice. Salary by agreement, pension scheme available. Apply stating age, qualifications and experience to Brierley, Leckenby & Keighley, 10, Lendal, York. 2127

ARCHITECTS, busy Birmingham office near Five Ways, requires SENIOR ASSISTANT ARCHITECT. Must be experienced and good draughtsman. Interesting and varied work. Salary according to qualifications. Excellent prospects. Please write stating full details. Box 2122.

YOUNG single ASSISTANT of about Intermediate standard for Country Office near Norwich. Experience of Local Authority Housing and Surveying essential. Box 2126.

ARCHITECTS. Large Birmingham office requires ASSISTANT ARCHITECT. Interesting and varied work. Commencing salary £1,000 per annum or more dependent upon experience and ability. Box 2123.

W. H. WATKINS, GRAY & PARTNERS require ASSISTANTS for interesting hospital work, pension scheme in operation. Write or phone, 57, Catherine Place, S.W.1. Victoria 7761. 2118

BRIAN PEAKE requires ASSISTANT interested in and capable of running small contracts. Tel. GRO 7888. 2117

SENIOR ARCHITECTURAL ASSISTANT required with experience of Housing, Shop and Flat Development. Capable of taking full control of interesting proposals. Write with full particulars including salary to R. H. Gallannaugh, L.R.I.B.A., 54, Queen Anne Street, London, W.1. 2083

ARCHITECTURAL ASSISTANT required by Construction Department of Leading Merseyside Commercial Organisation undertaking extensive development programme. The work is varied and interesting, covering building projects throughout the British Isles, and offers considerable scope for man with initiative who has attained Intermediate R.I.B.A. standard. Age not over 35. Five-day week. Staff Life Assurance and Pension Scheme. Commencing salary commensurate with experience. Applicants should in the first instance give full details of experience and salary expected to Box 2086.

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