THE ARCHITECTS' JOURNAL

standard contents

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

NEWS and COMMENT

Astragal's Notes and Topics
Letters
News
Diary
Societies and Institutions

TECHNICAL SECTION

Information Sheets
Information Centre
Current Technique
Working Details
Questions and Answers
Prices
The Industry

CURRENT BUILDING

Major Buildings described: Details of Planning, Construction, Finishes and Costs
Buildings in the News
Building Costs Analysed

Architectural Appointments Wanted and Vacant

No. 3152] [VOL. 122

THE ARCHITECTURAL PRESS

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

Price 1s. 0d.

Registered as a Newspaper.

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

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. Drayton House, Gordon Street, W.C.1.	Euston 2450
ILA	Institute of Landscape Architects. 12, Gower Street, W.C.1.	Museum 1783
I of Arb	Institute of Arbitrators. 35/37, Hastings House, 10, Norfolk Street, Strand, W.C.2.	Temple Bar 4071
IOB	Institute of Builders. 48, Bedford Square, W.C.1.	Museum 7197/5176
IQS	Institute of Quantity Surveyors, 98, Gloucester Place, W.1.	Welbeck 1859
IR	Institute of Refrigeration. Dalmeny House, Monument Street, E.C.3.	Avenue 6851
IRA	Institute of Registered Architects. 47, Victoria Street, S.W.1.	Abbey 6172
ISE	Institute of Structural Engineers. 11, Upper Belgrave Street, S.W.1.	Sloane 7128
LDA	Lead Development Association. Eagle House, Jermyn Street, S.W.1.	Whitehall 7264/4175
LMBA	London Master Builders' Association. 47, Bedford Square, W.C.1.	Museum 3891
LSPC	Lead Sheet and Pipe Council. Eagle House, Jermyn Street, S.W.1.	Whitehall 7264/4175
MARS	Modern Architectural Research Group (English Branch of CIAM). Secretary: Trevor Dannatt, 6, Fitzroy Square, W.1.	Euston 7171
MOA	Ministry of Agriculture and Fisheries. 55, Whitehall, S.W.1.	Whitehall 3400
MOE	Ministry of Education. Curzon Street House, Curzon Street, W.1.	Mayfair 9400
MOH	Ministry of Health. 23, Savile Row, W.1.	Regent 8411
MOHLG	Ministry of Housing and Local Government. Whitehall, S.W.1.	Whitehall 4300
MOLNS	Ministry of Labour and National Service. 8, St. James' Square, S.W.1.	Whitehall 6200
MOS	Ministry of Supply. Shell Mex House, Victoria Embankment, W.C.	Gerrard 6933
MOT	Ministry of Transport. Berkeley Square House, Berkeley Square, W.1.	Mayfair 9494
MOW	Ministry of Works. Lambeth Bridge House, S.E.1.	Reliance 7611
NAMMC	Natural Asphalte Mine Owners and Manufacturers Council. 94/98, Petty France, S.W.1.	Abbey 1010
NAS	National Association of Shopfitters. 9, Victoria Street, S.W.1.	Abbey 4813
NBR	National Buildings Record. 31, Chester Terrace, Regent's Park, N.W.1.	Welbeck 0619
NCBMP	National Council of Building Material Producers. 10 Storey's Gate, S.W.1.	Abbey5111
NEFMAI	National Employers Federation of the Mastic Asphalt Industry. 21, John Adam Street, Adelphi, W.C.2.	Trafalgar 3927
NFBTE	National Federation of Building Trades Employers. 82, New Cavendish Street, W.1.	Langham 4041/4054
NFBTO	National Federation of Building Trades Operatives. Federal House, Cedars Road, Clapham, S.W.4.	Macaulay 4451
NFHS	National Federation of Housing Societies. 12, Suffolk St., S.W.1.	Whitehall 1693
NHBRC	National House Builders Registration Council. 82, New Cavendish Street, W.1.	Langham 4341
N.P.L.	National Physical Laboratory. Head Office, Teddington.	Molesey 1380
NSAS	National Smoke Abatement Society. Chandos House, Buckingham Gate. S.W.1.	Abbey 1359
NT	National Trust for Places of Historic Interest or Natural Beauty. 42, Queen Anne's Gate, S.W.1.	Whitehall 0211
PEP	Political and Economic Planning. 16, Queen Anne's Gate, S.W.1.	Whitehall 7245
RCA	Reinforced Concrete Association. 94, Petty France, S.W.1.	Abbey 4504
RIAS	Royal Incorporation of Architects in Scotland. 15, Rutland Square, Edinburgh.	Fountainbridge 7631
RIBA	Royal Institute of British Architects. 66, Portland Place, W.1.	Langham 5721
RICS	Royal Institution of Chartered Surveyors. 12, Great George St., S.W.1.	Whitehall 5322/9242
RFAC	Royal Fine Art Commission. 22A, Queen Anne's Gate, S.W.1.	Whitehall 3935
RS	Royal Society. Burlington House, Piccadilly, W.1.	Regent 3335
RSA	Royal Society of Arts. 6, John Adam Street, W.C.2.	Trafalgar 2366
RSI	Royal Sanitary Institute. 90, Buckingham Palace Road, S.W.1.	Sloane 5134
RIB	Rural Industries Bureau. 35, Camp Road, Wimbledon, S.W.19.	Wimbledon 5101
SBPM	Society of British Paint Manufacturers. Grosvenor Gardens House, Grosvenor Gardens, S.W.1.	Victoria 2186
SCR	Society for Cultural Relations with the USSR. 14, Kensington Square, London, W.8.	Western 1571
SE	Society of Engineers. 17, Victoria Street, Westminster, S.W.1.	Abbey 7244
SFMA	School Furniture Manufacturers' Association. 30, Cornhill, London, E.C.3.	Mansion House 3921
SIA	Structural Insulation Association. 32, Queen Anne Street, W.1.	Langham 7616
SNHTPC	Scottish National Housing. Town Planning Council. Hon. Sec., Robert Pollock, Town Clerk, Rutherglen.	
SPAB	Society for the Protection of Ancient Buildings. 55, Great Ormond Street, W.C.1.	Holborn 2646
TCPA	Town and Country Planning Association. 28, King Street, Covent Garden, W.C.2.	Temple Bar 5006
TDA	Timber Development Association. 21, College Hill, E.C.4.	City 4771
TPI	Town Planning Institute. 18, Ashley Place, S.W.1.	Victoria 8815
TTF	Timber Trades Federation. 75, Cannon Street, E.C.4.	City 5051
WDC	War Damage Commission. 6, Carlton House Terrace, S.W.1.	Whitehall 4341
ZDA	Zinc Development Association. 34, Berkeley Square, W.1.	Grosvenor 6636

GTH

HT

26/9)

LFORD
MOUTH

This is Tretol House ...

The new London Head Office of the Tretol Organisation, designed by Walter Segal and featured in this journal.

It is an excellent example of the trend towards greater use of calculated brickwork, the use of a mortar plasticiser—Tretol "Morta-Mix"—making possible the stronger, yet more elastic mortar bonding upon which this building technique depends.

The comprehensive range of Tretol building products was used wherever possible in this building. In the solid concrete floor construction, Tretol Cold-Applied Bitumen D.P.C. Solutions were incorporated as the membrane treatment; a waterproof rendering, using Tretol Liquid Waterproofer, being specified for the walls and floor of the heating chamber, as an inexpensive alternative to asphalt tanking.

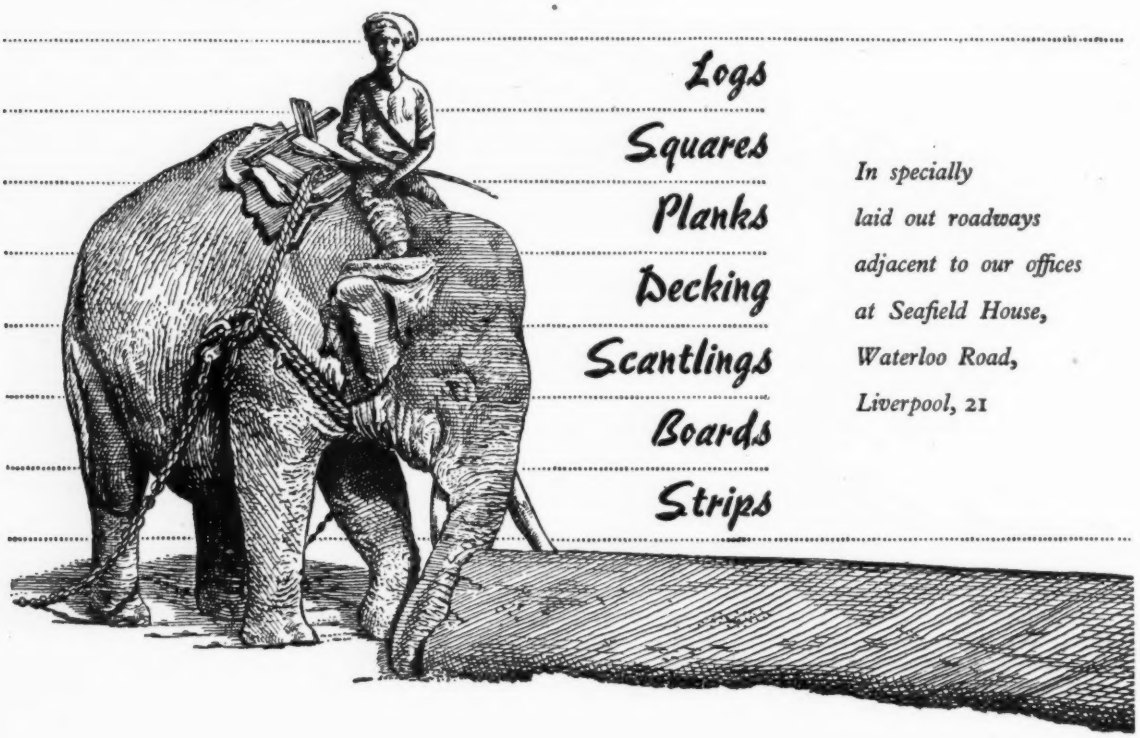
The colour schemes adopted are a striking feature of Tretol House. Decorations were carried out in Tretol Hard Gloss and Emulsion Paints and wherever new concrete required painting, such as soffits, etc., Tretolin Paint was specified.

Tretol products were used in many other features of the building and the Company is proud that the use of their own products should have resulted in so attractive and functional a construction.

TRETOL HOUSE IS OUR NEW LONDON HEAD OFFICE
TRETOL LTD., MAKERS OF SPECIALISED BUILDING PRODUCTS AND PROTECTIVE PAINT SYSTEMS,
THE HYDE, LONDON, N.W.9. Telephone: Colindale 7223 (10 lines)

Teak *in plenty*

For over seventy-five years we have regarded the marketing of teak as our particular province and have obtained supplies direct from one of our subsidiary companies in the teak-growing area. The past thirteen years have proved that there is no adequate substitute for teak; no other wood can compare for resistance to all forms of attack and for long life. Teak is now free from control and we have ample supplies stored in our yards, to meet the requirements of every industry.



Logs
Squares
Planks
Decking
Scantlings
Boards
Strips

In specially laid out roadways adjacent to our offices at Seafield House, Waterloo Road, Liverpool, 21

Denny Mott & Dickson Limited

ADELAIDE HOUSE, KING WILLIAM STREET, LONDON, E.C.4

Telephone: MANSION HOUSE 7961

Belfast, Birmingham, Bristol, Cardiff, Glasgow, Hull, Liverpool, Manchester, Newcastle, Preston, Southampton

AP334-33

ANDERSON

*

the first British company to make and lay-

GLASS BASE ROOFING

'THERMOGLAS' has a base of glass fibre felted into a strong mat which is first impregnated and then coated on both sides with a high quality asphaltic bitumen.

The production of 'THERMOGLAS' marks an important advance in research in roofing technique and combines the properties indicated on the right, in a flexible form.

The structure of a 'THERMOGLAS' specification provides effective resistance to influences arising from work laid under varying climatic conditions and ensures stable and flat roofing – combining good appearance with permanence.

- **MINERAL COMPOSITION 100%**
- **ROT PROOF**
- **TOUGH**
- **NON-HYGROSCOPIC**
- **WATERPROOF**
- **STABLE — (Chemically Inactive)**
- **IMPERISHABLE**

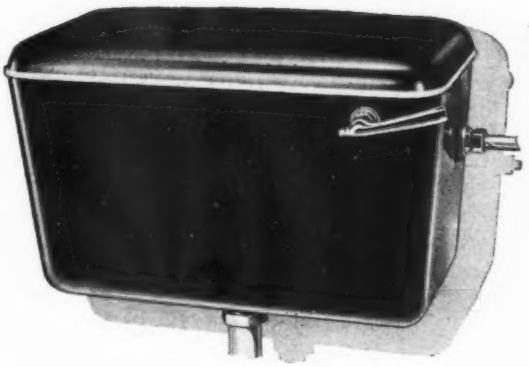
For further information apply to:—

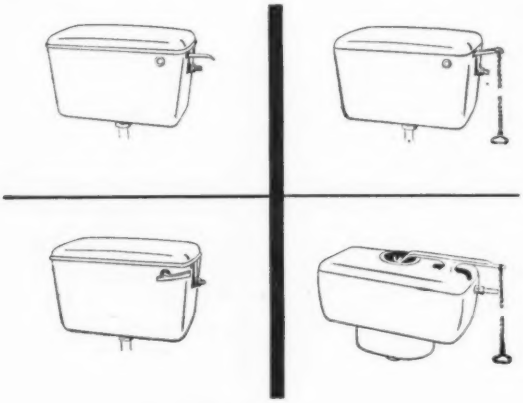
D. ANDERSON & SON LIMITED
STRETFORD, MANCHESTER & OLD FORD, LONDON E.3

Lawley

have *proved* the plastic cistern

Now you can specify the plastic cistern for those installations where it is the most suited with COMPLETE CONFIDENCE. Lawleys have tested it and proved beyond doubt that it has a place in the scheme of things.





Modern, hygienic, rust and corrosion-proof—these and many other advantages make the Lawley plastic cistern ideal for contemporary building. Its cost, too, lends itself to the need for economy when planning estates, office blocks, workshops, etc. The name Lawley is backed by seventy-four years specialised experience in the manufacture of cisterns—cast iron, pressed steel and now plastic. Architects and builders are invited to write for details of this newest addition to the Lawley range.

Our illustrated folder gives details of four Lawley models in plastic, to suit all water regulations. We shall be pleased to forward copies on request.

Lawley BRITANNIA

pioneers in cistern manufacture since 1881

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

M-W.62

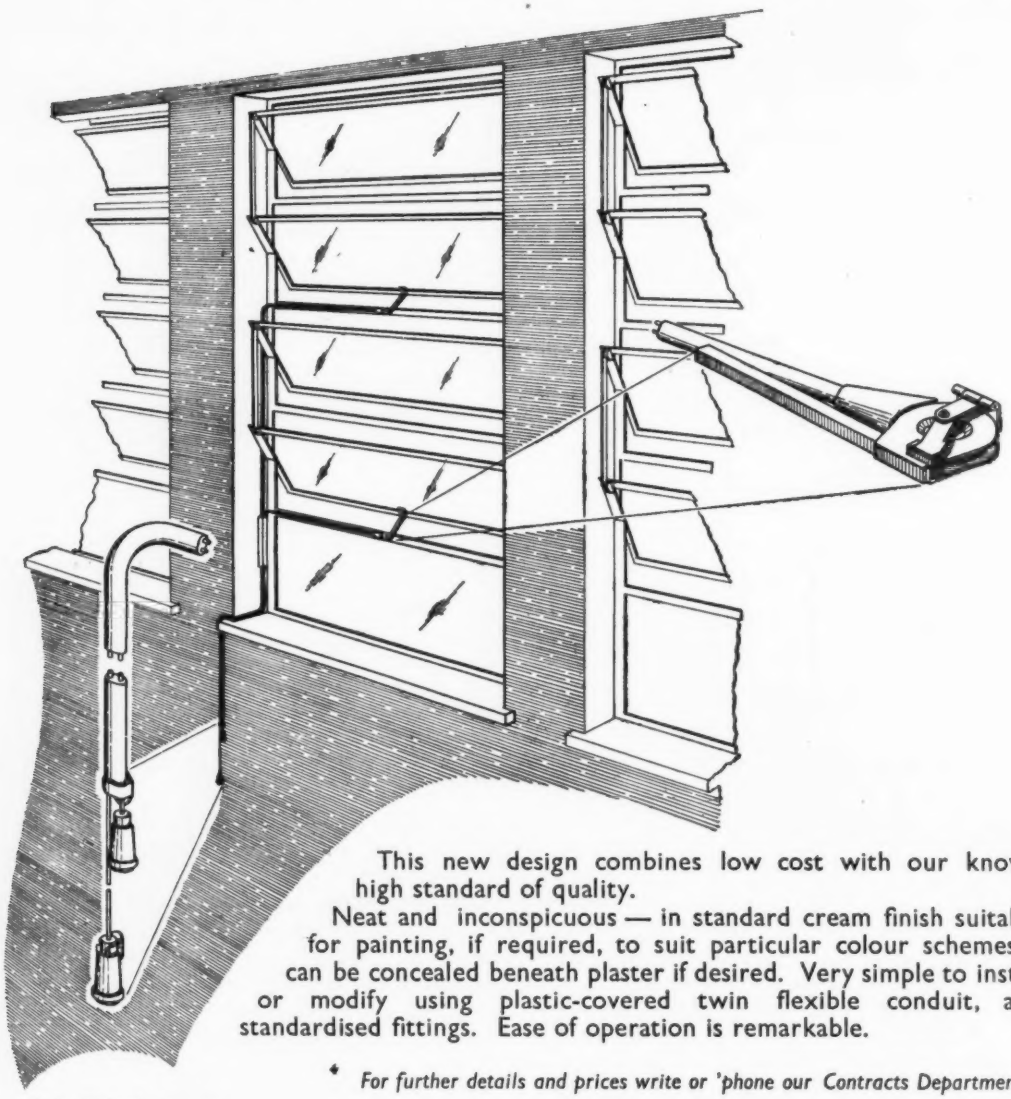
AN INTRODUCTION TO THE

ARENS REGD. TRADE MARK

TWIN CABLE GEAR

WORLD PATENTS PENDING

We are presenting this new product which is now available



This new design combines low cost with our known high standard of quality.

Neat and inconspicuous — in standard cream finish suitable for painting, if required, to suit particular colour schemes— can be concealed beneath plaster if desired. Very simple to install or modify using plastic-covered twin flexible conduit, and standardised fittings. Ease of operation is remarkable.

For further details and prices write or 'phone our Contracts Department.

Sole Manufacturers :

ARENS CONTROLS LIMITED

TUNSTALL ROAD · EAST CROYDON · SURREY

Telegrams : UNICONTROL, SOUPHONE, LONDON Telephone : ADDiscombe 3051/4

Australian enquiries to : S. K. SHEPHERD, G.P.O. BOX 1.000–H, MELBOURNE.

SPRAYED-ON INSULATION

SOLVES MANY PROBLEMS

Main Advantages are . . .

- Combines thermal insulation and sound absorption in one material
- Allows intimate surface contact irrespective of shape or protrusions
- Provides rot and vermin proof asbestos coating which will withstand vibration
- Prevents condensation and consequent corrosion on steel surfaces

SPRAYED 'LIMPET' (Regd.) ASBESTOS was created to provide a form of thermal and sound insulation with many desirable features in one single operation. The process itself consists of the application, by means of a spray gun, of specially prepared forms of asbestos fibre which are discharged from the main nozzle of the spray gun simultaneously with a spray of water. These thoroughly intermix on leaving the spray gun and firmly adhere to the surface being treated. Irrespective of the shape of the surface, Sprayed 'Limpet' Asbestos completely covers all joints, rivets, or protrusions in one continuous jointless coating, thus eliminating all air spaces with their accompanying disadvantages.

The nature of Sprayed 'Limpet' Asbestos coatings varies with the job in hand, but in all cases it is rot and vermin proof, will not be affected by vibration and for most applications is extremely light in weight. This is the ideal method of combining thermal insulation with sound absorption and admirably suits the needs of various types of auditoria, as well as for the reduction of noise levels in factories, offices and workshops. Full details are contained in our catalogue "Sprayed 'Limpet' Asbestos Insulation", sent on request.

CORROSION TEST

The photograph on the right shows the complete protection offered by Sprayed 'Limpet' Asbestos against corrosion. Both channels were subjected to the same conditions, the test being carried out in a dyeworks.

BIG NOISE REDUCTION

Sprayed 'Limpet' Asbestos has been used in this modern cotton weaving shed to reduce noise and for anti-condensation purposes. Photograph by courtesy of Richard Haworth & Co. Ltd., Hindley Green.

SPRAYED "LIMPET"(Regd.) ASBESTOS BY

Newalls

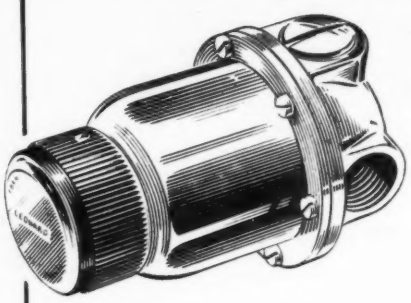
NEWALLS INSULATION CO. LTD. *Head Office:* WASHINGTON, CO. DURHAM
A member of the TURNER & NEWALL ORGANISATION
Offices and Depots at LONDON, GLASGOW, MANCHESTER, NEWCASTLE UPON TYNE, BIRMINGHAM, BELFAST, BRISTOL & CARDIFF.

The coil that makes the shower a joy

Some bare facts

A shower is the best bath in the world. The skin glows in the surge and the rush of the pin-point spray. The bather screws up her face and squeaks with delight under the swift attack.
But a shower must be under the control of a thermostat or it may turn a little too frisky. A Leonard thermostatic valve will keep the temperature steady. It will iron out the hot or take the kick out of the cold. Leonard thermostatic showers save heat, save water, save piping, and make the shower bath a delight without alloy.

Write for leaflet No. A/2 which gives full particulars.



Leonard

THERMOSTATIC MIXING VALVES
(PATENTED)

WALKER, CROSWELLER AND CO. LTD. CHELTENHAM

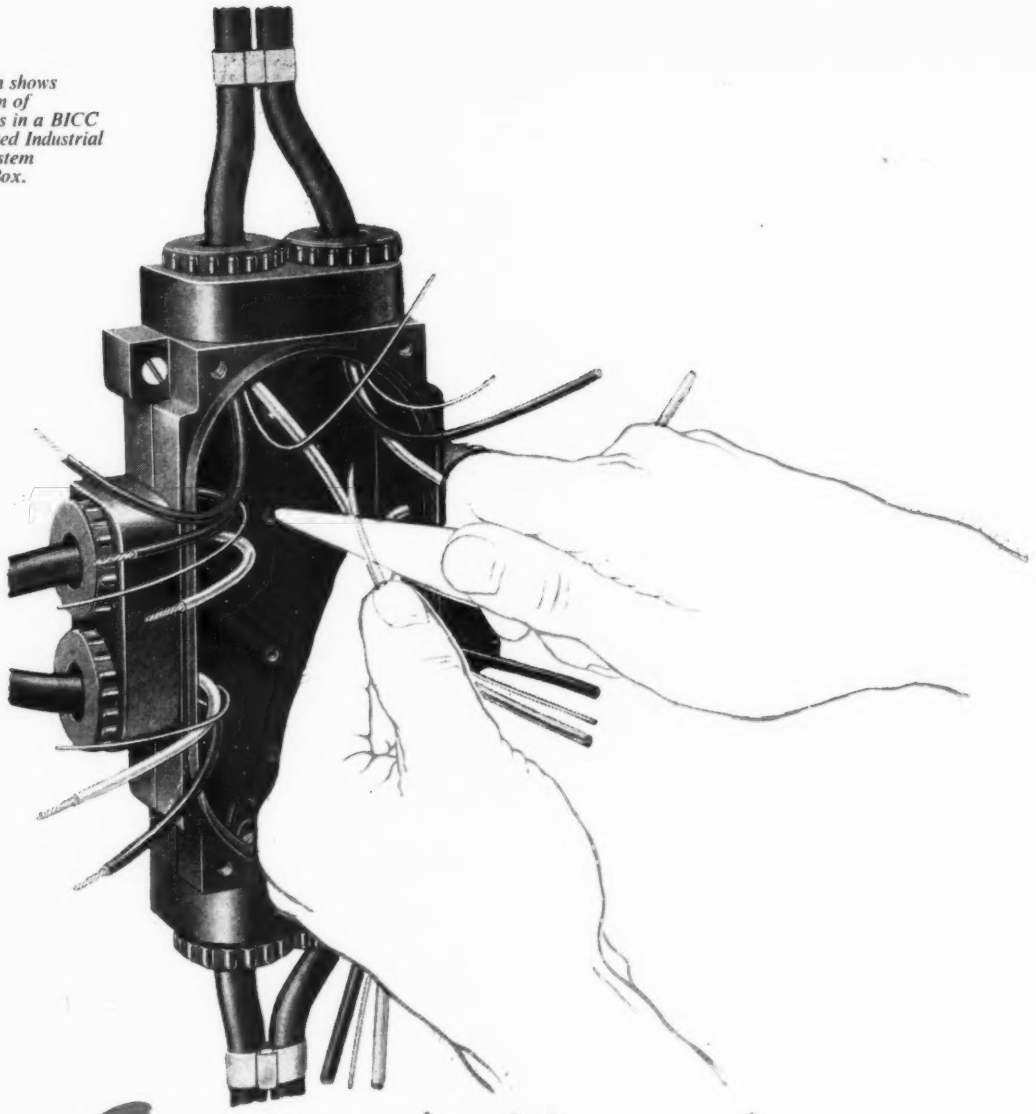


Illustration shows preparation of connections in a BICC All-Insulated Industrial Wiring System Junction Box.

Skilled Hands

deserve the finest materials

To do a first rate job a craftsman must have confidence in his materials. That is why so many electricians prefer BICC Wiring System Cables. Wiremen know that BICC cables are completely reliable — because they are made with traditional skill from top grade materials. They know, too, that whatever the job, there is a cable in the BICC range to meet every requirement.

May we send you samples?

BICC
WIRING SYSTEM CABLES

BRITISH INSULATED CALLENDER'S CABLES LIMITED

BI Callender's

21 BLOOMSBURY STREET, LONDON, W.C.1

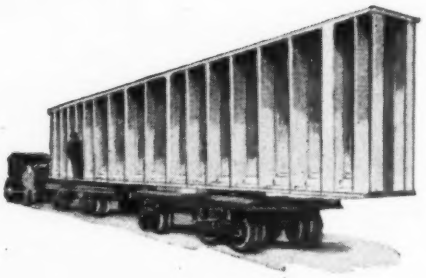
LANDMARKS IN STEEL

Architects and Surveyors: Harry S. Fairhurst & Son, 55 Brown Street, Manchester, 2.

STEELWORK *for Commerce*

SHIP CANAL HOUSE, MANCHESTER

This fine building is the nerve centre of the great inland waterway, The Manchester Ship Canal and is also the home of The Manchester Chamber of Commerce. Big business is built on solid foundations and once again it's Steelwork by:



EDWARD WOOD & CO LTD

Registered Office & Works: **MANCHESTER, 17**
Telephone: TRAfford Park 2341 (10 lines)

London Office: 68 Victoria Street, S.W.1. Telephone: VICtoria 1331/2. *Technical Offices: Birmingham, Loughborough*

dm WD51

PLIMBERITE

in roof construction

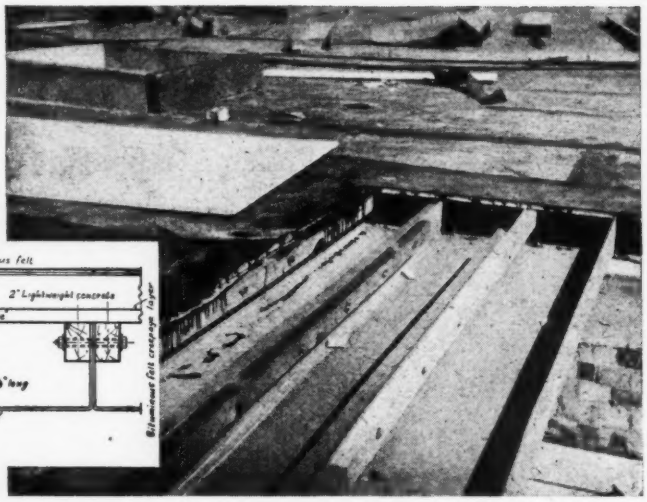
at the new Radio Research Station at Datchet.

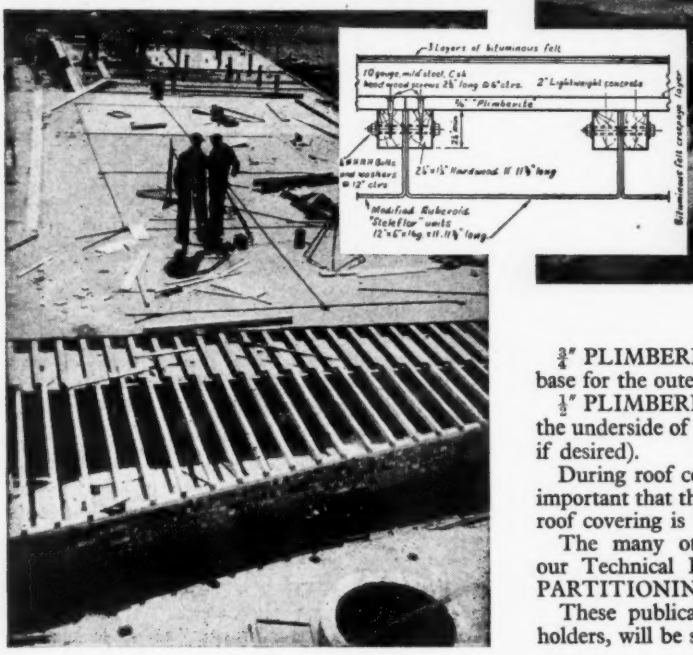
Designed by the Chief Architect's Division, Ministry of Works, for the Department of Scientific and Industrial Research.

Main Contractors: Messrs. A. Roberts & Co. Ltd., 79 Eccleston Square, London, S.W.1

¾" PLIMBERITE Boards in the standard size 8 ft. x 4 ft. were used for decking the flat roof of the new Radio Research Station at Datchet. The photographs show a part of the 45,000 square foot roof under construction, and the drawing gives a detail of the general design of the roof structure.

Covered with three layers of bituminous felt, ½" PLIMBERITE was also used for covering in the roof heating ducts, over timber stud framework.





¾" PLIMBERITE Boards can also be used on pitched roofs as a base for the outer roof covering, usually over rafters at 16" centres.

½" PLIMBERITE makes an excellent lining to a roof, screwed to the underside of the rafters (together with felt or insulating material if desired).

During roof construction of any kind with PLIMBERITE, it is important that the boards be protected from the rain until the outer roof covering is laid.

The many other uses of PLIMBERITE are dealt with in our Technical Brochure and in the PLIMBERITE REBOND PARTITIONING SYSTEM Booklet.

These publications, also prices and the names of local stockholders, will be supplied on request.

BRITISH PLIMBER LIMITED

19, Albert Embankment, London, S.E.11
Telephone: RELiance 4242

PLIMBERITE
BUILDING BOARD

D. P. Unit, Holywell Hospital.
Architect : H. W. SCATCHARD, A.R.I.B.A. Dip. Arch.
Chief Engineer : H. F. HARRIS, M.I.Mech.E.

HOSPITALS *installed with* **FRENGER**

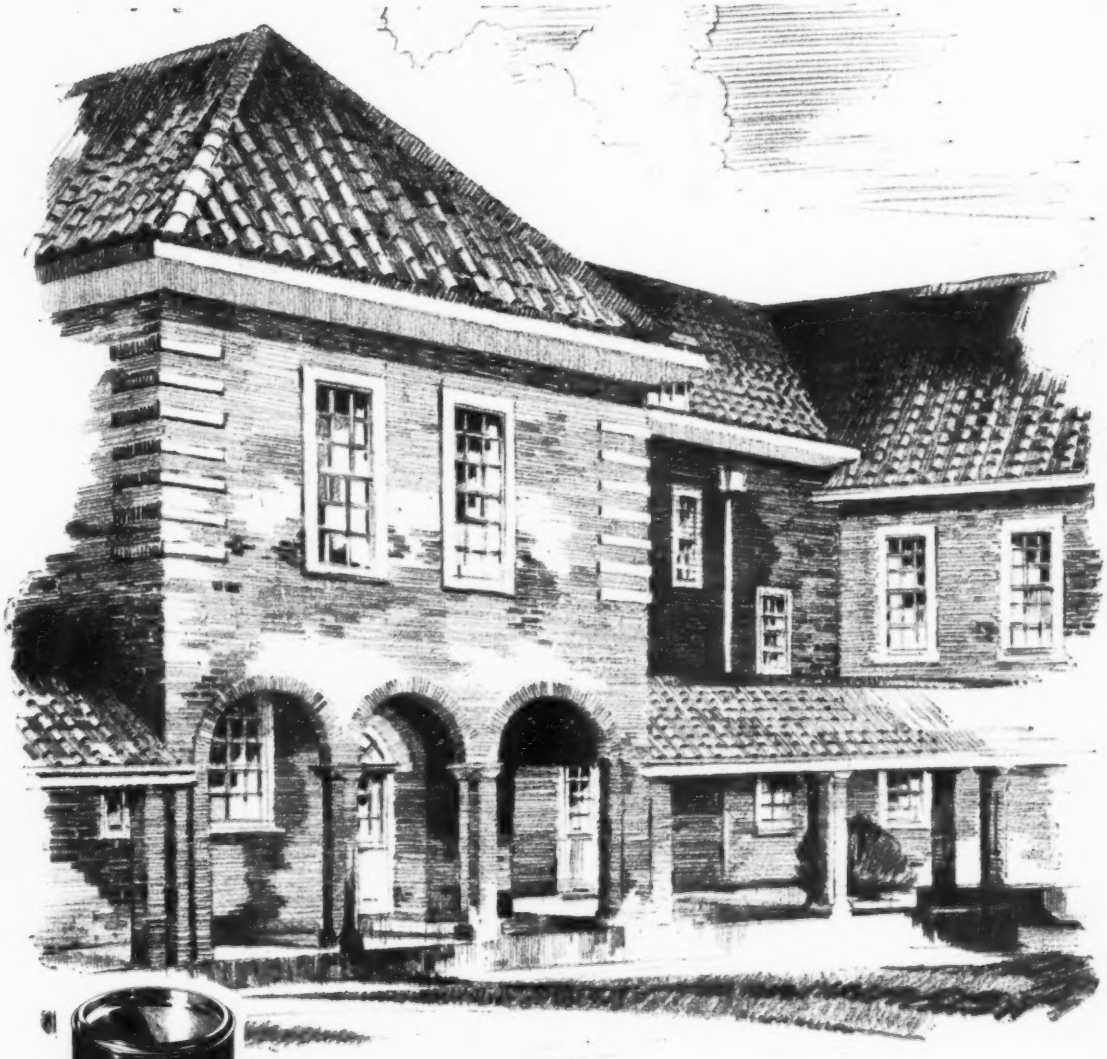
GENERAL INFIRMARY, Operating Theatre Extension, Leeds.
DURHAM STREET CLINIC, Belfast, N. Ireland.
PURDYSBURN HOSPITAL, Purdysburn, N. Ireland.
DOWNSHIRE HOSPITAL Downpatrick, N. Ireland.
TYRONE & FERMANAGH HOSPITAL, N. Ireland.
NEW PATHOLOGICAL LABORATORY, Bolton General Hospital, Bolton, Lancs.
ARDS HOSPITAL, Newtonards, N. Ireland.
ABERDEEN ROYAL INFIRMARY, Blood Transfusion Unit, Aberdeen, Scotland.
QUEEN VICTORIA HOSPITAL, Children's Ward, East Grinstead.
LAGAN VALLEY HOSPITAL, Maternity Block, Belfast.
HOLYWELL HOSPITAL, Antrim, N. Ireland.
LUKES HOSPITAL, Armagh, N. Ireland.
WAVENEY HOSPITAL, Ballymena, N. Ireland.

FRENGER

THE BUILDING CENTRE USE THE CENTRE 26 STORE STREET·W·C1

FRENGER CEILINGS LTD 67 GREAT RUSSELL STREET W.C.1. Chancery 5534

WALPAMUR quality paints . . .



For perfection of finish use paints from the Walpamur range, which includes Duradio Enamel Paint, a durable high gloss finish, Muromatte Flat Oil Paint, a smooth and readily washable matt finish and Walpamur Water Paint, the most popular of flat finishes. In the full range are paints, enamels and varnishes to meet every conceivable need.

BY APPOINTMENT
PAINT AND WATER PAINT MANUFACTURERS TO THE LATE KING GEORGE VI

THE WALPAMUR CO LTD · DARWEN & LONDON

W348

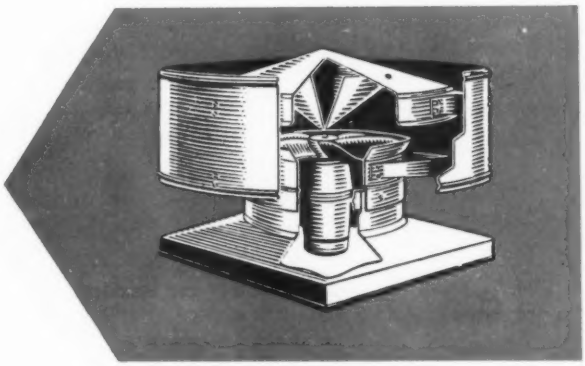
variations on the theme...

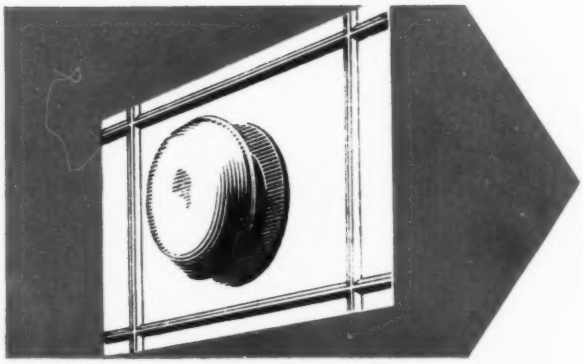
Fresh air

Since 1879, "GREENWOOD'S" and "VENTILATION" have become synonymous, and today Greenwood's offer a service ranging from a single unit to a complete ventilation scheme for domestic, professional, municipal and industrial purposes.

GREENWOOD-AIRVAC *'Mechavent'*

This is a roof ventilator of proved performance available for flat, sloping or ridge fixing. Extraction can be natural or mechanical with built-in fan available in a wide variety of standard ratings





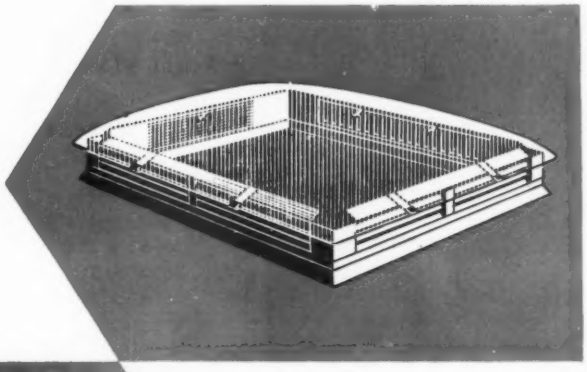
'Extraire' EXTRACTION FAN

The silent lightweight fan unit for window mounting that ensures healthy fresh-air conditions in office, restaurant, factory or home. Operated from any 5-amp electric point without special wiring. Constructed from aluminium alloy, enamel finished to resist weather and corrosion. Available in 3 models: standard, closable and lightproof each in 2 sizes, 6" and 9".

RECTANGULAR VENTILATOR

WITH STANDARD GLASS DOME

Designed for roof-lighting and ventilating interior corridors and rooms, constructed in suitable sizes to carry standard sized glass domes, this unit provides natural ventilation via weatherproof external louvres, with internal hit and miss shutters incorporated if desired



GREENWOOD'S FOR VENTILATION

GREENWOOD'S AND AIRVAC VENTILATING COMPANY LTD

Designers and Manufacturers of Ventilating Equipment for Buildings, Vehicles and Ships

BEACON HOUSE, KINGSWAY, LONDON, W.C.2.

CHAncery 8135/6/7. "Airvac", London

HILLS ARISTOCRAT

the decorative flush door with the KREIBORD core...

An attractive door of outstanding quality and distinction. Hand-finished by expert craftsmen and suitable for polishing, it is available faced with fine French Walnut, European Figured Oak or West African selected Mahogany veneers to your choice. The greatest care is exercised in the selection of these distinctive veneers and they are carefully matched for figure and colour.

The unique KREIBORD core—a new development exclusive to Hills—is a composite wood/resin board produced as a continuous extrusion. It has a high strength/weight ratio, exceptional stability and excellent insulation properties.

- Solid type KREIBORD core with 100% glueing area
- Provision for lock 20" × 6" situated at centre of closing stile
- Timber Framing 2" min.
- Weight 47 lbs. approx.
- Finished thickness 1⅜"
- Standard Sizes:
  - 6' 6" × 2' 9"
  - 6' 6" × 2' 6"
  - 6' 6" × 2' 3"
  - 6' 6" × 2' 0"
- **SUITABLE FOR POLISHING**

Write for full details of this quality door . . . other types of Flush and Panel doors are also available in popular price range.

F. HILLS & SONS LTD.
STOCKTON-ON-TEES
Telephone 67141 (7 lines)

LONDON BRANCH OFFICE: 28, VICTORIA STREET, WESTMINSTER, S.W.1. Telephone: ABBey 6542.

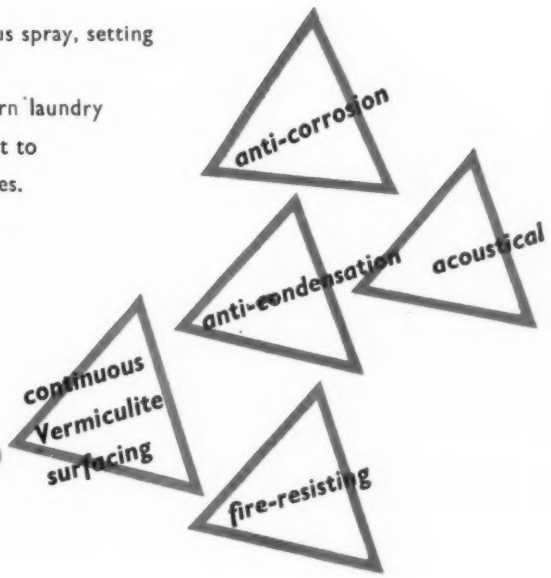
Ample stocks are kept at our London Depot for prompt delivery in the London and Southern Counties areas.

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

Pyrok was used for anti-condensation surfacing of reinforced concrete shell roofs and soffits in the White Swan Laundry, Bromley, Kent. Architects: Mortimer, Burrows, and Partners F/ARIBA

PYROK in the laundry

Pyrok is a Vermiculite-cement surfacing applied by continuous spray, setting rapidly and adhering strongly to structural steelwork, concrete, stone, brick and fibreboard. Pyrok is used in modern laundry construction as a decorative and protective surfacing resistant to condensation and fire, also for acoustic and insulating purposes. Pyrok is a process both for interior or exterior use and also a means of carrying out repairs. Contracts are undertaken by Licensees in all parts of the U.K. and in countries abroad. We shall be glad to supply further information on request.



BRITISH & FOREIGN PATENTS

PYROK LIMITED 401-404 Montrose Avenue Trading Estate Slough Bucks *tel: Slough 24061-5 'grams: Pyrokad Slough*

LICENSEES U.K. C & T (Pyrok Contracts) Ltd London NW2 & Brislington, Bristol 4 E B Trumper (Surfacing) Ltd Birmingham Orthostyle Limited Scunthorpe Lincs. Decorators (Liverpool) Ltd Liverpool 3 Matthew Thom & Co (Pyrok Contracts) Ltd Airdrie Scotland

AP280-27.A

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

For Imaginative Lighting

Talk to PHILIPS

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

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

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

PHILIPS ELECTRICAL LTD

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

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

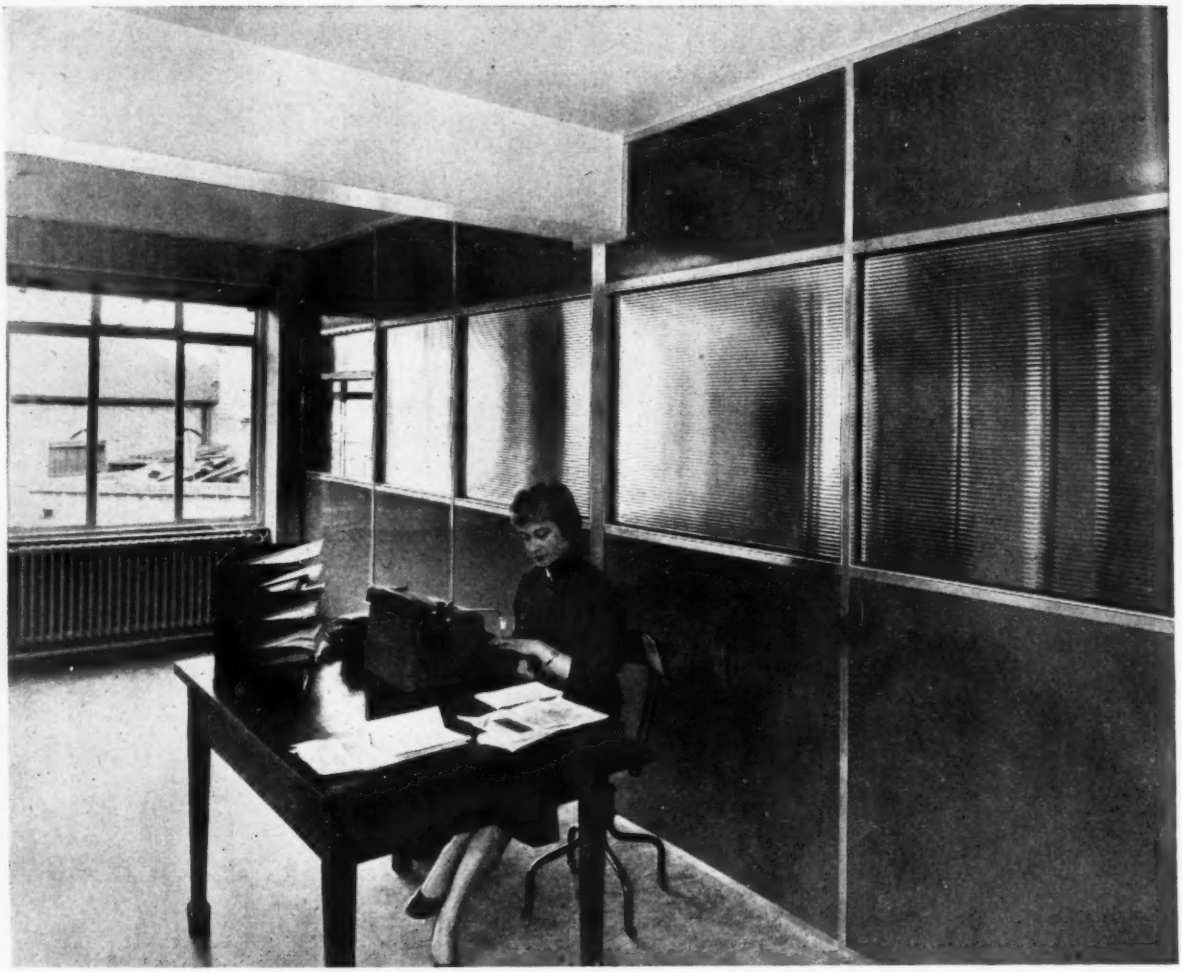
TIP-UP SEATING is a speciality of Cox. These pictures illustrate just two of the many types made by them.

Above is shown the seating supplied for the auditorium of the Royal Festival Hall: on the right a new style of inexpensive tip-up seating which can be supplied either in portable form or for permanent floor-fixing.

Full particulars and catalogues on request.

Cox TIP-UP SEATING

COX & CO. (WATFORD) LTD. WATFORD-BY-PASS, WATFORD, HERTS. Telephone: WATFORD 5631



Efficient Office Planning

The Anderson Type 'F' System of partitioning is designed to make the best possible use of floor space. Segregation of departments into quiet, orderly units improves working conditions and simplifies direction and control.

This modern system of unit construction, utilising extruded aluminium supporting members, embodies special features including rubber glazing beads and rubber inserts in architraves, reducing noise and vibration to a minimum. Choice of panelling may be made from a wide variety of attractive sheet materials. Speedy dismantling and re-erection to a new layout is made possible by simplified floor and wall fixing.

Enquiries are invited. Please ask for literature.

HIGH-GRADE PARTITIONING BY

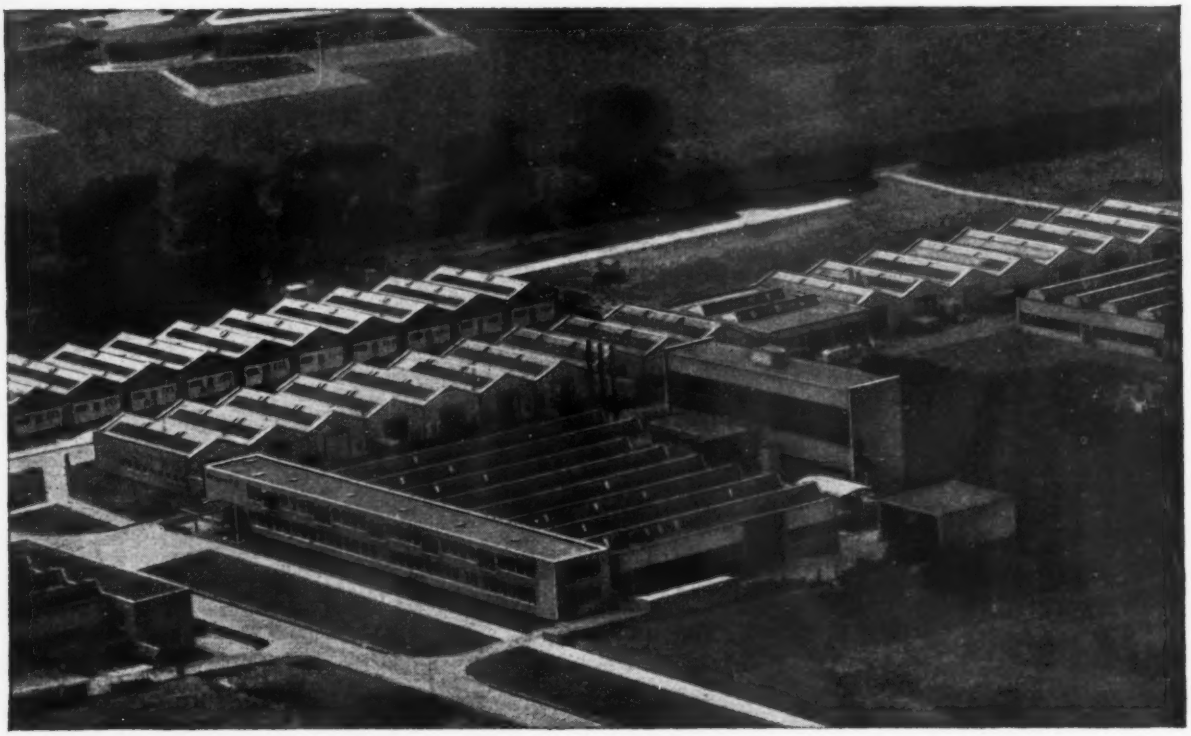
A·C·C

ANDERSON CONSTRUCTION CO. LTD., CLIFTON HOUSE, EUSTON ROAD, LONDON, N.W.1. EUSTON 7465

Agents throughout the United Kingdom and Overseas

44 factories at HARLOW New Town all ventilated by COLT

FREDERICK GIBBERD ESQ. F.R.I.B.A., M.T.P.I.,
ARCHITECT PLANNER, THE HARLOW DEVELOPMENT CORPORATION.



This is one of several National industrial developments where COLT Ventilation equipment has been used. Others have been the Silicosis, Advance and Standard Factory Programmes and the Ex-Wartime Factories involving 96 Factories under Sir Percy Thomas & Son, F/A.R.I.B.A., The Wales and Monmouthshire Industrial Estates where for twenty-six factories COLT Ventilation equipment was specified by Jonah Arnold & Smith. The Remploy Factory Programme under the Ministry of Works where nearly one hundred factories were ventilated by COLT.

COLT Ventilation equipment has also been specified for many further contracts on Industrial Estates at Slough, Stevenage, Crawley, Trafford Park; for the Northern Ireland Advance Factory Programme, Scottish Industrial Estates, The Ministry of Supply Factories and Irish Estates Ltd.

COLT

PLEASE WRITE FOR FREE MANUAL, containing full specifications of Colt Ventilators, to Dept. A40/151

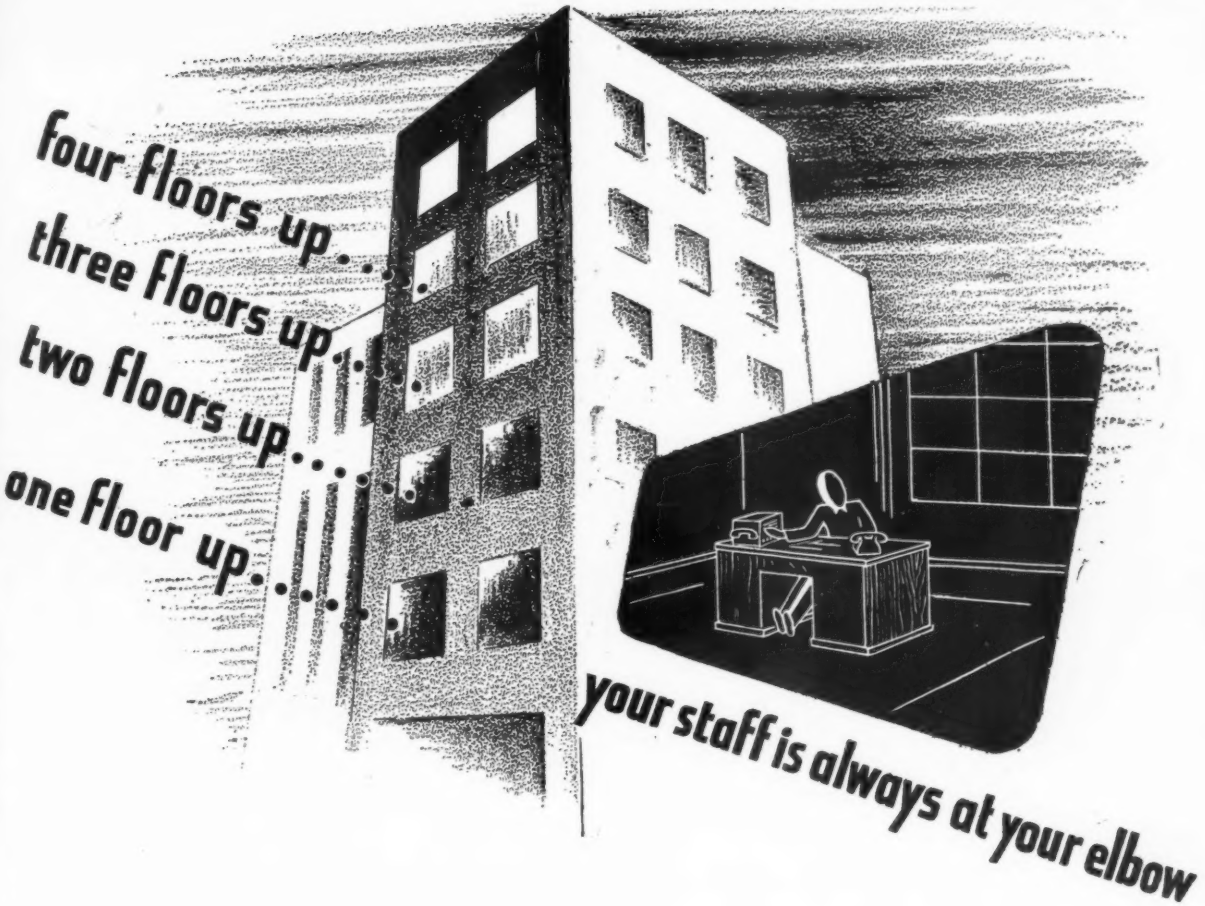
VENTILATION

COLT VENTILATION · SURBITON · SURREY

Telephone: Elmbridge 6511/5

Branches at Birmingham, Bradford, Bridgend (Glam.), Bristol, Coventry, Dublin, Edinburgh, Liverpool, London, Manchester, Newcastle-upon-Tyne, Sheffield and Warwick.

Agents in Australia, Belgian Congo, Canada, Cyprus, India, Indonesia, Madagascar, Malaya, Mauritius, New Zealand, Pakistan, Portugal, North and South Rhodesia and South Africa.



Immediate contact with personnel is essential in the well-run business. Reliance Telephone systems–swiftly, easily and accurately–afford this vital link with co-directors, executives and staff by the mere flick of a switch. *Reliance saves time and labour*, and ends P.O. switchboard congestion.

Busy architects know the value of these systems for maintaining instant, direct intercommunication and avoiding delay and errors. They specify Reliance for the equipment of new premises—an essential service for the co-ordination of departments in progressive business organisations. Our advice is available to you.

Write to-day for our illustrated leaflet A.J.10.

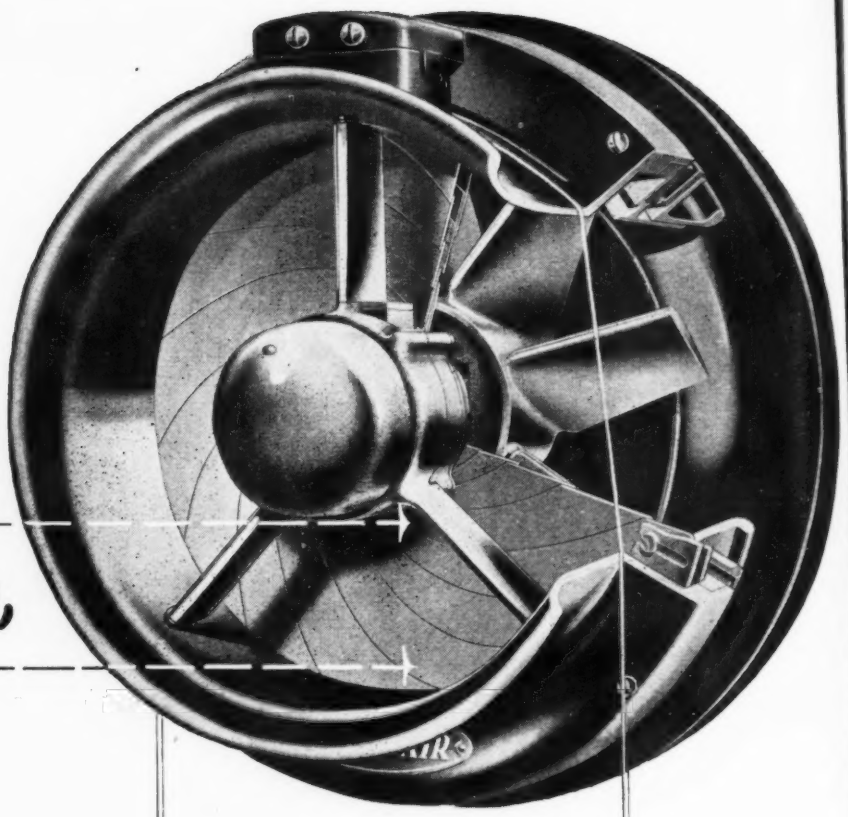
The RELIANCE TELEPHONE CO Ltd

(A Subsidiary of the General Electric Company Limited)

43-47 PARKER STREET, KINGSWAY, LONDON, W.C.2

Telephone : Chancery 5341 (P.B.X.) · *Branches throughout the United Kingdom*

INTERNAL TELEPHONES · STAFF LOCATION · MUSIC FOR INDUSTRY



IT'S THE UNIQUE

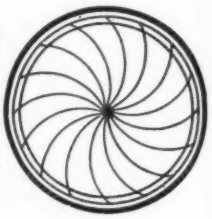
iris shutter

THAT MAKES

XPELAIR

VENTILATION

really draught-proof



Iris shutter, linked to electrical control, closes when fan is switched off, sealing out back-draughts, weather and street noises.

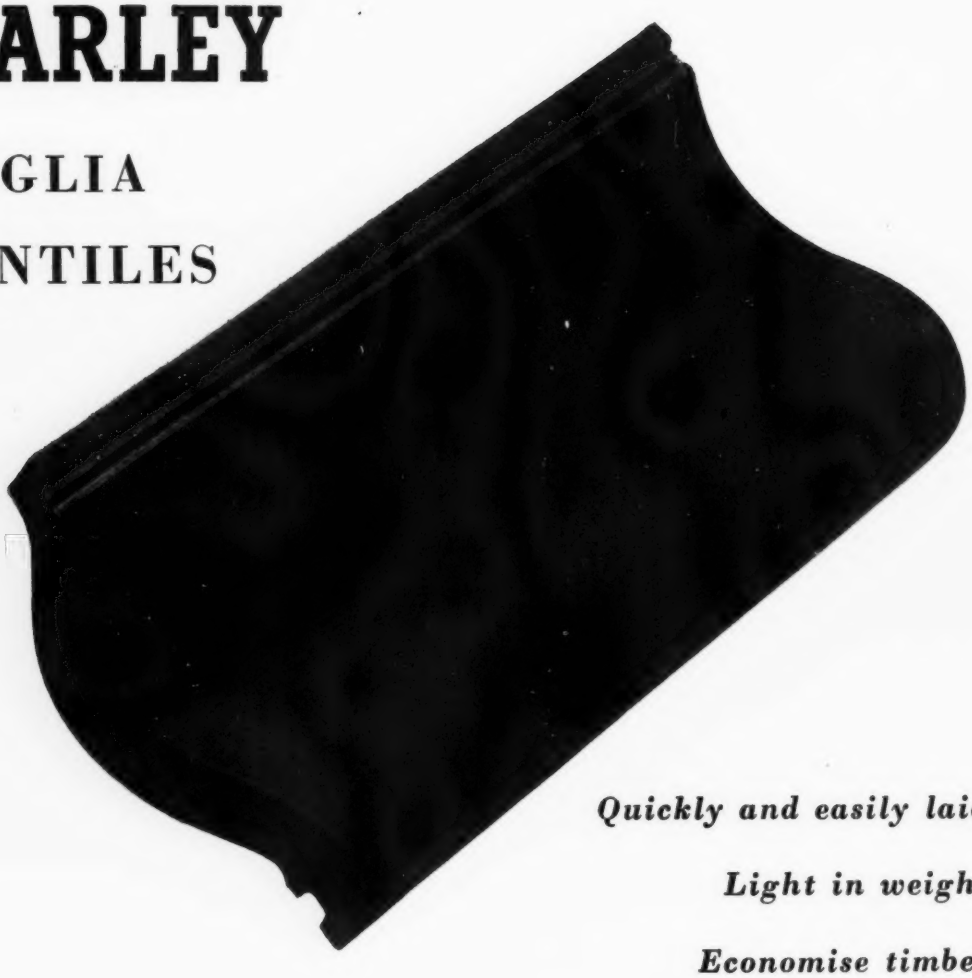
Models available: 15,000 CFH, 30 w.
30,000 CFH, 60 w.
A.C. Single-phase, 50 cycles, and D.C.
Voltage ranges: 100-110; 200-210; 220-250.

Cheaply and easily installed in any window.

Write for leaflet to THE GENERAL ELECTRIC CO. LTD., Magnet House, Kingsway, London, W.C.2. Telephone: TEMple Bar 8000

MARLEY

ANGLIA PANTILES



Quickly and easily laid

Light in weight

Economise timber

All Marley tiles are surfaced with coloured mineral granules which ensure natural weathering and beauty. And all Marley tiles are covered by the Marley dual guarantee: (1) That Marley tiles will not laminate or decay for 50 years (2) Free maintenance of roof tiling fixed by Marley craftsmen for 10 years.

"Not for an age—but for all time"

Send for full details and specifications

TECHNICAL DATA

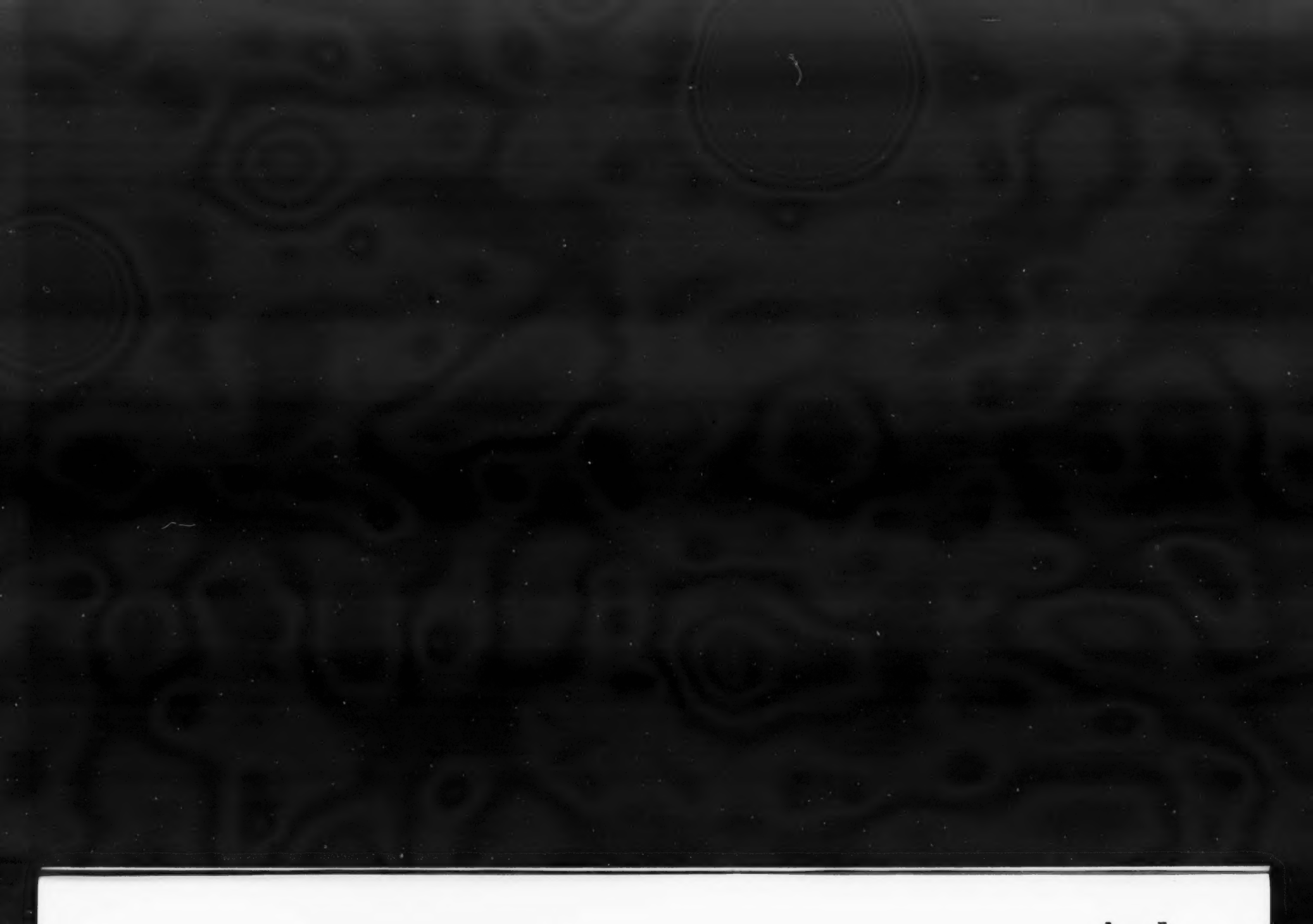
Gauge	Lap	No. of Tiles		Feet Run of Batten		Approx. Weight of Tiling in lbs.	
		per sq.	per sq. yd.	per sq.	per sq. yd.	per sq.	per sq. yd.
12"	3"	150	13.5	100	9	900	81
11"	4"	164	14.8	109	9.8	1,000	90
10"	5"	180	16.2	120	10.8	1,100	99

Marley Anglia tiles have a variable gauge which should be utilised to avoid cutting tiles at top courses.

MARLEY

The Marley Tile Company Ltd., Riverhead, Sevenoaks, Kent. Sevenoaks 2251-6

Scotland: *Bishopbriggs* 1093 **Wales:** *Pencoed* 376 **Northern Ireland:** *Belfast* 24447 **Eire:** *Dublin* 51794



AJ

THE ARCHITECTS' JOURNAL

9, 11 & 13, Queen Anne's Gate, Westminster, London, S.W.1 Whitehall 0611

No. 3152 July 28, 1955 VOL. 122

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

THEATRE DESIGN

In connection with the current International Theatre Congress, the RIBA have rifled their library files for architect's drawings for, of, and about theatres, and put the results on exhibition. Hardly an Aladdin's cave, the exhibition nevertheless sports some minor treasures and a few real jewels. There are a handful of Bibiena drawings—the full Baroque theatrical fantasy, unrestrained either in the use of decoration or the consumption of illusionistic space—which would be worth the journey to Portland Place any day. An interesting series of sheets traces the development of Drury Lane from Wren, through Adam to Wyatt, and plays a dirty trick on Adam *en passant*, by showing a revised version of his interior perspective with the figures drawn true-scale, about a third larger, so that the auditorium shrinks and the ceilings come down on the gallery-ites' heads. The indefatigable contemporary research into Georgian theatres by Messrs. Southern and Leacroft is well represented with drawings and a model, and there is the project for the new Questors Theatre designed by W. S. Hattrell and Partners—which appears to have everything, including a—wait for it—" space stage "—semi-circular, the full width of the theatre, for *Dramorama*, presumably.

MORE BIRDS OF PASSAGE

ASTRAGAL'S tally of distinguished visitors, started last week, has been lengthened by a flying visit to the National Trust's annual summer school on country houses. Clearly in view at one moment were two Deans of Art Departments from the US—Charles H. Sawyer from Yale and Marion Ross from Oregon—Guthorm Kavli from the *Kunst Industrie* museum in Oslo, Dr. Wittgenstein from the *Denkmalamt* (Ancient Monuments Office to you) in Munich and Minor Thomas from Colonial Williamsburg.

*

Not to mention the rest of the " student body," assembled on a hot stuffy July evening in the red-and-white dining room at Attingham Park to hear Ellis Waterhouse dissertate upon the English country house collections—a witty little discourse in which ASTRAGAL managed to catch quite two or three of the subtler jokes, and what with that and the distinguished company, came away with considerably boosted morale.

There is also, of course, the Russian delegation (see photo on page 109) who have been touring the New Towns, Pimlico and the LCC housing estates.

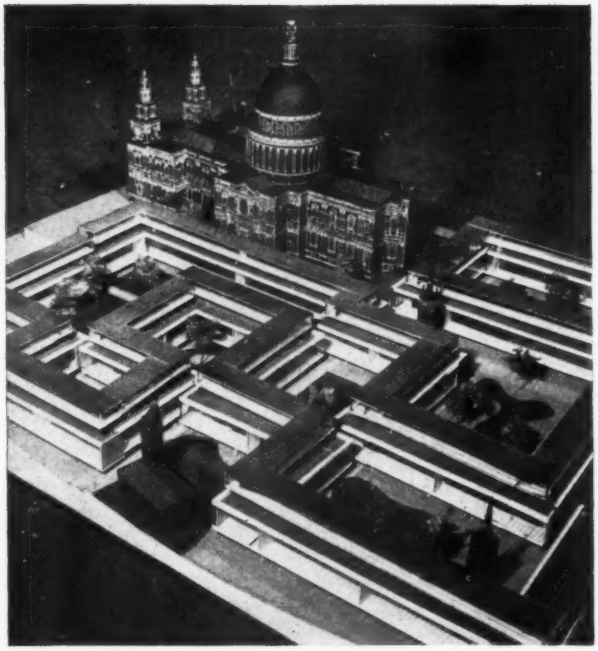
SUBTOPIA

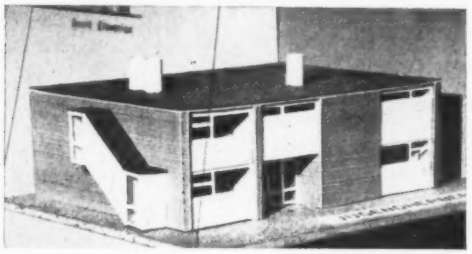
The campaign against " subtopia " has caught the imagination of Royalty, Ministers, the BBC, and the weekly and daily press. Of the last category I will have more to say in a future issue. The opportunity must not be lost, however, of saying straightaway how encouraging it was to hear no less than the Minister of Housing and Local Government, Duncan Sandys, supporting *The Architectural Review's* campaign in a speech he gave at the RIBA last week before presenting monthly medals and diplomas for private enterprise housing. " In the name of progress and convenience," said the Minister, referring to the country's architectural and landscape inheritance, " these irreplaceable treasures are everywhere being mutilated or obscured. Every fresh intrusion, whether it be a ferro-concrete lamp post, an advertisement hoarding, a public convenience, a bus shelter or a traffic sign, must be critically scrutinized with the object of seeing that it is designed and located in a way which will not needlessly intrude upon or clutter up its surroundings. In fact, the aim should be . . . to see that every new addition . . . makes a positive contribution to the character and interest of the scene."

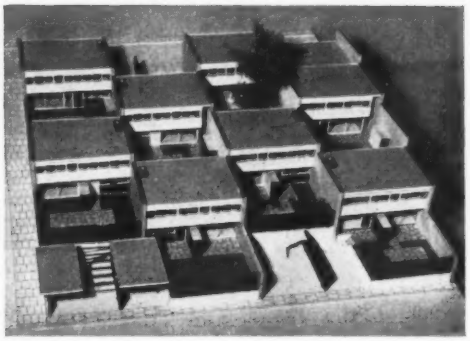
*

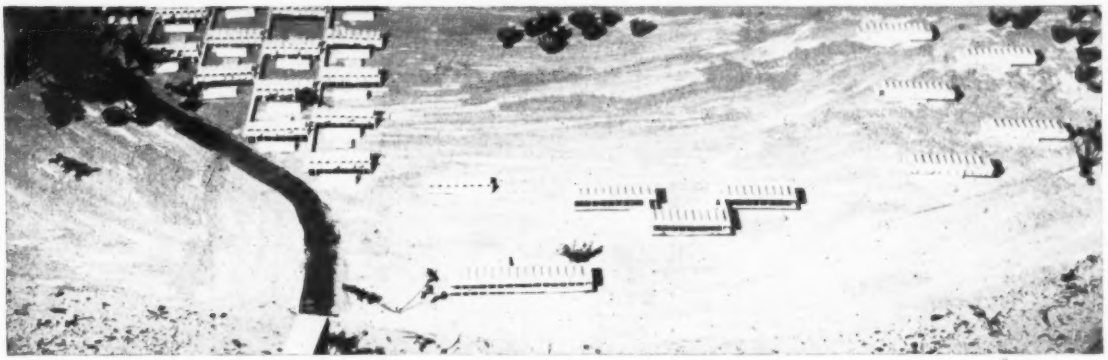
That is the kind of language we have been waiting for from someone who is in fact, if not in name, the Minister of Planning. One can only hope that he has not arrived too late.

C









Some of the designs on view at the AA exhibition of students' work. Top left: a proposal for the development around St. Paul's in the form of 75-ft. high office blocks arranged in courts around City churches in the vicinity. 48 ft. above ground level is a pedestrian deck with a further two floors of offices over. Some shops and restaurants are also provided. The design is by 4th year students, Messrs. Burder, Cons, Moore and Pickering. Top right: the winning design for the Le Corbusier prize by David Burder. The building consists of two dormitories accommodating a total of 13 with a warden's house, a common room and a kitchen for the members' use. Centre right: part of a design by an American 5th year student, John L. Davies, for housing at Acton Ponds, Boston, Mass. The model shows high density 3-bedroom houses on a terraced slope, each house having a private court which is not overlooked by any neighbour. Above: a project from the AA's Tropical Department. R. A. Diss has designed a development board headquarters on the Ogun River, Nigeria. On the left is African housing; in the centre foreground is a clinic, the headquarters, a social club and, on the right, European housing.

AA PRIZE GIVING

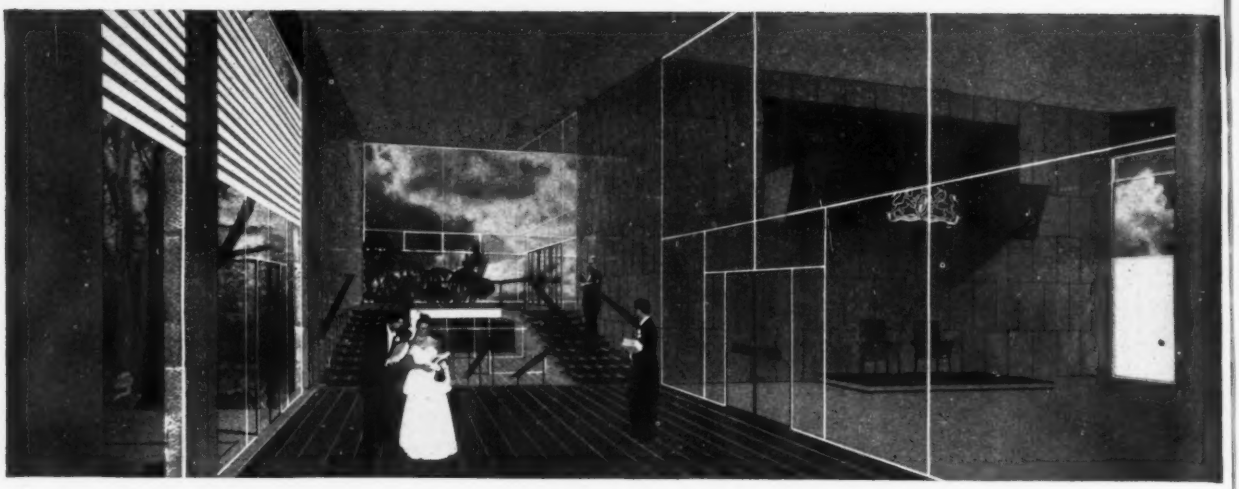
Last week space did not permit ASTRAGAL to finish his comments on recent AA events. The Association must be congratulated on its farsightedness in asking Sir John Maude to give away the prizes this year. Architects will know him best as former Permanent Secretary to the MOE during the years of the expanding schools programme and the implementation of the Butler Act. Sir John has not only a wide knowledge of architectural problems but sympathy and understanding for architecture—a very different thing. Now, as the new Permanent Secretary to the Ministry of Fuel & Power he is again concerned with an even more formidable building programme—power stations and refineries—in an era when not only is the need for power growing but the nature of power is radically and unpredictably changing. Sir John Maude (yet another who has clearly read his "Outrage" number of *The Architectural Review*) is very well aware of the problems facing his Ministry in the coming years.

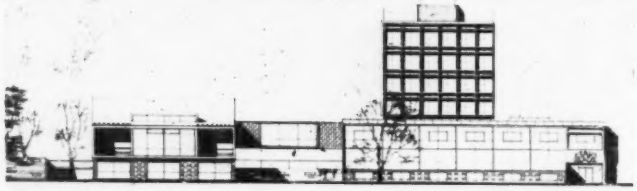
*

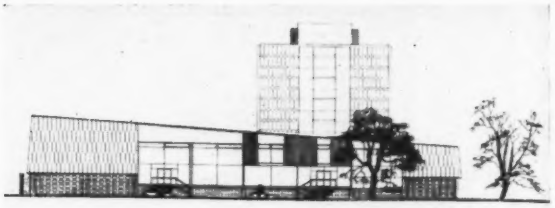
AA principal Michael Pattrick made an excellent and thoughtful speech at the prize giving which ASTRAGAL understands is reported in this issue. It should be read by all concerned with the future of architectural education, especially those at the RIBA, as it contained many very practical suggestions to overcome the great difficulties resulting from military service.

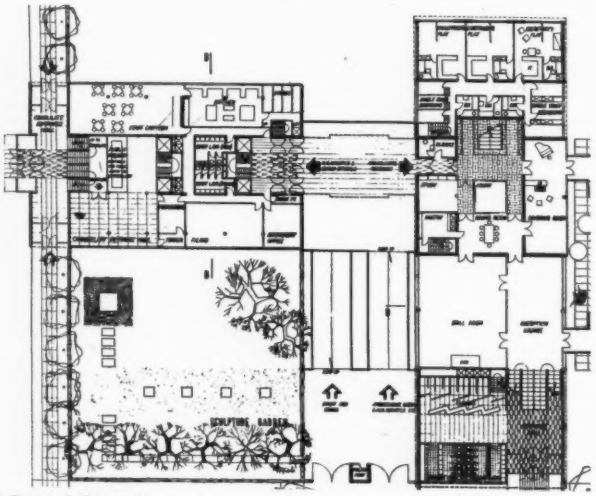
*

As a principal, Pattrick has grown in stature. His job has been far from easy. It is good to hear from him that at least the financial situation at the AA which has so overshadowed things in the last few years has improved. The principal, for all his modesty, must be given much of the credit for this.

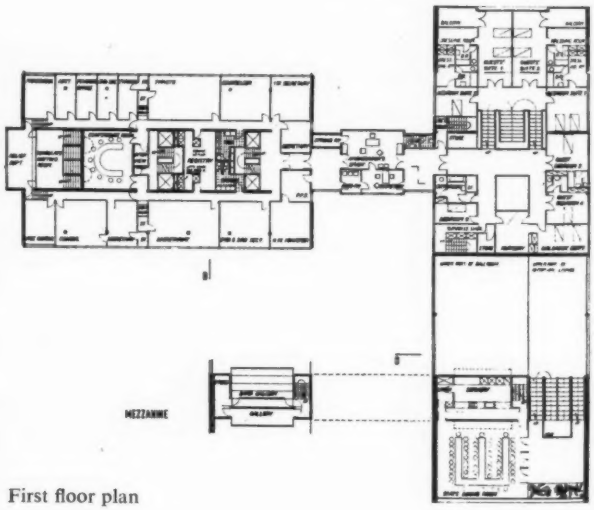








Ground floor plan



First floor plan

Winning Design for the Rome Scholarship, 1955

For the first time since the Rome Scholarship was founded in 1913 it has been awarded to a student from one of the minor schools of art. The winner is J. C. Haskell, a student at the Department of Architecture (Principal: Eric Brown) of the Kingston School of Art, and part of his winning design is shown above. The subject for the competition was "A British Embassy in a European capital," and the site plan which accompanied the competition programme showed a "flat site" on an "important corner" with a rectangle depicting a 40-ft. high museum on the south side and another representing a 50-ft. high French embassy on the east. The jury has chosen as the winning entry a design which can be described as the most contemporary in feeling of the five designs submitted. In this the jury is maintaining a welcome policy of support for contemporary architecture, the last award for a design of a markedly traditional character being made in 1950. Nevertheless, as we stated when we published the winning design for the Victory Scholarship, in the issue of January 13, we are not convinced that this kind of design programme calling for plans and elevation and little or no construction does not encourage a "*beaux arts* approach to design carried out in contemporary *clichés*." When mature architects are struggling to master the new techniques evolving in contemporary architecture and to assemble them in a contemporary style, it seems a trifle hard to condemn mere students for an inability to produce "dignity or quality of permanence to be expected in an embassy building." These are attributes which, even if desirable, would tax the design sense of one of our greatest modern architects, and if accomplished would not necessarily be immediately recognised as such by his fellows. While not decrying the achievement of Mr. Haskell and the school he represents, we suggest that it is high time that the Prizes and Scholarships Committee of the RIBA reconsiders the competition programmes as a whole, and the purpose of them. The jury's report is published on page 108.

A comparatively new feature of AA prize giving is the Le Corbusier prize. ASTRAGAL, being rather mystified by this new jewel (£100 cash with no strings attached) in the AA diadem has discovered the following: apparently Corb. gave his name to this annual prize two years ago when he visited the AA. The subject is set by an AA jury and three selected designs are sent to Le Corbusier for final choice. Last year the jury made no award and the money was added to this year's prize—it is double the usual amount. The jury this year consisted of Peter Shepheard, Max Lock and Arthur Korn.

*

The winning design by David Burder, 4th year (on page 105, with other designs from the exhibition) though not very exciting and surprisingly un-Corb-like, has avoided many of the pitfalls which this type of building—neither domestic or monumental—is heir to. It certainly is worthy of praise and prize. However, ASTRAGAL has a feeling that the particular câchet which surrounds most important prizes has not yet done so in this case. Such a name and such a school should produce important results.

IUA CONGRESS

The IUA Congress at The Hague would appear to have been a great success. So great, in fact, that the JOURNAL'S representatives have disappeared without trace. All ASTRAGAL has been able to learn is that 700 architects from 42 countries (on both sides of the iron curtain) attended, that the '57 congress will be held in Moscow and that the Dutch organisers handled all arrangements—from tours and exhibitions to discussions translated into four languages—quite superbly. The British contingent was about 30 strong, and included Patrick Abercrombie, Robert Matthew, Percy Johnson Marshall, Gontran Goulden, Robert Gardner-Medwin and C. H. Aslin—a very eminent and worthy bunch of representatives. It is quite obvious that the IUA is going to have a very important part to play in international relationships and in the development of architectural standards if it can continue the good work it has now so ably started.

ASTRAGAL

POINTS FROM THIS ISSUE

The AA's new **teaching policy** .. .. page 109

Another article on **cost planning** .. .. page 110

Office building in Hendon .. .. page 117

The Editors

COST PLANNING

IF a client said to you, "I want a factory (school, office block, weaving shed, etc.)—a good one—and it must cost no more than (say) £110,000," could you guarantee to fulfil his budget ? No, you couldn't; until the tenders came in it would be a gamble. Defined results for heating, lighting, stability, with specialist help these can be achieved with certainty, but a defined price? No.

But this week the Guest Editors present a method, "Cost Planning" (page 110), which enables the architect to remove, or at least reduce to harmless proportions, the element of gamble in designing to a set price. By reference to the cost analysis of past buildings a target price can be set for each element (external walls, internal partitions, upper floors, etc.). The price of the constructional method chosen for each element is checked against the target. For instance, the moment you get Messrs. Blogg's quotation for roof finishes you know for certain, by comparing Blogg's price with the target figure, whether your client can afford it.

Cost Analysis and Cost Planning offer the architect a new assurance in his relations with the client where they most often break down, namely, on the subject of costs.

FOR THE NEW HOSPITAL PROGRAMME

The Nuffield Provincial Hospitals Trust's new publication* marks a stage in the slow unfolding of tested functionalism in architecture. It is not in any sense a definitive volume: it does no more than broach half a dozen or so of the numberless problems of hospital design: but it treats them in a spirit of exactness which is all too new. A proportion of the volume does not deal with architecture in the traditional sense of the word, but with what we might call "pre-architecture," with matters which have to do with the client's brief. There is, for instance, a chapter on "the outpatient service," which deals with the question "why do outpatients have to wait so long ?" and another on "planning to meet demand," which means determining how many people a group of hospitals will have to serve and what will be their wants. It is not, of course, always necessary for the architect himself to undertake enquiries of this kind. But it is certainly his business, as the man responsible for the usefulness of a building, to see that they are done. Inadequate briefing is as likely a cause for a building's failure as any defect of structure or of planning in the narrow sense. It is the most intractable of all sources of

* *Studies in the Functions and Design of Hospitals.* Geoffrey Cumberlege, Oxford University Press. 63s.

architectural weakness: for unless the architect has irrefutable facts at his elbow, he cannot contest the client's opinion on the requirements. The Nuffield Foundation does not show architects how to build hospitals. The ward blocks designed by the Foundation at Greenock and Belfast and the Diagnostic Centre at Corby are only to test certain ideas: they are not exemplars. The purpose of the Foundation is rather to build up a body of hospital building doctrine to which everyone may refer with confidence. It is hardly possible to overestimate the value of such a service. Though the findings of this report are so limited in their scope they at least come to us at the right time, for we are at the beginning of a spell of hospital building. The mistakes they will save us, if they were converted into money, must surely dwarf the outlay. The Nuffield Foundation is already extending its investigations to laboratories and farm buildings. If only we were on the way to discovering as much about the many other classes of design which are still shrouded in mystery the architect could feel more confident about his usefulness.

LETTERS

Anthony D. C. Smith
Chairman The Hardwood Flooring Manufacturers' Assn.

Brian Peake, F.R.I.B.A.

David Allford, A.R.I.B.A.

Hardwood Tests

SIR,—The recently published Report of the Director of Building Research for 1954 contains, as usual, much of general interest, but a point in particular which is deserving of the notice of architects is a virtual admission that laboratory tests to determine the wear resistance of flooring materials are a failure, even if such admission is cloaked in the official wording "reliable methods of test have yet to be devised"!

Although this Association has always co-operated fully with both the Building Research Station and the Forest Products Research Laboratories in the exchange of information, we have often had to disagree with their findings as a result of wear-resistance tests which have not been confirmed by practical experience.

We have always maintained that the suitability of a particular flooring timber for a particular use can only really be tested under site conditions and year after year individual members have carried out their own practical tests in this way to enable them to advise users of hardwood flooring with the utmost confidence. This has been increasingly necessary during the years since the war when the embargo on the import of traditional flooring timbers made necessary the trial and use of many new species.

That a number of these have become so widely used and given complete satisfaction, often under difficult conditions, is proof that reputable manufacturers are competent to assess the qualities of a hardwood more accurately than any laboratory and can be trusted to recommend a species suitable for a particular use.

Moreover, they consider this to be an essential part of their service, with which they try to meet the requirements of the architectural profession and the building industry.

ANTHONY D. C. SMITH.

London.

Houses That Didn't Win Medals

SIR,—Re your frontispiece (Houses That Didn't Win Medals) AJ, June 30. Could it be that other architects too were confused at the meaning of "private enterprise housing"—ugly term? To me this has always meant houses built speculatively for sale.

In any case this architect at least failed to notice the existence of the MOHLG Competition, and he reads your columns fairly regularly, even as you will see by the address, while on holiday.

BRIAN PEAKE.

Speyside.

SIR,—Your editorial comment on the MOHLG awards (AJ, June 30) states that entries of a similar high standard to the houses illustrated were not submitted in Greater London.

I understand that the Parkleys flats at Ham (architect Eric Lyons) were submitted, in which case it seems incredible that they received no award.

They are surely the best example of small-scale housing development in England. The layout of blocks around linked courtyards and the individual planning of flats is extraordinarily good and I say this in spite of personal reservations regarding architectural treatment and detail.

In view of the architectural standard of the awards in other regions and particularly as no award was made in Greater London, I should be interested to learn the criteria by which entries are judged.

DAVID ALLFORD.

Ham Common, Surrey

RIBA

Rome Scholarship Award

The Faculty of Architecture of the British School at Rome announce the award of the Rome Scholarship in architecture for 1955 to John Christopher Haskell of the Kingston School of Art. Mr. Haskell is 23 years of age and took his final examination of the RIBA in June 1954. The Rome Scholarship in Architecture is provided for by an annual grant (of £400) made to the British School at Rome by the Council of the RIBA and is normally tenable for two years but may be prolonged in exceptional cases for a third year.

The Faculty of Architecture in announcing the award state that they have to record their disappointment with the general quality of the work submitted in the final stage of this year's competition, the subject of which was "A British Embassy in a European capital." It seems evident that insufficient consideration was given by competitors to the broad solution of the problem as a whole with the result that site planning and general massing were poor—none of the schemes submitted genuinely met the requirements of the programme nor gave an adequate answer to the planning problem, and all the designs contained a number of obvious mistakes. The architectural expression adopted by most of the candidates showed little of the dignity or quality of permanence to be expected in an embassy building, characteristics which should be attainable however "modern" the "idiom" or the constructional system that is used. The Faculty, nevertheless, considered it desirable that an award should be made, and since no outstanding scheme was presented to them they have chosen that which, in their opinion, showed the nearest approach to all-round competence and the candidate who held out the greatest promise of being able to benefit by the opportunity for post-graduate research and foregn travel which the Rome scholarship gives.

The complete list of Rome scholars and the schools they attended is given below. Twenty-seven awards have been made, of which nine have gone to students of the Liverpool school, five to the Edinburgh school, three to the AA school, two to the Manchester school, two to the Durham school and one each to the remainder.

1913 H. C. Bradshaw, Liverpool University School of Architecture
1914 P. D. Hepworth, A.A. School of Architecture
1920 F. O. Lawrence, Liverpool University School of Architecture
1921 S. R. Pierce, A.A. School of Architecture
1922 S. Welsh, Glasgow School of Architecture
1923 R. A. Cordingley, University of Manchester

1925 G. A. Butling, Liverpool University
1926 A. D. Connell, New Zealand, London University Atelier
1927 R. P. Cummings, A.A. School of Architecture
1929 J. B. Wride, Welsh School of Architecture, Cardiff
1930 W. G. Holford, Liverpool University
1931 C. St. C. R. Oakes, Northern Polytechnic, R.A. Schools
1932 R. P. S. Hubbard, Liverpool University
1933 A. G. S. Fidler, Liverpool University
1934 F. A. C. Maunder, Armstrong College, Durham University
1936 P. E. D. Hirst, Liverpool University
1937 W. T. C. Walker, Edinburgh School of Architecture
1938 A. B. Wylie, Edinburgh School of Architecture
1939 R. Cowan, Edinburgh School of Architecture
1947 R. Fraser, Edinburgh School of Architecture
1949 I. S. Melville, University of Liverpool
1950 E. Carter, Durham University School of Architecture
1952 D. I. Black, Edinburgh School of Architecture
1953 J. A. Graham (Special Grant), Manchester University
1954 G. I. Lacey, Liverpool University
P. S. Staugnton (Special Rome Scholarship), Melbourne University School of Architecture
1955 J. C. Haskell, Kingston School of Art

The competition entries are on view at the RIBA until July 29.

AA

New Teaching Policy

In his speech at the annual prize giving, Michael Pattrick, Principal of the AA, listed the changes and ideas which had been put into operation in the past session. First was the department for the study of Tropical Architecture. This had double the expected number of students for the first session, and there is a waiting list for the second session.

Second was the reintroduction of a modified form of the unit system. Each year is broken down into small units of about 15 students each under the charge of a unit master who stays with the unit for about a term and a half. The staff time on administration has been cut down and shared. The small classes allow a much more intimate and informal type of instruction, said Mr. Pattrick, which is often preferable to formal lecturing. Units of different years are placed in the same studio in order to encourage interest in each others' work. A third idea started was collaboration with the Brixton and Hammersmith Schools of Building. Their plant and equipment has proved very suitable for practical training, and the AA are most grateful for the help these schools have given.

Michael Pattrick then referred to the AA school's recent financial troubles. A good response had been received to the AA's request to members and commercial firms for scholarships. As a result, although the fees have had to be raised, no student has had to leave on that account, and applications to enter the school had gone up.

Mr. Pattrick continued:—

"We often hear complaints that the prestige and status of architects abroad is much higher than at home. If this is true, and I think it is, we have no one but ourselves to blame. The whole conduct of the profession is controlled by architects; we are not hampered by outdated legislation; nor are we tied to any moribund academy, but we have really done very little ourselves in the last twenty years to improve the standard of training. Perhaps the present exceptional demand to get assistants has made us less critical of quality, but it is not generally known that the majority of those qualifying do so without any form of full-time school training at all.

"The Board of Education at the RIBA has naturally been rather concerned about the lack of progress in training, but there has been too much insistence on their *role* as an examining body and one would like them to play a much more positive part in education. We shall not achieve better design by unifying tests on history or building construction. The improvement can only come when it is possible for all students to spend part of their training at full-time study in a school.

At the invitation of the Government a Russian housing delegation has visited this country for the first time since the war. They have been shown BRS, Harlow, West Ham and LCC and Westminster housing estates. Last week they were given a dinner at the RIBA. Above they are shown at the Building Centre, in which they were so interested that they altered their programme in order to be able to make a second visit. From left to right: Raisa Bobrova, an attaché from the Russian Embassy; F. R. Yerbury, Director of the BC and consulting editor of the JOURNAL; *Pyotr Novozhilov, head of the Russian Ministry of Construction Materials; Vladimir Promyslov, the leader of the delegation and first deputy chairman of the Moscow City Soviet and Chief of the Moscow Building Trust; Nicolai Smirnov, head of the Department of Dwellings and Civic Buildings of the State Building Committee of the Council of Ministers of the USSR.*

"It has recently been decided that after 1962 there must be an additional year of post-graduate office practice before qualifying for Associateship. I quite agree that if the younger architect is to carry the full responsibilities that are implied in this qualification, he must be given adequate time to get the necessary experience. But if two years of practice are to be tacked on to five years of school, plus two more of national service, the whole business is becoming exceedingly long. Certainly if this is to be the general pattern, the timing and sequence of the different parts must be much more carefully regulated than at present.

"I believe strongly that national service should be done first. Parents need not look on it as a waste of time. For most boys it is a useful interim period for growing up. It allows adjustment from the strict control of school life to a much harder self-discipline which is needed if the best is to be got out of a more adult form of education. Of course at 19 or 20 the applicant is much surer than he was at 17 about what he really wants to do himself, and we find him more discriminating and generally far easier to teach.

"For these ex-service students I believe that four years at an architectural school might prove to be better than five, and when they leave, they can go straight into the profession and stay there. The present arrangement for deferment selected by the majority, entails a few months in an office after taking the five year diploma course and then two years with services. This seems to give them the worst of all worlds.

"It might seem strange at a time when building is becoming more complex, to advocate a condensed or shortened course, even for a few, but in architecture aesthetic maturity does not come after four, five or even seven years, and if one expected the poor student to be word-perfect in all the technical subjects, then he would never leave school at all. The length and timing of the course must be arranged so as to retain a continuing enthusiasm, for this is the only real spur to creative ability. Rates of development vary, but for nearly all students, it is very slow after the fourth year and it is common knowledge in every school of architecture that the thesis in the fifth year is for quite a number, nothing more than just another long design subject.

"It might improve things if those of real ability were allowed to pass to office training at the end of their fourth year and then come back to do their thesis when they had had a few years' experience. If this were done, we could then expect the thesis to be nearer the true meaning of that word—something, in fact, which might prove to be a real contribution to knowledge and which was not only valuable to the student, but a help to those who followed, for after all the spirit of our teaching should be collaborative rather than competitive.

"There should in any case be many more opportunities for post-graduate research. Much of the work which has to be done requires men of mature outlook who should be given an opportunity to leave practice for a period and assist with education. On the technical side there is a deplorable lack of good text-books which are really up to date. A group of post-graduate students working in the School could be most beneficial. The A.A. has always prided itself on using young practising architects, but it must be remembered that present-day practice brings with it too much rush and far too much worry. The only worry that the teaching architect should have is the progress of his pupils.

"To stick to teaching for too long has led to staleness, but every school should have a few instructors whose total commitment was to the school and whose work was a mixture of research and instruction; for these ought to go hand in hand. In my view these posts should be the most highly paid, the most trusted, and the most sought after. They should be given only to those who had that rare gift of acquiring knowledge and also the ability to impart it.

"There is room for more fundamental work in architectural education itself. What, for instance, are the best and scientific ways to make a student's mind think in three dimensions? How can one impart a sense of structure to those who do not have it naturally? At the moment too much time is taken up in trying to perfect systems which in essence are still based on the beaux arts. Although we feel rather

(*continued on page* 116.)

This, the eighth article in the series by our Guest Editors, is written by James Nisbet, the quantity surveyor member of the team, who was responsible for working out the method of cost planning. Nowadays, cost exercises such a decisive influence in the choice of technical expedience, and is therefore so vital a thread in the relationship between consumer and supplier that it seems wrong to view it as a momentary but irritating hurdle in the path of creative activity. In admiring and striving for order and regularity in our buildings, economy is too rarely acknowledged as an integral part of our motive, which we prefer to think of as aesthetic. Cost planning is a method by which the architect can plan, at an early stage in the sketch design, the distribution of money among the parts of a building. It enables cost to join with all the other factors, such as space and circulation, weather resistance and stability, and the exigencies of construction that, collectively, determine the design.

THE COST OF BUILDING

COST PLANNING

The Guest Editors here present the method as a practical device for the use of architects and quantity surveyors. They will be glad to receive information and comment that testing of the method in practice may reveal.

To demonstrate cost planning a hypothetical example is worked out stage by stage. This involves certain assumptions due to gaps in our cost knowledge—gaps which further testing of the method on a variety of buildings will fill.

The Need for Cost Planning

Cost planning is always desirable: (*a*) where the client has stated a maximum limit of cost for a project, or where it would be uneconomic to exceed a certain sum; (*b*) where it is wished to adopt new or unusual methods or materials without incurring additional or excessive expense.

With the present wide range of materials, services, structures, and appliances and the variety of possible planning arrangements it is becoming more difficult to meet a cost limit without detailed guidance at all stages of design.

Early cost investigation of a projected building has mostly been by the use of a rate per cubic foot, to discover the probable *total cost*. The accuracy of this method depends almost entirely on having available the cost figures of buildings which are practically identical in quality, constructional method and size. But with building technique now so complex and varied such a contingency would be a matter of luck. In any case it is impossible to assess the effect of changes of constructional detail on the cube figure. In other words, it would be impossible to predict the effect on the cube figure of a change from clinker block to plaster slab partitions since it is not known how much was allowed for partitions in the original figure.

While it is probably fair to assume that the " cube " method worked very well when building was much more localized, prices stable, services few and simple, and buildings in each category very similar in design and planning, it has been proving unsatisfactory, particularly since the war. The reasons are not hard to find.

In addition to the many new materials, appliances, methods of construction, etc., new types of building and concepts of design and planning have been introduced. These developments have accompanied considerable social changes, and changes in the financial position of clients. The building industry is faced with a demand which it cannot meet for some considerable time and building work has required guidance and direction at a national level. Local authorities and government departments have become the major clients, and have demanded the best value for money. The cost of building has forced the private client to require the architect to build within narrow limits of cost. As clients state these limits when commissioning architects the approximate estimate has been used to satisfy the architect and client that they can build for the sum of money allowed.

Many architects are of the opinion that the " cube " method does not give them this assurance and have therefore been faced with the task of preparing an estimate based on approximate quantities. To do this, they have to consider the project in sufficient detail to specify the constituent parts of the building. When the estimate has exceeded the cost limit much work has been in vain. To avoid this a more positive method of designing to a stated cost is now being demanded.

Cost planning is such a method. It provides the architect with detailed yardsticks of cost for each constituent part of a proposed building at the beginning of the design stage, so that as each part is considered a choice may be made which will satisfy not only the functional and aesthetic requirements but also the cost requirements. Limits of cost for each part have to be calculated so that any alteration to the design can be readily evaluated and its effect shown on total cost. This calculation requires the method of analysis which was described in article 4 (AJ February 24). Information obtained in this manner can be used to work out the cost plan.

Accommodation and cost

Apart from the few cases where cost is of no material importance to the client, the architect finds himself in either of two situations: (i) *where the limit of cost is fixed.* This

may be in the form of a fixed total sum or a fixed sum per unit of accommodation. In the first case the architect must strike a balance between the area of accommodation and the standard of construction/equipment which can be provided, but in the second case he has no such discretion since the standards are determined by the fixed sum per unit of accommodation. The speculative office building is an example of the second case, where the anticipated rental is the dominant factor and the area might be determined by the site or the capital available. (ii) *where the function of the building is defined without reference to total cost.* In this instance area and equipment must be provided as economically as possible since the client is unlikely to have unlimited resources and the architect should discipline himself within his own cost limits. In both cases, in the early stages, the architect and his client should determine an acceptable balance between accommodation and cost. For this purpose a number of cost analyses (such as those published by the AJ) are of great value, for they show what accommodation, finishes and equipment were bought for the money spent.

With a preliminary decision on total cost and area of accommodation the architect can proceed with his outline plan (Fig. 1). At this stage he need make no decisions as to structure, materials or finishes that might later prove abortive.

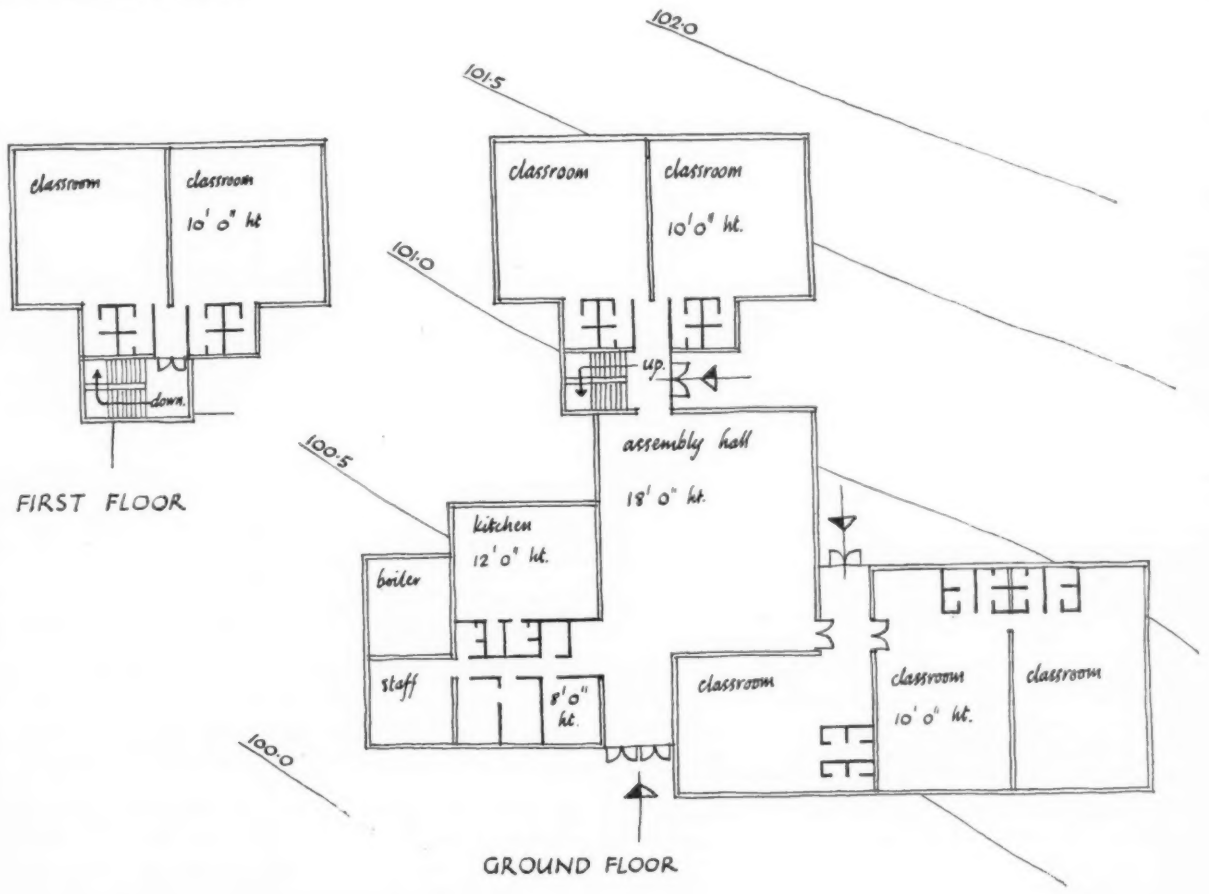
To work out a cost plan, the following information is needed: (*a*) The outline plan as shown below (Fig. 1).

Fig. 1. Sketch plans of school, scale 32 ft. to 1 in. A cost plan can be prepared when a reasonable arrangement of accommodation has been evolved, and before constructional methods are considered.

(*b*) Certain ratios calculated from the outline plan (Fig. 2). (*c*) An indication of the standard of construction, finishes, fittings and services required. (*d*) A few cost analyses of other buildings with a detailed specification for each element, and certain critical ratios (Fig. 3). (*e*) Information as to site and functional requirements, *e.g.*, soil bearing pressure, criteria temperatures, etc. This information should be available from the brief. (See article 6, the Architect's Contribution, AJ June 30.)

Assuming that the building at Fig. 1 represents a primary school for which the cost limit is £146 per place, a decision to provide 44 square feet per place would result in a cost per square foot of 66/4d. Before apportioning this sum among the elements, it should be reduced to allow for uncertainties which affect the price before the tender is received, such as: (*a*) Fluctuations in the price of materials and labour before tender date. (*b*) Market fluctuations and variations of price level between different builders. (*c*) Constructional details which cannot be defined at the design stage.

This reduction will help to absorb increased cost if all the above factors turn out to be unfavourable, and represents a determined effort to avoid the "inevitable extra." For the example demonstrated here, 5% reduction is allowed, giving a total target cost of (66/4 less 3/4) = 63/- per sq. ft. of floor area. From this point the detailed selection of element target costs can proceed, as demonstrated on page 113.



DATA FOR COST PLAN OF PROPOSED PRIMARY SCHOOL

Total floor area	12,000 sq. ft.	Upper floor area	2,500 sq. ft.	Roof area	10,000 sq. ft.
Floor area in 1 storey (normal span)	5,200 sq. ft.	Ratio : $\frac{\text{Wall}}{\text{Total floor area}}$	0·450	WC compartments	24
				Single internal doors	44
Floor area in 1 storey (large span)	1,800 sq. ft.	Ratio : $\frac{\text{Window and door}}{\text{Total floor area}}$	0·300	Double internal doors	8
Floor area in 2 storeys	5,000 sq. ft.	Ratio : $\frac{\text{Enclosing walls}}{\text{Total floor area}}$	0·750	Number of staircases	1
Floor area in 3 storeys	—	Roof lights	250 sq. ft.	Storey height	10 ft. 0 in.
				Staircase width	3 ft. 3 in.

Fig. 2. Information based on the sketch plan (Fig. 1) and used in interpreting figures in the cost analysis (Fig. 3) to decide element targets. See for example "Staircases" (p. 113).

Gaps in knowledge

There is one important point to be made in the working out of element targets. In some cases, the factors affecting the element in the proposed building will not be the same as those in the cost analysis being used. For example, in foundations the bearing pressure may be different, in upper floor construction the spans and loadings may not be the same. While the effects of such differences on the cost are not easy to calculate, a more reliable estimate can be made than by present methods, since this system of cost planning requires the architect and quantity surveyor to make a systematic examination of the factors affecting the cost of a project, at an early stage. Furthermore, in many cases guidance can be obtained by referring to the analysis of another building where the factors and conditions correspond more closely. This emphasizes the need for systematic analysis of such elements in a number of buildings to show, for example, how foundation cost varies with bearing pressure, or how upper floor cost varies with span and with loading. A number of cost analyses with the relative constructional and design information, as shown in Fig. 3, can allow this kind of investigation to take place, but there are many elements which should be the subject of a special inquiry. The longer cost analysis and cost planning are practised the fewer will be those occasions when the architect relies on a "hunch" in deciding a particular element target. The cost analyses being published by the AJ should form useful material for investigation of cost relationships of this kind.

When the cost plan is completed the total target (Fig. 4) indicates that there is 0/4¾ per sq. ft. undistributed (63/- less 62/7¼). The architect may either work to a total of 62/7¼ and maintain a larger reserve than he had originally intended, or he may distribute the 0/4¾ among other elements to enhance the quality of the building. If the total exceeds the target figure, reductions may have to be made; for example, it may be necessary to do without the improved wall finishes that were allowed for in the wall finishes target—or a cheaper method of providing the roof construction may have to be found.

The cost plan, however, may show that it will be impossible to achieve the target cost without seriously impairing the quality of the building. To know this at such an early stage, and to be able to present to the client a reasoned case, based on cost planning would, of course, be invaluable.

In this example, no consideration has been given to fluctuations in the cost of the materials and labour between the date of the cost analyses used and the date of the cost plan. But the figures can be adjusted in accordance with the movement of building prices. Where the architect is satisfied that the total target cost is reasonable, a cost analysis, irrespective of its tender date, may be used to indicate the appropriate distribution to the elements of the money available.

Use of the cost plan

With the cost plan prepared, the architect has a cost target for each element. For example, in the case of roof construction, which was allotted 7/10¼, this multiplied by the floor area gives a total sum of £4,712. This could be shown as 855 sq. yds. of roof decking and waterproof finish at £3 per sq. yd. and 200 sq. yds. at £4 per sq. yd., and a 3,000 ft. run of eaves at 9/- per foot run. With this information, the architect can make a choice fully aware of the effect of his choice upon the cost of the job. In the case of construction not provided by sub-contractors or suppliers the architect would have approximate quantities prepared by his q.s. of the method or alternative methods of construction being considered, to see whether they achieve the cost target Periodic checks will be necessary to make sure that costs are within the limits set.

As the design proceeds it may appear desirable that some elements should receive a greater proportion of the cost than the cost target allows. In this case, corresponding reductions should be made in other elements. Similarly, if an element cost is less than the target, the spare money may be used on other elements.

At the conclusion of the design stage, the element costs should have been decided with some assurance that the ultimate cost will be within the budget. It will be prudent, however, to check the costs of the building as a whole before starting working drawings. At this stage the major portion of the specification should be settled and an estimate based on approximate quantities, preferably by elements, should be prepared. A favourable outcome of this estimate will be the best assurance that working drawings and quantities can be prepared and tenders received without the haunting fear that distasteful reductions or unpleasant explanations will have to be made before the job can start.

PROPOSED PRIMARY SCHOOL CALCULATION OF ELEMENT COSTS

GENERAL ELEMENTS

N.B. All element costs are expressed in shillings and pence per sq. ft. of floor area. The net total cost target is 63s.

Preliminaries and Insurances. 3s. 4d.
Some builders price the site overheads in Preliminaries, others distribute them among the pricing rates: there is no universal practice. Thus cost analyses are not always very helpful in deciding how much to allow for this element. By making it a separate element, abnormal preliminaries, such as temporary roads, gantries, and so forth, can be allowed for, and in checking the other element prices against targets there is no need to add in each case for preliminaries. In this case 5 per cent. of the total is assumed, making the element target 3s. 4d.

Contingencies. 1s. 8d.
This is the easiest element to budget for, 2½ per cent. for new works will be considered reasonable, 1s. 8d.

STRUCTURAL ELEMENTS

Works below ground floor level. 3s. 6¾d.
Single storey area (7,000 sq. ft.).
The cost analysis at Fig. 3 indicates this element at 5s. 3d. for single-storey building in load-bearing brickwork, specification as shown, where the bearing pressure was 1½ tons/ft. super and the soil conditions were clayey-silt with a water table of 4 ft. 6 in.
If the assumed bearing pressure for the proposed building were three tons per sq. ft. and the sub-soil gravel, and the water table could be neglected, the cost of the works below ground floor level should be cheaper. It is assumed that a saving of about one-third can be made on the concrete foundation to walls. A further economy could probably be effected on foundation walls, and if these were reduced in height by 1 ft. a saving of about one-third could be made. If, therefore, the foundation walls and the foundations accounted for about 2s. 3d. per sq. ft. of the element total, a saving of one third would amount to 9d. per sq. ft.
For this example it will be assumed that a reasonable target for the single-storey area could be 5s. 3d. less 9d. = 4s. 6d.
Two storey area (5,000 sq. ft.).
Foundations for two-storey and single-storey building in load-bearing construction are often the same because of empirical methods of foundation design. If this is true (and here, further investigation would be worth-while) the target for the two-storey area would be half the single-storey target $\frac{4s.\ 6d.}{2} = 2s.\ 3d.$
The element target would then be:

7,000 sq. ft. at 4s. 6d.	= 31,500 shillings
5,000 sq. ft. at 2s. 3d.	= 11,250 shillings
12,000 sq. ft.	42,750 shillings

$$\frac{42,750s.}{12,000} = 3s.\ 6\tfrac{3}{4}d.$$

External walls and facings. 4s. 0d.
The cost of this element in Fig. 3 is 4s. 3d. and the ratio $\frac{\text{wall}}{\text{floor}}$ is 0·480. In the proposed school the ratio is 0·450. If the same standard of construction and finish is required, this element would be $\frac{4s.\ 3d. \times 0{\cdot}450}{0{\cdot}480} = 4s.\ 0d.$
It is assumed that first and second floor walls cost the same, and that any additional cost, such as the provision of a hoist will be included in Preliminaries and Insurance.
The addition $\frac{\text{wall}}{\text{floor}} + \frac{\text{windows and doors}}{\text{floor}}$ indicates the economy of the design. A high ratio indicating too great an area of enclosing walls to clothe the building. The target, therefore, can also be adjusted by reducing the area of the enclosing walls.

Frame.
It is assumed that the architect wishes to provide a hall without steel column supports. Thus a target cost for frame is not required, but the element Roof Construction will probably require a larger proportion of cost. If the building were to be framed, one would need a number of analyses of different types of frames with a description of their performances and design characteristics; e.g., the spacing and spans of the frame; the floor, roof and wind loads, the number and height of storeys. A target cost then would be decided as follows:
Single-storey (generally 10 ft. high, 25 ft. span)
5,200 sq. ft. at 6s. 6d. = 33,800 shillings.
Single-storey (generally 18 ft. high, 40 ft. span)
1,800 sq. ft. at 7s. 3d. = 13,050 shillings.
Two-storey (generally 10 ft. high, 25 ft. span)
5,000 sq. ft. at 7s. 6d. = 37,500 shillings.

12,000 sq. ft.	84,350 shillings.

The target, if needed, would be:

$$\frac{84,350s.}{12,000\ \text{f.s.}} = 7s.\ 0\tfrac{1}{2}d.$$

Upper floor construction. 0s. 9¾d.
The cost analysis generally most suitable for cost planning may not contain all the elements required. Reference must then be made to other cost analyses, and this would be necessary for the upper floor construction target in this example. Assuming that another cost analysis gives 1s. 3½d., with a total floor area of 15,000 sq. ft. and an upper floor area of 5,000 sq. ft. and that the span, loading, etc., are the same, the target for the proposed school would be:

$$\frac{1s.\ 3\tfrac{1}{2}d. \times 15,000 \times 2,500}{5,000 \times 12,000} = 0s.\ 9\tfrac{3}{4}d.$$

1s. 3½d. × 15,000 gives the total cost of the element and this divided by 5,000 (area of the upper floor) equals the cost per sq. ft. of the upper floors in the cost analysis referred to. If this is multiplied by 2,500 (upper floor area in Fig. 1) it gives the total cost of the element. The target cost is then this figure divided by 12,000 (total floor area of Fig. 1).
Variations in span, loading, sound insulation value, etc. between the analysis being used, and the proposed building would influence the target cost chosen. The more cost planning is used, the more cost information will accumulate to provide guidance for adjustments of this kind.

Staircases. 0s. 4d.
Once again reference must be made to another cost analysis, which gives 1s. 1d., the total floor area being 15,000 sq. ft.; there were 2 two-storey staircases 3 ft. 3 in. wide, the storey height being 10 ft. 0 in. The staircases thus rise through a total height of 40 ft. If, in the proposed building, the staircase width is 3 ft. 3 in. and the storey height 10 ft. 0 in., the element cost could be calculated as follows:

$$\frac{1s.\ 1d. \times 15,000 \times 10}{40 \times 12,000} = 0s.\ 4d.$$

$$\frac{\text{Element cost per sq. ft. (Fig. 3)} \times \text{total floor area (Fig. 3)} \times \text{storey height (Fig. 2)}}{\text{Total rise of staircases} \times \text{total floor area (Fig. 2)}}$$

If the requirements should be different from those in the assumed cost analysis, e.g., if fire protection required a wider staircase, the element cost would have to be increased. Here conditions are assumed to be the same.

Roof construction. 7s. 10¼d.
It is assumed that the roofs are similar in both the analysis and the project to be cost planned, except for the assembly hall where provision has to be made for supporting the roof over a larger span.
In the cost analysis at Fig. 3 the assembly hall was metal decking over an area of 1,800 sq. ft., probably with a span of about 4 ft. and supported by a frame at a cost of 1s. 3d. In the proposed building the intention is to span 40 ft. across the assembly hall, which will involve additional cost. The additional cost will be based on the intention to provide the additional strengthening to span the 40 ft. at a cost 25 per cent. less than the element "Frame" in Fig. 3. The amount to be added back is therefore:

$$\frac{1s.\ 3d. \times 75}{100} = 0s.\ 11\tfrac{1}{4}d.$$

The cost of the element of roof construction may, therefore, be calculated as follows:

$$\frac{(8s.\ 10d. \times 11,400 \times 10,000)}{12,100 \times 12,000} + 0s.\ 11\tfrac{1}{4}d.$$

= 6s. 11d. + 11¼d. = 7s. 10¼d.

$$\frac{\text{Element cost per sq. ft. (Fig. 3)} \times \text{total floor area (Fig. 3)} \times \text{roof area (Fig. 2)}}{\text{Total roof area (Fig. 3)} \times \text{total floor area (Fig. 2)}}$$

Roof Lights. 1s. 0d.
Assuming the same standard of specification as in the cost analysis, the element would be:

$$\frac{1s.\ 3d. \times 11,400}{300 \times 12,000} \times 250 = 1s.$$

$$\frac{\text{Element cost per sq. ft. (Fig. 3)} \times \text{total floor area (Fig. 3)} \times \text{area of rooflights (Fig. 2)}}{\text{Area of roof lights (Fig. 3)} \times \text{total floor area (Fig. 2)}}$$

Windows and external doors. 5s. 8¾d.
In many cases it is not possible to make these separate elements, as they are often in the same surround. But where possible they should be kept separate as two elements to assist in the

cost planning of buildings, such as multi-storey buildings where the number of external doors would be small in relation to total floor area. Assuming in this case windows and doors equivalent to galvanized steel in quality, similar to Fig. 3, the cost target for this element would be:

$$\frac{\text{4s. 7d.} \times 0{\cdot}300}{0{\cdot}240} = \text{5s. 8}\tfrac{3}{4}\text{d.}$$

$$\frac{\text{Element cost per sq. ft. (Fig. 3)} \times \text{window : floor ratio (Fig. 2)}}{\text{Window : floor ratio (Fig. 3)}}$$

Glazier. 0s. 8¾d.

This element is calculated in the same manner as the windows and external doors since the same ratio (0·240) applies.

$$\frac{\text{7d.} \times 0{\cdot}300}{0{\cdot}240} = 8\tfrac{3}{4}\text{d.}$$

PARTITIONING ELEMENTS

Internal partitions. 1s. 9d.

This target is not so easily calculated as the structural elements, and must depend upon an appraisal of (*a*) the partition element costs relative to their use and type in several buildings, (*b*) room heights, (*c*) the general arrangement of the plan as indicated by the line diagram.

It is assumed that an appraisal of the known facts suggests a target of 1s. 9d.

W.c. doors and partitions. 0s. 8½d.
Internal doors. 0s. 10½d.
Ironmongery. 0s. 7¾d.

These three elements may be considered together since their targets may be based on their number per total floor area. In the cost analysis, 21 w.c. doors and partitions accounted for 0s. 7·5d. for a total floor area of 11,400 sq. ft. In this case 24 w.c.'s are assumed:

W.c. doors and partitions :

$$\frac{\text{0s. 7·5d.} \times 11{,}400}{21 \times 12{,}000} \times 24 = \text{0s. 8}\tfrac{1}{4}\text{d.}$$

$$\frac{\text{Element cost per sq. ft. (Fig. 3)} \times \text{total floor area (Fig. 3)} \times \text{number of compartments (Fig. 2)}}{\text{Number of compartments (Fig. 3)} \times \text{total floor area (Fig. 2)}}$$

Internal doors:

$$\frac{\text{1s. 0d.} \times 11{,}400}{66 \times 12{,}000} \times 60 = \text{0s. 10}\tfrac{1}{2}\text{d.}$$

$$\frac{\text{Element cost per sq. ft. (Fig. 3)} \times \text{total floor area (Fig. 3)} \times \text{number of doors (Fig. 2)}}{\text{Number of doors (Fig. 3)} \times \text{total floor area (Fig. 2)}}$$

Ironmongery:

$$\frac{\text{0s. 9d.} \times 11{,}400 \times 60}{66 \times 12{,}000} = \text{0s. 7}\tfrac{3}{4}\text{d.}$$

It will be noted that double doors have been taken as equal to two single doors in the above calculations.

COST ANALYSIS OF PRIMARY SCHOOL

Element	Cost per sq. ft.	Specification
	s. d.	
PRELIMINARIES AND INSURANCES	2 1	—
CONTINGENCIES	1 1	—
WORKS BELOW GROUND FLOOR LEVEL	5 3	Strip surface soil 8 in. deep; trenches for foundations to outer walls and partitions, pier holes to columns in Assembly Hall. Hardcore: 4 in. Bed (8,900 sq. ft) 8 in. (ditto) Bed (2,500 sq. ft.). Site Slab: 6 in. concrete (1-2-4). Strip foundations: Outerwalls, 9 in × 2 ft. 0 in. concrete (1-2-4). Innerwalls: 9 in. × 2 ft. 9 in. concrete (ditto). Stanchion Bases: (14) 3 ft. 0 in. × 3 ft. 0 in. × 3 ft. 0 in. concrete (1-2-4). Foundation Walls: 11 in. cavity in stock bricks (1-3). D.P.C.: Bitumen felt hessian base.
Area of single storey: 11,400 f.s. Bearing Pressure: 1½ tons f.s. Nature of Soil: Clayey silt Site Levels: difference of — ft. across building Water table: 4 ft. 6 in. Depth of bearing strata		
EXTERNAL WALLS AND FACINGS	4 3	11 in. brick cavity walls with facings at 350s. m. Lintels and sills: art stone, cavity gutter: bitumen felt, hessian base: Main entrance canopy: 18 ft. 0 in. × 7 ft. 6 in. × 6 in. thick reinforced concrete (1-2-4).
Ratio Walls / F = 0·480		
FRAME	1 3	RSJ columns at 12 ft. 6 in. centres and pitched roof trusses spanning 35 ft. 0 in. with angle purlins to Assembly Hall (1,800 sq. ft.).
No. of storeys: 1 2 3 4 — Spans — Storey ht. — Loading — Floor area: Nil Nil Nil Nil		
UPPER FLOOR CONSTRUCTION	—	Nil
Area: f.s. Floor loading Spans		
STAIRCASES	—	Nil
Storey Height — No. — Width		
ROOF CONSTRUCTION	8 10	6-in. R.C. slabs 12 in. wide 25 ft. 0 in. span. 4 in. × 1 ft. 9 in. R.C. channel gutter, 3 in. foamed slag screed, 2 layers felt roofing. Assembly Hall Roof:—metal decking, ½ in. insulation board, 2 layer of felt roofing.
Area: 12,100 f.s.		
ROOF LIGHTS	1 3	Two skylights 6 ft. 0 in. × 8 ft. 0 in.; Three domelights 2 ft. 9 in. diam. Remainder patent glazing on timber curbs and framing.
Area: 300 f.s.		
WINDOWS AND EXTERNAL DOORS	4 7	Blanks galvanized steel windows and doors to Classrooms. Standard galvanized ditto to other rooms. Oak entrance door 7 ft. 0 in. × 8 ft. 0 in.
Ratio Windows / F = 0·240		
GLAZIER	0 7	24-oz. C.S. Glass to windows.
INTERNAL PARTITIONS	2 2	11 in. Brick cavity walls between classrooms. 9 in. brick walls to stores. 4½ in. brick walls to Lavatories.
Room Heights		
W.C. DOORS AND PARTITIONS	0 7·5	Galvanized sheet metal faced plywood and ironmongery.
No.: 21		
INTERNAL DOORS	1 0	Frames: pressed metal. Doors: 1⅜ in. flush, and 1⅞ in. hardwood framed fully glazed double doors.
Single: 46 Double: 10		
IRONMONGERY	0 9	Anodized aluminium to internal doors. Overhead door closures to double doors.

Fig. 3. Cost analysis. Total floor area: 11,400 sq. ft. Tender date: Jan. 1955. Market conditions : average. Selective tendering. This is selected as being most appropriate to the project to be cost planned, but for certain elements, other cost analyses would be referred to.

Element	Cost per sq. ft. s.	d.	Specification
FLOOR FINISHINGS	4	2·5	⅝-in. Compo-block: Classrooms (528 y.s.). Plastic Tiles: Corridors, dining rooms (136 y.s.). 1-in. Hardwood strip on 2 in. × 2 in. battens and floor clips: Assembly Hall (196 y.s.). 1-in. Hardwood Wood Block: Staff Rooms, Head Doctor (67 y.s.). Quarries: Lavys, Kitchen, Stores (178 y.s.). 1-in. Grano: Stores (107 y.s.). ¾-in. Portland cement and sand (1-3) screed. ½-in. × 4-in. h.w. skirtings for hardwood floors. Grano skirtings for grano floors and tile skirting for quarry tiles. ½-in. × 4-in. s/w skirting otherwise.
WALL FINISHINGS	1	5	White Glazed Tiling in Splashbacks, otherwise ⅝-in. plaster.
CEILING FINISHINGS	1	5	Bloggs' Patent Ceiling to Classrooms (610 y.s.), otherwise ⅝-in. plaster.
DECORATIONS	2	2	Internally: Generally primer and two coats paint. Wallpaper (28 pieces). Externally: Generally primer and two coats paint.
FITTINGS	2	7	Venetian Blinds (1); Kitchen Hatch and Roller Shutter; Chalkboards; Window Shelves and Seats, Pin-up Boards; Softwood shelving in stores and kitchen; 1-in. and 4-in. cloakrails and coat hooks.
PLUMBING (EXTERNAL)	0	8	6-in. Rainwater Gutters and 3-in. c.i. downpipes, copper and lead flashings to parapet walls.
PLUMBING (INTERNAL)	1	8	Cisterns: and piping in galv'd m.s.

Type of supply	Cold from tank hot from calorifiers
Nature of water	Hard
Distribution of fittings	Even distribution throughout school
Storage capacity	500 gallons

PLUMBING (SANITARY FITTINGS)	1	2	White Glazed Fireclay, Kitchen Equipment supplied free.

Number of fittings	58

GAS INSTALLATION	0	1	Piping: Galvanized mild steel.

Number of points	6
Distribution of points	All in kitchen

ELECTRICAL INSTALLATION	2	3	Installation: VIR in conduit, and ironclad switchgear. Fittings: Messrs. Blanks' ceiling fittings in Classrooms. Fittings p.c. £8 each in Assembly Hall, H.O. batten holders with skirts in Lavatories and stores.

Light points	140
Power points	33
Nature of supply	
Lighting requirements	10 lumens f.s. on working plane in classrooms

HEATING INSTALLATION	6	4	Heating: C.I. coal-fired boilers galvanised mild steel tubing, heater exchange units with fans for circulating warm air, system thermostatically controlled; fibrous plaster heater cabinets. Hot Water: C.I. coal-fired boiler, galvanized mild steel tubing, calorifiers (piping from calorifiers to fittings in plumbing, internal).

Criteria Temp.	65° F.; 32° F.
Air changes	3
"U" value of walls	0·25
"U" value of roof	0·20

DRAINAGE	4	2	Drains: 4 in. and 6 in. 'Bests" on 4 in. concrete bed for foul drains, 4 in., 6 in. and 9 in. "seconds" on 4 in. beds (concrete) for stormwater drains. Trenches: 1 ft. 6 in. to 5 ft. 6 in. deep. M.H.: p.c.c.
PLAYGROUNDS AND PAVED AREAS	3	10	Playgrounds: 16,000 sq. ft. 2½ in. Tarmac, 4 in. Hardcore, 2 in. and 6 in. pre-cast concrete kerb on 8 in. and 3 in. concrete foundation; Play equipment, £200.
NET COST	65	8	
EXTERNAL WORKS	5	2	Electric, Water, Gas and Drain Connections and runs to building, bicycle shed, fencing, Tarmac roads and paths, grassing and planting, retaining walls.
GROSS COST	70	10	

FINISHINGS ELEMENTS

Floor finishes. 4s. 2d.
Ceiling finishes. 1s. 5d.

It is probably easier to arrive at a cost target for these two elements than most of the others since their areas generally are identical with the floor area of the building. It is important that the specification attached to the cost analysis shows the areas of the different finishes in different parts of the building so that the average quality expressed by the element price may be judged.

The choice of target costs depends upon this judgment, taking into account such requirements as fire protection, acoustics, etc. It is assumed that the Fig. 3 specification is suitable and that the targets of 4s. 2d. and 1s. 5d. for floor finishes and ceiling finishes respectively are adequate.

Wall finishes. 1s. 9d.
Decorations. 2s. 6d.

Like Internal Partitions these two target costs depend upon a comparison of several analyses, and appraisal of the different factors involved. Many of the factors affecting the cost of the partitions will also affect the wall finishes and decorations.

Some of the wall finishes will have to be more sound absorbent than ⅝ in. gypsum plaster. The additional cost of this will be largely a matter of judgment and will be taken as 1s. 9d. Three coats of paint are required instead of the two shown in Fig. 3, and reference to the build-up of the cost analysis shows that the external two-coat painting accounts for 10d. Therefore for the extra coat a sum of 4d. is added to the 2s. 2d. to make 2s. 6d.

FITTINGS AND SERVICES ELEMENTS

With the possible exception of plumbing, these cost targets can at present only be chosen after comparison of a number of analyses. Detailed costs of the services are not always easy to obtain, so that the reasons for differences in cost cannot be analysed.

For example, there appears to be little published information on the effect on heating costs of an extra air change per hour or the increase of temperature by five degrees, or the saving obtained from increased thermal insulation of the roof.

Similarly, in electrical installations it is not always easy to discover the relative costs of different types of wiring or whether an increase of 5 per cent. in the lighting load means a substantial or negligible increase in costs.

For these elements, therefore, the fictitious cost analyses published in the Cost Analysis article (February 24) are set out below, with the element cost of Fig. 3, so that the targets for the proposed building in Fig. 1 may be chosen:—

Element	*A*	*B*	*C*	*Fig. 3*
Fittings	0s. 6d.	2s. 0d.	1s. 3d.	2s. 7d.
Plumbing (external)	0s. 6d.	0s. 2d.	0s.8d.	0s. 8d.
Plumbing (internal)	1s. 10d.	1s. 3d.	1s. 2d.	1s. 8d.
Plumbing (sanitary fittings)	1s. 0d.	1s. 4d.	0s. 10d.	1s. 2d.
Gas installation ..	0s. 3d.	0s. 4d.	0s. 6d.	0s. 1d.
Electrical installation	5s. 0d.	2s. 4d.	1s. 8d.	2s. 3d.
Heating installation	6s. 5d.	5s. 6d.	7s. 6d.	6s. 4d.
Drainage	1s. 10d.	2s. 1d.	2s. 4d.	4s. 2d.

To make a choice it is necessary to consider the scale and quality of provision in each element in relation to its cost; that is to say, in practice

the cost analyses of schools A, B and C would contain the kind of information and specification which is provided in the cost analysis at Fig. 3.

Assuming that due consideration had been given to the provision in each element, the cost targets chosen may be taken as follows:

Fittings. 2s. 3d.
The architect's intention is to provide the building with as high a standard of fittings as is possible within the framework of the cost target. He chooses 2s. 3d.

Plumbing (external). 0s. 7½d.
The provision at Schools A, C and Fig. 3 appear to accord closely with the architect's intention. He chooses 0s. 7½d.

Plumbing (internal). 1s. 8d.
The piping in Schools B and C is not suitable to the water conditions applicable in the area of the proposed building. He allows 1s. 8d.

Plumbing (sanitary fittings). 1s. 1½d.
In this case it is possible to make a mathematical calculation. Where 60 sanitary fittings are likely to be provided, the cost target can be calculated as follows:

$$\frac{\text{1s. 2d.} \times 11{,}400}{58 \times 12{,}000} \times 60 = \text{1s. 1½d.}$$

Gas and electrical installation. 0s. 4d.; 2s. 3½d.
For both these elements some help in deciding cost targets may be obtained by making a calculation based on the number of points, but, pending a systematic study of costs, a choice will have to be made on the inspection of cost analyses and the related standards of installation. Assuming this has been done, targets of 0s. 4d. for gas installation and 2s. 3½d. for electrical installation are chosen.

Heating installation. 6s. 6d.
For this element, selection of a cost target must rest on a comparison of required temperatures, air change rate, thermal transmittance of walls and roof, and heat losses: and these should assist greatly in selecting an appropriate target. It is assumed that a cost target of 6s. 6d. would be reasonable.

Drainage. 2s. 3d.
The cost of the element will be affected mainly by the falls and the nature of the ground and the disposition of the fittings throughout the building. It is advisable to refer to a plan of the buildings for which cost analyses are available. This appraisal might show a reasonable cost target to be 2s. 3d.

Playgrounds and paved areas. 3s. 0d.
This element will, like the drainage element, depend greatly on the falls, the nature of the ground and the areas and specifications of paving to be provided. Choice of a target will depend on the examination of other jobs and their related costs. Paved areas is an element which varies greatly from building to building, and it may prove more certain to decide the target by taking out approximate quantities. However, in this case it will be assumed that the conditions of the proposed building indicate a target of 3s.

COST PLAN OF PROPOSED PRIMARY SCHOOL

	s. d.	s. d.
Preliminaries and Insurances ..	3 4	
Contingencies	1 8	5 0
Work below Ground Floor Level	3 6½	
External Walls and Facings ..	4 0	
Frame	—	
Upper Floor Construction ..	0 9½	
Staircases	0 4	
Roof Construction	7 10½	
Roof Lights	1 0	
Windows and External doors ..	5 8½	
Glazier	0 8½	24 0½
Internal Partitions	1 9	
W.C. Doors and Partitions ..	0 8½	
Internal Doors	0 10½	
Ironmongery	0 7½	3 11½
Floor Finishes	4 2	
Wall Finishes	1 9	
Ceiling Finishes	1 5	
Decorations	2 6	9 10
Fittings	2 3	2 3
Plumbing (External)	0 7½	
Plumbing (Internal)	1 8	
Plumbing (Sanitary Fittings) ..	1 1½	
Gas Installation	0 4	
Electrical Installation	2 3½	
Heating Installation	6 6	
Drainage	2 3	14 9½
Playgrounds and Paved Areas..	3 0	3 0
NET COST	62 10½	62 10½

The Cost Plan. In selecting the method of construction for each of these elements, the architect can check its cost against the target figure set.

News—*continued from p.* 109

more sure about the direction of modern architectural development and more certain of what to teach, we know really very little about teaching method itself. We learn quite a bit through experience, but the experience is gained on an entirely orthodox system of studió design subjects. Where the same educational problems have been found to recur in all schools, we tend to regard them as insoluble and inevitable. I do not think anyone has yet tried to solve them, or even discover the underlying cause. Teaching at the moment is too rigid. Our own experiment in the unit system might be a step in the right direction. It certainly aims at a closer and less formal contact between student and staff, but it is very far from being perfect."

RIBA

Council Meeting

The following items were among those discussed at the last RIBA council meeting.

Representation of Salaried Members: In the course of further consideration of the opinion expressed at the Annual General Meeting, it was agreed to set up a committee on which members in the following spheres of occupation will be represented: principals in private practice, salaried assistants in private practice, official architects, salaried assistants in Central and Local Government service, members employed in teaching, members in charge of architectural departments of commercial or industrial undertakings and a representative of Scotland. The first task of this Committee is to review urgently the work so far done on the question of machinery for the representation of salaried members and to make recommendations to the Council as to the immediate action to be taken in the light of the resolution passed at the Annual General Meeting. As a second and longer term task, the Committee are charged with considering the advisability of an extended investigation into the structure of the profession, the total income of the profession in relation to the scale of salaries that might be afforded, and the grading of architectural appointments in relation to age, experience and responsibilities, and to suggest to the Council, if thought practicable, a programme of work in connection with such an investigation.

Appointment of Honorary Officers for the Session 1955-1956: F. Charles Saxon, having been re-appointed Chairman of the Allied Societies' Conference, remains a Vice-President under the provisions of Bye-law 28. Basil Spence, was re-appointed a Vice-President. Kenneth M. B. Cross and J. Leslie Martin, were appointed Vice-Presidents. E. D. Jefferiss Mathews was appointed Honorary Secretary, and Thomas E. Scott was re-appointed Honorary Treasurer.

RIBA Representatives on the National Consultative Council of the Building and Civil Engineering Industries for the year beginning July 1, 1955: Michael Waterhouse, Past President, and E. D. Jefferiss Mathews were nominated for re-appointment by the Minister of Works as the RIBA representatives on the National Consultative Council.

National House-Builders' Registration Council: RIBA Representatives: C. E. Culpin in place of Kenneth J. R. Peacock. The other two representatives are A. W. Kenyon and Miss J. G. Ledeboer.

Code of Practice Committee to decide whether a Code on Flues for Larger Appliances in Buildings should be drafter, and Drafting Committee for this Code: RIBA Representative: Frank H. Heaven in place of G. M. Kingsford.

OFFICES

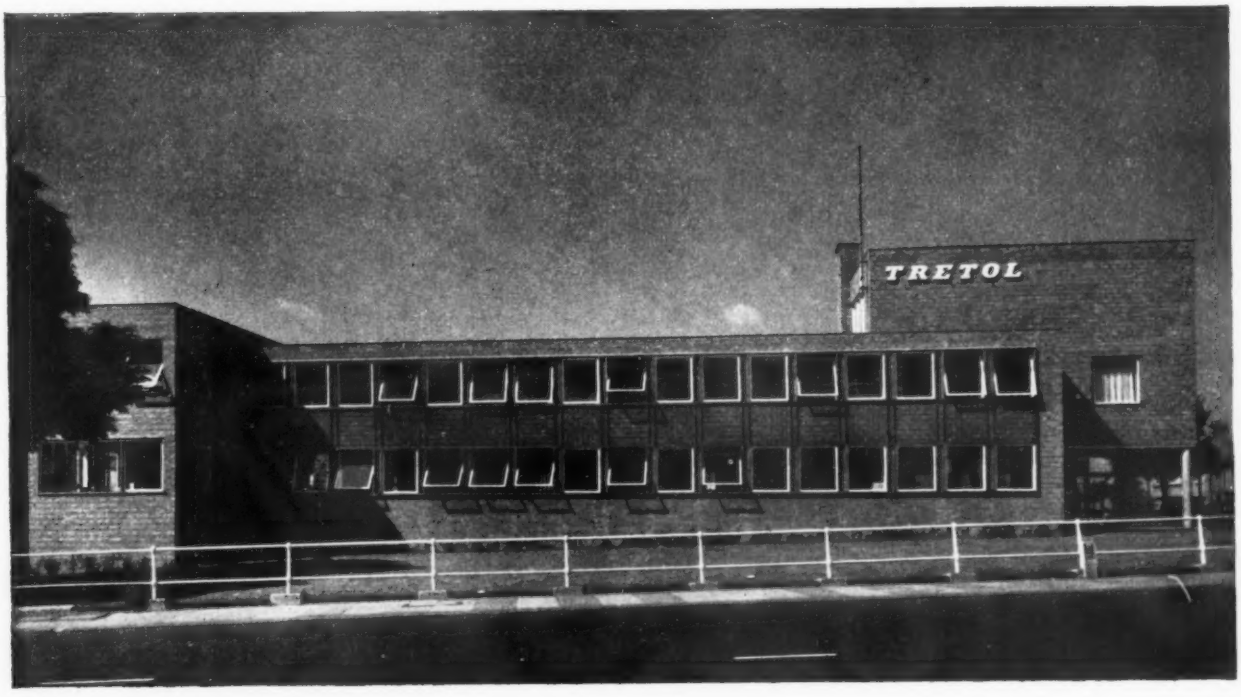
in EDGWARE ROAD, HENDON, LONDON, N.W.9

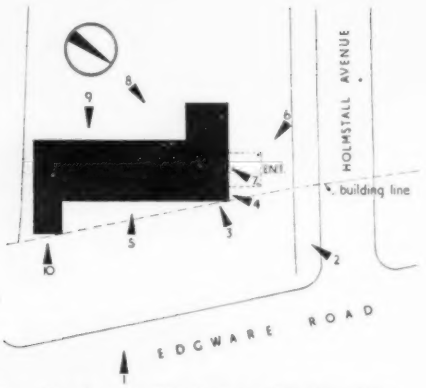
designed by WALTER and EVA SEGAL

quantity surveyors, GODFREY and BURGESS

The building is a medium-sized office block of 8,500 f.s. which was built for Tretol Ltd. for a gross figure of 47s. per f.s.—a figure which would be regarded as low even in the housing field. The architect attributes this achievement to such factors as clients who could make their minds up, to a general contractor whose firm was the right size for the job, to a helpful local authority who agreed to the use of calculations for the design of load-bearing brickwork instead of the usual " rule-of-thumb " and to the fact that working drawings were nearly all complete by the time the contract was signed. In addition, the design was based on materials which were easily obtainable, required little specialist performance and a minimum of sub-contracting. There is little doubt that the low figure is also due to the determination to keep to simple domestic construction, to the limitations of floor-span, and to the fact that the architect has resisted the temptation of resorting to expensive materials for the sake of spectacular effect. The general contractors were A. T. Rowley (London) Ltd. For sub-contractors see page 136.

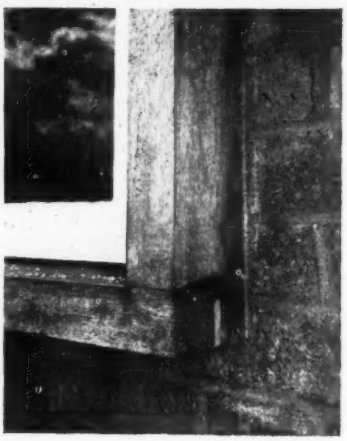
The east facade of the offices from the Edgware Road. Viewpoint 1.

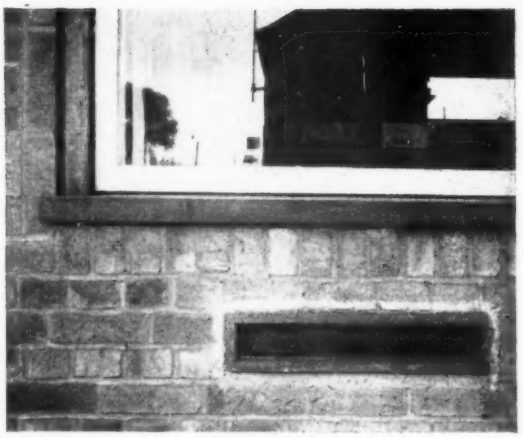




Key plan showing the photographic viewpoints

Above: general view of the building, viewpoint 2, showing the main entrance. The facing bricks are purple-grey wire cuts. The windows in the long range are framed up in gurjun, waxed and oiled, the opening lights painted white. The windows light the general typing offices on the ground floor, and individual offices on the first floor. In the projecting block above the main entrance are situated the managing director's quarters, away from the somewhat noisier offices. Right: a detail, viewpoint 3, showing the joint between sill and jamb of the gurjun frame round the main range of windows.

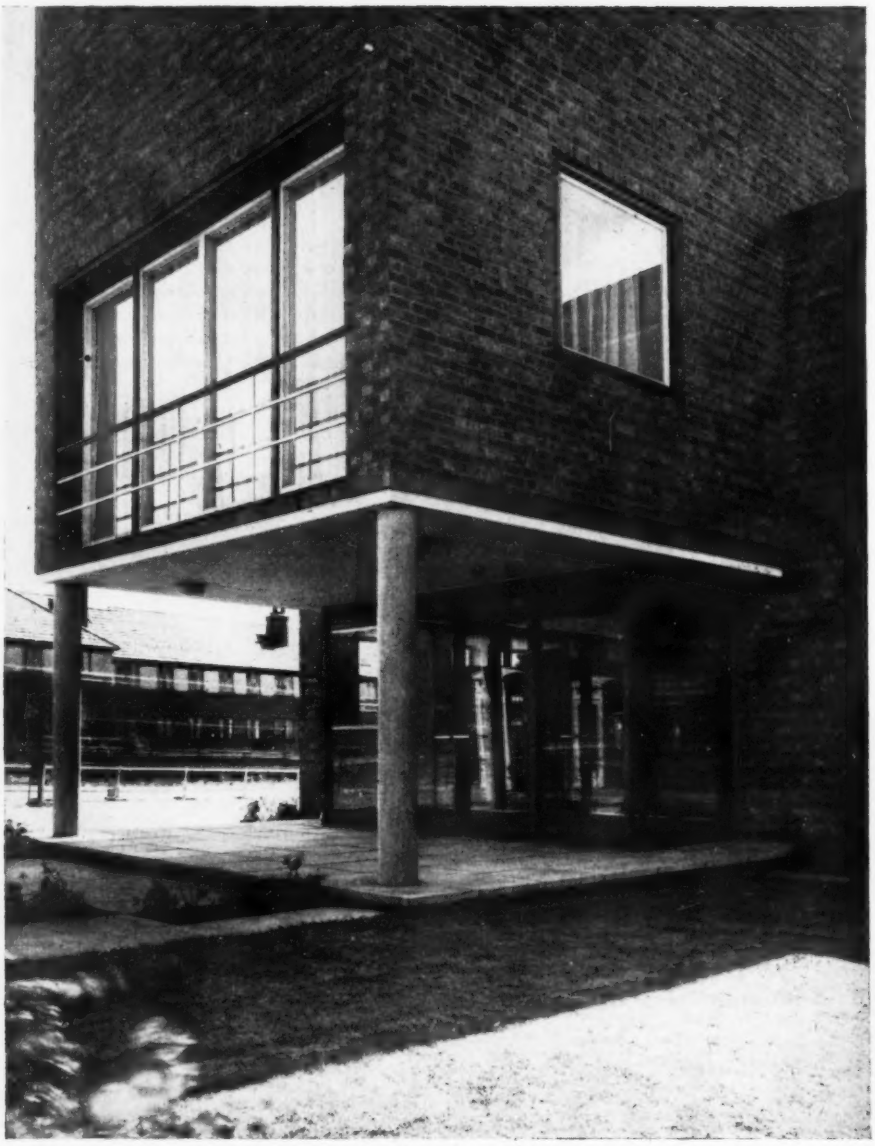




Left: viewpoint 4, detail of a more traditional sill. Note the letterbox let into the wall beneath the window. This letterbox opens into the main entrance hall. The fact that the architect has been obliged to construct it in wood is a reflection of the painful lack of resourcefulness on the part of English ironmongery firms, who have never yet produced a standard letterbox capable of taking any package larger than *The Architectural Review*. A flower-bed is placed below the letterbox.

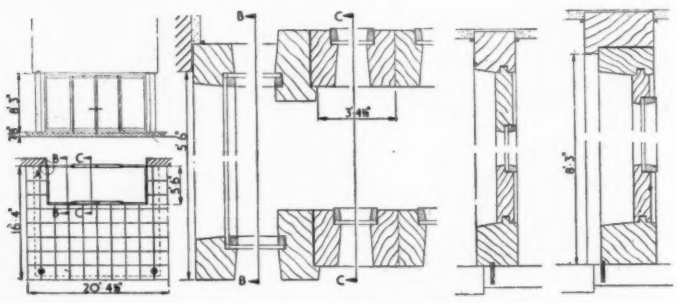
Below: viewpoint 5, tiling detail from a panel in the main range of windows. The tiles are in two shades of purple, and are designed by the architect. They tone in a well-mannered way with the brickwork, and mark a welcome departure from the tendency of many modern architects to place too great a reliance on strong saturated colours for external use. The tiles are fixed on to a masonry backing (see Working Detail in the JOURNAL for August 4, 1955).

OFFICES AT HENDON

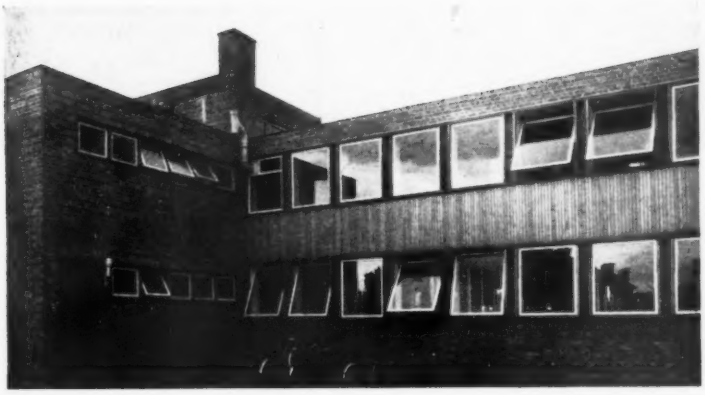


Above: main entrance, viewpoint 6. Architect's details of entrance doors are shown below, and it will be noticed that the gurjun frames are placed with their greater dimension on section at right-angles to the main plane of the door. This considerably reduces whip, and provides a much greater body of material where it is needed to resist the impacts to which a swing door is subjected. The columns supporting the projecting office above the entrance doors are reinforced-concrete faced with terrazzo. Above right, viewpoint 7, detail of main entrance door, showing depth of hardwood frames.

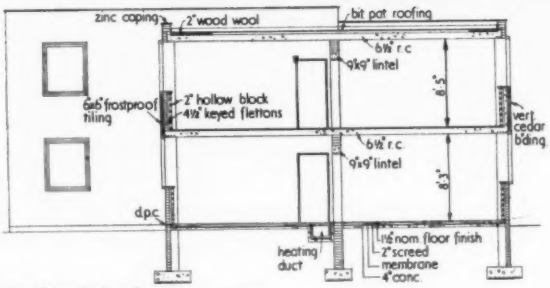
OFFICES AT HENDON



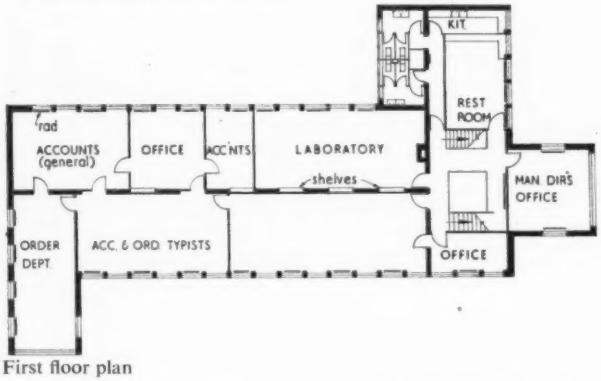
Key plan and elevation, detail plan and sections B-B and C-C of main entrance doors [Scale: 1" and $\frac{3}{4}$" = 1' 0"]



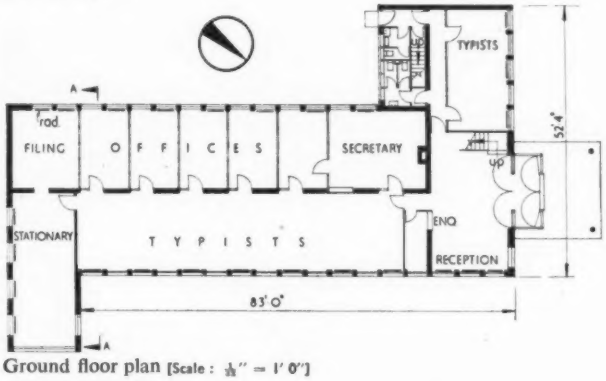
Above left: the west side of the offices from viewpoint 8. Instead of tiled panels here, there is vertical gurjun boarding. Note the zinc flashing to the top of the projecting window-frame. The coping to the low parapets is of pre-formed pressed zinc in 8-ft. lengths. Only the corners, which are mitred, are worked *in situ*. Above right: a close-up of the zinc parapet.



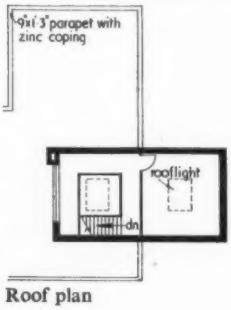
Section A-A [Scale : $\frac{1}{16}$" = 1' 0"]



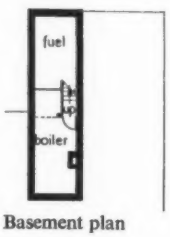
First floor plan



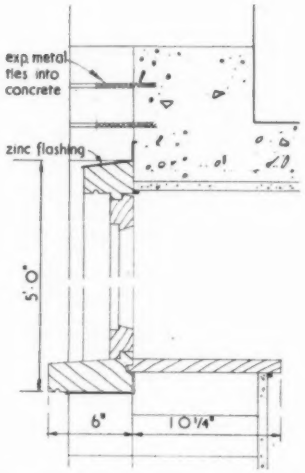
Ground floor plan [Scale : $\frac{1}{16}$" = 1' 0"]



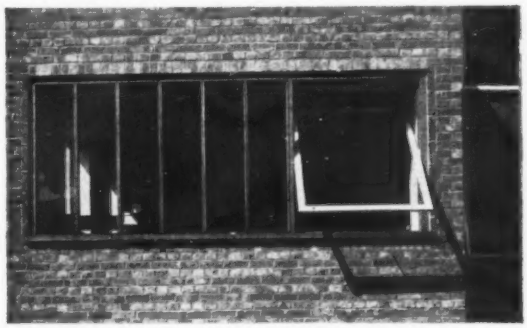
Roof plan



Basement plan



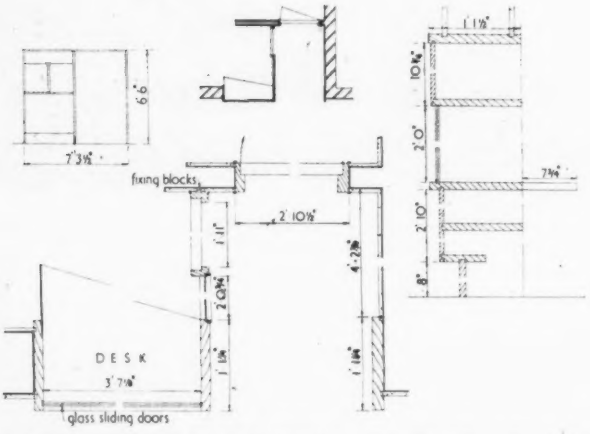
Section opening light window in SE wing
[Scale : 1" = 1' 0"]



Detail of a window in the projecting wing at the south end of the building, viewpoint 10. The unusual glazing division of this window and the soldier courses of brickwork round the opening should be noted.

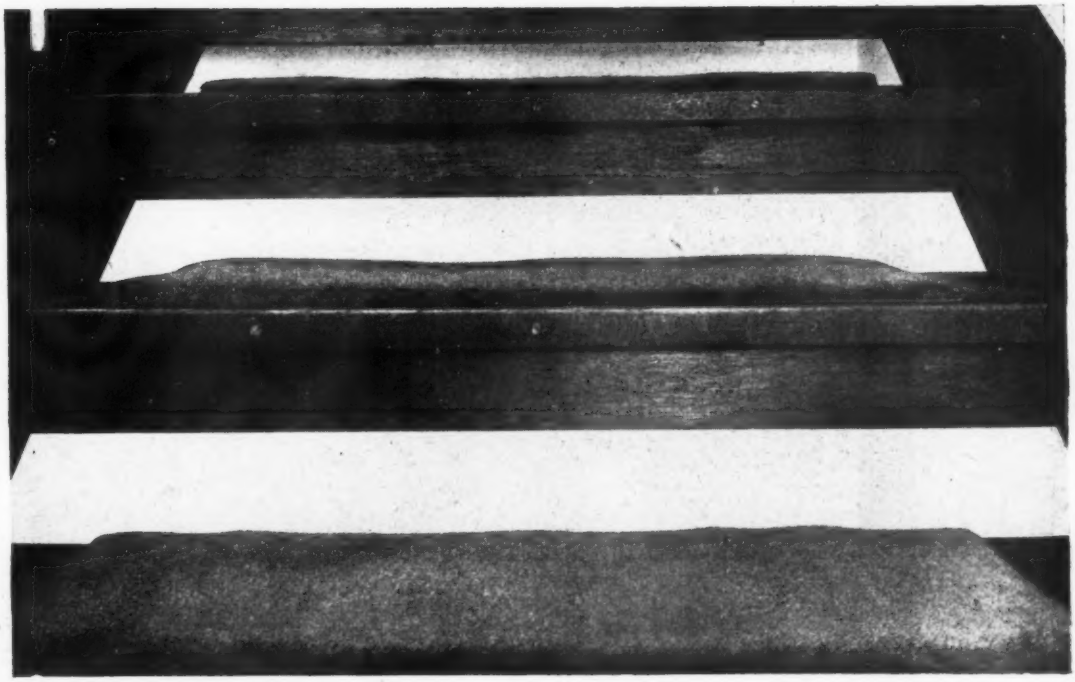
Above: a view of the main entrance hall. The wall at the back is a slate blue. All woodwork is gurjun, oiled and waxed. Other painted surfaces are white. Floor finishes vary throughout the building. Note the extremely simple domestic detailing of the enquiry desk. Right: all glass partitions terminate in a brick load-bearing pier. With piers at 4 ft. centres, adequate flexibility is achieved in the rearrangement of partitions without the need to resort to clumsy detailing where partitions run into a window wall.

OFFICES AT HENDON



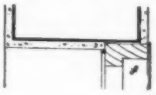
Key plan, detailed plan and elevation and section of enquiry desk
[Scale : $\frac{1}{12}$" and $\frac{1}{4}$" = 1' 0"]

Left: the foot of the staircase in the main entrance hall. Plate glass occupies the spandrel formed by the stringer and newel post of the stairs. Above: a view down the staircase well from the landing at main roof level. Below: detail of the treads and half risers of the staircase. The actual rise of this staircase is very steep, but there is no feeling that this is so as one ascends the stairs; this the architect attributes to the use of half risers. The carpeted tread is retained in position by the screwed-on nosing. In this particular case the heavy pile carpet and underlay result in too great a thickness over the tread and confuse the foot as it descends on to the nosing when coming down stairs. The architect comments that a thinner underlay would have given a more satisfactory solution. This staircase will be illustrated as a Working Detail in the JOURNAL for August 4, 1955.

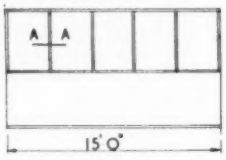


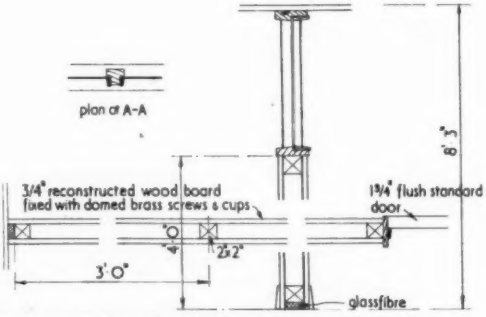
Opposite page, top: the general typing room on the ground floor. This is used as a means of access to the individual offices, the entrances of which are seen on the right. It is remarkable that although hard and unabsorbent surfaces are used throughout, the noise of typing does not seem to be a nuisance. Opposite page, bottom: semi-glazed screens between the individual offices in the central section. These screens are all prefabricated and consist of hardboard on studding with a glass fibre infil. (See sketches.) The open view afforded by the glass screens assists in personnel relationships and reduces the feeling of oppressiveness which otherwise might result from small offices only eight feet wide. As the tones of the black and white reproduction indicate, each screen and each end wall of the several offices are in different pastel colours, and this device is remarkably successful in reducing the scale.

Section through head of doorway [Scale: 1" = 1' 0"]



This detail shows how the frame acts as a ground for the plaster in the usual way, but the minute bead (at juncture of frame and plaster on the right) used as an architrave is in hardwood and is applied after wall and frame have been "painted through" together





Section and plan of typical internal partition [Scale: 1" and $\frac{1}{2}$" = 1' 0"]

Below left: the bar counter in the canteen. Below, a general view of the canteen. It is a sad reflection on Britain's place in a competitive world market that the very comfortable and not inelegant chairs are imported from Germany at £3 each.

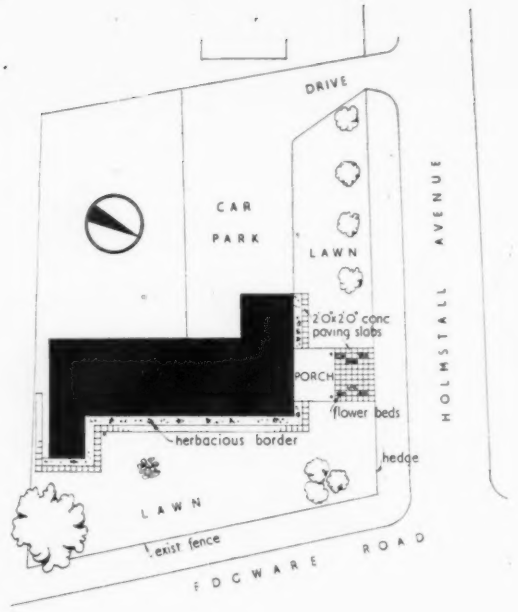
OFFICES AT HENDON

CLIENT'S BRIEF: his stated requirements

A modern office building, capable of sustaining increases in staff. An extra wing and a third floor to be added later. Emphasis of design on a well-lit, stimulating building for a young and progressive organization. Efficient circulation and flexible partitioning were essentials.

SITE: topography, surroundings, access, planting

Roughly rectangular corner site, sloping 2 ft. 9 in. north to south, amid mixed development (industrial and suburban), fronting Edgware Road. There is one horse-chestnut tree in south-east corner, and the surrounding area was turfed and planted after completion. Area of site before development was approximately 15,500 sq. ft.



Site plan

PLAN: general appreciation

Open plan with minimum of corridors. Circulation on principle of larger less differentiated units giving access to smaller specialized unit. Units closely knit and carefully located in accordance with administrative functions.

MAIN CONSTRUCTION

Basis of construction is calculated brickwork on the principle of the platform construction

Load bearing element	*Location*	*Beam spans*	*Column grid*	*Reasons*
Brick platform construction, with piers at 4 ft. 9 in. centres	Main office wing	Continuous slab (rc.) spanning 15 ft. 0 in.	9-in. × 13½-in. calculated brick piers at 4 ft. 9 in. centres (calculated with very narrow margin to take a third storey)	To achieve economy and avoid delays normal with steel and rc frame construction
Load bearing brickwork	Towers structure	No beams in main construction to avoid formwork. Beam here and there for ancillary purposes		

Foundation type	*Location*	*Sub-soil*
RC strip foundation	Throughout	Loamy clay with good bearing clay at depth varying from 4 ft. 6 in. to 9 ft. 0 in.

Outer wall type	*Location*	*Material*	*Finish*
Cavity construction, outer skin 4½-in. brick with tile finish	In main office wing	Silver-grey facings, flettons behind tiling, lightweight concrete blocks	Tile facing to panels east facade Red cedar cladding to west facade
13½-in. brick	In tower structure		Pointed brickwork elsewhere

Roof type	*Location*	*Material*	*Finish*
"Wet" roof on 20-year guarantee, with one overflow	Throughout	6-in. rc slab, 2-in. woodwool insulation, 1-in. screed	3-ply bituminous felting with spar finish

Floor structure type	*Location*	*Material*	*Finish*
Continuous rc slabs 6 in. thick, cast in situ	Throughout	rc	Screeded for: *a*. thermoplastic tiles *b*. PVC tiles *c*. woodblock *d*. granolithic *e*. quarry tiles

Internal wall type	*Location*	*Material*	*Finish*
Light, half-glazed purpose-made partition on standard grid	In main office areas	Studding with glazing and hardboard cladding	Painted
2-in. and 3-in. breeze and 4½-in. brick	In ancillary area		Plastered and painted

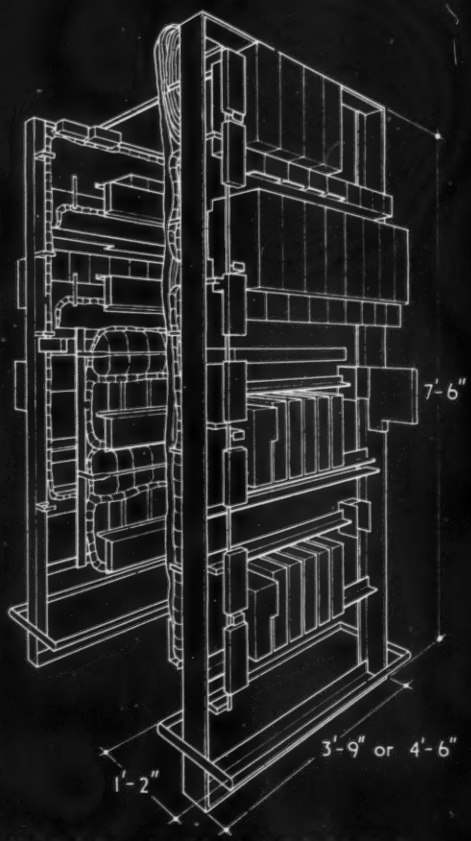
Ceiling type	*Location*	*Material*	*Finish*
Plastered ceilings	Throughout	Plaster base with gypsum finish	Painted

y and
with

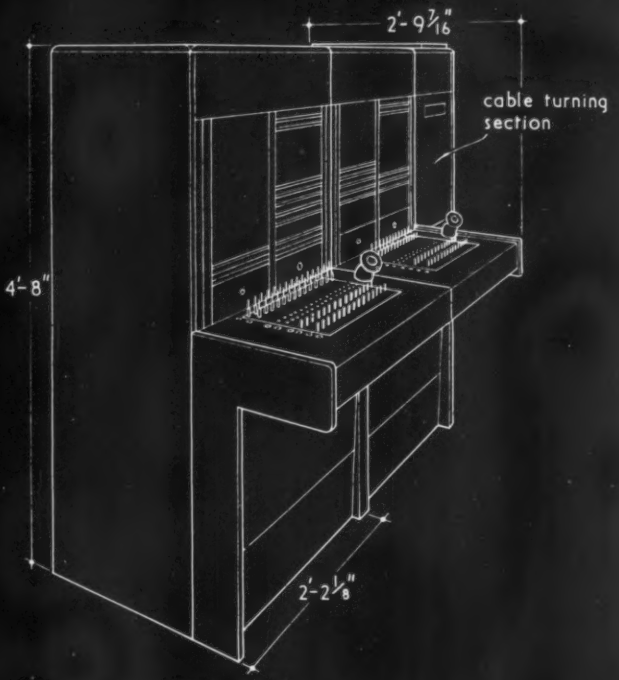
ft. o in.

finish

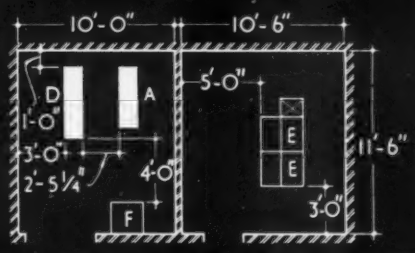
The Architects' Journal Library of Information Sheets 529. Editor: Cotterell Butler, A.R.I.B.A.



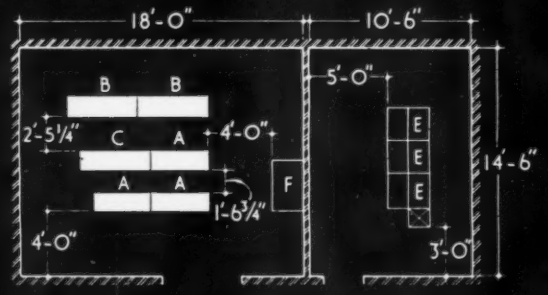
AUTOMATIC SWITCHING EQUIPMENT.



MANUAL SWITCHBOARDS.

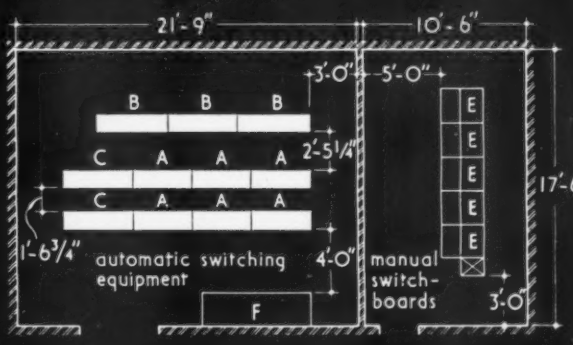


100 line exchange with 2 manual switchboards



300 line exchange with 3 manual switchboards

- A composite line finder, line relay and final selector rack
- B group selector rack
- C relay set rack
- D composite relay set and group selector rack
- [E] manual switchboard
- ⊠ cable turning section
- [F] main distribution frame



600 line exchange with 5 manual switchboards

SPACE REQUIREMENTS FOR TYPICAL INSTALLATIONS.

'STROWGER' TELEPHONE EQUIPMENT: PRIVATE AUTOMATIC BRANCH EXCHANGE TYPE NO. 3.

Manufacturer: Automatic Telephone and Electric Co. Ltd.

37.H11 ·STROWGER· TELEPHONE EQUIPMENT: PRIVATE AUTOMATIC BRANCH EXCHANGE TYPE NO. 3.

This Sheet describes the performance, and equipment required, for the Type No. 3 private automatic branch exchange (P.A.B.X.) system and gives the space requirements for typical installations.

A P.A.B.X. combines the facilities afforded by a manual exchange for external traffic and a private automatic exchange for inter-departmental calls. From each instrument connected to the P.A.B.X. it is possible to dial a departmental number or to make calls to the public exchange.

Equipment

The following equipment is necessary for all Type No. 3 installations, the number of units depending on the size of the system.

Automatic switching equipment: This is mounted in open-type racks 7 ft. 6 in. in height by 1 ft. 2 in. in depth and 3 ft. 9 in. or 4 ft. 6 in. wide (depending on the functions of the equipment, as given on the face of the Sheet). All the equipment is mounted on the front of the racks and, with few exceptions, wiring and cabling is taken to the rear to give maximum accessibility to both equipment and wiring. Each rack is a self-contained unit and each item of equipment is provided with an individual dust cover. Most of the equipment is of the jack-in type to facilitate inspection and maintenance.

Manual switchboard: The overall dimensions of each switchboard unit are 2 ft. 2½ in. wide by 2 ft. 9$\frac{7}{16}$ in. deep by 4 ft. 8 in. high, and they are designed so that a number may be placed together to form a continuous block, which may be extended to meet future requirements. Detachable panels at the rear of the switchboard make it possible for inspection and maintenance work to be carried out without interruption of the service. At the end of each block of switchboards is a cable turning section which provides a suitable entrance for the cable and facilities for its connection to the units. This section is 1 ft. 2½ in. wide by 1 ft. 6$\frac{7}{16}$ in. deep by 4 ft. 8 in. high and can be located at either end of the block of switchboards. Its location determines the direction in which the block can be extended, additions being made to the opposite end.

Main distribution frame: This is normally 6 ft. 8½ in. high by 2 ft. deep but can be 8 ft. 6½ in. high where floor space is restricted. The width depends on the size of the installation.

Power equipment: This consists of batteries which must be mounted on shelves or racks. They are supplied by the Post Office Department but full details of the provisions that must be made for them and for ancillary equipment (control panels, rectifiers, dynamotors, etc.) are set out in BS Code of Practice CP.327.101 : 1952, *Telephones and Telegraphs, Public Services.*

Space Requirements

The diagrams on the lower face of the Sheet show space requirements for typical installations. The automatic switching equipment and main distribution frame should be situated in one room and the manual switchboards in another. Where open-type secondary cells are used a separate battery room must be provided, adjacent to the automatic switching apparatus room. In the apparatus room a floor-to-ceiling height of 10 ft. 10 in. is desirable, although 9 ft. 0 in. is the acceptable minimum.

Operation

Automatic switching equipment: This can provide service for up to 1,200 extensions. Standard "dial," "ring," "engaged" and "number unobtainable" tones and ringing current are provided. The circuit arrangements are such that, if a fault should develop in a selector, extensions are not thereby prohibited from making calls. If a handset is incorrectly replaced, or if a line fault develops, the automatic equipment thus "held" is released and again made available for general use. Automatic alarms indicating the nature and location of such faults are extended to the manual switchboard and can receive attention.

The automatic equipment and the line circuits are adequately protected from the effects of sudden or sustained excessive currents and high voltages.

Manual switchboard: Extensions have access to the manual board via relay sets connected to level "0" of the group selectors. The digit "9" is employed for connecting extensions to the public telephone exchange and other single digits for connecting extensions to inter-switchboard lines.

The first free exchange line is indicated by the illumination of a green lamp. When lines are taken into service by extensions dialling the appropriate code (e.g., "9" for exchange line), by the manual operators or by an incoming call, the lamp is extinguished and the next free line indicated. This means that operators need not waste time testing for free lines. The facility is available on each group of exchange lines and inter-switchboard circuit.

Service

The following services are available on every P.A.B.X. Type No. 3 installation.

Internal calls via automatic switching equipment: All inter-departmental calls may be made directly by dialling the required number; the connection is made in a few seconds.

Incoming public exchange calls: These are received on the manual switchboard and connected to the required extensions by the operator. If the extension is engaged on an internal call the operator can interrupt, if necessary, to offer a public exchange call. It is impossible for an incoming call to be accidentally connected to an extension that has not been cleared from the public exchange.

Outgoing public exchange calls: Calls may be made to the public exchange by dialling "9" from an extension followed by the required number (direct access). Where the number cannot be dialled direct, the P.A.B.X. operator can be called by dialling "0." If required, direct access to the public exchange can be withheld from certain extensions so that outgoing calls can only be made through the manual operator. The timing of toll or trunk calls ceases immediately when the handset of the extension from which the call was made is replaced.

Holding public exchange call while making internal enquiries: By pressing a button on the extension telephone, the public exchange call is held while another internal extension is being dialled. The button is pressed again to re-establish the connection with the incoming call.

Recalling operator: It is possible to speak to the P.A.B.X. operator during a public exchange call by pressing the button on the extension telephone twice.

Tie-line installation: The Strowger Type No. 3 P.A.B.X. may be connected to other private automatic or manual exchanges, so that separate premises of any organisation can be linked without making use of the public telephone service. Calls to the other exchanges may be dealt with by the automatic switching equipment or by the manual operator, whichever is the more convenient.

Satellite service: Where there are separate premises but it is desirable that public exchange calls be handled by one exchange only, a Type No. 3 P.A.B.X. in the main building can be connected to satellite automatic switchboards in the subsidiary buildings. Extensions connected to the satellite switchboards may be given a number of the facilities available to those connected directly to the main P.A.B.X.

Night service: Normally night service may be provided by connecting exchange lines to certain extensions which can then make and receive outside calls. Where night calls are likely to be numerous, a night service switchboard, to which selected exchange lines are diverted, may be installed to be operated by a night watchman or caretaker.

Further Information

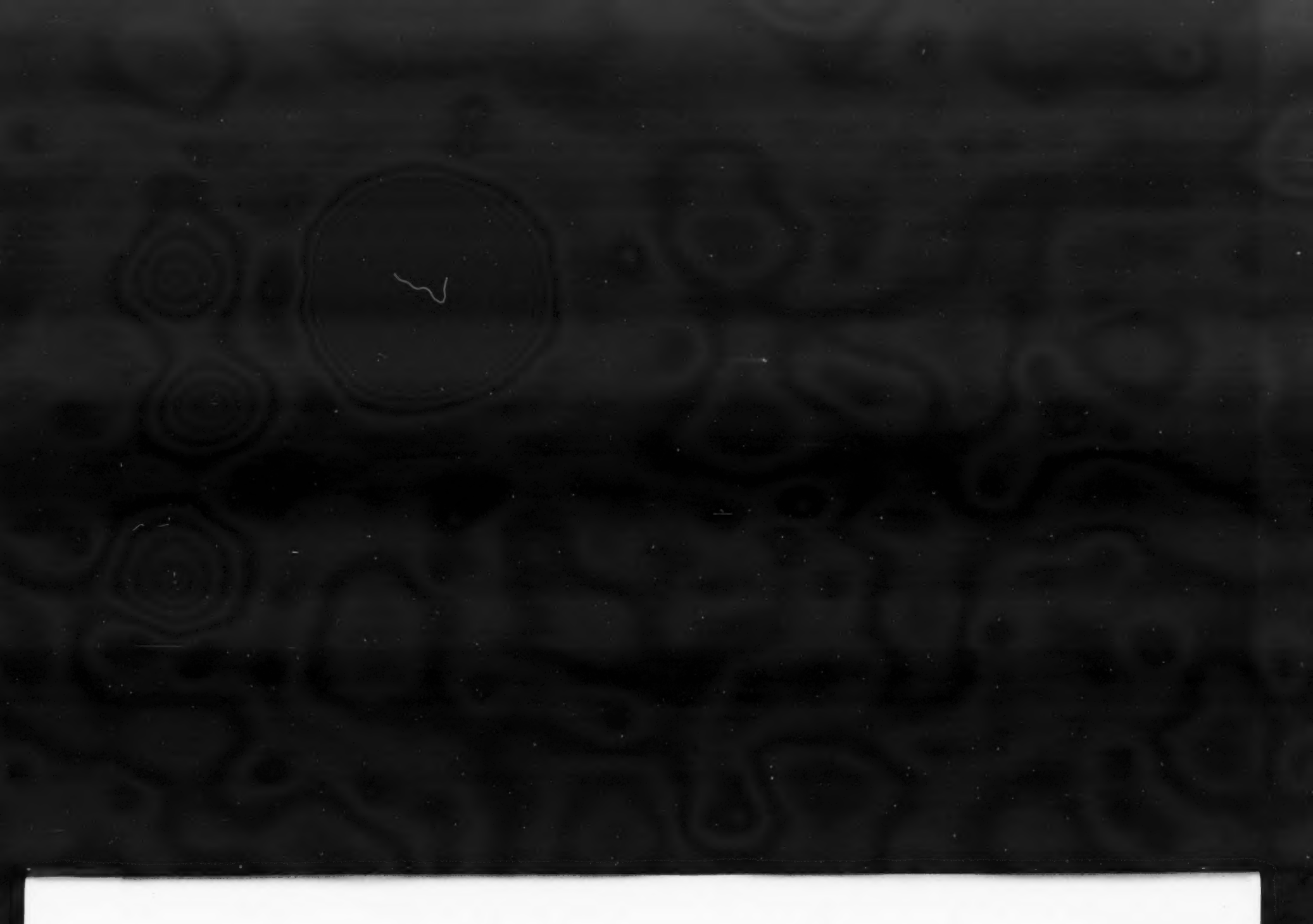
The manufacturer has a technical advisory department available to answer questions dealing with the installation of this equipment. Maintenance is carried out by the G.P.O.

The manufacturer's reference number for this Information Sheet is 1274 : 7/55.

Compiled from information supplied by:

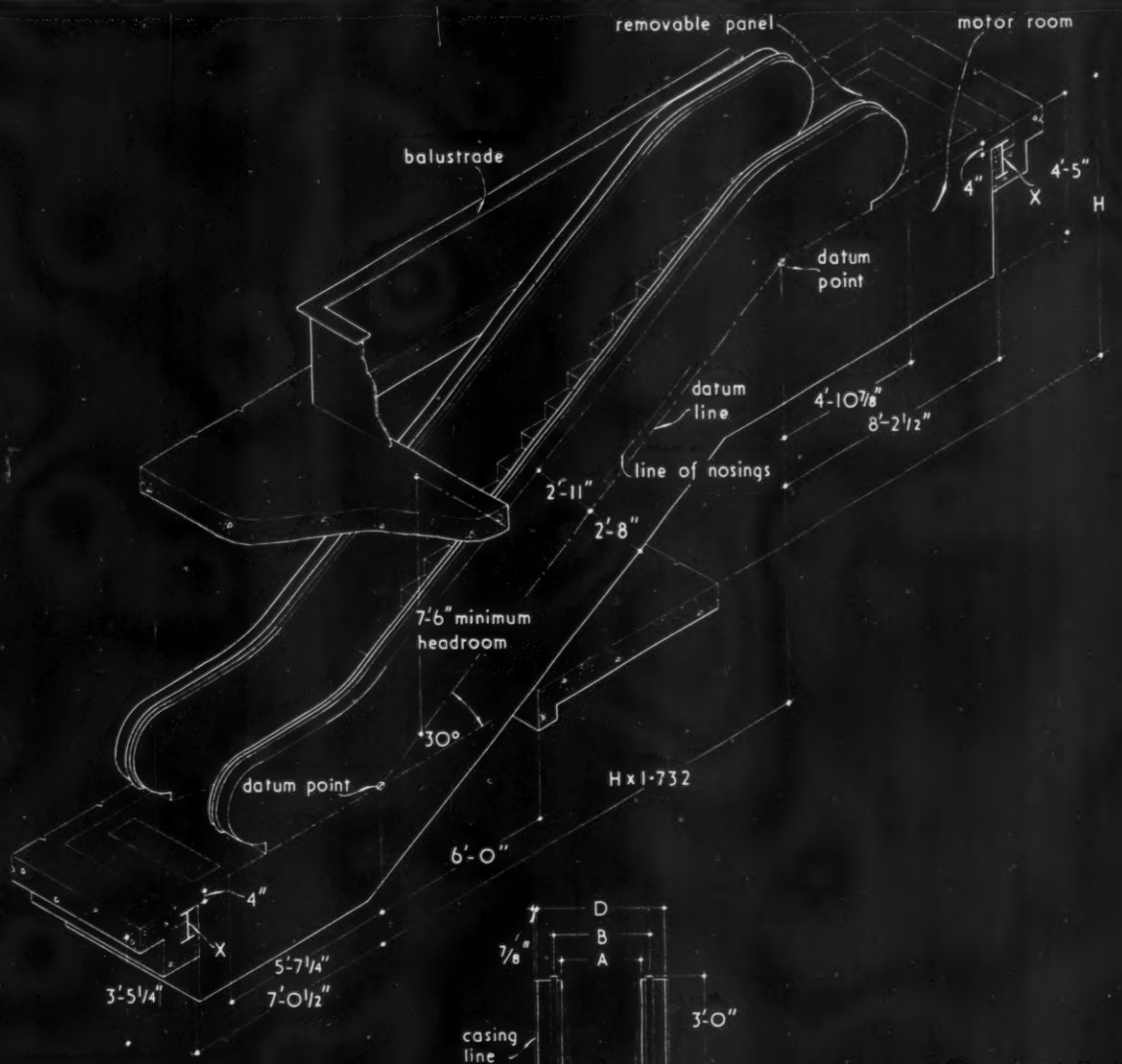
Automatic Telephone & Electric Co. Ltd.

Address: Strowger House, Arundel Street, London, W.C.2.
Telephone: Temple Bar 4506.

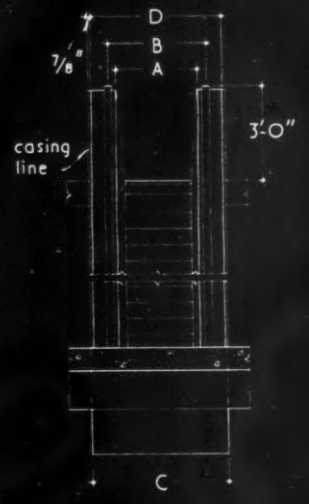


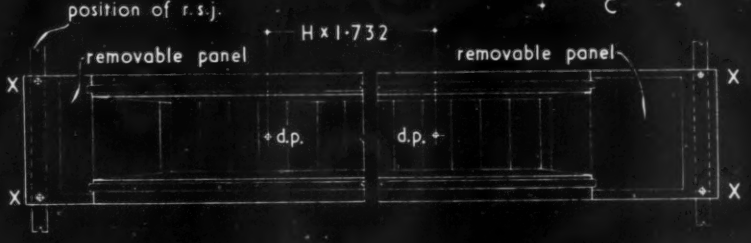
ESCALATORS

The Architects' Journal Library of Information Sheets 530. Editor: Cotterell Butler, A.R.I.B.A.



ISOMETRIC VIEW OF TYPICAL ESCALATOR.





PLAN AND ELEVATION OF TYPICAL ESCALATOR.

type		32 U	40U	48 U
A	(nominal width)	2'-8"	3'-4"	4'-0"
B	(handrail centres)	3'-1"	3'-9"	4'-5"
C	(trimming)	4'-3½"	4'-11½"	5'-7½"
D	(structure)	4'-2"	4'-10"	5'-6"
load in lb. at X when H equals:	6'-0"	4270	4890	5500
	9'-0"	5230	6030	6820
	12'-0"	6180	7170	8150
	15'-0"	7160	8330	9500
	18'-0"	8120	9520	10920
	21'-0"	9210	•	•
	24'-0"	10290	•	•

• for heights over 18'-0" the manufacturer should be consulted

TABLE OF SIZES AND LOADS.

REVERSIBLE ESCALATORS: DESIGN AND SPACE REQUIREMENTS. Manufacturer: J. and E. Hall Limited.

35.B1 ESCALATORS: DESIGN AND SPACE REQUIREMENTS

This Sheet describes the general design and application of escalators and gives the space requirements for typical installations. Layout and siting data are given on Sheet 35.B2.

General

An escalator system has a passenger carrying capacity which could only be equalled by an excessive number of lifts occupying a larger floor area. It gives an improved service for a smaller operating cost. It provides more incentive to movement from one level to another than does a lift. The escalators described on this Sheet are reversible and normally require no intermediate support between floors, except for floor heights in excess of 18 ft.

Nominal widths

Three nominal widths are available as standard. (The width of the escalator is measured between the inside casings at a point just below the handrails.) They are as follows:

Type	Width between balustrade casing	Width of step	Capacity in persons per hour*
32U	32 in.	24 in.	5,000
40U	40 in.	32 in.	7,000
48U	48 in.	40 in.	8,000

* Operating at a step speed of 90 ft. per min., with allowance made for passengers not feeding consistently on to the escalator.

Choice of width

The carrying capacity of an escalator is governed primarily by its width. Selection of the most suitable width for a given application involves consideration of the following factors:

32 *in.:* This width of escalator is suitable for small departmental stores, banks and similar buildings. It allows one adult and a child to stand side by side on the escalator or, alternatively, one person laden with parcels to stand on a step with comfort.

40 *in.:* This width is a recent development designed to give more room for two persons standing side by side and to allow passing on the steps, if desired.

48 *in.:* This width of escalator is normally used for the British underground railways and allows adequate room for persons to pass easily even when carrying baggage. It is also suitable for public buildings and can be used with advantage in very busy departmental stores where heavy traffic is anticipated.

Angle of inclination

The angle of inclination to the horizontal for these escalators is normally 30°.

Speed

Experience has shown that a speed of 90-100 ft. per min. for the step on its incline is the most suitable for all applications other than those involving vertical rises in excess of 30 ft. or where large peak crowds have to be handled.

Increasing the speed up to about 145 ft. per min. will improve the capacity of the escalator but not in direct proportion. There is little advantage gained from speeds in excess of this figure other than a psychological effect on impatient passengers.

Space requirements

The space requirements for typical single installations are given on the face of the Sheet. Layouts for multiple arrangements are shown on Sheet 35.B2. Where the end of the escalator is adjacent to a wall a minimum clearance of 8 ft. must be allowed. The motor room is located at the top end of the escalator within the " truss "; two points of support only are normally required.

Installation

The escalators are installed by the manufacturer, but the following provisions must be made by the architect:

(1) All escalator supports including steel bearing plates where concrete beams are used.
(2) Electric light points at each end of the escalator.
(3) Bearers at each end of escalator and access pit for lower end when at ground level.
(4) Balustrade or fireproof enclosure to floor opening at upper end of escalator.
(5) Plasterboard on timber battens or other cladding to the exterior of both sides of the escalator and to the soffit.
(6) Main electric wiring terminating in main switch and fuses (or circuit-breaker) in motor room at top of escalator.
(7) All builders' work in preparation of building for escalator and in making good up to and around it; also in covering with suitable flooring material " trays " in access trap doors at top and bottom of escalator.

Applications

Escalators are suitable for use in departmental stores; banks; office buildings; factories (for bulk movement of operatives); railways (surface and underground); entrances and exits to subway tunnels; public exhibitions; amusement parks.

Further information

The manufacturer should be consulted at an early stage where installation of the escalators described on this Sheet is contemplated.

Compiled from information supplied by:

J. & E. Hall Limited.
Head Office: Dartford, Kent.
Telephone: Dartford 3456.
Telegrams: Hallford, Dartford.
London Office: 10, St. Swithin's Lane, E.C.4.
Telephone: Mansion House 9811.
Telegrams: Hallford, Phone, London.

ARTIFICIAL LIGHTING

Source and fitting type	*Illumination level*
Mainly fluorescent light fittings with spot lights for decorative effects in display areas of entrance hall	Sub-contractors' recommendation accepted

Wiring and switching types	*Location*	*Reason*
Screwed conduit on ring main system	Throughout	To ensure flexibility

Power supply type	*How distributed*
Screwed conduit on ring main system	A selected number of points to each unit in accordance with requirements

NATURAL LIGHTING

Wall glazing	*Location*	*Reason*
32-oz. sheet glazing	Throughout	Required by sizes of openings

Roof glazing type	*Location*	*Reason*
6 ft. 0 in. × 4 ft. 0 in. dome lights	Tower	To give added light to staircase well
	Board Room	To ensure an atmosphere of concentration

HEATING AND VENTILATION

Heat exchanger type	*Location*	*Criteria temp.*	*Reason*
L.p.h.w. radiators	Under windows	69° F.	Client's requirements

Boiler type	*Fuel type*	*Stoking method*
Solid fuel	Welsh nuts	Automatic feed

Water heater type	*Location*
Gas geysers	Canteen, cloakrooms, laboratory

Cold water storage typ	*Location*	*Capacity*
Galvanised purpose-made cistern	On roof in fibreboard casing	400 gallons

ACOUSTICS

Sound insulation	*Location*
Sound insulation by planning; quiet parts segregated	Managing Director's office in north wing. Canteen in separate wing

SOIL WASTE

Type of system	*Location*	*Materials*
One pipe	In lavatory wing	Cast iron

Drain types
Standard construction using 4-in. centre ware pipes to 1 in 40 falls

Rainwater disposal type	*Location*	*Materials*
One overflow pipe to control " wet " roof	In north-west corner	Vitrified enamelled steel pipes at 3-in. centres

FIRE

Structural precautions
Not required in two-storey building

COLOUR

Paint types	*Where used*	*Comments*
Flat oil	Interior walls and ceilings throughout	Strong primary colour scheme throughout; few pastel shades in individual offices. Chosen to suit client's requirements
High gloss	Interior walls and interior and exterior woodwork throughout	
Chlorinated rubber	Concrete soffit to main porch	

TIME SCHEDULE

Contract signed	*Work commenced*	*Work completed*	*Type of contract*
February 20, 1954	March 1, 1954	October 1, 1954	RIBA

DETAILED PLANNING

The possibility had to be provided for possible extension upwards. This will probably take the form of a light structure on the roof, and accounts for the fact that the entrance block is taken up three floors.

The entrance hall: This forms the focus of planning as in most office buildings. It was designed to give the building a feeling of spaciousness and pleasure, and to introduce visitors informally to a raised exhibition area.

The general colour scheme consists of smoky blue (ceiling and facing wall), white with a wide use of acid yellow for the remaining walls. All woodwork is waxed polished gurjun.

COST ANALYSIS

Total floor area (including basement)	8,500 sq. ft.
Tender date	February 15, 1954
Tender cost of superstructure, etc.	£14,863
Heating	£1,354
Lighting	£900
Partitions	£950
Floor finishes	£1,100
Painting	£850
Gross total cost	£20,017
Cost per foot super of floor area, including basement	£2 7*s.* 0*d.*
Cost per ft. cube, including basement	3*s.* 9*d.*

Element	*Cost per sq. ft.* s. d.
Preliminaries and insurances	1 9
Contingencies	2 6
Work below ground floor level	5 8
External walls and facings	4 1
Internal load-bearing walls	1 9
Internal partitions	2 0
Upper floor construction and staircase	3 9
Roof	4 10
Rooflights	2½
Floor finishes	3 6
Windows and doors (external)	3 1
Doors (internal)	10
Ironmongery	7
Plumbing (external)	7½
,, (internal)	10
Sanitary fittings	6
Gas installation	Added later
Electric installation, plus fittings	2 8
Heating installation	3 4
Drainage	7
Glazing	8
Decoration	1 11
Paved areas	2
Special thermal insulation	9
Difference between tender cost and final cost owing to increased depth of foundation required in south-east corner	£615

COST COMMENT

It is hoped that the cost of this building, which is of particular interest, will form the subject of an article by the architect in a later issue of the JOURNAL.

TECHNICAL SECTION

The recently-formed Gypsum Building Products Association has called attention in a circular letter to the need for a return to a more rigid specification for timber used as ceiling joists. The faults quoted are the use of imperfectly seasoned timber, the general abandonment of the use of noggin pieces, excessive variation in the depth of joists (amounting at times to ½ in.) and the use of joist thicknesses as small as 1½ in. (which does not allow sufficient thickness for nailing ceiling linings) and irregular spacing between joists. The Association recommends that, for ⅜-in. plasterboard, joist spacing should be 1 ft. 4 in. centre to centre, which may be increased to a maximum of 1 ft. 6 in. for top floor ceilings; and that for ½-in. plasterboard the joist spacing may be increased to 2 ft.

CURRENT PRICES FOR MEASURED WORK

Prepared by Davis, Belfield & Everest, chartered quantity surveyors

Prices are for work executed complete and are for an average job in the London area. All prices include overhead charges and profit for the general contractor. Current prices of materials and rates of wages last appeared in the JOURNAL *for July* 14.

PRELIMINARIES

To all valuations for measured work add for Preliminaries, Water and Insurances, according to the nature of the job (say)		10%

EXCAVATOR

Excavation

N.B.—The following prices are applicable to hand excavation in heavy soil.

Surface digging, 6″ deep	Yd. super	1/1
Ditto, 12″ deep	,,	2/2
Excavating not exceeding 10′ 0″ deep to reduce levels	Yd. cube	8/8
Excavating not exceeding 5′ 0″ deep to form basement	,,	9/9½
Ditto exceeding 5′ 0″ and not exceeding 10′ 0″ deep ditto	,,	14/2
Excavating not exceeding 5′ 0″ deep to form surface trenches	,,	12/–
Ditto exceeding 5′ 0″ deep and not exceeding 10′ 0″ deep ditto	,,	16/4
Excavating not exceeding 5′ 0″ deep to form basement trench commencing 10′ 0″ deep	,,	20/8

Disposal

Returning, filling and ramming around foundations	Yd. cube	3/10
Wheeling excavated soil not exceeding 100 yards and depositing	,,	4/4
Ditto and spreading and levelling	,,	5/8
Ditto, ditto, and consolidating to make up levels under floors and pavings	,,	7/2
Filling into lorries and carting away	,,	14/–

EXCAVATOR—(*continued*)

Planking and Strutting

Planking and strutting to sides of surface or basement excavation not exceeding 5′ 0″ deep	Ft. super	–/7
Ditto not exceeding 10′ 0″ deep	,,	–/9
Planking and strutting to sides of surface trenches not exceeding 5′ 0″ deep (both sides measured)	,,	–/2
Ditto not exceeding 10′ 0″ deep (ditto)	,,	–/3

Hardcore

Hardcore filled in, in layers, each layer well rammed with a mechanical rammer	Yd. cube	19/1
Bed of ditto, 4″ thick	Yd. super	3/2

CONCRETOR

Concrete (Basic Prices)

Portland cement concrete 1 : 3 : 6 with 1½″ coarse aggregate in foundations and masses exceeding 12″ thick	Yd. cube	66/2
Ditto 1 : 2 : 4 with ¾″ coarse aggregate ditto	,,	72/3
Add to basic prices for:—		
Working around rod or mesh reinforcement	,,	4/4
Being in beds less than 12″ thick (6″-12″)	,,	2/2
Ditto less than 6″ thick (4½″-6″)	,,	6/6
Being in small quantities not exceeding 3′ cube	,,	17/4
Being in suspended floors and roofs....	,,	13/–
Being in walls not exceeding 6″ thick	,,	21/9
Ditto exceeding 6″ but not exceeding 12″ thick	,,	15/3
Ditto exceeding 12″ thick	,,	10/10

CONCRETOR—(*continued*)

Add to Basic Prices for:—

Being in lintels, beams, etc., not exceeding 72 sq. in. sectional area	Yd. cube	32/7
Ditto exceeding 72 and not exceeding 144 sq. in. sectional area	,,	26/1
Ditto exceeding 144 sq. in. sectional area	,,	21/9
Being in columns not exceeding 72 sq. in. sectional area	,,	41/3
Ditto exceeding 72 and not exceeding 144 sq. in. sectional area	,,	32/7
Ditto exceeding 144 sq. in. sectional area	,,	26/1

Formwork

Flexible formwork to soffits of barrel vault roofs	Yd. super	19/7
Close boarded formwork and supports to soffits of floors not exceeding 12′ high	,,	15/11
Ditto to vertical faces of walls (both sides measured)	,,	16/2
Ditto to sides and soffits of lintols and beams	Ft. super	2/3½
Add to the above for wrot boarded formwork and rubbing down concrete	Yd. super	2/11

Reinforcement

⅜″ to 1″ diameter mild steel rod reinforcement, hooked, bent and tied at intersections as required and fixing in concrete	Cwt.	54/1
½″ diameter ditto	,,	59/–
¼″ diameter ditto	,,	74/2
Steel wire mesh fabric reinforcement to B.S. 1221, weighing 4·71 lb. per yard super, well lapped at joints and embedded in concrete	Yd. super	3/7
Ditto weighing 9·32 lb. per yard super ditto	,,	6/11

BRICKLAYER

Common Brickwork

		Flettons	Rough stocks
Reduced brickwork one brick thick in cement-lime mortar (1 : 3 : 9)	Yd. super	30/11	37/6
Add to the above:—			
If in cement mortar (1 : 3)	,,	–/3	–/3
If circular on plan to flat sweep	,,	5/2	5/6
Ditto to quick sweep	,,	10/2	10/11
Half brick wall in cement lime mortar (1 : 3 : 9)	,,	16/10	20/2
Ditto built fair and pointed both sides with a neat flush joint	,,	19/–	22/4
One brick wall built fair and pointed both sides with a neat flush joint	,,	36/8	43/3
11″ hollow wall with 2″ cavity and galvanized iron twisted ties	,,	36/5	43/1

Engineering Brickwork

		Lingfield Engineering Wirecuts	Blue Pressed bricks
Reduced brickwork one brick thick in cement mortar (1 : 3)	Yd. super	46/3	78/4
Half brick wall in cement mortar (1 : 3)	,,	25/–	41/4
Ditto built fair and pointed both sides with a neat flush joint	,,	27/2	44/3
One brick wall built fair and ditto	,,	51/–	83/9

Sundries

Extra for internal fair face and flush pointing	Yd. super	1/3
Horizontal damp-proof course of two courses of slates and bedding and pointing	Ft. super	3/10
Ditto of hessian base bitumen well lapped at joints	,,	–/10
Fixing only metal window, size 1′ 8″ × 4′ 0″, including cutting and pinning lugs to brickwork, bedding frames and pointing in mastic one side	Each	9/–
Ditto, 3′ 3″ × 4′ 0″ ditto	,,	13/11
Ditto, 6′ 6″ × 4′ 0″ ditto	,,	24/7

Partitions

		2″	2½″	3″	4″
Clinker concrete solid partition blocks to B.S. 2028 (Type B and C) and setting in cement mortar	Yd. super	8/4½	9/9	11/7	14/1
Hollow clay partition blocks to B.S. 1190, keyed on both sides and ditto	,,	9/2	10/2	11/9	14/7
Moler hollow partition blocks, keyed on both sides and ditto	,,	19/11	21/5	23/3	28/–

BRICKLAYER—(*continued*)

Facings

		Ordinary facings, p.c. 253/6 M.	p.c. 271/4 M.	White glazed facings p.c. 1,504/– M for stretchers 1,480/6M for headers and pointing with white cement
Extra over common brickwork built with bricks p.c.113/- M for facings as described and pointing with a neat weathered joint:—				
To solid wall in Flemish bond	Yd. super	15/4	16/8	92/7
To cavity wall in stretcher bond	,,	12/7	13/6	74/2
To ditto in Flemish bond with snapped headers	,,	14/11	16/1	—
Half brick wall in facings in stretcher bond built fair and pointed one side with a neat weathered joint	,,	28/1	29/1	—
Ditto pointed both sides	,,	29/3	30/3	—
One brick wall in facings built fair and pointed one side	,,	52/4	54/3	—
Ditto pointed both sides	,,	53/6	55/5	—
Brick on end flat arch in facings 4½″ on soffit and 9″ high and pointing	Ft. run	3/3	3/4	—
Brick on edge coping to 9″ wall with two courses plain tiles under, laid breaking joint, two cement angle fillets and pointing	,,	5/5	5/6	—

ASPHALTER

Tanking

		To B.S. 1097	To B.S. 1418
Horizontal asphalt tanking in three thicknesses on brick or concrete	Yd. super	18/5	29/5
Vertical ditto	,,	23/8	33/7

Roofing

		To B.S. 988	To B.S. 1162
¾″ asphalt flat in two thicknesses on and including felt underlay	Yd. super	13/2	22/1
Asphalt skirting 6″ high with angle fillet at bottom and rounded top, turned into groove	Ft. run	2/4	2/7
Asphalt fascia 6″ high with solid water check roll at top and undercut drip at bottom	,,	4/6	5/3

DRAINLAYER

Trenches and Beds

N.B.—The following prices are applicable to hand excavation in heavy soil, only requiring planking and strutting for depths of 3′ or more.

Excavate trenches for 4″-9″ pipes, including planking and strutting, filling in and ramming, and wheeling and spreading surplus:—			
For each 12″ in depth, for trenches not exceeding 3′ 0″ deep	Yd. run		3/5½
Ditto for trenches exceeding 3′ 0″ and not exceeding 5′ 0″ deep	,,		4/11
Ditto for trenches exceeding 5′ 0″ and not exceeding 10′ 0″ deep	,,		7/9
6″ concrete (1 : 3 : 6) bed and benching for pipes	Yd. run	4″ 9/–	6″ 10/6
6″ ditto, and surround	,,	14/7	17/8

Drains

		3″	4″
Clayware butt-jointed land drains and laying in trench	Ft. run	–/5	–/6

		4″	6″	9″
"Seconds" quality glazed stoneware socketed drains and laying and jointing in trench	,,	2/1½	3/–	4/11½
"British Standard" quality ditto	,,	2/6	3/7½	6/–½
Extra on "Seconds" quality for bends	Each	3/3	4/9	13/10
Ditto "British Standard" quality ditto	,,	4/1	6/–	17/8
Extra on "Seconds" quality for equal single junction	,,	5/7	8/1	17/5
Ditto "British Standard" quality ditto	,,	6/10	9/11	21/9

DRAINLAYER—(*continued*)

		4″	6″	9″
Cast iron socketed drains to B.S. 437 and laying and jointing in trench	Ft. run	12/4	18/6	36/2
Extra for short radius bend	Each	25/2	60/6	158/9
Extra for single junction	,,	46/2	101/3	263/10

Fittings, etc.

		4″	6″
Glazed stoneware trapped gulley with galvanized grating and outlet and setting in concrete	Each	23/–	42/6
Ditto with vertical inlet ditto	,,	28/6	48/1
Cast iron trapped gulley with high invert, grating, and 4″ outlet and setting in concrete	,,	71/2	—
Ditto with vertical inlet ditto	,,	80/11	—
Glazed stoneware intercepting trap with inspection arm, stopper and chain and fixing in manhole and jointing to drain	,,	72/4	84/4
Brown glazed stoneware half round straight channels and bedding and jointing in cement mortar	Ft. run	1/11	2/10
Ditto ordinary channel bend and ditto	Each	5/8½	8/–
Cast iron coated single seal manhole cover and frame to B.S. 497 Grade C and setting frame in cement and cover in grease	,,	24″ × 18″ 45/3	24″×24″ 66/8
Galvanized ditto	,,	75/8	114/10

PAVIOR

		¾″	1″	1¼″
Cement and sand (1 : 3) floated screed to receive pavings	Yd. super	3/8½	4/6	5/1
Ditto trowelled smooth to receive linoleum	,,	4/1½	4/11	5/6
Cement and sand (1 : 3) paving trowelled hard and smooth	,,	4/2	4/11½	5/6½
Granolithic paving (1 : 2½) laid on concrete	,,	1″ 6/5½	1½″ 7/3½	1½″ 8/3
½″ red composition paving to B.S. 776 laid on prepared screed	Yd. super			16/7
⅝″ terrazzo paving (Portland cement and spar aggregate) laid on prepared screed	,,			34/2
Extra for white or cream cement	,,			5/3
⅛″ rubber flooring in all colours, laid on prepared screed	,,			55/2
⅛″ × 12″ × 12″ rubber tile flooring ditto	,,			45/8
5/16″ × 12″ × 12″ cork tile flooring (brown shades) laid in mastic on prepared screed, surfaced and polished....	,,			45/11
6″ × 6″ red quarry tile paving to B.S. 1286 laid on prepared screed with straight joints	Yd. super		½″ 23/8	⅞″ 26/4
6″ × 6″ buff quarry tiles as last	,,		26/6	30/1
2½″ (finished) gravel path laid on prepared bed, well watered and rolled to cambers and falls	,,			2/10½

MASON

Portland stone and all labours in pilasters, and quoins	Ft. cube		49/7
Ditto in jambs, lintols, etc.	,,		51/10
Ditto in arches	,,		65/–
Ashlar av. 6¼″ on bed with plain dressed face....	Ft. super		29/3
		Portland	Artificial
Portland stone or artificial stone to B.S. 1217:—			
4½″ × 4″ sill, sunk, weathered, throated and grooved for water bar, set and jointed in cement mortar	Ft. run	10/3	4/5
9″ × 3″ ditto	,,	13/6	6/9
2″ × 12″ Coping, weathered and twice throated, set and jointed as last	,,	12/–	5/10
3″ × 12″ Ditto	,,	16/2	8/11
5″ × 12″ Saddle back coping twice throated, set and jointed as last	,,	25/4	13/7
6″ × 12″ Ditto	,,	32/–	15/4

SLATER, TILER AND ROOFER

Slates

		20″× 10″	16″×10″
Best Bangor slates to B.S. 680 laid with 3″ lap, each slate nailed with two stout copper nails	Square	351/9	283/6
Ditto hung vertically to dormer cheeks and gables	,,	357/–	291/4

SLATER, TILER AND ROOFER—(*continued*)

Tiles

		Hand made	Machine made
Best sand faced plain (nibbed) tiles to B.S. 402, 10½″ × 6½″ laid to a 4″ gauge with each tile in every fourth course nailed with galvanized nails	Square	204/9	178/6
Ditto hung vertically to dormer cheeks and gables to 4½″ gauge with each tile nailed with galvanized nails	,,	224/9	197/6
Berkshire hand made sand faced red pantiles 14½″ × 10″ laid to 2½″ head and 1½″ side laps, each tile in every third course nailed with galvanized nails	Square	204/9	
Ditto to mansard slopes....	,,	220/6	
Bridgwater hand made Double Roman red sandfaced tiles 16½″ × 14″ laid to 3″ laps, each tile in every course nailed with galvanised nails	,,	139/8	
Concrete plain (nibbed) tiles to B.S. 473, 10½″ ×6″ laid as before described for plain tiles....	,,	118/8	
Ditto hung vertically to dormer cheeks, and gables, ditto	,,	147/–	
Concrete interlocking tiles 15″ × 9″ laid to 3″ lap, each tile in every third course nailed with galvanized nails	,,	93/6	
Ditto to mansard slopes ditto	,,	99/9	

Asbestos Cement

6″ corrugated asbestos cement sheeting fixed to wood roofs with galvanized drive screws and washers with a side lap of 1½ corrugations and an end lap of 6″	,,		106/–
6″ ditto but fixed vertically	,,		116/6
Add to both last if fixed to steel purlins or sheeting rails with galvanized hook bolts	,,		5/3

Felt

Reinforced bituminous roofing felt laid with 3″ laps and nailed to rafters at 18″ centres with galvanized clout nails	,,		21/3
		Two layer	Three layer
One-ply bitumen felt to B.S. 989 laid on concrete. Each layer bedded in hot bitumen	Yd. super	8/8	11/7
Extra on last for finishing with granite chippings	,,	–/9½	–/9½

CARPENTER

Carcassing

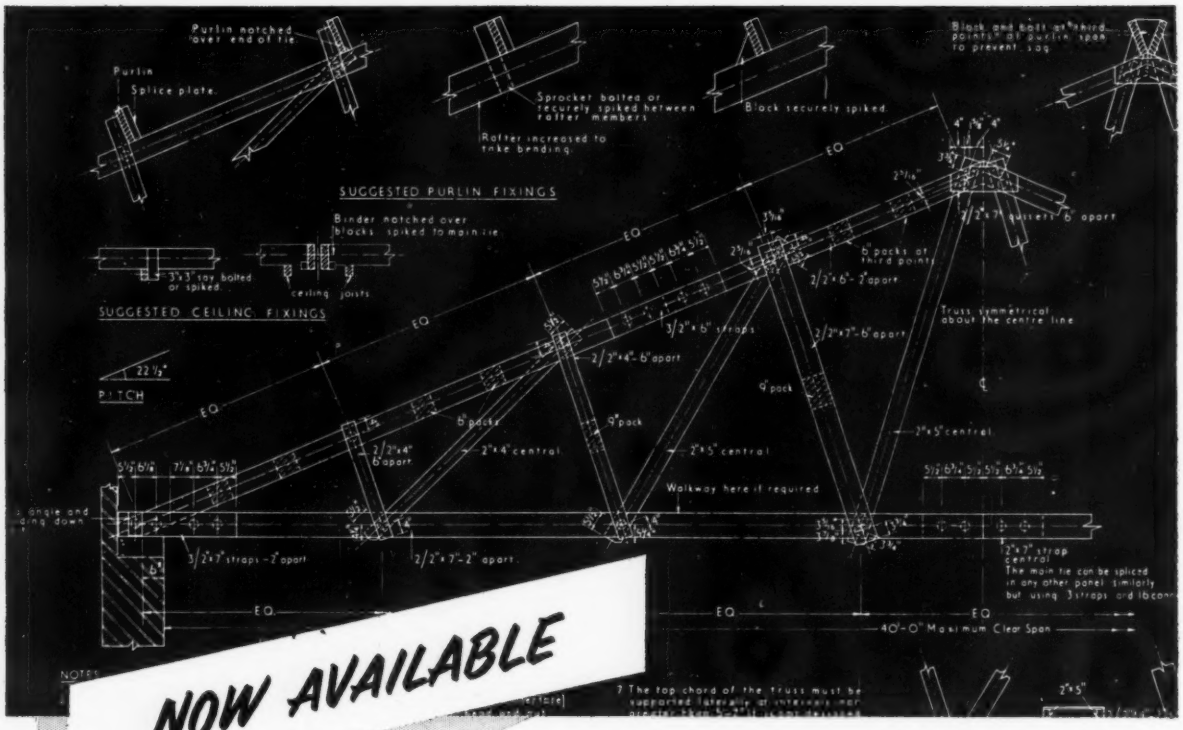
Softwood, sawn and fixed, in plates, sleeper joists and lintols	Ft. cube	15/4
Ditto in floor and ceiling joists	,,	17/5
Ditto in stud partitions, purlins and struts	,,	19/3
Ditto in rafters, framing and ridge	,,	19/2
Ditto in hip and valley rafters including cutting rafters to sizes	,,	21/7

Battening and Boarding

		Roof slopes	Vertical hanging
¾″ × 2″ battens nailed to softwood for 20″ × 10″ slates to 8½″ gauge	Square	32/3	34/5
Ditto 16″ × 10″ slates to 6½″ gauge	,,	42/–	45/2
¾″ × 1½″ ditto for 10½″ × 6″ tiles to 4″ gauge (4½″ for vertical hanging)	,,	54/7	52/6
		Roof slopes	Mansards
¾″ × 2″ ditto for 14½″ × 10″ pantiles to 12″ gauge	,,	23/1	25/3
¾″ × 1½″ ditto for 15″ × 9″ concrete interlocking tiles to 12″ gauge	,,	18/4	19/5
Roof boarding in batten widths close jointed and fixed to flat or sloping roofs	,,	¾″ 115/3	1″ 142/11
Ditto tongued and grooved and prepared for felt roofing including firring to falls	,,	172/–	201/–
Sawn gang boarding fixed to joists in roof	Ft. super	1/3	1/6½
Wrot and crosstongued eaves soffit	,,	2/1	2/4½
6″ wrot and grooved eaves fascia planted on	Ft. run	–/11	1/1

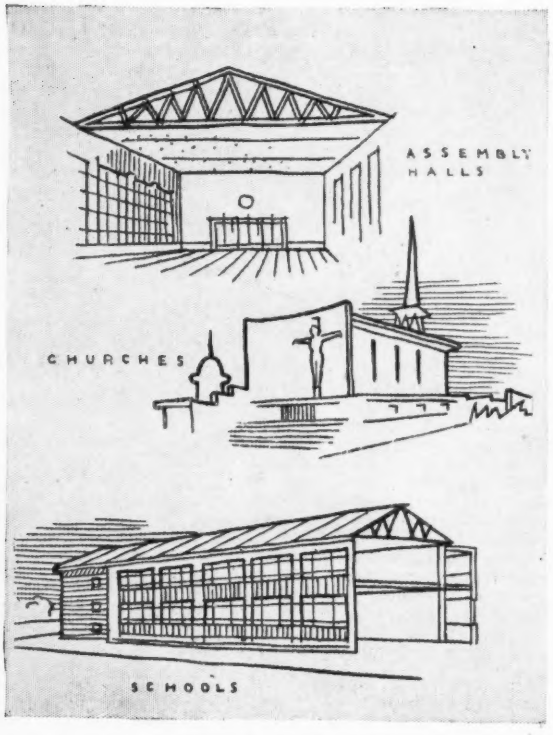
Wall and Ceiling Boards

¼″ fibre board to B.S. 1142 fixed with galvanized flat headed nails to softwood	Yd. super	Vertically 6/–	Soffits 6/2
3/16″ asbestos cement flat sheeting to B.S. 690 fixed as last	,,	7/4	7/9
½″ ditto	,,	8/8	9/1



NOW AVAILABLE

T.D.A. STANDARD TRUSSES FOR PUBLIC AND COMMERCIAL BUILDINGS



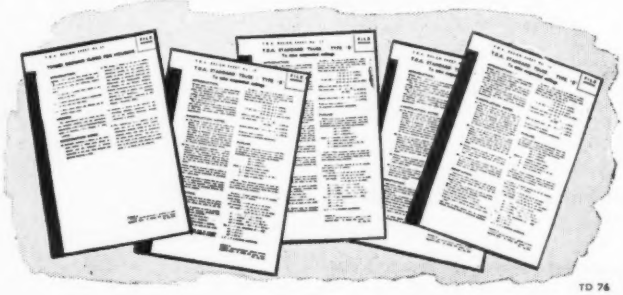
for HOSPITALS · SCHOOLS · CHURCHES ASSEMBLY HALLS · OFFICES · FLATS and other buildings

- *Designed to carry suspended ceilings and walkways*
- *Suitable for covering with various roofing materials*
- *Spans of 25, 30, 35, 40, or 45 feet* • *Pitch — 22½°*

Write for T.D.A. STANDARD DESIGN SHEETS NOS. 15 - 29

There's nothing like **WOOD**

Issued by the
TIMBER DEVELOPMENT ASSOCIATION LIMITED
21 College Hill, London, E.C.4, and branches throughout the country.



TD 76

JOINER

Floors and Skirtings

(All thicknesses stated are nominal)

Plain edge softwood flooring in batten widths nailed to floor joists	Square	¾″ 146/6	1″ 163/–	1¼″ 196/–
Tongued and grooved ditto	„	156/6	173/6	208/–
1″ double grooved and tongued and grooved wood block floor laid herringbone with two-block border, set in hot mastic composition on prepared screed and wax polished:—				
Swedish softwood	Yd. super			29/–
European beech	„			34/2
English oak	„			46/3
European oak	„			41/–
Burma teak	„			46/3
Australian jarrah	„			37/10
Softwood skirtings with splayed or molded top edge, planted on (per inch sectional area)	Ft. run	Sectional area 3″ to 6″ –/2¾	Over 6″ –/2¼	
Extra for grounds plugged to brickwork	„		–/8	

Windows in Softwood

Rebated and molded softwood fanlights and casement sashes divided into squares for glass	Ft. super	1½″ 2/10	2″ 3/4
Extra for hanging	Each	5/6	5/6
Cased frames with 6″ × 3″ oak sill and 2″ molded double hung sashes including pulleys, line and weights	Ft. super	—	11/–

N.B.—The above prices are for purpose made joinery. Standard pattern casement windows and double hung sashes and frames to B.S. 644 are cheaper.

Doors in Softwood

Framed ledged and braced doors filled in with 1″ T. & G. and V-jointed boarding and hanging	Ft. super	1½″ 4/5	1¾″ 5/7	2″ 5/7
Four-panel door, square both sides and hanging	„	4/5	5/7	5/7
Ditto molded one side	„	4/8	5/10	5/10
Ditto molded both sides	„	4/11	6/2	6/2

N.B.—The above prices are for purpose made doors. Standard panelled doors to B.S. 459 are cheaper.

1¾″ standard flush doors 2′ 6″ × 6′ 6″ internal pattern	Each	49/6
2″ ditto 2′ 9″ × 6′ 6″ external pattern	„	76/6

Linings, Frames, etc., in Softwood

Window and door linings etc. (per inch in sectional area)	Ft. run	Sectional area Up to 6″ –/4	6″ to 12″ –/3½
Frames wrot all round and framed (ditto)	„	–/3	–/3
Mullions, transomes and cills (ditto)	„	–/3½	–/3½
Moldings, architraves, etc. (ditto)	„	2″ to 4″ –/4½	4″ to 6″ –/4
6″ Window boards with rounded nosings, tongued at back and including bearers	„	Thickness 1″ 2/9½	1¼″ 3/1
Extra for each additional 3″ width	„	–/6½	–/8

Shelving and Fittings in Softwood

Shelving of 2″ slats spaced 1″ apart on bearers (measured separately)	Ft. super	¾″ 2/–	1″ 2/5
Shelving on ditto	„	2/2	2/9
Cross tongued shelving on ditto	„	2/5	3/–
Shelving 9″ wide on ditto	Ft. run	1/10	2/2
2″ shelf bearers plugged to walls	„	–/7	–/10
The following in framed up cupboard fittings:			
T. & G. & V-jointed back	Ft. super	3/4	4/2
Cross tongued top, bottom shelf or division	„	3/5	4/3
1¼″ flush cupboard doors	„		5/3
Labour rebate or groove	Ft. run		–/2
Labour cross-grain	„		–/2½
1″ × 2″ bearers screwed on	„		–/8

N.B.—The above prices are for purpose-made cupboard fittings. Standard pattern kitchen fittings to B.S. 1195 are cheaper.

IRONMONGERY

		Soft-wood	Hard-wood
3″ steel butts (medium quality)	Pair	5/5	6/8
4″ ditto (ditto)	„	7/3	8/10
Double action floor springs and top centres including filling boxes with oil P.C. 149/3	Each	183/10	190/5
Overhead check action door springs, P.C. 66/8	„	85/8	89/9

IRONMONGERY (*continued*)

		Soft-wood	Hard-wood
6″ barrel bolts. P.C. 5/6	Each	7/10	8/5
Cupboard locks. P.C. 8/2	„	12/8	13/11
Norfolk latches. P.C. 5/6	„	11/–	12/7
Cylinder night latch. P.C. 15/11	„	23/8	25/9
Mortice latch. P.C. 9/4	„	15/2	16/10
Rim lock. P.C. 10/–	„	14/9	15/11
Mortice lock. P.C. 15/2	„	22/10	24/11
Door furniture. P.C. 24/–	Set	27/8	28/–
Sash fasteners. P.C. 9/–	Each	11/11	12/6
Casement fasteners. P.C. 7/11	„	10/2	10/8
Casements stays. P.C. 11/6	„	14/2	14/8

STEEL AND IRONWORKER

Structural Steelwork

The following prices are for Basic sections only. Prices for other sections vary roughly in proportion to the price of the steel ex mills—see "Current Market Prices of Materials."

		£	s.	d.
R.S.J.—in steel framed structures hoisted and fixed complete	Ton	64	0	0
Riveted compound girders including plates and rivets	„	75	0	0
R.S. stanchions including caps, bases, cleats, etc.	„	74	0	0
Riveted compound stanchions ditto	„	78	10	0
Riveted roof trusses with flat and angle members, plates, cleats, etc., 30′ span	„	108	0	0
Ditto 40′ span	„	102	0	0

Sundries

Simple wrot iron balustrades fixed complete (excluding mortices etc.)	Cwt.	12	2	0
Bolts with heads, nuts and washers and fixing	„	12	0	6

PLASTERER AND TILE FIXER

24 gauge expanded metal lathing and fixing to softwood soffits	Yd. super	5/7

Lime and Gypsum Plaster

		Lime	"Sirapite"
Three coat lime and two coat "Sirapite" or similar gypsum plaster:—			
On brick walls and partitions	Yd. super	6/8	5/2
On concrete soffits including hacking	„	8/1	7/5
On soffit of E.M.L. (measured separately)	„	6/11	8/–
⅜″ Gypsum plasterlath fixed to softwood soffits, in accordance with manufacturer's instructions, finished with setting coat of suitable plaster	Yd. super		8/–
Plaster moulded cornice or cove (per inch in girth)	Ft. run		–/5

Cement Rendering

Rendering in Portland cement lime sand (1:1:6) and setting in Keenes cement on brick walls and partitions	Yd. super	6/4
Portland cement and sand (1 : 3) plain face trowelled smooth on ditto	„	5/10
Portland cement and sand (1 : 3) screed for tiling on ditto	„	3/1

Wall Tiler

6″ × 6″ × ¼″ standard quality white glazed wall tiles set and jointed on prepared screed	Yd. super	41/9
Ditto eggshell matt or glossy glazed enamelled	„	52/3

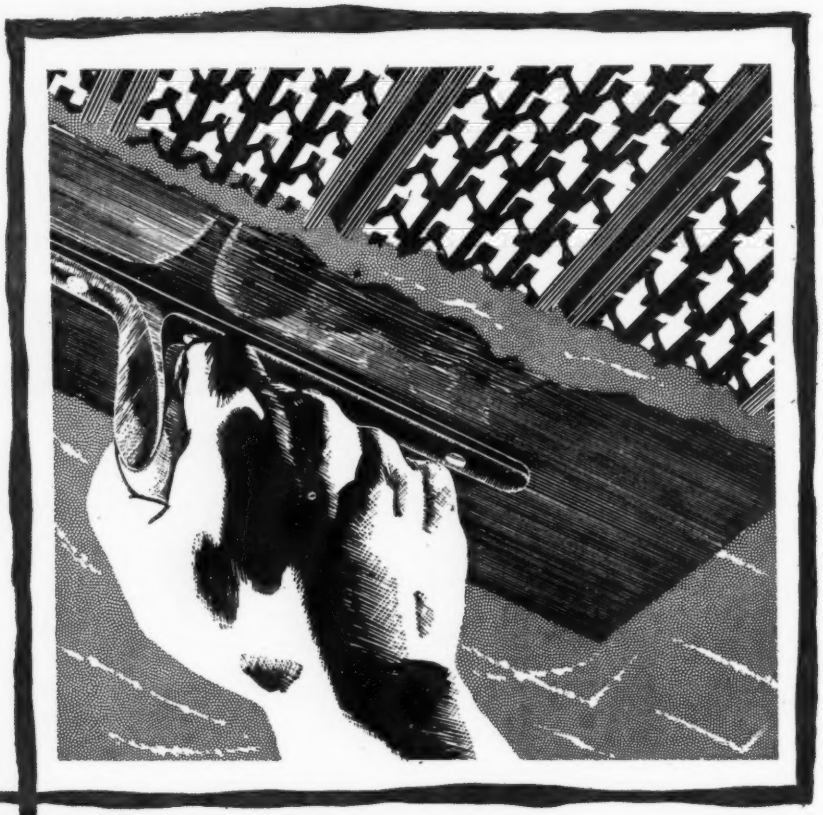
EXTERNAL PLUMBER AND COPPERSMITH AND ZINC WORKER

		Flats	Gutters, flashings, etc.	Stepped flashings
Milled sheet lead and labour	Cwt.	219/–	234/6	248/6
24 S.W.G. sheet copper and labour	Ft. super	6/4	6/8	6/11
23 S.W.G. sheet copper and labour	„	6/7	6/11	7/2
14 gauge zinc and labour	„	2/7	2/10	3/–
20 S.W.G. super purity aluminium and labour	„	4/9	4/10	4/10
20 S.W.G. commercial quality aluminium and labour	„	3/8	3/9	3/9

Rainwater Pipes and Gutters

		3″		4″	
Cast iron medium section (1/16″ metal) R.W. pipes and jointing and fixing to walls with pipe nails and distance pieces or holderbats (cutting and pinning holderbats measured separately)	Ft. run	With holderbats 5/7	With nails 4/5	With holderbats 6/10	With nails 5/7

Held fast by



HY-RIB *the* designed *plaster-base*

For plaster ceilings and partitions, flat or curved, Hy-Rib gives a rigid, true base though fixed to widely spaced supports. The plaster pricking-up coat at once fills the three-dimensional mesh, which both controls and laces the key, eliminating waste.

Hy-Rib is supplied in standard sheets . . . easy to order . . . easy to handle and fix—

	Maximum centres of supports	Dimensions of Sheets	
		Lengths	Width
24 G. Hy-Rib	5′ 0″	6′ 0″ to 13′ 0″	10½″
26 G. Hy-Rib	4′ 0″	6′ 0″ to 16′ 0″	10½″
28 G. Hy-Rib	3′ 0″	6′ 0″ to 8′ 0″	10½″
NEW Hy-Rib Lathing	2′ 0″	7′ 8″ & 8′ 2″	1′ 6″

Write for the Hy-Rib Handbook and name of nearest stockist to :—

THE TRUSSED CONCRETE STEEL CO. LTD.

TRUSCON HOUSE, LOWER MARSH, LONDON, SE.1

Tel: WATerloo 6922

EXTERNAL PLUMBER AND COPPERSMITH AND ZINC WORKER—(*continued*)

		3″ With holder bats	3″ With nails	4″ With holder bats	4″ With nails
		24 G.		20 G.	
Pressed steel R.W. pipes and ditto	Ft. run	4/–	3/4	5/7	4/11
Asbestos cement R.W. pipes and ditto	,,	2/9½	—	4/10	—
		4″		6″	
Cast iron half round eaves gutter and jointed and fixed with brackets to fascia	,,	3/2	3/7½	4/8	5/5½
Ditto O.G. ditto	,,	3/7½	4/6½	5/2½	6/10½
18 Gauge pressed steel half round ditto	,,	2/11½		4/–	
Ditto O.G. ditto	,,	3/6		4/9	
Asbestos cement half round ditto	,,	2/7		3/11	

Soil and Ventilating Pipes

		3″	4″
Lead soil, waste and ventilating pipes (17 lb. per yard for 3″ and 22·8 lb. per yard for 4″ diameter) fixed to walls with lead tacks and brass screws	Ft. run	13/6	18/8

		Heavy 11/64″	Medium 3/16″	Heavy 11/64″	Medium 3/16″
Medium or heavy section cast iron soil, waste and ventilating pipes with caulked joints, fixed to walls, with pipe nails and distance pieces	,,	5/10	5/4½	7/7	7/3½

INTERNAL PLUMBER

Lead Pipes

Prices are based upon the following weights per yard.

		½″ lb.	¾″ lb.	1″ lb.	1¼″ lb.
Supply		7	11	16	21
Distributing		6	9	12·5	16
Flushing and overflow		3	5	7	9
Waste and ventilating		—	—	—	7
		½″	¾″	1″	1¼″
Supply pipe in trench (measured separately)	Ft. run	4/2	6/2	8/10	11/7
Ditto fixed to walls and ceilings	,,	4/8	6/11	9/9	12/11
Distributing pipe fixed to walls and ceilings	,,	4/1½	5/11	8/1	10/6
Flushing and overflow pipe ditto	,,	2/9	4/–	5/5	7/2
Waste and ventilating pipe ditto	,,	—	—	—	6/2
Joints to fittings	Each	5/6	6/4	6/11	7/5
Bends	,,	—	—	—	2/3
Branch joints	,,	7/–	8/1	8/6	10/1

Steel Tubes and Fittings

		½″	¾″	1″	1¼″
Galvanized steel tubes to B.S. 1387 Class C with screwed joints in red lead as supply pipe laid in trench (measured separately)	Ft. run	2/2	2/6	2/7½	3/3
Ditto Class B ditto fixed to walls and ceilings as supply, distributing, waste pipe, etc.	,,	2/1	2/5	2/6½	3/2
Joints to fittings	Each	4/2	4/9	5/8	6/9
Bends	,,	—	—	4/3	6/1
Tee, equal or reducing	,,	2/6½	3/–	3/6	4/10

Copper Tubes and Fittings

Prices are based upon the following gauges :—

		½″	¾″	1″	1¼″
Supply		18	17	16	16
Distributing, waste, etc.		19	19	18	18
Copper tubes to B.S. 1386, as supply pipe laid in trench (couplings and trench measured separately)	Ft. run	2/4½	3/5	4/9	6/3
Ditto to B.S. 659 as distributing, waste pipes, etc., fixed to walls and ceilings. Couplings measured separately	,,	2/4½	3/–	4/1½	5/–
Brass compression type couplings—copper to copper	Each	5/4	6/3	8/7	10/10
Ditto bends	,,	6/11	8/2	11/8	14/6
Ditto tees	,,	9/–	10/2	15/6	22/4

Sanitary Fittings

		£ s. d.
Fireclay sinks 24″ × 18″ × 10″ including cutting and pinning brackets to tiled wall. P.C. 75/–	Each	5 16 0
Combined metal sink and drainer 42″ × 18″ × 8½″ to bearers (measured separately). P.C. 330/–	,,	19 0 0

INTERNAL PLUMBER—(*continued*)

		£ s. d.
Fireclay lavatory basin 25″ × 18″ with taps and towel rail bracket including screwing brackets to tiled wall. P.C. 138/6	Each	8 15 0
Rectangular cast iron porcelain enamelled bath 5′ 6″ long, with taps, and panels to side and one end fixed to framing (measured separately) P.C. 390/6	,,	23 0 0
Fireclay w.c. pan with trap, plastic seat, high level cistern and flush pipe, including screwing pan to floor and cistern brackets to backboard. P.C. 200/–	,,	12 10 0
Ditto with low level cistern P.C. 240/–	,,	14 10 0

GLAZIER

		To wood	To metal
18 oz. Ordinary quality sheet glass and glazing with putty in squares not exceeding 4 ft. sup.	Ft. super	1/2	1/4½
24 oz. Ditto and ditto	,,	1/4½	1/7
32 oz. Ditto and ditto	,,	1/10½	2/1
⅛″ figured, rolled, and cathedral—untinted and ditto	,,	1/6	1/8
¼″ rough cast and ditto	,,	1/10½	2/1
¼″ wired cast and ditto	,,	2/1	2/3½
¼″ Georgian wired cast and ditto	,,	2/1	2/3½
¼″ Georgian wired polished plate and ditto	,,	6/8	6/10
¼″ polished plate (glazing quality) and ditto	,,	6/3	6/4½

PAINTER

Whitening, Distemper and Paint on Walls

Prepare and twice whiten plastered ceilings	Yd. super	1/3
Prepare and twice distemper with washable distemper on plastered walls and ceilings	,,	1/10
Ditto on brick or concrete	,,	2/5
Prepare and paint two coats emulsion paint on plastered walls	,,	2/8
Prepare, prime, and paint two coats oil colour on plastered walls and ceilings	,,	4/11

Paint on Metal

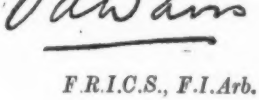
		Basic price	Add for each additional coat
Prepare, prime, and paint one coat oil colour on general surfaces	Yd. super	3/1½	1/5½
Ditto metal casements	,,	4/11	2/2
Ditto members of roof trusses	,,	4/–	1/10
Ditto balustrades one side	,,	4/11	2/2
Ditto bars, etc., not exceeding 6″ girth	Yd. run	–/10	–/4½
Ditto small pipe	,,	–/10	–/4½
Ditto large pipe	,,	1/8	–/8½

Paint on Wood

		Basic price	Add for each additional coat
Knot, prime, stop and paint one coat oil colour on general surfaces of woodwork	Yd. super	3/6	1/5½
Ditto on skirtings, rails, frames, etc., not exceeding 3″ girth	Yd. run	–/5½	–/2
Ditto ditto for each additional 3″ in girth	,,	–/5	–/2
Ditto on sash squares one side	Dozen	4/7	1/9½
Ditto on large sash squares one side	,,	8/3½	3/3

Stain and Varnish on Wood

Prepare, size, stain and twice varnish on general surfaces of woodwork	Yd. super	3/11
Ditto on skirtings, rails, frames, etc., not exceeding 3″ girth	Yd. run	–/6
Ditto ditto for each additional 3″ in girth	,,	–/5½



F.R.I.C.S., F.I.Arb.

L.S.52

Polyflex

Patent pending and registered trade mark

The 'Polyflex' toilet seat has a *flexible mounting*. Breakages are very unlikely. 'Polyflex' includes a flexible PVC rod attached to the seat and firmly fitted into Polythene seat pillars. The pillars, reinforced with a threaded brass insert, are self-centering in the WC pan with polythene washers secured by wing nuts. The 'Polyflex' seat can be fitted by the housewife without any tools, and, because of the flexible mounting, it will stay firmly in position. The 'Polyflex' is hygienic. The seat, hinge, and pillar heads cannot corrode or peel. All are easily cleaned. The 'Polyflex' is available in black, white and a range of standard pastel shades.

MADE BY LORIVAL* AND SOLD BY Shires *for your convenience*

* The firm well-known as 'Lorival Plastics' —designers and moulders of components and complete articles in modern plastics.

Shires are the largest manufacturers of moulded cisterns in the country. They also make WC pans and seats, flush-pipes and complete WC suites.

LEAFLETS FROM:—DIVISION A, SHIRES & CO. (LONDON) LTD., GREENBOTTOM WORKS, GUISELEY, YORKS. (FACTORIES ALSO AT LONDON AND STOKE) SHIRES (IRELAND) LTD., STANNAWAY DRIVE, CRUMLIN, DUBLIN

THE INDUSTRY

From the Industry this week Brian Grant reports on a new valve for preventing burst pipes, studded rubber flooring, polythene piping and a publication on the uses of Gypsum.

PREVENTING FROST DAMAGE

It may perhaps be the wrong time of the year to mention burst pipes and damage by frost, but readers may like to be reminded of the Zeross Anti-burst Valve which is produced in a range of sizes to protect everything from water mains of 6 in. in diameter down to ½-in. pipes in the house.

When a pipe starts to freeze, the ice forms as a film on the inner walls of the pipe and this film increases in thickness until the pipe is frozen solid. An ordinary safety valve on the side of the pipe is therefore not of much use, but the discharge orifice of the Zeross safety valve is placed on the centre line of the pipe so that water pressure can be relieved after the pipe has started to freeze but before it has frozen solid. For internal plumbing the valve is produced in various types for use with screwed iron pipes, or with compression and capillary joints for copper piping. In these types the valves are spring loaded, but for water mains flanged fittings are used with a lever and weight type safety valve. The safety valve unit is fitted into a specially designed chamfered tee piece which avoids any restriction of water flow from the projection of the valve head into the water stream and keeps frictional loss at a minimum. Prices vary from 11s. for the ½-in. screwed fitting to £5 or more for 2-in. copper pipes with compression joints. (*Zeross (Engineers) Ltd., 12a, West Street, Chichester, Sussex.*)

NON-SLIP RUBBER FLOORING

The photograph below shows detail of the studded rubber flooring which has been laid at Wokingham Secondary Modern School. A number of other schools have now been laid with this material, which is silent and non-slip and at the same time highly resistant to wear and tear, while maintenance is easy. The flooring is produced in 12-in. squares with an overall thickness of $\frac{3}{16}$ in., of which $\frac{1}{16}$ in. is the thickness of the studs. The flooring costs 29s. 1d. per sq. yd., inclusive of purchase tax, the installed price is roughly halfway between that for ¼-in. and $\frac{3}{16}$-in. material, and it has a wearing value very much the same as the heavier gauge. Colours can be chosen from a range of 18 plain and marbled patterns.

Production of a studded surface on rubber flooring was suggested by the chief architect of the Ministry of Education and was developed with the help of the Brynmawr Rubber Company, now a unit of the Dunlop organization. (*Dunlop Rubber Co. Ltd., St. James' House, St. James' Street, S.W.*1.)

FITTINGS FOR POLYTHENE PIPE

A number of firms are now producing polythene pipe, both for underground water services in farms, and for cold-water services in houses. In the past, tees and elbow joints have been made with fittings similar to those normally used for copper pipe, but ICI have now produced a range of fittings made of polythene and conforming to the composition clause of BSS 1972 and 1973. The fittings have all the merits of polythene tube, will not corrode, and when buried underground need no protection, while there is no restriction of the bore.

NEW PUBLICATION ON GYPSUM

The Gypsum Building Products Association has started the publication of *The Gypsum Journal* to chronicle current uses of gypsum. The first instalment deals mainly with the material's fire resistance which is exceptionally high, not only because it will not itself support combustion, but also because it contains about 20 per cent. by weight of water which is gradually driven off as vapour until dehydration is complete. The vapour forms a very efficient heat barrier and gypsum plasterboard is in Group 1 of the flame spread tests of BS.476.

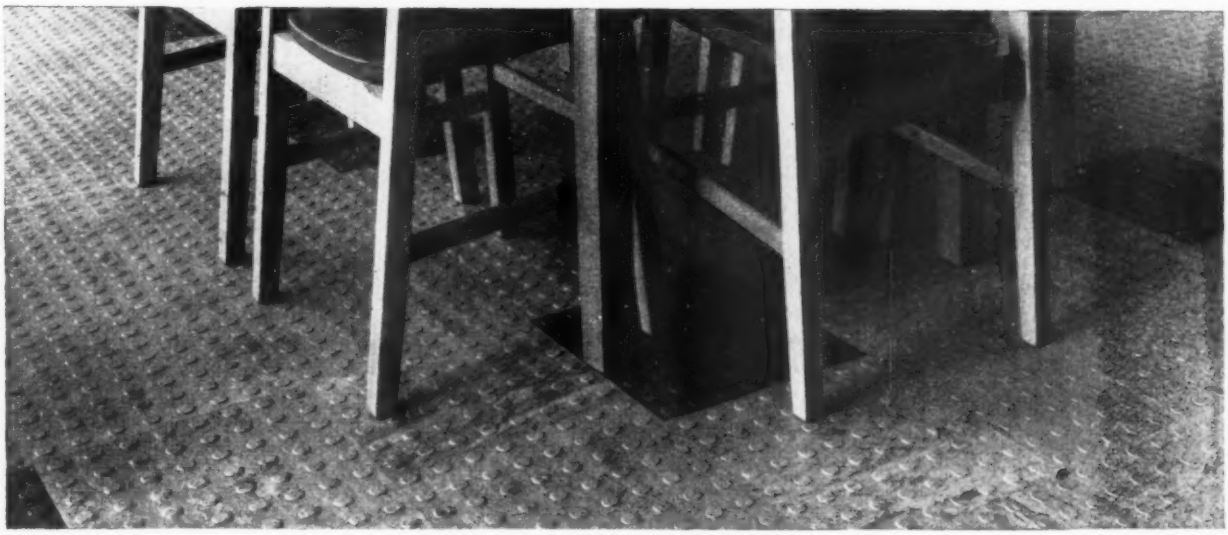
Further issues will deal with different applications of gypsum plasterboard, and the Editor (25, *Lower Belgrave Street, London, S.W.*1) will be glad to hear of unusual or interesting uses of the material. In general this seems an excellent publication with a welcome bias towards fact rather than propaganda.

A polythene tee joint, from a new range by ICI.

CORRECTION

We regret that in *The Industry* for July 7, 1955, p. 31, the wrong photograph was used over the caption "The Planstore drawing storage unit by Randalrak Ltd."

Part of the studded rubber flooring, developed by the MOE and the Brynmawr Rubber Company, in use at the Wokingham Secondary Modern School.



Readers requiring up-to-date information on building products and services may complete and post this form to the Architects' Journal, 9, 11 and 13, Queen Anne's Gate, S.W.1

ENQUIRY FORM

I am interested in the following advertisements appearing in this issue of "The Architects' Journal." (BLOCK LETTERS, and list in alphabetical order of manufacturers' names please.)

.....

.....

.....

Please ask manufacturers to send further particulars to :—

NAME .....

PROFESSION or TRADE

.....

ADDRESS .....

.....

28.7.55

Buildings Illustrated

Offices, The Hyde, London, N.W.9, for Tretol Ltd. (Pages 117-128.) Architects: Walter and Eva Segal; Quantity Surveyors: Godfrey & Burgess; General Contractors: A. T. Rowley (London) Ltd.; Sub-Contractors: bricks supplied by Richard Parton (Builders' Merchants) Ltd.; tiles, Carter & Co. Ltd.; 3-ply felt roofing, Pilkington's Asphalte Co. Ltd.; glass, Pilkington Bros. Ltd.; wood block flooring, Konrad Lewis Ltd.; patent flooring, Marley Tile Co. Ltd., Semtex Ltd.; waterproofing material, d.p.c. solution, basement tanking, Tretol Ltd.; central heating, George Simpson (London) Ltd.; gas fixtures, North Thames Gas Board; boilers, Crane Ltd.; electric wiring, Southern Electricity Board; electric light fixtures, General Electric Company, Troughton & Young Ltd.; staircases, joinery, casements, Rippers Ltd.; door and window furniture, James Gibbons Ltd.; telephones, Reliance Telephones & G.P.O.; sanitary and cloakroom fittings, Broad & Co. Ltd.; sunblinds, Crittall Manufacturing Co. Ltd.; marble terrazzo, Marriott & Price Ltd.; textiles, Liberty Ltd.; furniture, Hille of London Ltd., Heal & Son Ltd., Liberty Ltd.; shrubs and trees, Grasphalte Ltd.; clocks, Smith's English Clocks Ltd.; signs, The Lettering Centre; paint, Tretol Ltd.

Announcements

PROFESSIONAL

The Zinc Development Association and its affiliates, the Hot Dip Galvanizers, the Zinc Alloy Die Casters and the Zinc Pigment Development Associations, have moved from Oxford to London, at 34, Berkeley Square, W.1. The telephone number is GROsvenor 6636.

Mr. Lawrence Clarkson, A.R.I.B.A., of Messrs. Mence and Moore, A./L.R.I.B.A., is being transferred to their West Indies' office in Trinidad, where his address will be 33, Abercromby Street, Port-of-Spain, Trinidad.

A club for architects and surveyors interested in motor cars has been formed and is to be known as "The Architects' and Surveyors' Motor Club." Those interested should communicate with Mr. B. Meekins, 20, Balcombe Street, Dorset Square, N.W.1.

Mr. Reginald H. Gallannaugh, L.R.I.B.A., has moved to 54, Queen Anne Street, W.1, telephone number WELbeck 5484.

On the 1st July, 1955, Mr. A. J. Stedman, L.R.I.B.A., retired from Messrs. A. J. & L. R. Stedman, of Farnham, Surrey, and of 25, Victoria Street, S.W.1. The remaining partner, Mr. L. R. Stedman, A.R.I.B.A., is continuing the practice at the same address and under the same name.

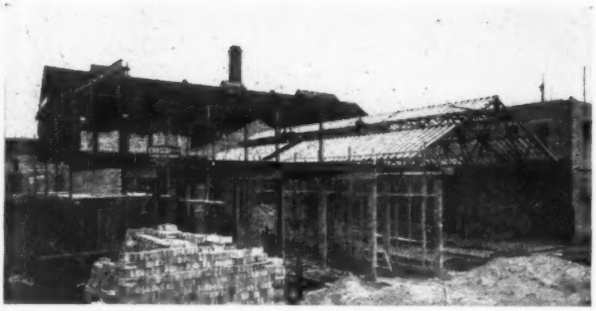
Messrs. E. C. Harris & Partners, chartered Quantity Surveyors, have taken into partnership Mr. Donald M. Gritten, A.R.I.C.S., who has been with the firm for 18 years.

TRADE

Mr. Bryan Archer, A.R.I.B.A., A.A.DIP., has been appointed architect (Technical Development) to Messrs. Gliksten Building Materials, Carpenters Road, Stratford, E.15.

Messrs. Wm. Harland & Son, Ltd., have appointed Mr. D. F. Russell and Mr. J. Benson to their Board of Directors.

Messrs. Plaster Products (Greenhithe) Kent, have opened an office at 55/56, Windsor House, Victoria Street, S.W.1, telephone number ABBey 6500. Full technical service is available at this office which is in charge of Mr. J. T. Freeman, Senior Technical Representative.



STRUCTURAL STEELWORK

FOR INDUSTRIAL AND AGRICULTURAL BUILDINGS

CROGGON & CO. LTD.

230, UPPER THAMES ST., LONDON, E.C.4
Central 4381/3 Works: Colnbrook

ESTD. 1835

The "ALL WOOD" HARDBOARD!

BUY WISELY ~ BUY RIGHT
YOUR PROBLEMS SOLVED
BY ~ FIBONITE

Sole Selling Agents in the U.K.

WM. BRANDTS (WALLPLY) LTD.,
36, Fenchurch Street, London, E.C.3.

to offset higher labour costs

by using

LIGNACITE

TRADE MARK

LIGHTWEIGHT BUILDING BLOCKS

★ **LABOUR SAVING.** Lignacite Blocks can be laid in less than half the time of brickwork and can be sawn, chiselled, drilled, channelled or bolted. Lignacite can be screwed and nailed without plugging.

★ **WEIGHT SAVING.** Lignacite Blocks are half the weight of concrete, yet load bearing to all domestic requirements.

★ **INSULATING.** Lignacite walls provide excellent sound and heat insulation, the latter showing a recurring saving over the years.

★ **FIRE RESISTING.** A recent Fire Resistance Test conclusively proved the stability, integrity and insulation value of Lignacite. A non-load-bearing Lignacite wall fulfilled the test requirements of B.S. 476/1953, providing fire resistance of the four-hour grade.

★ Economic delivery anywhere in England.

★ If you would like further particulars we should be pleased to forward our Illustrated Brochure on request.

LIGNACITE (North London) Ltd., Meadgate Works, Nazeing, Essex. Telephone: Hoddesdon 2277.
LIGNACITE (Home Counties) Ltd., Bracknell, Berkshire. Telephone: Bracknell 666.
LIGNACITE (Brandon) Ltd., Brandon, Suffolk. Telephone: Brandon 350.
LIGNACITE (South Eastern) Ltd., Ninfield, Sussex. Telephone: Ninfield 345.
LIGNACITE (North Eastern) Ltd., Whitley Bridge, nr. Goole Yorks. Telephone: Whitley Bridge 354/5.
LIGNACITE (Fordingbridge) Ltd., Fordingbridge, Hampshire. Telephone: Fordingbridge 2177.

CLASSIFIED ADVERTISEMENTS

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

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

Public and Official Announcements

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

The engagement of persons answering these advertisements must be made through a Local Office of the Ministry of Labour or a Scheduled Employment Agency if the applicant is a man aged 18-64 *inclusive or a woman aged* 18-59 *inclusive unless he or she or the employment is excepted from the provisions of the Notification of Vacancies Order,* 1952.

OFFICE OF THE RECEIVER FOR THE METROPOLITAN POLICE DISTRICT.

Applications are invited for unestablished appointments as ARCHITECTURAL ASSISTANTS (New Works and Maintenance Branches) and also as SANITARY ENGINEERING ASSISTANTS in the Chief Architect and Surveyor's Department.

Rates of pay, £442 10s. (age 21) by annual increases to £695 (men) and £442 10s. by annual increases to £615 (women). Overtime of approximately £24 per annum is also payable while a 45½-hour week is worked.

Conditional hours, 44 per week. *Annual leave,* 24 days.

Application forms from the Chief Clerk, Architect and Surveyor's Department, New Scotland Yard, S.W.1, stating for which drawing office application is made. 9795

BUCKS COUNTY COUNCIL.

Applications are invited for the following appointments in the County Architect's Department:—

(*a*) SENIOR QUANTITY SURVEYOR. (Grade VII, £900 × £40—£1,100 p.a.)

Applicants must be Associates of the R.I.C.S. with considerable experience in the preparation of Bills of Quantities and final accounts on all types of Local Authority Projects.

(*b*) ASSISTANT QUANTITY SURVEYOR. (Grade V, £750 × £30 (5)—£900 p.a.)

Applicants preferably Associates of the R.I.C.S. with considerable experience in the preparation of Bills of Quantities and settlement of final accounts.

(*c*) ASSISTANT QUANTITY SURVEYOR. (Grade IV, £675 × £30 (5)—£825 p.a.)

Applicants preferably members of the R.I.C.S. with considerable experience and ability to undertake abstracting and billing.

(*d*) ASSISTANT ARCHITECT. (Grade V, £750 × £30 (5)—£900 p.a.)

The successful applicant will be required to work on a large and interesting building programme, including traditional and new building techniques.

The appointments are superannuable and subject to medical examination.

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

Application forms giving further particulars of the appointment are obtainable from Mr. F. B. Pooley, County Architect, County Offices, Aylesbury, and returnable by 2nd August, 1955. 1995

METROPOLITAN BOROUGH OF FULHAM. BOROUGH ARCHITECT'S AND HOUSING DEPARTMENT.

(i) BUILDING SURVEYOR, A.P.T. II, £560 ×£20—£640+£30 p.a. London weighting. Must have practical experience of building, the work of a builder's quantity surveyor, preparing reports and correspondence, interviewing technical representatives, etc. A good knowledge of current rates and prices and preparing estimates for all types of maintenance repairs and alterations is essential.

(ii) ASSISTANT BUILDING SURVEYOR, A.P.T. I, £500×£20—£580+£30 p.a. London weighting. Must have practical experience in the building trade, have good knowledge of current rates and prices, and be experienced in inspecting, pricing and ordering all types of maintenance repairs on Housing Estates and Public Buildings.

(iii) SENIOR ASSISTANT QUANTITY SURVEYOR, A.P.T. V, £750×£30—£900+£30 p.a. London weighting. Applicants must be experienced in the preparation of bills of quantities, building management of large contracts for multi-storeyed flats and public buildings, A.R.I.C.S. (Quantities) exam. or equivalent.

(iv) ASSISTANT QUANTITY SURVEYOR, A.P.T. III, £600×£25—£725+£30 p.a. London weighting. Applicants must be experienced in taking-off, final measurement, preparation interim certificates, final accounts, and have passed Intermediate R.I.C.S.

(v) TWO ARCHITECTURAL ASSISTANTS, A.P.T. I or II (£500/£580 or £560/£640) + London weighting. Applicants must have had at least two years' drawing office experience.

Application forms from Town Clerk, Town Hall, S.W.6. Closing date 10th August. 2058

CITY OF NOTTINGHAM. HOUSING ARCHITECT'S DEPARTMENT.

Applications are invited for the following appointments:—

(*a*) One ASSISTANT ARCHITECT, at a commencing salary within the A.P.T. Special Grade (£650×£25—£775). Applicants should have passed Parts I and II of the R.I.B.A. final or special final examination.

(*b*) One ARCHITECTURAL ASSISTANT, at a commencing salary within the A.P.T. Grades I and II (£500—£640) according to qualifications and experience. Applicants should preferably have passed the intermediate examination of the R.I.B.A.

The appointments will be subject to the National Joint Council's Scheme of Conditions of Service.

Applications, stating age, qualifications, experience, present appointment and salary and naming two referees, should be sent to the City Housing Architect, The Guildhall, Nottingham, by the 16th August, 1955.

T. J. OWEN,
Town Clerk.

The Guildhall,
Nottingham. 1992

ZETLAND COUNTY COUNCIL.

Applications are invited for the following appointments in the County Architect's Department:—

(1) ARCHITECTURAL ASSISTANT. Salary in A.P.T. Grades V—Va of National Joint Scheme. Candidates should be Associates of the Royal Institute of British Architects, and have had experience in the preparation of sketch plans and working drawings for housing, schools and other local authority projects.

(2) ARCHITECTURAL DRAUGHTSMAN. Salary in General Division of National Joint Scheme. Candidates should preferably have passed the Intermediate Examination of the Royal Institute of British Architects, and have had experience in the preparation of sketch plans, working drawings and details.

Written applications, giving particulars of age, qualifications and experience, and stating when applicants can take up duty, should be lodged with the Subscriber by 31st August, 1955. One copy of not more than three recent testimonials should be enclosed. Canvassing in any form will disqualify.

JOHN N. SINCLAIR,
County Clerk.

County Buildings,
Lerwick.
6th July, 1955. 1930

CENTRAL ELECTRICITY AUTHORITY. EAST MIDLANDS DIVISION.

Applications are invited for the following position within the Division:—

SENIOR DRAUGHTSMAN (CIVIL), Construction Department. (Vacancy No. 122/55/AJ.)

Candidates should have experience in the preparation of detail drawings and in the design of one or more of the following subjects:—

Reinforced concrete structures.
Piled and slab foundations for heavy components.
Cable subways. Bridges and Culverts.

The salary will be in accordance with Grade 4 (£750×£20—£850 per annum) or Grade 5 (£640×£20—£740 per annum) of Schedule D of the National Joint Board Agreement.

Closing date for receipt of applications: 11th August, 1955.

This appointment will be pensionable within the terms and provisions of the Central Electricity Authority and Area Board Superannuation Scheme.

Applications should be submitted on the official form A.E.6/ACT, which may be obtained from the Divisional Establishments Officer, Central Electricity Authority, P.O. Box 25, Barker Gate, Nottingham, and should be returned to the undersigned by the date stated. Please quote Vacancy Number.

L. F. JEFFREY,
Divisional Controller.

15th July, 1955. 2025

SKEGNESS URBAN DISTRICT COUNCIL. ARCHITECTURAL ASSISTANT, GRADE A.P.T. III.

Applications are invited from suitably qualified persons for the appointment of Architectural Assistant, in the Engineer and Surveyor's Department, within the above-mentioned Grade, the commencing salary to be £675, subject to the Council being satisfied as to the qualifications and experience of the person appointed.

The appointment will be subject to the National Scheme of Conditions of Service, the provisions of the Local Government Superannuation Acts, and the passing of a medical examination.

Applicants should have had experience in the preparation of plans, designs, details and specifications, etc., for the architectural work normally undertaken by an Urban Authority.

A two-bedroomed ground floor flat on a service tenancy is available for the successful candidate, if required.

Applications, suitably endorsed, together with copies of two recent testimonials, to be delivered to the undersigned not later than 13th August, 1955. Candidates should disclose whether to their knowledge they are related to any member or senior officer of the Council.

IVOR M. CULE,
Clerk to the Council.

Town Hall, Skegness.
20th July, 1955. 2045

CITY OF NORWICH. CITY ENGINEER'S DEPARTMENT. TOWN PLANNING SECTION.

Applications are invited for the appointment of a TOWN PLANNING ASSISTANT in Grade V of the new A.P.T. Division (£750 to £900).

Applicants should be Associate Members of the Town Planning Institute, and must have a sound knowledge of town planning and practical experience of development control and in the preparation of schemes for redevelopment areas. Applicants should give full particulars of their training, qualifications and experience, and should state their age, present and previous positions giving salaries and dates, and enclose copies of three testimonials.

The appointment is terminable by one month's notice on either side, and subject to the provisions of the Local Government Superannuation Act, 1953. The successful candidate, therefore, will be required to pass a medical examination. Relationship of applicant to members of the Council or staff must be declared in the application. Canvassing, directly or indirectly, will be a disqualification.

Applications should be delivered to the City Engineer, City Hall, Norwich, not later than 10 a.m. on Monday, 15th August, 1955, endorsed "Town Planning Assistant."

H. C. ROWLEY, M.I.C.E.,
City Engineer.

City Hall, Norwich. 2013

COUNTY BOROUGH OF WALSALL. PUBLIC WORKS DEPT.

Applications are invited for the following posts:—

(1) ASSISTANT ARCHITECT, Grade A.P.T., V, at a commencing salary of £750, rising by annual increments of £30 to a maximum of £900.

(2) ASSISTANT ARCHITECT, Grade A.P.T., IV, at a commencing salary of £675, rising by annual increments of £30 to a maximum of £825.

Applicants must be Members of the Royal Institute of British Architects.

The posts are superannuated, and the person appointed will be required to pass a medical examination.

Applications, giving the names of two persons to whom reference can be made, and stating age, present position, salary and technical qualifications, together with details of experience, should be submitted to the undersigned not later than Monday, 8th August, 1955.

M. E. HABERSHON,
Borough Engineer and Surveyor.

Council House, Walsall.
15th July, 1955. 2005

COUNTY OF LINCOLN—PARTS OF KESTEVEN. COUNTY ARCHITECT'S DEPARTMENT.

Applications are invited for the following appointments:—

(*a*) ARCHITECTURAL ASSISTANTS. A.P.T., II and III.

(*b*) JUNIOR ARCHITECTURAL ASSISTANTS. General Division.

(*c*) QUANTITY SURVEYING ASSISTANTS. A.P.T., IV.

(*d*) ENGINEER'S ASSISTANT (HEATING). A.P.T., III.

Above the General Division scale; commencing salary will be according to experience.

Any further information can be obtained from the County Architect.

Applications, stating the post applied for and giving full particulars of age, training, experience, qualifications, previous and present appointments with dates and salaries, and accompanied by two testimonials, should reach the undersigned by the 12th August, 1955.

J. E. BLOW,
Clerk of the County Council.

County Offices, Sleaford, Lincs.
July, 1955. 2019

LINDSEY (LINCOLNSHIRE) COUNTY COUNCIL. ARCHITECT'S DEPARTMENT.

Vacancies on the permanent staff for:—

(*a*) ASSISTANT ARCHITECTS, Grade IV (£675—£825).

(*b*) ASSISTANT ARCHITECT, Special Grade (£650—£775).

(*a*) and (*b*) to be A.R.I.B.A.

(*c*) ARCHITECTURAL ASSISTANT, with Inter.-R.I.B.A., Grade II (£560—£640).

(*d*) ASSISTANT QUANTITY SURVEYOR, A.R.I.C.S., Grade V (£750—£900).

(*e*) HEATING ASSISTANT, Grade III (£600—£725).

(*f*) ELECTRICAL ASSISTANT, Grade II (£560—£640).

(*g*) BUILDING INSPECTOR / SURVEYOR, Grade II (£560—£640).

Applicants for (*g*) should be capable of preparing drawings and specifications for small works of additions and alterations.

Starting salary not more than two steps up grade may be granted in special circumstances. N.J.C. Conditions of Service. Canvassing will disqualify.

Candidates must disclose in writing whether to their knowledge they are related to any member or senior officer of the Council.

Applications, giving age, qualifications, experience, present salary, copies of two recent testimonials, to be sent to the undersigned not later than Friday, 12th August, 1955.

A. RONALD CLARK, A.R.I.B.A., A.M.T.P.I.,
County Architect.

County Offices, Lincoln. 2034

SOUTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD.

Applications are invited for the following appointments on the permanent staff of the Board's Architect, generally in accordance with the Conditions of F.T.B. Circular Nos. 19 and 40.

LONDON HEADQUARTERS (LONDON WEIGHTING APPLICABLE):

PRINCIPAL ASSISTANT ARCHITECTS, Scale II. The commencing salary will be at the minimum of the scale (£1,025×£40—£1,225). Applicants must be Associate Members of the Royal Institute of British Architects, and have had sound practical experience of the planning and construction of hospitals and public buildings, and be capable of carrying through projects from commencement to completion. Applicants must also be able to undertake investigations of planning requirements and produce sketch schemes and attend Committees.

SENIOR ASSISTANT ARCHITECT. Commencing salary will be at the minimum of the scale (£900×£30—£1,050). Applicants must be Associate Members of the Royal Institute of British Architects, and have had sound practical experience of the planning and construction of hospitals and public buildings, and be capable of carrying through projects from commencement to completion, working under the supervision of a Principal Assistant Architect.

ASSISTANT ARCHITECTS. Commencing salary will be within the scale £625×£25 (7) ×£30 (3)—£890. Applicants must be Associate Members of the Royal Institute of British Architects, and be capable of preparing working and detailed drawings, specifications, and supervising work on individual projects. Experience of hospital planning and construction an advantage.

ASSISTANT QUANTITY SURVEYOR. Commencing salary will be within the scale £625× ×£25 (7)£30 (3)—£890. Applicants must be Associate Members of the Royal Institute of Chartered Surveyors (Quantity Surveying Branch), and have sound practical experience in estimating and analysis of prices, working up and taking off of quantities for small contracts, and also checking contractors' accounts.

WESTERN AREA OFFICE at Winchester. (To reside in or near Winchester.)

SENIOR ASSISTANT QUANTITY SURVEYOR. Commencing salary will be at the minimum of the scale (£900×£30—£1,050). Applicants must be Associate Members of the Royal Institute of Chartered Surveyors (Quantity Surveying Branch), and have sound practical experience in estimating and analysis of prices, working up and taking off of quantities for contracts, and also of checking contractors' accounts.

SENIOR ASSISTANT ARCHITECT. Commencing salary will be at the minimum of scale (£900×£30—£1,050). Applicants must be Associate Members of the Royal Institute of British Architects, and have had sound practical experience of the planning and construction of hospital and public buildings, and be capable of carrying through projects from commencement to completion, working under the supervision of a Principal Assistant Architect.

ASSISTANT ARCHITECTS. Commencing salary will be within the scale £625×£25 (7) ×£30 (3)—£890. Applicants must be Associate Members of the Royal Institute of British Architects, capable of preparing working and detailed drawings and specifications, and supervising work on individual projects. Experience of hospital planning and construction an advantage.

Applications, stating age, experience, qualifications, present appointment and salary, together with the names and addresses of three referees, should be sent to the undersigned, giving the appointment for which applying on the application and envelope, by not later than 12th August, 1955.

E. G. BRAITHWAITE,
Secretary.

South-West Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1. 2079

GOVERNMENT OF NORTHERN IRELAND. ASSISTANT ARCHITECT.

Applications are invited for Assistant Architect, Class II, posts in the Ministry of Health and Local Government. The posts are temporary but, so far as can be foreseen, will last for several years.

Candidates must be Registered Architects by examination. In addition they should have experience in up-to-date house or hospital design and layout, and some aptitude for research into comparative standards of design and construction.

The salary scale, which attracts pay supplement of amounts between £25 and £35 per annum, is £675 × £25—£750 × £30—£960 × £40—£1,000. The commencing salary of £675 is linked to entry at age 25, with an increase of one increment for each year above that age, subject to a maximum entry point of £900 per annum, plus pay supplement of £30. An officer between 25 and 26 will be given an inclusive commencing salary of £675; and if under 25 will be paid according to qualifications and experience.

Preference will be given to suitably qualified candidates who served in H.M. Forces during the 1914-18 or 1939-45 wars, provided that such candidates are, or within a reasonable time will be, able to discharge the duties efficiently.

Application forms may be obtained from the Director of Establishments, Ministry of Finance, Stormont, to whom they must be returned, together with copies of two recent testimonials, so as to reach him not later than the 12th August, 1955. 2041

MANCHESTER CITY ARCHITECT'S DEPARTMENT.

Applications are invited for the following appointments:—

PERMANENT STAFF:

(*a*) **SENIOR ASSISTANT ARCHITECT.** Salary A.P.T., Grade IV (£675—£825 per annum). Applicants must be A.R.I.B.A., with some years' office experience.

(*b*) **ARCHITECTURAL ASSISTANT.** Salary Basic Grade (£650—£775 per annum). Applicants must have passed parts 1 and 2 of the R.I.B.A. Final Examination or its equivalent, and have had at least five years' experience, including the period spent in theoretical training.

(*c*) **ARCHITECTURAL ASSISTANT.** Salary A.P.T., Grades I/II (£500—£640 per annum). Applicants must have passed the Intermediate Examination of the R.I.B.A. or its equivalent.

(*d*) **ASSISTANT ELECTRICAL ENGINEER.** Salary Basic Grade (£650—£775 per annum). Applicants should be experienced in the design of electrical installations in buildings.

(*e*) **SENIOR HEATING, VENTILATING AND MECHANICAL ENGINEER.** Salary A.P.T., Grade IV (£675—£825 per annum). Applicants should preferably be Associate Members of the Institution of Heating and Ventilating Engineers or the Institution of Mechanical Engineers, and be capable of designing, heating and ventilating installations in all types of buildings.

(*f*) **ASSISTANT HEATING, VENTILATING AND MECHANICAL ENGINEER.** Salary Basic Grade (£650—£775 per annum). Applicants should be experienced in the design of heating and ventilating installations.

(*g*) **STRUCTURAL ENGINEERING ASSISTANT.** Salary A.P.T., Grades I/II (£500—£640 per annum). Applicants must be experienced in the design of structural steelwork and reinforced concrete.

(*h*) **SENIOR ASSISTANT QUANTITY SURVEYOR.** Salary A.P.T., Grade IV (£675—£825 per annum). Applicants must have had considerable experience in the preparation of Bills of Quantities and Specifications, Interim Valuations, and settlement of final accounts for all classes of local authority building work.

(*i*) **DISTRICT BUILDING SURVEYOR.** Salary Grade A.P.T. III (£675—£725 per annum). Applicants must have passed the Building Surveyor Examination of the R.I.B.A. or hold equivalent qualifications, be conversant with the Model Building Bye-laws, and have a knowledge of the Factories, Public Health and Town Planning Acts. They should also have had experience in the supervision of building works and the treatment of dangerous buildings.

TEMPORARY STAFF:

(*j*) **SENIOR ASSISTANT ARCHITECT.** Salary A.P.T., Grade IV (£675—£825 per annum). Applicants must be A.R.I.B.A., with some years' office experience.

Further particulars and forms of application should be obtained from the City Architect, Box No. 488, Town Hall, Manchester, 2. The completed form to be returned to the same address by 13th August, 1955.

Canvassing is prohibited. 2052

MONMOUTHSHIRE COUNTY COUNCIL. APPOINTMENT OF ARCHITECTURAL STAFF.

Applications are invited for the following posts in the County Architect's Department under the N.J.C. conditions:—

TWO ARCHITECTURAL ASSISTANTS, Grade A.P.T. IV, salary commencing at £765 by £30 annual increments to £825 per annum.

TWO ARCHITECTURAL ASSISTANTS, Grade A.P.T. III, salary £600 to £725 per annum.

FOUR JUNIOR ARCHITECTURAL ASSISTANTS, Grade A.P.T. II, salary £560 to £640 per annum.

ONE QUANTITY SURVEYING ASSISTANT, Grade A.P.T. II, salary £560 to £640 per annum.

Forms of application, particulars of post and conditions of service can be obtained from the under-signed.

Applications, together with copies of three testimonials, must be forwarded to the County Architect, Queen's Hill, Newport, Mon., not later than Saturday, the 6th August, 1955.

VERNON LAWRENCE,
Clerk of the Council.

County Hall,
Newport,
Mon. 1972

EASINGTON RURAL DISTRICT COUNCIL. ENGINEER'S DEPARTMENT. ARCHITECTURAL ASSISTANT, GRADE A.P.T. II (£560—£640).

Applications are invited for the above-mentioned appointment.

Applicant (1) must have had previous Municipal experience and have been trained in the office of a Municipal Engineer, Architect or Surveyor; (2) must be experienced in Municipal Housing and General Architectural work. Preference will be given to those holding the Intermediate certificate of the R.I.B.A. or equivalent.

These appointments are subject to the National Joint Council's Scheme of Conditions of Service and the Local Government Superannuation Acts.

Forms of Application may be obtained from the undersigned, and must be returned, accompanied by copies of not more than two recent testimonials, to reach the undersigned by not later than 15th August, 1955.

J. W. GRAY,
Clerk of the Council.

Council Offices, Easington, Co. Durham. 2065

COLLEGE OF TECHNOLOGY, BIRMINGHAM. DEPARTMENT OF BUILDING AND CIVIL ENGINEERING.

Applications are invited for appointment as full-time **ASSISTANT** (Grade "B"), in Structural Engineering and associated subjects.

Candidates should hold one or both of the following qualifications:—

(*a*) B.Sc.(Eng.), with structural engineering subjects.

(*b*) **A.M.I.Struct.E.**

Industrial experience is essential, and ability to teach structural engineering with an architectural bias will be advantageous.

Salary will be in accordance with the Burnham (Further Education) Scale for Assistants, Grade "B" (men), £525×£25 (final increment £20) to £820, with additional graduate and training allowances where applicable. In fixing the commencing salary, account will be taken of teaching and industrial experience.

Further particulars and form of application may be obtained from the Registrar, College of Technology, Suffolk Street, Birmingham, 1, on receipt of a stamped addressed foolscap envelope. Completed forms should be returned not later than two weeks after the appearance of this advertisement.

K. R. PILLING,
Clerk to the Governing Body.

2029

CITY AND COUNTY OF BRISTOL. APPOINTMENT OF PLANNING ASSISTANT.

Applications invited for appointment of Planning Assistant in City Engineer and Planning Officer's Department. Salary in accordance with Special Grade (£650—£775) if successful applicant has passed Final Examination of Town Planning or other appropriate Institute and has necessary experience or Grade A.P.T. II (£560—£640) if he has passed Intermediate Examination of such Institute.

Applicants should have had good general planning experience including control of development and preparation and administration of Development Plan.

Applications giving age, qualifications, present and previous appointments and full details of experience, together with names of two referees should be sent to City Engineer and Planning Officer, 470, Bath Road, Brislington, Bristol 4, by 8th August, 1955. 1968

SURREY COUNTY COUNCIL.

Applications invited for the following vacancies:—

(1) **ASSISTANT ARCHITECT**, Grade V, £750 × £30—£900 p.a. plus London Allowance. Should be Associate Member R.I.B.A.

2. **ARCHITECTURAL ASSISTANT**, Grade I, £500 × £20—£580 p.a. plus L.A.

(3) **ASSISTANT QUANTITY SURVEYOR**, Grade IV, £675 × £30—£825 p.a. plus L.A. Should be Associate Member, R.I.C.S.

Full details and present salary, accompanied by copies of three recent testimonials to County Architect, County Hall, Kingston, as soon as possible. 1960

BOROUGH OF ILFORD. BOROUGH ENGINEER'S DEPARTMENT. PERMANENT STAFF.

(*a*) **ONE ASSISTANT ARCHITECT**, Grade A.P.T., II/III.

Salary £560—£725 per annum, plus London weighting. The point of entry in the scale will be fixed having regard to qualifications and experience, but not exceeding £620 per annum, plus London weighting. Candidates must be Members of the R.I.B.A. and have a thorough knowledge of architectural works.

(*b*) **ONE ARCHITECTURAL DRAUGHTSMAN**, Grade A.P.T., I.

Salary £500—£580 per annum, plus London weighting. Applicants must be capable draughtsmen and have had sound drawing office experience in general architectural works, particularly in regard to working drawings.

THE COUNCIL IS PREPARED TO CONSIDER IF NECESSARY THE PROVISION OF HOUSING ACCOMMODATION IN CONNECTION WITH THESE APPOINTMENTS.

Appointments superannuable and subject to medical examination. Application forms, obtainable from the Town Clerk, Town Hall, Ilford, upon receipt of self-addressed stamped envelope, must be returned by Saturday, 13th August. 2020

COUNTY BOROUGH OF EAST HAM. HOUSING DEPARTMENT—SENIOR ARCHITECTURAL ASSISTANT (A.P.T., IV).

Applicants should be Associates R.I.B.A. and have had experience in housing work of a local authority. Salary £675×£30—£825, plus London weighting.

Further details and form of application (returnable by 10th August, 1955) from the Town Clerk, Town Hall, East Ham, E.6. 2006

METROPOLITAN BOROUGH OF HAMPSTEAD. REVISED ADVERTISEMENT.

Applications are invited for a Temporary **ASSISTANT ARCHITECT, A.P.T., IV** (£675 to £825, plus London weighting), to work under the direction of the Housing Architect. Successful candidates will be members of a team engaged on schemes of housing and flat development, and there are opportunities to gain valuable experience, both in an Architect's office and on the site. Applications to the Town Clerk, Town Hall, Haverstock Hill, N.W.3, with the names of three referees, by the 5th August, 1955. Canvassing will disqualify. No housing accommodation can be provided. 2009

GOVERNMENT OF IRAQ, MINISTRY OF EDUCATION.
COLLEGE OF ENGINEERING, BAGHDAD.
Applications are invited for the post of PROFESSOR OF ARCHITECTURE. Candidates should possess qualifications, professional practice and teaching experience suitable for the post of Head of the Department of Architecture which it is hoped to establish in the near future.
Basic salary from 200 to 250 Iraqi Dinars a month, according to qualifications and experience (1 Iraqi Dinar = £1 sterling).
Contracts will be for one year and may be extended.
First-class fares (including wife and two children) at beginning and end of contract. High cost-of-living allowance from ID.12 to ID.14 a month. Rent allowance (subject to certain conditions) up to ID.12 p.m. Leave passage allowance ID.40 or ID.60 per annum (single and married respectively). Provident fund 5 per cent. of basic salary (deducted monthly), plus 10 per cent. added by Government. Accumulated amount payable on termination of contract. Income tax of the order of 10 per cent. of basic salary.
All appointments will date from 1st October, 1955, and applications (no forms) must be received by the Cultural Attaché, Iraqi Embassy, 22 Queen's Gate, London, S.W.7, not later than 10th August, 1955. Copies of two recent testimonials, and names and addresses of two referees, must accompany applications 2014

HER MAJESTY'S OVERSEA CIVIL SERVICE.
Applications are invited for the following post:—
ARCHITECT, PUBLIC WORKS DEPARTMENT, GAMBIA.
To take charge of a small Architectural Section of the Public Works Department, Headquarters, and to be responsible for all design work and preparation of plans, specifications, and Bills of Quantities.
Appointment is on contract for two tours of 18 months each in the salary scale £894 to £1,734 per annum. Commencing salary determined by qualifications and experience. A gratuity of £100—£150 per annum is payable on satisfactory completion of contract. Free 1st class passages provided for officer and his wife, and assistance towards children's passages. Leave at the rate of 7 days for each completed month of resident service.
Candidates must be A.R.I.B.A. with good general experience.
Apply in writing to the Director of Recruitment, Great Smith Street, London, S.W.1, stating briefly age, qualifications and experience, and quoting reference No. BCD 112/12/01. Closing date for the receipt of initial enquiries: 25th August, 1955. 2076

CITY AND COUNTY OF NEWCASTLE UPON TYNE.
CITY ARCHITECT'S DEPARTMENT.
The City Architect will be pleased to receive applications from suitably qualified ARCHITECTS for vacancies in his Department on the following salary grades:—
(*a*) A.P.T. Division, Grade IV (£675—£825), Education, Housing or General Sections.
(*b*) A.P.T. Division, Grade III (£600—£725), Housing Section.
(*c*) A.P.T. Division, Grade II (£560—£640), Housing Section.
(*d*) A.P.T. Division, Grade I (£500—£580), Education or General Sections.
The appointments will be subject to the provisions of the Local Government Superannuation Act, 1953, and to one month's notice on either side. Successful candidates will be required to pass a medical examination.
Applications, stating position applied for, age, particulars of training, qualifications, experience, present and past appointments, together with copies of two recent testimonials or the names and addresses of two persons to whom reference may be made, should be addressed to George Kenyon, A.R.I.B.A., A.M.T.P.I., City Architect, 18, Cloth Market, Newcastle upon Tyne, 1.
JOHN ATKINSON.
Town Clerk.
Town Hall, Newcastle upon Tyne, 1.
18th July, 1955. 2055

COUNTY BOROUGH OF EAST HAM.
ARCHITECTURAL ASSISTANT—HOUSING DEPARTMENT.
Applicants should be Associates R.I.B.A. and have had experience in housing work of a local authority. Salary £650 × £25 to £775 per annum plus London Weighting.
Further details and form of application (returnable by 10th August, 1955) from the Town Clerk, Town Hall, East Ham, E.6 1982

CARDIGANSHIRE COUNTY COUNCIL.
Applications are invited for the following appointments in the County Architect's Department, County Hall, Aberayron.
Two ASSISTANT ARCHITECTS on Grade A.P.T. IV £675—£825.
Candidates should be members of the R.I.B.A. and commencing salary will be according to qualifications and experience.
Application form and conditions of appointment can be obtained from the County Architect and must be returned to the undersigned not later than 8th August, 1955.
J. E. R. CARSON.
Clerk of the Cardiganshire County Council.
Swyddfa'r Sir,
Aberystwyth,
Cards. 1967

COUNTY BOROUGH OF BURNLEY.
NEW SCHOOLS PROGRAMME.
Applications are invited for the appointment of an ARCHITECTURAL ASSISTANT in the Borough Engineer and Surveyor's Department at a salary in accordance with the A.P.T. Special Grade (£650 × £25 × £775).
Applicants should be Associate Members of the Royal Institute of British Architects and should preferably have had considerable experience in connection with new schools.
Forms of application and conditions of appointment may be obtained from the Borough Engineer, 22/24, Nicholas Street, Burnley, to whom applications should be returned not later than Saturday, the 13th August, 1955.
C. V. THORNLEY,
Town Clerk.
1976

MINISTRY OF WORKS require ARCHITECTURAL ASSISTANTS for drawing offices in London, Edinburgh and various provincial offices, with at least 3 years' training, some experience in an architect's office, and of Inter. R.I.B.A. standard. London salary, £442 to £695 per annum; rates elsewhere slightly less. Starting pay according to age and experience; prospects of promotion and permanency. State age and full details of training and experience to E. Bedford, Esq., C.V.O., A.R.I.B.A., Chief Architect, Ministry of Works, 20 (F), Abell House, John Islip Street, London, S.W.1. 1020

POPLAR BOROUGH COUNCIL require:—
(*a*) Two ASSISTANT ARCHITECTS (TEMPORARY), salary £800 × £50 to £850. Applicants should have passed the Final R.I.B.A. Examination.
(*b*) Three ARCHITECTURAL ASSISTANTS (TEMPORARY), salary £700 × £50 to £750. Applicants should have passed the Intermediate R.I.B.A. Examination.
(*c*) One SENIOR PLANNING ASSISTANT (PERMANENT), A.P.T. V (£750/£900). Applicants should have passed Final Examination of Town Planning Institute;
plus London "Weighting" in each case. Posts (*a*) and (*b*) offer about 3/4 years' employment. Forms obtainable from the Borough Engineer and Surveyor, Poplar Town Hall, Bow Road, E.3. Closing date 15th August, 1955. 1965

COUNTY BOROUGH OF STOCKPORT.
Applications invited for the following appointments in the EDUCATION ARCHITECT'S DEPT.:—
(*a*) CHIEF ASSISTANT ARCHITECT Grade VI £825—£1,000 per annum.
(*b*) ASSISTANT ARCHITECTS—Grade V £750—£900 per annum.
(*c*) ASSISTANT ARCHITECT—Grade IV £675—£825 per annum.
Applicants for all posts should be Associate Members of the R.I.B.A. and must have a high standard of contemporary design. For (*a*) applicants must be accustomed to accepting responsibility and fully competent to administer contracts from inception to completion. Application forms from Director of Education, Town Hall, Stockport, to be returned by 6th August. 1924

PADDINGTON BOROUGH COUNCIL
require ASSISTANT ARCHITECT (£705—£855 p.a.), preferably A.R.I.B.A., with experience in contemporary design, the construction and supervision of general municipal works, particularly multi-storey flats, or should have had similar experience with architects in private practice.
Commencing salary dependent upon qualifications and experience of successful candidate. N.J.C. conditions. One month's notice.
Applications (quoting A.225) should state age, qualifications, experience, past and present appointments (with salary), and names and addresses of two referees, and should reach the undersigned by 13th August, 1955.
W. H. BENTLEY.
Town Clerk.
Town Hall, Paddington Green, W.2. 2027

CUMBERLAND COUNTY COUNCIL.
APPOINTMENT OF SENIOR PLANNING ASSISTANT.
Applications are invited from suitably qualified and experienced candidates for the above superannuated appointment, at a salary within Grade A.P.T., VI. of the National Scales (£825—£1,000 per annum).
The duties of the post will be in connection with work on Town and Comprehensive Development Area Maps and on development control throughout the County.
Forms of application and further particulars as to duties, car and subsistence allowances, from the County Planning Officer, Citadel Chambers, Carlisle. Closing date for applications: 27th August, 1955.
G. N. C. SWIFT.
Clerk of the County Council.
The Courts, Carlisle. 2028

COUNTY BOROUGH OF BURY.
Applications invited from suitably qualified persons for the appointment of an ARCHITECTURAL ASSISTANT in the Borough Engineer's Department on Special Grade (£650—£775).
Applications, stating age, details of training, qualifications and experience, together with the names and addresses of two persons to whom reference may be made, must reach me not later than 15th August.
EDWARD S. SMITH.
Town Clerk.
Town Hall, Bury.
20th July, 1955. 2068

CITY AND COUNTY OF THE CITY OF LINCOLN.
CITY ARCHITECT'S DEPARTMENT.
Applications are invited for an ARCHITECTURAL ASSISTANT, Grade A.P.T. I (£500—£580), to work on a varied programme of new buildings.
The post is superannuable, and a medical examination will be necessary.
Applications, stating age, qualifications and experience, together with the names of two persons to whom reference may be made, should be delivered to R. R. Alexander, A.R.I.B.A., M.T.P.I., City Architect, Stamp End, Lincoln, not later than the 19th August, 1955.
J. HARPER SMITH,
Town Clerk.
Town Clerk's Office, Lincoln.
20th July, 1955. 2044

DURHAM COUNTY COUNCIL—STAFF VACANCIES.
ARCHITECTURAL ASSISTANT. Salary £650—£775. Must be Member of R.I.B.A.
PLANNING ASSISTANT. Salary £560—£640. Minimum qualification Inter. T.P.I.
DRAUGHTSMEN (TWO). Salary £500—£580.
Forms and particulars from County Planning Officer, 10, Church Street, Durham. Closing date: 17th August, 1955.
J. K. HOPE,
Clerk of the County Council.
2054

METROPOLITAN BOROUGH OF FULHAM.
ARCHITECTURAL TRAINEE.
BOROUGH ARCHITECT'S AND HOUSING DEPT. Excellent opportunity for boy 16/17 years to become articled pupil and qualify as an Architect. Commencing salary during training £200—£220 p.a. Details from Town Clerk, Town Hall, S.W.6. Closing date: 10th August. 2057

LONDON COUNTY COUNCIL.
ARCHITECT'S DEPARTMENT.
Vacancies for ARCHITECTS and SURVEYORS (up to £945) for work on improvements. Particulars and application forms, returnable by 10th August, from Architect (AR/EK/M/2), The County Hall, S.E.1. (1136) 2018

ARCHITECTURAL ASSISTANT (Established), A.P.T., Grade II or I (£560 to £640 p.a., plus London weighting, or £500 to £580 p.a., plus London weighting). Applicants must have passed R.I.B.A. Intermediate. Grading according to experience. Application form and conditions of appointment from Borough Engineer, Town Hall, Tottenham, N.15, to whom applications must be delivered not later than 8th August, 1955. 2030

COUNTY BOROUGH OF STOCKPORT.
Applications invited for the following appointments in the Education Architects' Dept.:—
(*a*) CHIEF ASSISTANT ARCHITECT, Grade VI (£825—£1,000 per annum).
(*b*) ASSISTANT ARCHITECTS, Grade V (£750—£900 per annum).
(*c*) ASSISTANT ARCHITECT, Grade IV (£675—£825 per annum).
Applicants for all posts should be Associate Members of the R.I.B.A., and must have a high standard of contemporary design. For (*a*) applicants must be accustomed to accepting responsibility and fully competent to administer contracts from inception to completion. Application forms from Director of Education, Architects' Dept., 10/12, Heath Road, Stockport, by 6th August. 2067

CITY OF LEEDS.
CITY ARCHITECT'S DEPARTMENT.
Applications are invited for the following appointment:—
ASSISTANT HEATING AND VENTILATING ENGINEER, A.P.T. III (£600—£725).
The payment of salary increments will be subject to satisfactory service, and will be granted normally with effect from the 1st April following the completion of six months' service.
The appointment is subject to the Local Government Superannuation Acts, 1937-1953, and the successful applicant will be required to pass a medical examination.
Application forms may be obtained from the City Architect, Priestley House, Quarry Hill, Leeds, 9, to whom they should be returned, together with copies of three recent testimonials, by 12 noon Friday, 12th August, 1955.
Canvassing in any form, either directly or indirectly, will be a disqualification.
R. A. H. LIVETT, O.B.E., A.R.I.B.A.,
City Architect.
Priestley House, Quarry Hill, Leeds, 9.
20th July, 1955. 2087

RICHMOND (SURREY) BOROUGH COUNCIL.
Applications are invited for the following appointments in the Borough Engineer's Department:—
(*a*) ASSISTANT ARCHITECT (temporary), Special Scale (£650—£775).
(*b*) JUNIOR ARCHITECTURAL ASSISTANT (permanent), A.P.T., Grade I (£500—£580).
(*c*) ARCHITECTURAL DRAUGHTSMAN (temporary), A.P.T., Grade I (£500—£580).
(London weighting payable in addition to above grades.)
The work will be on housing, including multi-storey flats and public buildings.
Applications, naming two referees, to be delivered to the Borough Engineer and Surveyor, Hotham House, Heron Court, Richmond, Surrey, by 15th August, 1955.
Canvassing will disqualify. Relationship, if any, to members of the Council or senior officers, must be stated. No assistance with housing. 2084

HER MAJESTY'S OVERSEAS CIVIL SERVICE.
ARCHITECT PUBLIC WORKS DEPARTMENT, UGANDA.

Duties include the design and preparation of sketch plans of building projects generally and estimating for such works; design and calculations for simple re-inforced concrete structures; design of drainage layout plans. Supervision of junior drawing office staff.

Appointment is permanent and pensionable on two years' probation in the salary scale £852 to £1,620 per annum. 10 per cent. cost-of-living allowance is also payable.

Free passages provided up to four tourist class air passages for the officer, his wife and dependent children. Furnished quarters, if available, are provided at reasonable rents. Leave is granted at rate of 6 days for each month of resident service.

Candidates between the ages of 25 and 35 must be A.R.I.B.A. A sound working knowledge of electrical and water supply services is essential. The ability to produce attractive perspective sketches of architectural subjects is desirable.

Apply in writing to the Director of Recruitment, Colonial Office, Great Smith Street, London, S.W.1, giving briefly age, qualifications and experience, and quoting reference No. BCD 112/9/012. 2088

ARGYLL COUNTY COUNCIL.

Applications are invited for the post of ARCHITECTURAL ASSISTANT in the County Architects Department, Dunoon. The salary scale will be A.P.T. III-IV (£585—£660 per annum), with placing according to qualifications and experience. The post is superannuable. Applicants must have had a general architectural training, be capable of surveying, levelling, preparing detailed drawings and specifications, and have had experience particularly in connection with Housing. THE SUCCESSFUL APPLICANT WILL BE GIVEN THE TENANCY OF A FOUR APARTMENT COUNCIL HOUSE IF REQUIRED.

Applications, stating age, experience, and qualifications, together with copies of two recent testimonials, to be lodged with the County Architect, County Offices, Dunoon, within ten days of publication of this advertisement.

A. D. JACKSON,
County Clerk.
County Offices, Lochgilphead. 2089

HAMPSHIRE COUNTY COUNCIL.

Applications are invited for the post of ARCHITECTURAL/PLANNING ASSISTANT in the County Planning Department Headquarters Office at Winchester. Salary in accordance with A.P.T., Grade II (£560—£640). Candidates should have had architectural training at least to Intermediate standard, be experienced and capable designers, and have some knowledge of Town Planning.

The appointment is pensionable, and will be subject to a satisfactory medical report. An officer using his own car when travelling on County Council duties will receive travelling allowances on the N.J.C. Scale. In approved cases the County Council are prepared to assist in meeting removal and other expenses.

No form of application is issued, but applications, stating age, qualifications and experience, together with a copy of one testimonial and the names of two referees, should be sent to the County Planning Officer, Litton Lodge, Clifton Road, Winchester, by the 10th August. 2085

CITY OF BIRMINGHAM.
CITY ARCHITECT'S DEPARTMENT.

Applications are invited for the following appointments:—

QUANTITY SURVEYOR, Grade A.P.T. IV (£675—£825 per annum).

QUANTITY SURVEYOR, Grade A.P.T. III (£600—£725 per annum).

Applicants for Grade A.P.T. IV must have passed the Final Examination, and for Grade A.P.T. III the Intermediate Examination of the R.I.C.S. (Quantities Section), or hold equivalent qualifications. The commencing salary in either grade will be according to capabilities and experience.

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

Applications, endorsed with the heading of the post, setting out present position and salary, qualifications and experience, together with the names of two persons to whom reference can be made, should reach the undersigned not later than 15th August, 1955.

Canvassing disqualifies.

A. G. SHEPPARD FIDLER.
Civic Centre, Birmingham, 1. 2086

Architectural Appointments Vacant

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

The engagement of persons answering these advertisements must be made through a Local Office of the Ministry of Labour or a Scheduled Employment Agency if the applicant is a man aged 18-64 inclusive or a woman aged 18-59 inclusive unless he or she or the employment is excepted from the provisions of the Notification of Vacancies Order, 1952.

WANTED, good ARCHITECTURAL DRAUGHTSMAN for London office (Public Buildings). Box 2032.

ARCHITECT'S ASSISTANTS required (1 Senior and 2 Juniors) for West End Office. Write, stating full particulars and salary required, to Box 8725.

ARCHITECTURAL ASSISTANTS required, preferably with Inter. R.I.B.A. min. and some experience in industrial buildings. Good salary and working conditions. B.S.P. Industries, Ltd, (Ref. A/36), Elstree Way, Boreham Wood. ELStree 3311/5. 1683

RAMSEY, MURRAY & WHITE have a vacancy for ARCHITECTURAL ASSISTANT, about Intermediate standard, preferably with office experience. Salary according to qualifications. Apply 32, Wigmore Street, London, W.1, or telephone WELbeck 1409. 9823

ARCHITECTURAL ASSISTANT (Intermediate standard) required at once for varied practice in City office. Write, stating age, experience, and salary required, to Henry C. Smart & Partners, L.R.I.B.A., 120, Moorgate, E.C.2. 1611

ASSISTANT ARCHITECT required for the London Head Office of a major oil company. The work is in connection with large-scale development of service stations, involving the design of new and the re-modelling of existing stations. Should preferably be an Associate Member of the R.I.B.A., capable of supervising staff and controlling work through all stages of development. Must hold current driving licence. Pension and Life Assurance Scheme. Generous sickness benefits; luncheon voucher scheme; social club. Write, giving full details, stating age, experience and salary required, to Box 1296, quoting Ref. RO/AA 713.

REQUIRED for progressive London office, ARCHITECTURAL ASSISTANT. Intermediate stage or above, some office experience. Please write for interview. Box 1019.

ARCHITECTURAL ASSISTANT required by Major Oil Company undergoing expansion, for its Sheffield office. Applicants should be of Intermediate standard, and must be capable of carrying out work on the design and re-modelling of service stations. Social Club, Pension and Life Assurance scheme, generous sickness benefits. Write, giving full details of experience, age and salary required, to Box 9862, quoting Ref. A.A. 588.

ARCHITECTURAL ASSISTANTS required urgently for London office. Intermediate stage or above, and with practical experience, particularly in traditional domestic and other work. Please write stating age, experience, and salary required to Box 9896.

CHIEF ASSISTANT required immediately for busy private practice within 50 miles of London. Should be qualified, experienced, car owner/driver, and capable of taking full responsibility. Good salary and prospects for the right man. Full particulars and salary required to Box 1813.

JUNIOR and SENIOR ARCHITECTURAL ASSISTANTS required for rapidly expanding, contemporary office. Write, giving details of age, experience and salary required, to Box 1812.

ARCHITECTURAL ASSISTANTS, SENIOR and JUNIOR, required in busy London office with varied practice. Good salary and prospects for suitable applicants, five-day week. Write Box 715 c/o 7, Coptic Street, W.C.1. 1782

ARCHITECTURAL ASSISTANTS required immediately in expanding Midland practice for varied works. Pleasant surroundings and good prospects. Please send full details of training, experience, salary, etc., to Box 1814.

ARCHITECT'S ASSISTANT required for the London office of a firm of Architects with interests throughout the country, must be of Intermediate to Final R.I.B.A. standard. Superannuation scheme. Apply in writing to Messrs. Cotton, Ballard & Blow, 133a, Wembley Park Drive, Wembley, Middlesex. 1763.

CO-OPERATIVE WHOLESALE SOCIETY, LTD., ARCHITECT'S DEPARTMENT, LONDON.
ASSISTANT ARCHITECTS.
WORKER-UP.

APPLICATIONS are invited from suitably qualified persons. Salary on a scale £485—£945, inclusive of L.W., with placing according to age, qualifications and experience. The posts are superannuable, subject to medical examination. Five-day week in operation.

Applications, stating age, experience, qualifications and salary required, to: W. J. Reed, F.R.I.B.A., Chief Architect, Co-operative Wholesale Society, Ltd., 99, Leman Street, London, E.1. 1934

PROGRESSIVE and expanding London office, with widely varied practice, requires JUNIOR and INTERMEDIATE ARCHITECTURAL ASSISTANTS. 5-day week, good salaries. Lewis Solomon, Son & Joseph, 21, Bloomsbury Way, W.C.1. HOL. 5108 or 7082. 1689

SECO, LTD., urgently require ARCHITECTURAL ASSISTANTS and DRAUGHTSMEN for the preparation of working drawings and details for a variety of buildings designed on the unit principle. Apply in writing to Chief Architect, Seco, Ltd., 11, Upper Brook Street, W.1. 1940

BANK Architect's Department in City has vacancy for an ASSISTANT of R.I.B.A. (Intermediate) standard, and used to work of good class. Appointment will be permanent, subject to probationary period, and salary will be according to age and experience. Box 1929.

APPLICATIONS are invited for appointments in South-West England with Designers and Manufacturers of new traditional buildings.

(*a*) CHARTERED ARCHITECT as Deputy to Staff Architect. Applicants must have good practical experience, and be capable of taking charge of Drawing Office Staff.

(*b*) ARCHITECTURAL ASSISTANTS. Applicants should have good experience up to R.I.B.A. Inter.

Full particulars of qualifications, age, experience, and salary required, to Box 1948.

ASSISTANT required in busy practice in West End, in early twenties, about Intermediate R.I.B.A. standard. Excellent opportunities for gaining all round experience. Box 1942.

ARCHITECTURAL ASSISTANTS required for Architects' office, Newcastle-upon-Tyne. (1) A.R.I.B.A.; salary, £700—£750 per annum. (2) Intermediate, R.I.B.A. standard. Please write, stating age and experience, to Messrs. Wilson & Wilson, St. Andrew's Buildings, Gallowgate, Newcastle-upon-Tyne, 1. 1969

ARCHITECTURAL ASSISTANT (SENIOR) required. Please reply, giving particulars of qualifications, experience, and salary, to Bernard H. Dale & Partners, 19, Carlton Crescent, Southampton. 1891

ADAMS, HOLDEN & PEARSON require SENIOR and JUNIOR ARCHITECTURAL ASSISTANTS immediately. Write, giving particulars of experience and salary required, to 39, Gordon Square, W.C.1. 1923

GRENFELL BAINES & HARGREAVES: To accelerate work on two large interesting projects, special opportunity for ASSISTANT ARCHITECTS; minimum five years' office experience after graduation. Basic salary and guaranteed bonus £1,000 per annum, plus overtime at basic rates, for minimum of one year, following three months' trial period. Possibility of permanence, with established superannuation scheme. Apply 12, Guildhall Street, Preston. 1927

ARCHITECTURAL ASSISTANTS required immediately in busy London office with varied practice. Intermediate to Final standard or equivalent. Good salary and prospects for suitable applicants. 5-day week. Write, stating age, experience, to J. M. Sheppard & Partners, 38, Bedford Place, W.C.1. 1926

QUALIFIED ASSISTANT (25-32), with some practical design and structural experience, preferably also in exhibition work; good, quick draughtsmanship and perspectives; salary by arrangement. Apply by letter to S. P. Jordan, A.R.I.B.A., M.S.I.A., Dip.T.P., 11, King's Road, Sloane Square, S.W.3. 1926

SCHERRER & HICKS, 19, Cavendish Square, W.1, require ARCHITECTURAL ASSISTANTS. Previous office experience not essential. Work includes medical and industrial laboratories, housing and flat development schemes. 5-day week. Salary range £400—£650. 1923

W. H. WATKINS, GRAY, FF.R.I.B.A., & PARTNERS, require experienced ASSISTANTS for interesting hospital work. Pension scheme in operation. Reply, giving full particulars and salary required, to 57, Catherine Place, S.W.1. 1922

LONDON architect with office in pleasant surroundings is prepared to pay a good salary for a really experienced ASSISTANT for work in connection with buildings abroad. Please state experience and salary required. Box 2043.

QUALIFYING or QUALIFIED ASSISTANTS wanted in London Architects' office with wide and varied practice. Apply stating age, experience and salary required. Box 2092.

TEMPORARY ARCHITECTURAL ASSISTANTS required for small office, five day week, interesting work, salary by arrangement, telephone CITy 4086. 2091

MESSRS. PITE SON & FAIRWEATHER invite applications from SENIOR ARCHITECTURAL ASSISTANTS for a vacancy on their staff. The work on hand includes a large Hospital Development Scheme, University and School Buildings, Multi-Storey Flats and other interesting minor projects. Applicants should, please, send particulars of their training, age and experience to Pite Son & Fairweather, 6, Queen Anne's Gate, Westminster, S.W.1. 2090

ARCHITECTURAL ASSISTANT required in North Wales Office, with good general experience, able to take charge of Contracts. Knowledge of Quantities an advantage. Write giving full particulars and salary required to Box 2049.

SENIOR ASSISTANT required for contemporary office, good prospects. Write, giving details of age, experience, salary required, to Box 2048.

LONDON architect requires experienced ASSISTANT for work on hospitals. Opportunity for right man to take charge Rhodesian office in about 18 months. Reply, stating details of experience, salary required, etc. Box 2042.

FAIRLY SENIOR ARCHITECTURAL ASSISTANT required in small office in St. Albans. Must be able to produce good design and working drawings and be able to carry small and medium sized jobs through to conclusion under own initiative. Must be able to produce clear and concise specifications. Salary by arrangement. Apply: Taylor, Son & Bracken, 20, London Road, St. Albans. 2002

E. R. COLLISTER & ASSOCIATES, Chartered Architects and Consulting Engineers, Springfield Place, Chelmsford, Essex, and 70, Victoria Street, London, S.W.1. Applications are invited for the following vacancies :—

(*a*) TRACERS.
Salary (over age 20) within range £317—£429 p.a.
(i) Architectural. Experienced and skilled in tracing of all types of drawings for architectural purposes.
(ii) Engineering. As above for structural, heating and electrical engineering drawings.

(*b*) ARCHITECTURAL ASSISTANTS.
Grade 1. £500 × £20 to £580 p.a.
Grade 2. £560 × £20 to £640 p.a.
Grade 3. £600 × £25 to £725 p.a.
Grade 4. £675 × £30 to £825 p.a.
Grade 5. £750 × £30 to £900 p.a.
Applicants for :—
(*a*) Grade 1 should be Students R.I.B.A., with at least 12 months' office experience.
(*b*) Grades 2 and 3 should have passed Intermediate Examination, R.I.B.A.
(*c*) Grades 4 and 5 should be A.R.I.B.A.
(*c*) STRUCTURAL ENGINEERING ASSISTANTS.
Within the salary range in (*b*) above.
(*d*) HEATING ENGINEERING ASSISTANTS.
Within the salary range in (*b*) above for varied and interesting work, including boiler plant and services for large industrial projects.
A pension scheme is available. Successful applicants will be required to work in Chelmsford or London on industrial projects, hotels, television transmitting stations, office buildings, etc.
Applications should be made in own handwriting, stating age, experience, and qualifications. 2038

SAMUEL MORRISON AND PARTNERS, Chartered Architects, require SENIOR and JUNIOR ASSISTANTS for their Derby and London Offices. Work of a contemporary nature consisting of Schools, Housing, Industrial and Commercial, in all parts of the country. Scale comparable with local government scales. Replies direct to 30B, Wimpole Street, London, W.1, or 103, Belper Road, Derby. 2005

ASSISTANT required in Surveyors' Office for development of Building Estates. Must be capable of preparing plans of houses and other buildings, surveying, levelling, setting out on site, &c. Work mainly in the Manchester district. Apply Box 2004.

GRANADA THEATRES AND TELEVISION require permanent services of young ARCHITECTS and DRAUGHTSMEN with experience and ability to help in designing theatres and television studios. Good opportunities for talented and efficient men or women. Write giving age, training and experience to Managing Director, 36, Golden Square, London, W.1. 2010

ARCHITECT'S JUNIOR ASSISTANT required, neat draughtsman, good knowledge of construction, permanent and pensionable position. Write only Russells Brewery, Malton. 2011

IMPERIAL CHEMICAL INDUSTRIES LIMITED, Dyestuffs Division, requires an ARCHITECTURAL DRAUGHTSMAN of Intermediate R.I.B.A. Standard, possessing a sound knowledge of structural framework design and building construction, together with experience in the preparation of working drawings and details for industrial and commercial buildings. Applications with brief details of experience to Staff Department, Hexagon House, Blackley, Manchester, 9. 2008

JUNIOR ARCHITECTURAL ASSISTANT required, apply in writing to: Alfred H. Howard, L.R.I.B.A., West Way House, 19, St. Thomas' Street, Winchester. 2012

ARCHITECTURAL ASSISTANT of at least Intermediate R.I.B.A. standard required by busy provincial office; salary according to qualifications; apply in writing to B. Stevens and Partners, 31, Cornfield Road, Eastbourne. 2016

JUNIOR ARCHITECTURAL ASSISTANT required in the office of the Architect, Eastern Region, British Railways, at King's Cross Station. Applicants should be taking the second or third year of a part-time course at a School of Architecture. Commencing salary according to age. Concessionary residential rail travel on entry with permanency to suitable applicant after probationary period. Five-day week and canteen facilities available. Apply in writing giving full particulars as to age, education, training and experience, to Chief Civil Engineer, British Railways, King's Cross Station, London, N.1. 2026

CLIFFORD CULPIN & PARTNER require an additional ASSISTANT. Salary £650 to £750 according to experience. Apply in writing to 3, Southampton Place, W.C.1. 2017

ARCHITECTURAL ASSISTANTS urgently required for detailed planning work. Intermediate and Junior. Salary according to experience. Please apply to L. O. L. Hannen & John H. Markham, 7, Victoria Street, Westminster, S.W.1. Tel. Abbey 5861. 2031

ARCHITECTURAL ASSISTANTS required by firm of Architects in Derry, Northern Ireland. Intermediate to Final standard, having experience in contemporary school design and construction. Write giving particulars of experience, qualifications, etc., to Box 2035.

LIONEL BRETT and KENNETH BOYD have vacancies at their London office for TWO ASSISTANTS. Write giving details of qualifications, office experience and salary required. Box 2036.

CAPABLE ASSISTANTS approaching Final standard required forthwith for busy private practice in Westminster area. Applicants should have varied office experience, must be good draughtsmen, and capable of working with a minimum of supervision. Good working conditions and varied scope of practice, with opportunities for advancement for suitable applicants. Write, giving age and full particulars to Box 1998.

STAFF ARCHITECT (or BUILDING SURVEYOR with design aptitude) required by established West End Development Company. Ability to prepare plans and specifications for rehabilitation of small Georgian and Regency houses and erection of new houses on central London sites. Work mainly carried out by separate but subsidiary Building Company. Permanent progressive post with remuneration by Salary and Annual Bonus. Details of experience, etc., which will be treated in strict confidence, to Director, Box 1999.

YOUNG Newly qualified or first rate INTERMEDIATE ASSISTANT required for interesting work in the design and construction of contemporary shops and buildings. Write stating age, qualifications and salary required to Architect, Alexandre, Ltd., Lady Lane, Leeds, 2. 2000

ARCHITECTURAL DRAUGHTSMEN with imagination who see little scope for the use of this at present are invited to contact The Coniston Company, Eagle House, High Street, Wimbledon, S.W.19—WIM 1191 for an appointment to discuss interesting and permanent work in congenial surroundings with a young and progressive company. 2001

ARCHITECTURAL ASSISTANT (SENIOR or INTERMEDIATE) required urgently. Small private but varied practice. Salary by arrangement. Hadfield and Jenkins, 28, Monument Street, E.C.3 (MAN 9262). 2021

EXPERIENCED ARCHITECTURAL ASSISTANT required in Westminster. Neat draughtsmanship. Good knowledge of construction. With or without qualification. Very varied private practice. Salary £600. Apply Box 2022.

REQUIRED for a small busy West End office, ARCHITECTURAL ASSISTANT of Intermediate Standard with 3—4 years' office experience. General practice with wide variety of work in London and Home Counties; five-day week; bonus scheme. Apply in writing stating age, experience and salary required to Welch & Lander, 38, Gloucester Place, Portman Square, W.1. 2023

BUSY London Firm of Architects contemplating opening branch office in Kingston Area of S. London would be glad to hear from JUNIOR and SENIOR ARCHITECT'S ASSISTANTS living in that area who are interested in working in such an office. Box 1996.

BRISTOL Head Office require Junior Assistants of high standard. Opportunity to work on contemporary design. Write stating experience and salary required to Angus McDonald & Partners, A/ARIBA, Chartered Architects, 1 Unity Street, Bristol, 1. 2071

ARCHITECTS ASSISTANTS required (one Senior and one Junior) for London Office. Some experience in industrial and hospital buildings desirable but not essential, 5-day week, good prospects and scope for suitable applicants. Apply stating age, experience and salary required to Box 2070.

JUNIOR AND SENIOR ARCHITECTURAL ASSISTANTS required. Old established practice. Industrial, Domestic and Hospital Work. Apply in writing stating experience, training and salary required to E. William Palmer & Partners, Chartered Architects, 3 The Town, Enfield, Middlesex. 2078

SENIOR ARCHITECTURAL ASSISTANTS required by large Cinema Circuit in London. Applicant must be at least 25 years of age with design experience and extensive knowledge of modern building construction and finishes. Must have a final or intermediate R.I.B.A. The appointment is permanent and pensionable. Canteen. 5-day week, and other amenities are available. Write stating age, details of training and experience and salary required to Box No. 2077.

MESSRS. GOTCH, SAUNDERS & SURRIDGE, Bank Chambers, Kettering, have vacancies for a Senior Architectural Assistant and a Quantity Surveyor capable of taking off Bills of Quantities. Pension Scheme available. Please apply in writing, with particulars of experience.

JUNIOR ASSISTANT with office experience required at once for small West End office. Neat draughtsman, good knowledge of construction. Progressive post. Five-day week. State salary expected, age and details of experience, to Box 2069.

LOUIS DE SOISSONS, PEACOCK, HODGES & ROBERTSON have vacancies for Senior and Junior Architectural Staff in their London, Welwyn Garden City and Plymouth Offices. The work is varied and covers Industrial, Ecclesiastical, Offices, Schools, Housing (Cottages and Flats). Accommodation within a reasonable time is available at Welwyn Garden City. Write stating age, salary and experience to 3 Park Square Mews, London, N.W.1. 2075

ARCHITECTURAL ASSISTANTS required urgently, salaries £500 to £700, dependent on ability. Write full particulars to Box 2083.

OPPORTUNITIES FOR WOMEN ABROAD. A leading firm of Kenya architects engaged on large and exciting schemes is prepared to offer a few vacancies to competent DRAUGHTSWOMEN in their Nairobi and Mombasa offices. There is good hostel accommodation at reasonable rates if required, fare out paid and good remuneration to suitable applicants. Apply quoting OSS. 74/4, Overseas Technical Service, 5, Weldon Crescent, Harrow. 2064

ARCHITECTURAL ASSISTANTS from Inter standard or above required for West End office engaged on Commercial work. Able to prepare working drawings from sketch schemes. Five day week, Luncheon Vouchers, etc. Reply stating age, experience and salary required to Box No. 2074.

YOUNG ASSISTANT required to Staff Architect of Progressive Combine with H.Q. in London and Branches throughout the country. Able to run small contracts and to work with minimum of supervision. Occasional travelling involved. Contributory Superannuation scheme. Write giving full details to Box 2073.

ARCHITECTURAL ASSISTANT required. Previous Brewery experience not necessary. Apply in writing giving full details and salary required to Chief Architect, Hammonds United Breweries Ltd., Fountain Brewery, Bradford 2072

NAIROBI. Architects' office engaged on wide variety of large works seeks ASSISTANT, QUALIFIED OR UNQUALIFIED, with several years' experience in large commercial and industrial work. Salary approx. £1,440 p.a., free passage on one year contract, several years' work ahead. Apply with brief details quoting OSS.14/4 to OVERSEAS TECHNICAL SERVICE, 5 Welldon Crescent, Harrow. 2063

ARCHITECTURAL ASSISTANTS required in Progressive new Office. Interesting work at home and abroad. Opportunity for working on own initiative. Good salary and excellent prospects for advancement. Arthur Swift & Partners, 16 Manchester Square, W.1. Tel.: Hunter 0364. 2061

HARLOW DEVELOPMENT CORPORATION
Architect Planner: Frederick Gibberd, C.B.E., F.R.I.B.A., M.T.P.I
Executive Architect: Victor Hamnett, B.Sc., A.R.I.B.A., A.R.I.C.S., A.M.T.P.I.
ASSISTANT ARCHITECTS, GRADE V(b), £565 x £30—£715 per annum for New Town work. Minimum standard Intermediate R.I.B.A. Superannuation. Accommodation available in due course in suitable cases.
Detailed applications with names of two referees to General Manager. "Terlings," Harlow, Essex, within 14 days.

ESTATE Department of a Manchester Brewery Company requires an ASSISTANT ARCHITECT. The work is varied and interesting, knowledge of quantities an advantage. Good salary and prospects, non-contributory pension scheme. Reply Chief Architect, Box 1920.

ARCHITECTURAL ASSISTANT required by Manchester Brewery Company, for work on the modernisation of existing properties, and the preparation of schemes for new licensed premises. There is plenty of opportunity for design. The position holds prospects, and will carry a good salary. Non-contributory pension scheme. Chief Architect, Box 1921.

ARCHITECTURAL DRAUGHTSMEN required immediately. Experienced in working drawings and details for industrial buildings. 5-day week. Hal Williams & Company, 43, Bedford Square, W.C.1. 1966

ARCHITECTURAL ASSISTANTS required, for contemporary office. Salary according to experience. C. H. Elsom, F.R.I.B.A., 44, Catherine Place, S.W.1. Victoria 4304. 1950

ARCHITECTURAL DRAUGHTSMEN of Intermediate R.I.B.A. standard urgently required for work at Head Office. Reply, giving details of experience, to Sir Alfred McAlpine & Son, Ltd., The Oaks, Hooton, Cheshire. 1963

YOUNG ARCHITECTURAL ASSISTANT (in 20's) required for North-East Midlands private office. Practice comparatively new and rapidly expanding. Recently qualified or Inter. standard required, with opportunity to control contracts. Good prospects. Pub, Industrial, Domestic work, etc. Apply, giving particulars and salary, to Box 1955.

WESTWOOD, SONS & HARRISON, F./F.R.I.B.A., urgently require a SENIOR ARCHITECTURAL ASSISTANT, A.R.I.B.A. standard, with office experience; also JUNIOR ASSISTANT. Apply in writing, giving qualifications, to 46, Baker Street, W.1. 1958

ASSISTANT, Intermediate R.I.B.A. standard, required, with previous experience in private Architect's office. Ability to prepare attractive sketches and perspectives an advantage. Apply to H. S. W. Stone & Partners, Chartered Architects, 20, The Crescent, Taunton, Somerset. 1953

ARCHITECTURAL ASSISTANT required for work in the City. State age, experience, and salary required, to Clifford Strange, 5, London Wall Buildings, E.C.2. 1910

ARCHITECTURAL ASSISTANTS required in London Office in interesting and varied practice for work on schools, churches and commercial buildings, etc. Salary according to qualifications and experience within the range £500-£750. Apply giving details to:—Burles & Newton, A.A.R.I.B.A., A.M.T.P.I., 25, Bedford Row, London, W.C.1. 2030

ASSISTANT (male) required; near Final standard. Previous office experience essential. Apply for appointment to: Walters & Kerr Bate, 14, Gray's Inn Square, London, W.C.1. Holborn 9850. 2060

IMPERIAL CHEMICAL INDUSTRIES, LTD., Billingham Division, require the services of additional ARCHITECTURAL ASSISTANTS, up to 30 years of age. Preference will be given to applicants who hold the Intermediate certificate of the A.R.I.B.A. Write, giving full details, to the Staff Manager, Imperial Chemical Industries, Ltd., Billingham Division, Billingham, Co. Durham, quoting advertisement reference W.1. 2059

Architectural Appointments Wanted

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

A.R.I.B.A., Dipl. Arch. (Leeds), for the past 5½ years SENIOR ASSISTANT with a local authority, desires permanent responsible and progressive appointment. Present salary £920 p.a. Box 2053.

MALE, 24, seeks position in private practice. Just passed Final at Birmingham. Studied part-time to Inter. concurrently with office experience. Subsequent two years to Final full time. N.S. complete. Box 2024.

Other Appointments Vacant

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

The engagement of persons answering these advertisements must be made through a Local Office of the Ministry of Labour or a Scheduled Employment Agency if the applicant is a man aged 18-64 inclusive or a woman aged 18-59 inclusive unless he or she or the employment is excepted from the provisions of the Notification of Vacancies Order, 1952.

STRUCTURAL ENGINEER of wide experience (40), would welcome work in Architect's office. Box 2081.

ASSISTANT BUILDING SURVEYOR required for the Sheffield Office of a major oil company undergoing expansion. Applicants should have a sound knowledge of building construction and bye law requirements, and be capable of carrying out surveys, preparing drawings and specifications relating to service stations. Pension and Life Assurance Scheme, generous sickness benefits, Social Club. Write, giving full details and stating age, experience and salary required to Box 1594, quoting Ref. ABS/S 720.

ASSISTANT QUANTITY SURVEYOR required by major oil company in Sheffield branch office. Applicants should be prepared to act on own initiative for the preparation of approximate estimates, interim certificates and final accounts for contracts up to £10,000. Salary range to commence £600-£700 per annum. Pension and Life Assurance Scheme, generous sickness benefits, Social Club. Write, giving full details of experience, age, and salary required to Box 1488, quoting Ref. AQS/S 716.

STRUCTURAL DESIGNER required by The Steel Company of Wales Limited (Steel Division), in their Central Drawing Offices, at Abbey Works, Port Talbot.

Applicants should have five years' experience in Drawing Office work and be capable of supervising a group of Draughtsmen working on the design of general heavy industrial steelwork.

Qualified Engineers would be preferred.

The position is permanent and pensionable and offers scope for advancement.

Those wishing to apply should *write for official Application Form* to:—

The Personnel Superintendent, The Steel Company of Wales, Limited (Steel Division), Abbey Works, PORT TALBOT, Glam. 1810

BUILDING DRAUGHTSMAN for Engineer's Office of a large factory in the Midlands. Applicants should be conversant with the design of structures and be able to undertake surveys and prepare minor building schemes under supervision. Write giving particulars of experience, qualifications and salary required to Box 2051.

QUANTITY SURVEYING ASSISTANT required to work under qualified Surveyor (A.R.I.C.S.). Applicants should be of Intermediate Examination standard and capable of settling final accounts, preparing interim certificates and assisting with taking off. A self-contained flat can be made available to the successful candidate if required. Apply stating age, experience and salary required to Ruddle & Wilkinson, F./L./A.R.I.B.A., Long Causeway Chambers, Peterborough. 2046

BUILDING SURVEYOR required by large Multiple Grocers to assist with preparation of Plans and Specifications for alterations and improvements to shop premises. Apply to Buildings Dept., 33, Trinity Church Square, London, S.E.1. Telephone: HOP 0162. 2040

A PUBLIC Company of Estate Developers require a BUILDING NEGOTIATOR to acquire suitable sites for development. Applicants must have had experience in dealing with matters arising under Town & Country Planning and negotiation with Local Authorities. The position could be an important one leading to a seat on the Board. Replies, which will be treated in the strictest of confidence, should give fullest particulars as to experience, age, etc., and should be addressed to the Managing Director, c/o, Box 1997.

BUILDING SURVEYOR required by City Firm of Architects and Surveyors, preferably accustomed to working in Architect's Office, and used to Specifications, supervision and Final Accounts for small work. Write stating age, salary required, and experience. Box 142, c/o Walter Judd Ltd., 47, Gresham Street, London, E.C.2. 2050

IMPERIAL CHEMICAL INDUSTRIES LIMITED, Dyestuffs Division, has vacancies at Manchester for CIVIL AND STRUCTURAL ENGINEERING DRAUGHTSMEN for design and detail work in connection with new projects for the manufacture of synthetic fibre forming materials and other organic chemicals. Basic minimum qualification required is O.N.C. (preferably H.N.C.). Applications with brief details of experience and qualifications should be made to Staff Department, Hexagon House, Blackley, Manchester, 9. 2007

Services Offered

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

THE SITE SURVEY COMPANY, Blackheath, London, S.E.3. New Telephone Numbers: LEE Green 7444-5. Engineering and Architectural Surveys anywhere in the country. 8008

GOOD LETTERING is essential for Commemorative Wall Tablets, Foundation Stones, etc. Designs prepared and estimates given for the finished work in any suitable material. Renowned as a Centre for Lettering since 1934. Sculptured Memorials, 67, Ebury Street, S.W.1. 9170

CECIL Howitt & Partners, Architects, St. Andrew's House, Mansfield Road, Nottingham, require JUNIOR ARCHITECTURAL ASSISTANTS, preferably Inter. R.I.B.A. standard. Please apply in writing, giving full details and stating salary required. 4705

NAMEPLATES, PLAQUES, CRESTS, etc., in bronze, brass and plastic, quotations and lay-outs submitted. Abbey Craftsmen Ltd., 78, Osnaburgh Street, London, N.W.1 Euston 5722. 4165

SURVEY of Sites and Buildings, detailed drawings and levels for new and alteration work, specifications and quantities. Qualified Surveyor. LIV 1839. 2785

"DON" ARCHITECTURAL MODEL MAKERS. Speed, courtesy and reliability, with own studio. Please 'phone Erith 3843. 1851

TYPEWRITING/DUPLICATING — Specifications, etc., undertaken by experts. Reasonable charges. Stone's Secretarial Services, 446, Strand. Tem. 5984. 1879

ASSISTANCE offered to busy Architects by reliable firm in North passing through quiet period. Schools domestic, factories, etc. Box 1719.

MODELS for Architects. First class, quick, personal service by Specialist Charles Longbotham of Northcroft Studio, Northcroft Terrace, London, W.13. 'Phone Ealing 7349. 1657

WORKING drawings, details, perspective sketches or surveys of buildings undertaken at reasonable rates Box 2047.

ASSOCIATE R.C.A. (Stained Glass) invites contacts and commissions: Churches, Schools, Flats, Factories, Offices, Public Buildings. Also Murals. H. W. Haig. Tel. PRO 1509. 64, Temple Sheen Road, East Sheen, S.W.14. 2082

HEATING & VENTILATING ENGINEER, highly qualified and experienced, offers consulting and technical advisory services. Leeds area. Box 2015.

For Sale

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

RECONDITIONED Ex-Army Huts and Manufactured Buildings, Timber, Asbestos, Nissen Type, Hall Type, etc. All sizes and prices. Write, call or telephone: Universal Supplies (Belvedere) Ltd., Crabtree Manorway, Belvedere, Kent. Tel.: Erith 2948. 1474

Miscellaneous

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

A. J. BINNS, LTD., Specialists in the supply and fixing of all types of Fencing, Gates and Cloakroom Equipment. Harvest Works, 96/107, St. Paul's Road, N.1. Canonbury 2061.

NAMEPLATES AND SIGNS, Bronze, Brass and Plastics. Church Metalwork. Quick delivery. Austin, Luce & Company, 19, College Road, Harrow, Middlesex. Tel.: Harrow 3839. 1174

GALVANISED Chain Link: always specify MASTERFOIL made to BSS 1722. Fencing & Gates Ltd., Fourteen Stanhope Gate, London, W.1. Tel.: Grosvenor 4527. 4392

EXCEPTIONAL offer 3rd floor at 94, New Bond St., W.1. 1,300 sq. ft. £950 p.a. Long lease available, perfect natural lighting suitable for drawing office. Tel. GRO. 6601. 3231

MODERN Office Space available on approach, Blackfriars Bridge; 1,100 sq. ft., first floor. Rent £650 p.a. excl. Reply Box 2039.

YOUNG ARCHITECT requires one or two offices, London, City area. Preferably near to Liverpool Street station. Box 2037.

CHURCH and Chapel Carving by expert Wood and Stone Craftsmen. Plaques and Commercial Work a speciality. Morin & Son, Stapenhill Road, Burton-on-Trent. Tel. 2005. 2056

Educational Announcements

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

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

COURSES for all R.I.B.A. EXAMS.
Postal tuition in History, Testimonies, Design, Calculations, Materials, Construction, Structures, Hygiene, Specifications, Professional Practice, etc. Also in general educational subjects.
ELLIS SCHOOL OF ARCHITECTURE
Principal: A. B. Waters, M.B.E., G.M., F.R.I.B.A.
103B OLD BROMPTON RD., LONDON, S.W.7
Phone: KEN 4477 *and at Worcester*

FIBROUS PLASTERWORK OF EVERY DESCRIPTION
ALLIED GUILDS
King Edward Square
SUTTON COLDFIELD. Tel: Sut 3809

ARCHITECTURAL
— *contemporary*
SIGN LETTERS
IN A VARIETY OF METALS & FINISHES
WARD AND COMPANY
128 CHELTENHAM ROAD, BRISTOL 6
TELEPHONE 21536

MODELS ESTAB. 1883.
John B. THORP BY
FOR 98 GRAY'S INN ROAD, W.C.
TOWN PLANNING
PUBLIC BUILDINGS TELEPHONE:
ESTATES and INTERIORS HOLBORN 1011

ARCHITECTURAL MODELS
CONSULT US FOR
★ BUILDINGS
★ PLANNING
★ COMPLETE LAYOUTS
MODELS OF ANY DESCRIPTION
MINIKSCALE LTD., CLIFTON ST., LIVERPOOL 19

For Electric motor Starters
of proved reliability-specify-
ELLISON
MADE BY GEORGE ELLISON LIMITED · PERRY BARR · BIRMINGHAM · 22B

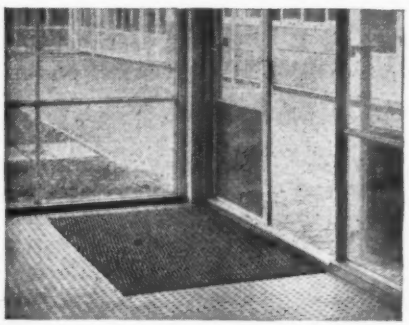
Third edition, revised and enlarged

THE NEW SMALL HOUSE

by F.R.S. Yorke F.R.I.B.A. and Penelope Whiting A.R.I.B.A.

MAINLY a collection of photographs and plans of the most interesting small houses built since the war, with brief descriptions of construction, equipment, materials used and, where possible, costs. Size 9½ ins. by 7½ ins. 152 pages including 136 pages of illustrations. 25s. net, postage 8d. inland.

THE ARCHITECTURAL PRESS 9-13 Queen Anne's Gate S.W.1.

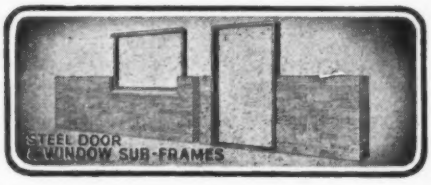


TYPROD MATS

installed in the new Wokingham Secondary Modern School

Ideal for schools, hospitals, public buildings where long life and cleanliness are essential. Made from hard wearing fabric reinforced by rubber strips. 'Typrod' Mats are warm, dry and firm, yet buoyant and restful to the feet. We shall be pleased to quote for any special applications for these mats.
TYRE PRODUCTS LIMITED
303 Harrow Road, Wembley, Middx. *Tel:* WEMbley 9555

ANOTHER *Sommerfelds'* PRODUCT
LONDON OFFICE: 167, VICTORIA ST., S.W.1. TEL. VIC. 1000
SOMMERFELDS LTD. WELLINGTON · SHROPS · TELE 1000



Alphabetical Index to Advertisers

	PAGE
A.B.C.D. (Raynes Park), Ltd.	
Aidas Electric, Ltd.	xxxvi
Airscrew Co. & Jicwood, Ltd.	xiii
Allied Guilds	lxxxi
Anderson Construction Co., Ltd.	xxxii
Anderson, D., & Son, Ltd.	v
Architectural Press, Ltd.	lxx, lxxii
Arens Controls, Ltd.	viii
Ashdowns, Ltd.	xli
Ashwell & Nesbit, Ltd.	lxxi
Associated Fire Alarms, Ltd.	lxvii
Batley, Ernest, Ltd.	lxxi
B.B. Chemical Co., Ltd.	lxxii
Benham & Sons, Ltd.	
Boulton & Paul, Ltd.	lxv
Briggs, William, & Sons, Ltd.	lxviii
British Constructional Steelwork Association	xliii
British Electricity Authority	lxxiii
British Insulated Callender's Cables, Ltd.	xi
British Lead Mills, Ltd.	
British Mouldex, Ltd.	xv
British Plimber, Ltd.	xvi
British Thomson-Houston Co., Ltd., The	lvi
Broad & Co., Ltd.	xlii
Browne, John, & Co. (Bridgwater), Ltd.	lxvi
Carter & Co., Ltd.	xxv
Colt Ventilation, Ltd.	xxxvii
Coughtrie, J. & G., Ltd.	xxxv
Cox & Co. (Watford), Ltd.	xxviii
Croggon & Co., Ltd.	lxix
Denny, Mott & Dickson, Ltd.	iv
Dowson & Mason Gas Plant Co., Ltd., The	xx
Durasteel, Ltd.	
Econa Modern Products, Ltd.	lxxi
Eeto Insulations	lxviii
Electrolux, Ltd.	lxiv
Ellis, John, & Sons, Ltd.	lv
Ellison, George, Ltd.	lxxxi
Ellis School of Architecture	lxxxi
Engravers' Guild, Ltd., The	lxxiv
Esavian, Ltd.	liv
Esso Petroleum Co., Ltd.	
"Fibonite"	lxix
Fibrolene, Ltd.	
Floor Treatments, Ltd.	lxxx

	PAGE
Frenger Ceilings, Ltd.	xviii
Fuse, W. J., & Co., Ltd.	
General Electric Co., Ltd., The	xl
Gliksten, J., & Son, Ltd.	
Greenwood's & Airvac Ventilating Co., Ltd.	xxi
Gyproc Products, Ltd.	xxxviii
Gypsum Building Products Association	xxiv
Hall, John, & Sons (Bristol and London), Ltd.	lxii
Hangers Paints, Ltd.	xlii
Harvey, G. A., & Co. (London), Ltd.	
Hills, F., & Sons, Ltd.	xxii
Hollis Brothers, Ltd.	
Honeywell-Brown & Co., Ltd.	xxxiii
Hope, Henry, & Sons, Ltd.	xlvi
Imperial Chemical Industries, Ltd.	
Kenyon, William, & Sons, Ltd.	lx
King, Geo. W., Ltd.	lii
King, J. A., & Co., Ltd.	lxvii
Laing, John, & Son, Ltd.	lxxxiv
Lawley, W. & J., Ltd.	vii
Lead Sheet & Pipe Council, The	liv
Leeds Fireclay Co., Ltd.	xii
Lever, Jas., & Sons, Ltd.	
Libraco, Ltd.	lxxx
Lignacite (N.E.), Ltd.	lxix
Limmer & Trinidad Lake Asphalte Co., Ltd.	lxi
Linread, Ltd.	lx
Logicol Fuel Storage Units	lviii
Mallinson, William, & Sons, Ltd.	xlvii
Manger, J., & Sons, Ltd.	lxxxiii
Marley Tile Co., Ltd., The	xliv
Marshall & Anderson, Ltd.	
Mason, Joseph, & Co., Ltd.	
Metallic Seamless Tube Co., Ltd., The	lxxiii
Metal Sections, Ltd.	
Mills Scaffold Co., Ltd.	ii
Miniscale, Ltd.	lxxxi
Mint, The	lxxxiii
M.K. Electric, Ltd.	xxxi
Molar Products, Ltd.	
Newalls Insulation Co., Ltd.	ix
Newman, William, & Sons, Ltd.	
Paragon Glazing Co., Ltd.	lxxiv
Permanite, Ltd.	

	PAGE
Philips Electrical, Ltd.	xxvii
Pilkington Brothers, Ltd.	xlviii
Prefatile (G.B.), Ltd.	lxiv
Prodorite, Ltd.	lviii
Pyrok, Ltd.	xxiii
Rapid Floor Co., Ltd., The	
Reliance Telephone Co., Ltd., The	xxxix
Riley Stoker Co., Ltd.	
Robertson Thain, Ltd.	lvii
Ruberoid Co., Ltd., The	xxix
Rubery, Owen & Co., Ltd.	xxxiv
Salter, T. E., Ltd.	
Shires & Co. (London), Ltd.	li
Siegwart Floor Co., Ltd., The	
Smith, Samuel, & Sons, Ltd.	lxx
Sommerfelds, Ltd.	lxxxi
Southerns, Ltd.	liii
Speedwell Gear Case Co., Ltd., The	lxx
Spencer-Bonecourt-Clarkson, Ltd.	
Spirax-Sarco, Ltd.	lxiii
Steventon, John, & Sons, Ltd.	xvii
Storry, Smithson & Co., Ltd.	
Thermacoust, Ltd.	lxii
Thermodare (Great Britain)	lxvi
Thorn, J., & Sons, Ltd.	liv
Thornton, A. G., Ltd.	
Thorp, John B.	lxxxi
Timber Development Association, Ltd., The	xlix
Tretol, Ltd.	iii
True Flue, Ltd.	xxx
Trussed Concrete Steel Co., Ltd., The	i
Turner, Charles, & Sons, Ltd.	lxv
Twisteel Reinforcement, Ltd.	
Tyre Products, Ltd.	lxxxi
United Steel Co., Ltd., The	xxvi
Val de Travers Asphalte, Ltd.	vi
Walker Brothers, Ltd.	lxiii
Walker Crosweller & Co., Ltd.	x
Walpamur Co., Ltd., The	xix
Ward & Company	lxxxi
Waring & Gillow, Ltd.	
Wilson, Henry, & Co., Ltd.	lxi
Wood, Edward, & Co., Ltd.	xiv
Youngman, W. C., Ltd.	lxviii
Zinc Alloy Rust Proofing Co., Ltd.	lxxxii
Zinc Development Association, Ltd.	

For Appointments (Wanted or Vacant), Competitions Open, Drawings, Tracings, etc., Education, Legal Notices, Miscellaneous, Property, Land and Sales, see lxxv, lxxvi, lxxvii, lxxviii, lxxix lxxx, lxxxi.

Scheme in Progress

Perspective drawing by John Bloxham A.A. Dipl. A.R.I.B.A.

Flats, Maisonettes, Shops
Area 'C', Regent's Park, London

FOR THE METROPOLITAN BOROUGH OF ST. PANCRAS

Architects: Davies and Arnold, F.R.I.B.A., Consulting Engineers: G. A. Dodd and Partners

Area 'C' comprises the construction of 240 flats, five maisonettes and five shops and is part of a scheme for erecting 1,600 multi-storey flats.
The buildings will be faced with sand-faced multi-golden wirecut facing bricks. They will all have basements with lock-up storage and wash houses.

LAING

JOHN LAING AND SON LIMITED, GREAT BRITAIN, CANADA, UNION OF SOUTH AFRICA, RHODESIA

Printed in Great Britain for the Proprietors of "THE ARCHITECTS' JOURNAL" (The Architectural Press Ltd.), 9, 11 and 13, Queen Anne's Gate, Westminster, S.W.1, by HARRISON & SONS LTD., Printers to the late King George VI, London, Hayes (Middx.), and High Wycombe. Editorial illustrations engraved by THE ENGRAVERS' GUILD LTD., Windsor House, 23/26, Cursitor Street London E.C.4.