ARCHITE



tandard

contents

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

COMMENTNEWS and

Diary News

Astragal's Notes and Topics

Letters

Societies and Institutions

TECHNICAL SECTION

Information Sheets Information Centre Current Technique

Working Details

Questions and Answers

Prices

The Industry

CURRENTBUILDING

Major Buildings described: Details of Planning, Construction,

Finishes and Costs Buildings in the News

Building Costs Analysed

Architectural Appointments Wanted Vacant

No. 3166] [VOL. 122 PRESS ARCHITECTURAL , 11 and 13, Queen Anne's Gate, Westminster, S.W. 1. 'Phone: Whitehall 0611

GC

HC

ICA

ICE IEE

IFS

IAAS

Price 1s. 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 le one week, Ig to Z the next. In all cases where the town is not mentioned the word LONDON is implicit in the address,

Architectural Association, 34/6, Bedford Square, W.C.1.

Association of Art Institutions. Secy.: W. Marlborough Whitehead, "Dyneley,"
Castle Hill Avenue, Berkhampstead, Herts.
Architects' Benevolent Society. 66, Portland Place, W.1.
Association of Building Technicians. 1, Ashley Place, S.W.1.
Arts Council of Great Britain. 4, St. James' Square, S.W.1.
Aluminium Development Association. 33, Grosvenor Street, W.1.
Architectural Students' Association. 34/36, Bedford Square, W.C.1.
Architects' Registration Council. 68, Portland Place, W.1.
Board of Architectural Education. 66, Portland Place, W.1.
Building Apprenticeship and Training Council. Lambeth Bridge House, S.E.1.
Reliance 7611, Ext. 1706
Museum 5400 ABS ABT ACGB ADA

ArchSA ARCUK BAE BATC

Building Centre. 26, Store Street, Tottenham Court Road, W.C.1.

British Colour Council. 13, Portman Square, W.I.

British Cast Concrete Federation. 105, Uxbridge Road, Ealing, W.5.

British Cast Iron Research Association. Alvechurch, Birmingham.

British Door Association. 10, The Boltons, S.W.10.

British Electrical Development Association. 2, Savoy Hill, W.C.2. Temple Bar 9434 BCC BCCF BCIRA BDA BEDA British Ironfounders' Association. 145, Vincent Street, Glasgow, C.2. BIA

Building Industries Distributors. 52, High Holborn, W.C.1. Chancery 7772
Building Industries National Council. 11, Weymouth Street, W.1. Langham 2785
Board of Trade. Whitehall Gardens, Horseguards Avenue, Whitehall, S.W.1.
Trafalgar 8855 BID BINC BOT

British Rubber Development Board. Market Buildings, Mark Lane, E.C.3.

Mansion House 9383 BRDB

Building Research Station. Bucknalls Lane, Watford
Building Societies Association. 14, Park Street, W.1.
British Standards Institution. British Standards House, 2, Park St., W.1. Mayfair 9000
Building Trades Exhibition. 4, Vernon Place, W.C.1.
Holborn 8146/7 BRS BSA BSI **CABAS**

CAS CCA

Building Trades Exhibition. 4, Vernon Place, W.C.1.

City and Borough Architects Society. C/o Johnson Blackett, F.R.I.B.A.,

Civic Centre, Newport, Mon. Newport 65491

County Architects' Society. C/o F. R. Steele, F.R.I.B.A.,

County Hall, Chichester. Chichester 3001

Cement and Concrete Association. 52, Grosvenor Gardens, S.W.I. Sloane 5255

Council for Codes of Practice. Lambeth Bridge House, S.E.I.

Copper Development Association. Kendals Hall, Radlett, Herts. Reliance 7611

Congrès Internationaux d'Architecture Moderne. Doldertal, 7, Zurich, Switzerland. Council of Industrial Design. 28 Haymarket, S.W.I.

Council for the Preservation of Rural England. 4, Hobart Place, S.W. Sloane 4280

Coal Utilization Council. 3, Upper Belgrave Street, S.W.I. Reading 72255

Directorate General of Works, Ministry of Works, Lambeth Bridge House, S.E.I.

Reliance 7611 CDA CIAM CPRE CUC CVE Reliance 7611

Design and Industries Association. 13, Suffolk Street, S.W.1. White Department of Overseas Trade. Horseguards Avenue, Whitehall, S.W.1. DIA Whitehall 0540 Trafalgar 8855 **EJMA** English Joinery Manufacturers' Association (Incorporated). Sackville House,

40, Piccadilly, W.1. Regent 4448 English Place-Name Society. 7, Selwyn Gardens, Cambridge. Faculty of Architects and Surveyors. 68, Gloucester Place, W.1. **EPNS** FAS FASS Welbeck 9966 Federation of Association of Specialists and Sub-Contractors,

FBBDO

Federation of Association of Specialists and Sub-Contractors,
Artillery House, Artillery Row, S.W.1. Abbey 7232
Fibre Building Board Development Organization, Ltd. 47, Princes Gate,
Kensington, S.W.7. Kensington 4577
Federation of British Industries. 21, Tothill Street, S.W.1. Whitehall 6711
Forestry Commission. 25, Savile Row, W.1.
Federation of Coated Macadam Industries. 37, Chester Square, S.W.1. Sloane 1002
The Flush Door Manufacturers Association Ltd. Trowell, Nottingham. Ilkeston 623
Friends of the Lake District. Pennigron House pp. Illustron, Lawston, Lawst FBI FC FCMI **FDMA**

FLD Friends of the Lake District. Pennington House, nr. Ulverston, Lancs Ulverston 201 **FMB** Federation of Master Builders. 26, Great Ormond Street, Holborn, W.C.

The Federation of Painting Contractors, St. Stephen's House, S.W.1. Whitehall 3902
Federation of Registered House Builders. 82, New Cavendish Street, W.1.

Langham 4041 **FPC** FRHB

GBPA Gypsum Building Products Association, 11, Ironmonger Lane, E.C.2. Monarch 8888 Gas Council. 1, Grosvenor Place, S.W.1. Sloane 4554 Georgian Group. C/o R. H. Davies, F.R.I.B.A., 44, Lowndes Street, S.W.1.

Belgravia 3081 Whitehall 2881 Housing Centre. 13, Suffolk Street, Pall Mall, S.W.1. Incorporated Association of Architects and Surveyors. 75, Eaton Place, S.W.1.

Sloane 5615

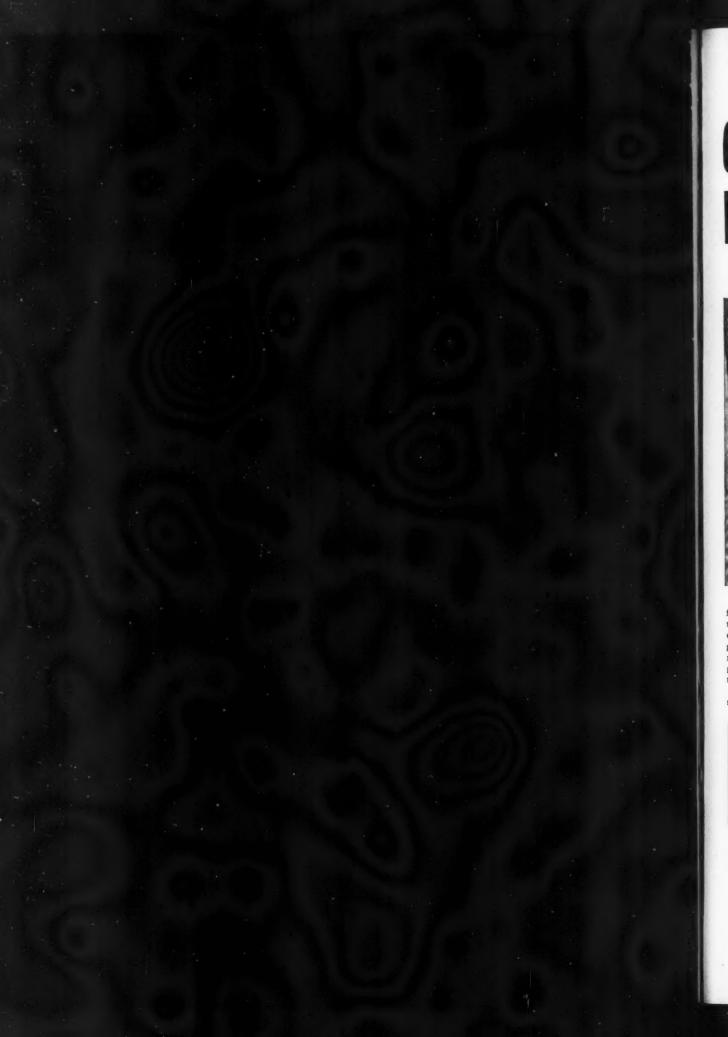
Institute of Contemporary Arts. 17-18, Dover Street, Piccadilly, W.1. Grosvenor 6186
Institution of Civil Engineers. Great George Street, S.W.1. Whitehall 4577
Institution of Electrical Engineers. Savoy Place, W.C.2. Temple Bar 7676
Illuminating Engineering Society. 32, Victoria Street, S.W.1. Abbey 5215



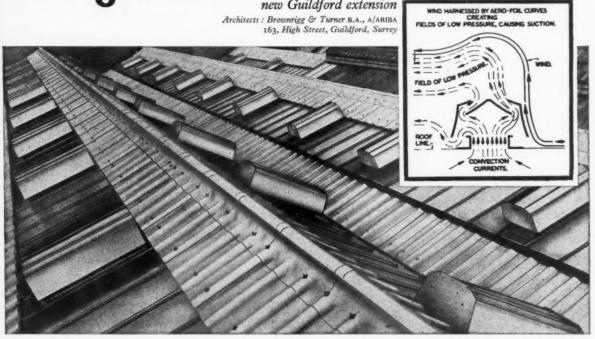
MILLS SCAFFOLD CO. LTD., (A Subsidiary of Guest, Keen & Nettlefolds Ltd.)
Head Office: TRUSSLEY WORKS, HAMMERSMITH GROVE, LONDON, W.6. (RIVERSIDE 5026/9)
Agents and Depots: BELFAST · BIRMINGHAM · BOURNEMOUTH · BRADFORD · BRIGHTON · BRISTOL · CANTERBURY · CARDIFF
COVENTRY · CROYDON · DUBLIN · GLASGOW · HULL · ILFORD · LIVERPOOL · LOWESTOFT · MANCHESTER · MIDDLESBROUGH
NEWCASTLE · NORWICH · PLYMOUTH · PORTSMOUTH · PRESTON · READING · SHIPLEY · SOUTHAMPTON · SWANSEA · YARMOUTH

SEE US AT THE BUILDING EXHIBITION STAND No. 121/2 ROW F OLYMPIA





Colt planning overcomes heat gains ... at DRUMMOND BROS.



Drummond Brothers, the well known machine tool manufacturers, were building a new extension at Guildford. In designing the Building the Architects were anxious that satisfactory working conditions would prevail at all times despite a considerable heat gain from plant and human occupancy. Furthermore, the process required a light shop necessitating considerable areas of roof glazing which, during the summer months, would add considerably to the heat gains owing to solar heat transfer.

At this stage Colt were consulted and a natural ventilation scheme was designed to ensure a temperature rise of not more than 10°F at working level during the warmest summer weather. This was achieved by installing 50 Colt SRC.2046 controllable High Duty Roof Extractor Ventilators. The photograph shows the inconspicuous nature of the ventilators which are easily fixed into the glazing bars.

The extension is now in full production and the ventilation system has proved an unqualified success.

Over 8,000 major industrial organisations have installed Colt Ventilation. Colts technical advisory service is at your disposal.



WRITE FOR FREE MANUAL containing full specifications of the wide range of Colt Ventilators to Dept. A.41.158

VENTILATION



COLT VENTILATION LTD . SURBITON

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.

See our exhibit at the Building Trades Exhibition, Olympia. Stand K. 231

The Finch

Clofit

BUILDING EXHIBITION Nov16°Nov.30° 250°1955 &

solves the

GRAND HALL ROW A Nos. 12, 13, 14

cloakroom problem

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

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

Finch ORGANIZATION

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

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

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



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

B. FINCH & CO. LTD., Belvedere Works, Barkingside, Essex

VALentine 8888 (30 Lines)

Showrooms: FINCH CORNER, 679/687 EASTERN AVENUE, ILFORD, ESSEX



It's easy with EVO-STIK



Great skill makes the most difficult job look simple. By the same token EVO-STIK 'IMPACT' (Trade Mark) Adhesive makes the perfect bond so easy.

EVO-STIK 'IMPACT' Adhesive is officially recommended for attaching 'Formica', 'Perstorp', 'Vybak', 'Ultrapas' sheeting and all good laminates. It is also the ideal method . . . will not crack !



is the registered title of Adhesives manufactured by



EVODE LIMITED (INDUSTRIAL ADHESIVES DIVISION) STAFFORD · ENGLAND

Telephone: 1590/1/2 Telegrams: Evode, Stafford

London Office: 1, Victoria Street, S.W.1. Telephone: ABBey 4622/3

SPECIALISTS IN SYNTHETIC RUBBER ADHESIVES



Photograph by courtesy of the Architects. British Paints Limited Materials were used throughout on the new premises of Jeremiah Ambler Ltd., at Peterlee including "Superlative" Metal Primer for structural steelwork. Architects: Wm. Holford & Partners. Contractors: Bovis, Limited. Contractors: Bovis, Limited.

Steelwork

TECHNISERVICE: British Paints Limited Technical Division is well qualified to provide information on all questions of surface protection. Please let us know if we can be of help.



Lead Cyanamide has proved, in exacting tests over a period of years, to be a particularly efficient rust inhibitor. "Superlative" Metal Primer contains Lead Cyanamide and makes a startling contribution towards reducing the cost of steel protection. Whilst its protective properties are equal to those of Genuine Red Lead its spreading rate is substantially greater, giving approximately 100 square yards per Imperial Gallon, under ideal conditions. Application is speedier; the initial price is lower. Thus a given area can be treated with "Superlative" Metal Primer with less material; the labour cost for its application will be reduced. Full details gladly supplied.



NOTE: Specify BPL Zinc Chromate Primer, for Aluminium or Non-Ferrous Metals.

BRITISH PAINTS LIMITED



Portland Road, Newcastle upon Tyne, 2.

Telephone: 25151

CREWE HOUSE, CURZON STREET, LONDON, W.I. TEL: GROSVENOR 6401



The 'PRIMATIC' copper hot water storage cylinder is fitted in the same way as an ordinary direct cylinder and yet functions as an indirect cylinder. The primary and secondary waters are fed from only ONE cold feed tank, and yet cannot intermix. Radiators can be fitted to the circuit, iron boilers can be used, and the tap water is free from contamination.

ns p.

als.

2.

OI

★ SELF-FEEDING PRIMARY CIRCUIT



★ BUILT-IN SPACE FOR PRIMARY EXPANSION

RANGE BOILERS LTD.

(AND SUBSIDIARY COMPANIES)

STALYBRIDGE · CHESHIRE

BUILDING EXHIBITION OLYMPIA

November 16th-23rd

See Our Exhibit—Stand No. N.268
National Hall.

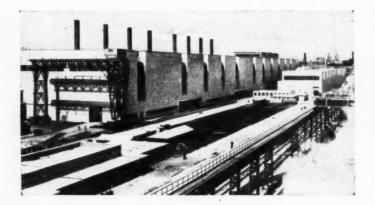
Telephone: Stalybridge 3353. Telegrams: Cylinders, Stalybridge

8817

DRIVEN OR BORED?

ILLUSTRATED BOOKLETS OF
TECHNICAL INFORMATION WILL
BE SENT ON REQUEST.







FRANKIPILE

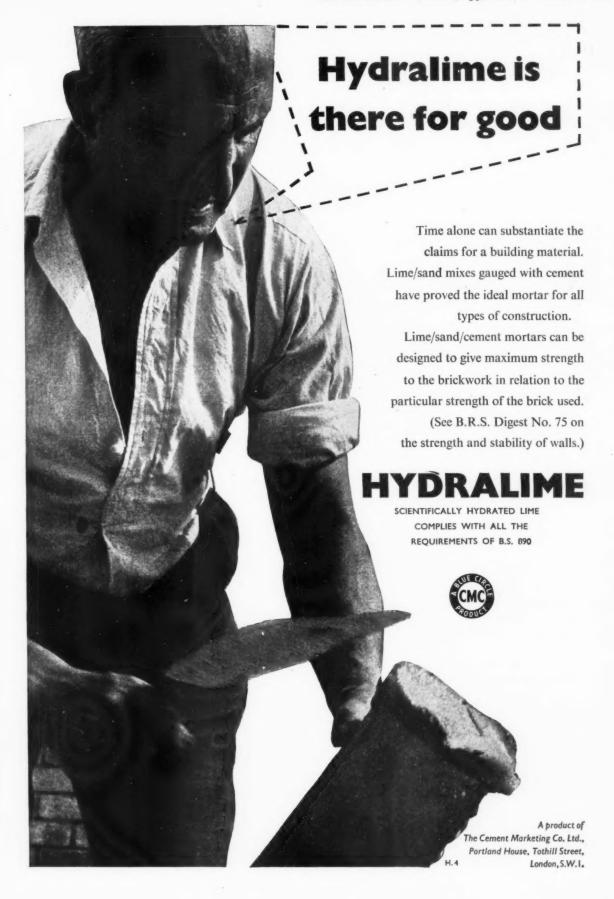
Use our experience if you have a foundation problem





THE FRANKI COMPRESSED PILE CO. LTD. ' 39 VICTORIA ST LONDON SWI ' CABLES ' FRANKIPILE SOWEST LONDON

AND IN AUSTRALASIA · BRITISH WEST INDIES · IRAQ · RHODESIA · S. AFRICA



There is no DAYLIGHT ROBBERY here!

Cascalite



gives glare-free shadowless lighting

Shown above is a part of a building of London Brick Company Limited fitted with 8ft. Cascalite Big Six untinted sheets. Notice how evenly the lighting is distributed over the whole area. There are no shadows nor is there non-diffused sunlight glare.

What is Cascalite?—Cascalite is moulded from resin and fibreglass, and is a pioneer material produced by Cascelloid of Leicester, whose research and experience over many years has assured consistently high quality. Installations of Cascalite are being made all over the world, and conform in every way to the rigid specifications required.

Cascalite Cuts Down Heat.—The thousands of tiny glass fibres in Cascalite diffuse the heat of the sun's rays, and consequently reduce the heat under its surface. Working conditions are made more pleasant because of this restriction of sun heat. There is no need for roofs to be whitewashed or fitted with blinds as in transparent roofing.

Try this test. Write for a sample of Cascalite, hold it in the rays of the sun. The area underneath is cool compared with direct sun temperature.

Cascalite Diffuses Light,—Just as the pearl electric lamp has superseded the plain glass lamp, so Cascalite, with its translucent, even lighting, is the natural successor to transparent roof lighting.

Cascalite is Shatterproof.—Breakages are a thing of the past when using Cascalite. A hammer dropped on its surface merely rebounds. Cascalite can be sawn, nailed, or screwed, making installations safe, easy, and inexpensive.

Standard Profiles.—Cascalite is produced in all standard corrugated profiles; also in reeded, and flat sheets; and is supplied in 3 ft. to 8 ft. lengths.

Cascalite Colours.—Cascalite is produced in the following colours: Untinted, Light Ivory, Skylight Green, and Sunlight Yellow; but other shades can be given on bulk orders.

Cascalite Uses.—Cascalite can be used for roof lights, vertical glazing, partitioning, wall cladding, door panels, illuminated facias; it is lightweight and decorative.

Write for price list, illustrated brochure, and samples, to:

CASCELLOID · ABBEY LANE · LEICESTER

Division of the British Xylonite Co. Ltd.

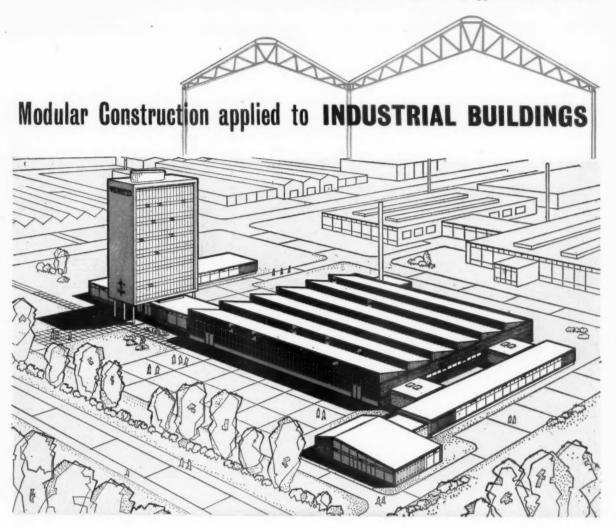
Tel: 6181

STAND 540 GALLERY,

Branch Offices & Showrooms:
9 Conduit Street, London, W.I.
7 Pall Mall, Manchester, 2.
Distributors throughout the British Isles

Tel: Mayfair 9701 Tel: Deansgate 7017





YOU ARE INVITED
TO WRITE
FOR FURTHER DETAILS



The advantages of speed and economy derived from the use of standard components—such as windows, doors, partitions and sanitary fittings—are well known. In the case of many industrial buildings, standardisation can now be extended to the whole structure permitting a rate of erection that would be impossible with conventional methods. Providing for future extensions is also considerably simplified.

The Arcon Development Group, as a result of long research and field work, has produced a series of standardised structures based on a 40-inch module. These offer considerable flexibility in layout, and a wide range of spans suitable for large or small buildings. Welded tubular steel construction is incorporated in the framework to provide a light but permanent structural system.

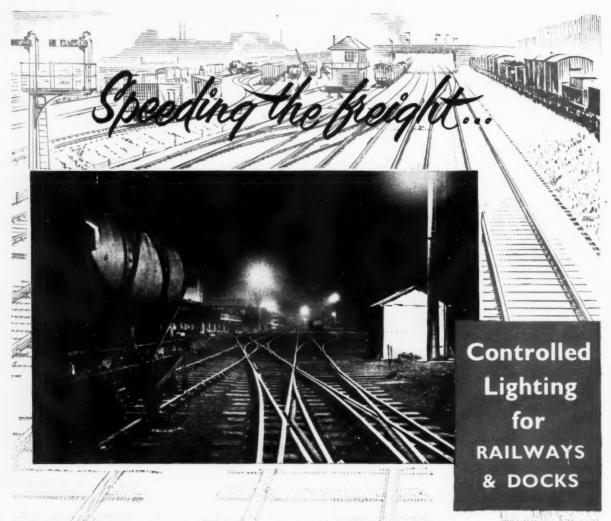
The Arcon Service includes the supply of standard structural details, calculation drawings, detailed erection manuals and site supervision by skilled erectors. Costs can be accurately estimated at the outset, and Arcon standardised components are available for immediate delivery from stock.

Standardised structures for Industrial Building

TAYLOR WOODROW (BUILDING EXPORTS) LTD., 41 WELBECK STREET, W.1. TELEPHONE: WELBECK 9211 (6 LINES)

Xi

ir 9701 te 7017



In railway yards and dock areas, where speedy night working must be continued with maximum safety, the controlled characteristics of Holophane lighting ensure adequate illumination with a minimum of glare and shadow.

Robust and weather-resisting floodlights of accurate optical design, and high wattage refractor lanterns, are effectively applied in planned Holophane schemes for railway and dock lighting services.

The Holophane System of illumination is applied to every field of industry and commerce, and units are available for interior and exterior illumination. Please consult our Technical Service Department regarding your problem.

HOLOPHANE LIMITED

SCIENTIFIC ILLUMINATING ENGINEERS

ELVERTON STREET, WESTMINSTER, LONDON, S.W.1

'Phone: VICtoria 8062. 'Grams: Holophane, Sowest, London

STAND 94 ROW E

THE BUILDING EXHIBITION OLYMPIA



with our technical representative any question relating to Plastering or Internal

Linings and Partitions. Our Stand will feature the application of 'Paramount' Dry Partition

as Internal Linings to Curtain Walling and demonstrate Thermal Insulation,

Fire Protection, Suspended Ceilings, Sound Control and Plastering. Technical Films
will be shown throughout the run of this Exhibition in the

Company's own Cinema.

THE BRITISH PLASTER BOARD (MANUFACTURING) LIMITED

BATH HOUSE, #2 PICCADILLY, LONDON, W.I

AP244-224

COSELET STANDARD STEEL FRAMED BUILDINGS



The adaptability of the Coseley Standard Steel Framed Building is shown in these illustrations. Standard Spans range from 30ft. to 75ft., with 8ft. to 20ft. height to eaves. Lean-to and canopy extensions can be supplied at standard roof slope. Lengths in multiples of 12ft. 6in. and widths in multiples of Standard spans.

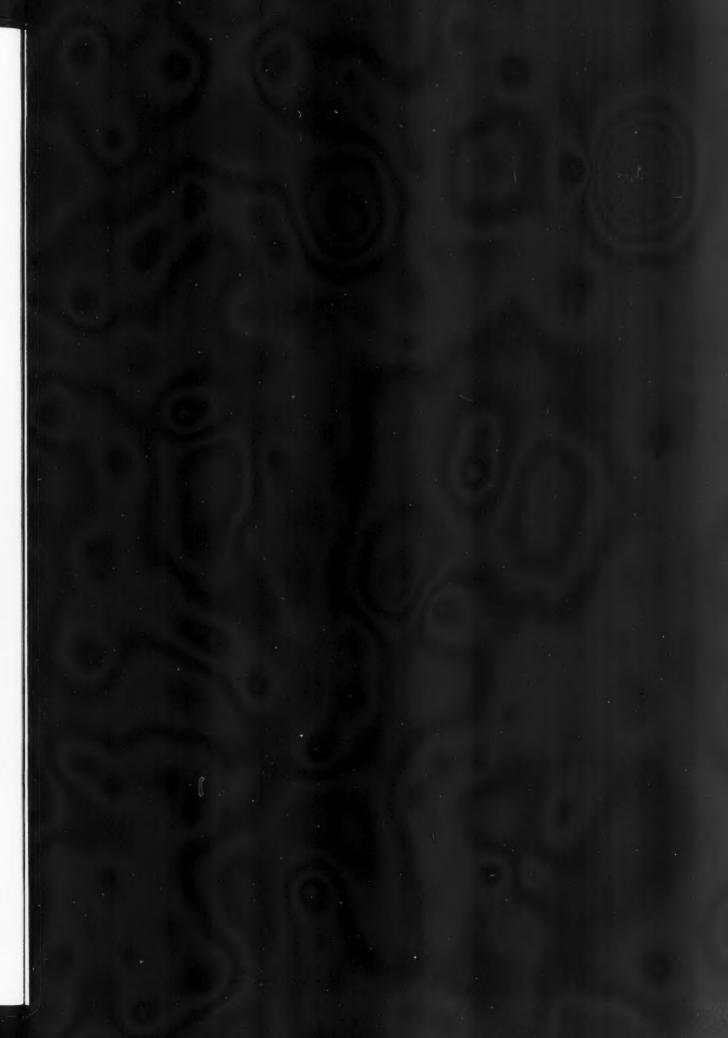
Civil Engineering and Bullding can be under-taken by our associated companies, Sinton Thompson & Partners, Ltd., Wolverhampton and Collier Sinton & Partners, Ltd., London.



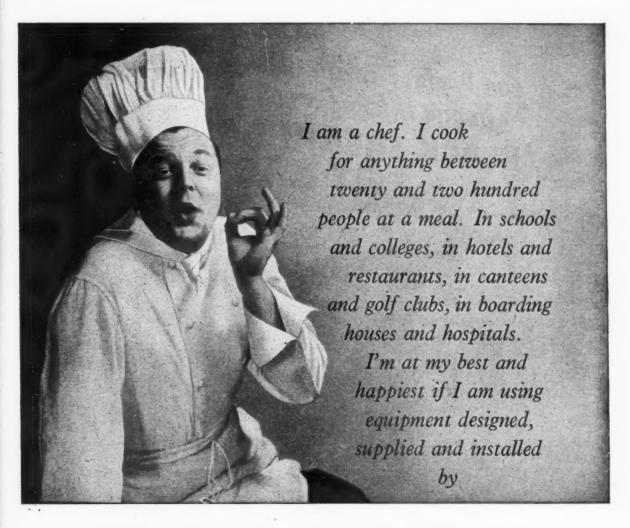
- * ADAPTABLE
- EXTENDIBLE
- * ECONOMICAL
- DURABLE

ENGINEERING CO. LTD.

LANESFIELD WOLVERHAMPTON ENGLAND • • Telephone: BILSTON 41927/6 lines LONDON OFFICE: 27, OLD BOND STREET, W.I. • Telephone: GRO. 3626/6 lines







FALKIRK

If you have any sort of catering problem, let us solve it for you, at competitive prices. Please write to:

The Falkirk Iron Co. Ltd.

PROFRIETORS: ALLIED INOMPOUNDERS LIMITED MAKERS OF COOKERS, BOILERS AND FIRES)

Office and Showrooms 18 Dering Street,
Hanover Square, London, W.1
or 40 Hanover Street, Leeds, 3; or Falkirk, Scotland



Telephone: Grosvenor 8941 Telegrams: "Castings," London



BSF/S

W.

PLASTIC CISTERNS BACKED BY 74 YEARS'

Modern styling, old-time quality the 'contemporary' look of the Lawley plastic cisterns is backed by seventy-four years' specialised experience in cistern manufacture. Smoothly hygienic, rust and corrosion-proof, these newest members of the Lawley range are perfectly suited to today's building requirements. Prices, too, are planned to meet the need for economy

when large - scale building projects-estates, office blocks and workshops, etc. - are on the agenda.



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.









Model HL/P





Model LL/FP



Model WB/P

pioneers in cistern manufacture since 1881

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

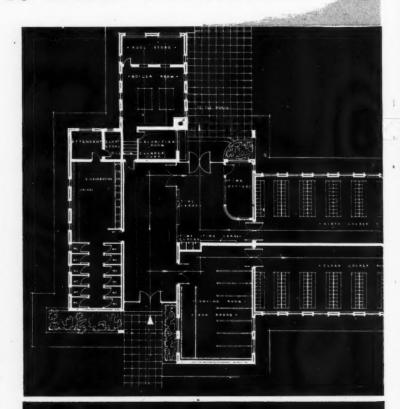
ABLUTION CENTRES

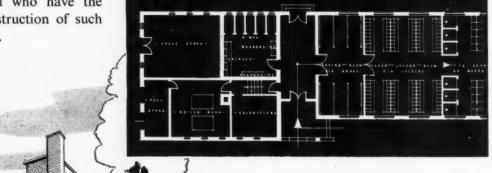
FOR IRON & STEEL FOUNDRIES.

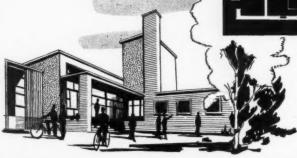


At Brightside, we have an intimate knowledge of foundry problems acquired in our own and many other foundries, and our approach to the layout of an Ablution Centre is essentially Practical. We are able to supply useful advice, founded upon many years of experience in the sphere of heating, ventilating and hot water service engineering.

Specimen layouts of washing and locker amenities for different numbers of operatives are available on request and we invite enquiries for any size of Ablution Centre from all who have the design and construction of such facilities in view.









THE BRIGHTSIDE HEATING & ENGINEERING CO. LTD. · SHEFFIELD

And at BELFAST, BIRMINGHAM, BRADFORD, BRISTOL, EDINBURGH, GLASGOW, LIVERPOOL, LONDON, MANCHESTER, NEWCASTLE, PORTSMOUTH

IT'S THE UNIQUE

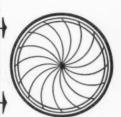
iris shutter

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.

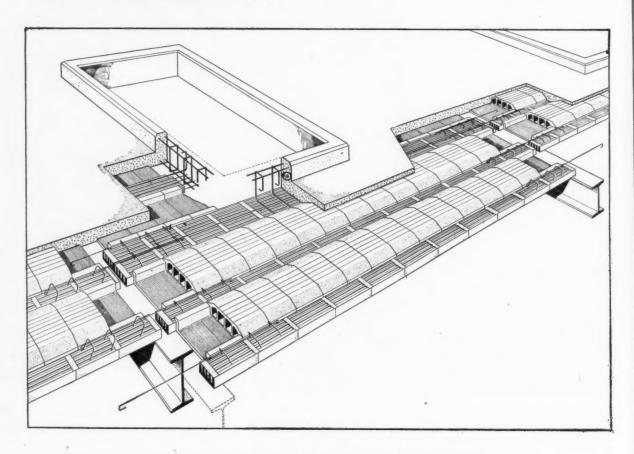
A.C. Single-phase, 50 cycles, and D.C.

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

Stahlton PRESTRESSED FLOORS AND ROOFS



- ALL THE ADVANTAGES OF HOLLOW TILE CONSTRUCTION
- PRESTRESSING ALLOWS FOR LENGTHY SPANS
- COMPOSITE CONSTRUCTION WITH NO UPWARD CAMBER
- SIMPLY FIXED BY GENERAL CONTRACTORS
- LIGHT, EASILY HANDLED UNITS ARE SPEEDILY ERECTED
- G CLAY OR CONCRETE UNITS HAVE KEYED SOFFITS READY FOR PLASTER Greatly increased production permits speedy deliveries

Fully illustrated particulars on request from:-

LONDON, S.W.1. TELEPHONE: VICTORIA 3172/4

or from factories at:-

London & Southern Counties.
Costain Concrete Company Limited, Stahlton Lane, Southend Arterial Road, Childerditch, Nr. Brentwood, Essex. Telephone: Herongate 317

Lancs, Yorks, & Midlands,

R. Costain & Sons (Liverpool) Ltd., Bailows Lane, Liverpool 9.

Telephone: Aintree 4141/5

Scotland & Northern Counties.

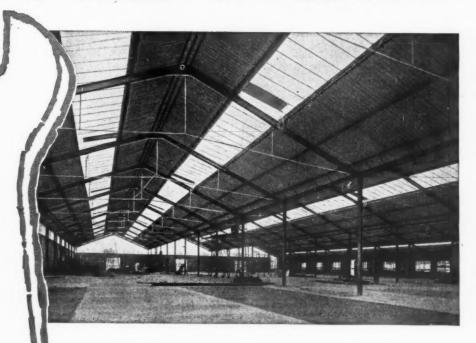
Costain Concrete Company Ltd., Coltness Factory, Newmains, Lanarkshire. Telephone: Wishaw 880

Wales & West Country.

Costain Concrete Company Ltd., Cowbridge Road, Bridgend, Glam.

Telephone: Bridgend 961

STANDARD STORAGE BUILDINGS



at 6/- a square foot!

Designed on the Plastic Theory, S. & F. Standard Storage Buildings possess maximum strength with minimum overall weight of steel. This enables the cost of larger buildings, supplied and erected complete on the customer's foundations, to be kept as low as 6/- per square foot. Easy to assemble, S. & F. Standard Storage Buildings offer a multitude of combinations of various standard spans to suit every possible requirement.

Illustrated literature on request.



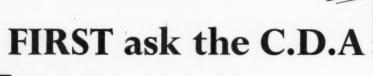
SANDERS & FORSTER LTD., Thames Works, Hertford Road, Barking, Essex. Telephone: Rippleway 2401



COPPER outside

There are a host of jobs—in sheet and tube work—that are best carried out in copper. By using it in the right way money and materials can be saved. Free technical advice and help can be obtained from the Copper Development Association, a non-trading organization which exists to help you to get the best out of copper.

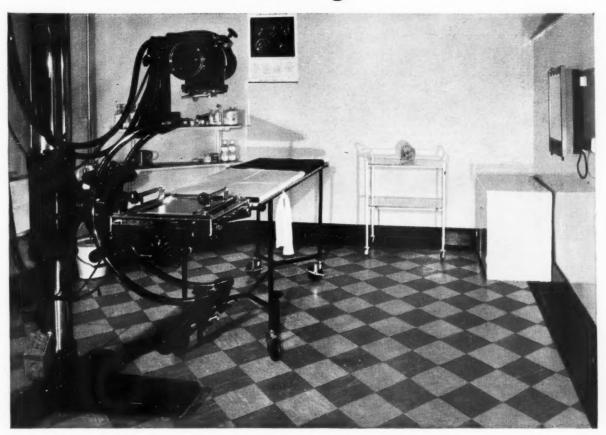






COPPER DEVELOPMENT ASSOCIATION · KENDALS HALL · RADLETT · HERTS · RADLETT 5616

Nairn brings you floors of "Never Before" Beauty and Service-ability NAIRN VINYL TILE FLOOR LAID IN THE X-RAY DEPARTMENT OF IPSWICH BOROUGH GENERAL HOSPITAL



Proprietors, managers and executives of business premises and institutions all over the country are specifying Nairn Vinyl Tile Floors. Housewives, too, are making enquiries at their architect's or builder's about Nairn Vinyl Tile Floors. Everywhere the news is spreading that Nairn brings you floors of 'never before' beauty and utility.

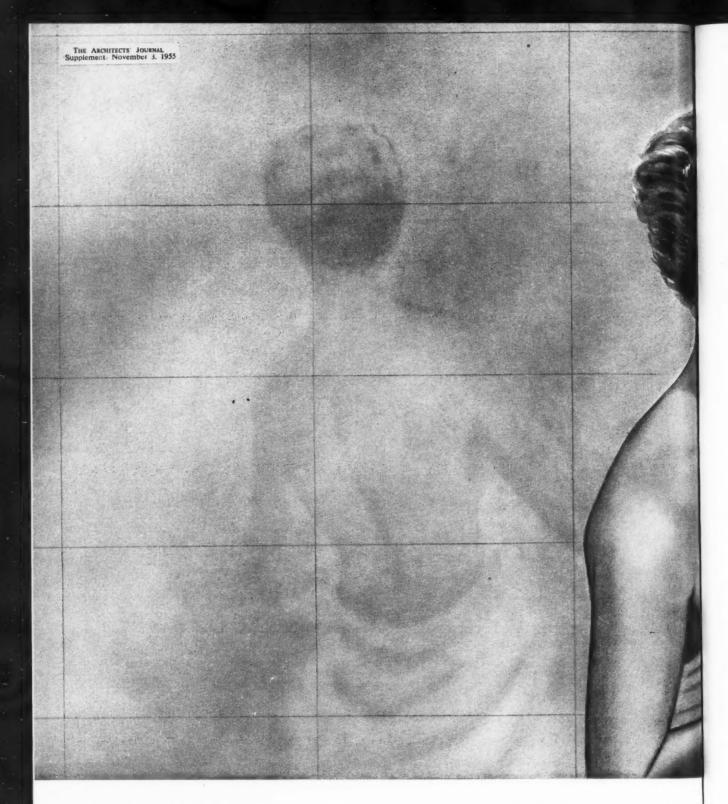
- 'Never Before' Wear-ability Since the floors of the 53 laboratories in the new Biology Building of Nottingham University would be subject to continual traffic and exposure to all manner of chemicals, the University laboratories themselves tested various types of floor covering. Nairn Vinyl Tiles proved to be the most satisfactory and were used exclusively.
- 'Never Before' Clean-ability Grease, oil, mud...bleach, alkalis, cooking fats...all the things that might ruin an ordinary floor don't affect a Nairn Vinyl Tile Floor. And all that's needed to keep it shining clean is an occasional polishing.
- 'Never Before' Versatility Nairn Vinyl Tile Floors can be laid on any kind of level surface, upstairs, downstairs or in the basement. As a design component the Nairn Vinyl Tile is extremely versatile too... AND, LAST BUT NOT LEAST THE COST IS SURPRISINGLY LOW.

For years, both here and in the U.S.A., laboratory research and stringent practical tests have *proved* the wear-resistance of Nairn Vinyl Tile Floors.

NAIRN
VINYL TILE
FLOORS
Made in Newhouse, Scotland

Please write to us (at Office 102) for further information, literature and advice.

MICHAEL NAIRN & CO., LIMITED, KIRKCALDY, SCOTLAND



"VITROLITE" gleams with matchless beauty—as permanent as it is hygienic. Because they are inherent in the glass, and not just applied to it, the colours never fail or wear off, and the smooth, fire-finished surface never crazes or loses its bright sheen. "Vitrolite" has many uses, and wherever it is used it brings beauty—to stay.

The colours are

GREEN, GREEN AGATE, PRIMROSE, TURQUOISE, EGGSHELL, CREAM, PEARL GREY AND IVORY, AS WELL AS BLACK AND WHITE.

PILKINGTON BROTHERS LIMITED



CONSULT THE TECHNICAL SALES AND SERVICE DEPARTMENT AT ST. HELENS, LANCS, (TELEPHONE: ST. HELENS 4001), OR SELWYN HOUSE, CLEVELAND ROW, ST. JAMES'S, LONDON, S.W.1 (TELEPHONE: WHITEHALL 5672-6). SUPPLIES ARE AVAILABLE THROUGH THE USUAL TRADE CHANNELS. "Vitrolite" is a registered trade mark of Pilkington Brothers Limited.

V2,







they seek it here . . .

they seek it there . . .



From Scotland to Cornwall, from

Anglesey to Lincolnshire, the search for

ASBESTOLUX goes on. Eager builders,
ardent architects are clamouring for the

stuff, and casting envious looks at those

who already have it. The plain truth is

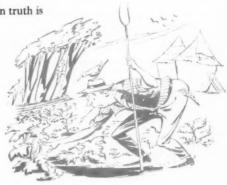
that the demand for ASBESTOLUX

has become so great for factory building,
offices and flat constructions, the schools
and hospital programme, not only in the
U.K. but in Canada, the U.S.A., Europe
and all over the world, that delivery is

now regrettably not immediate. But

needless to say we are doing our best

to improve matters.



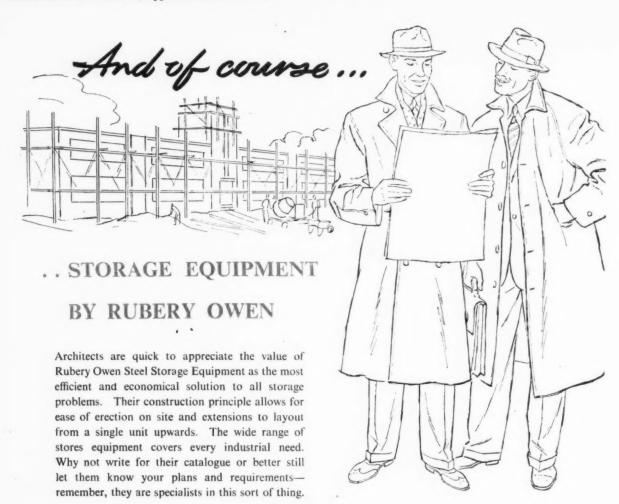


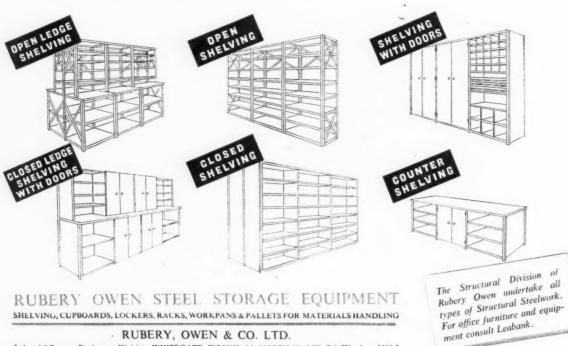
ASBESTOLUX

Non-Combustible Asbestos Insulation Board

THE CAPE ASBESTOS CO. LTD., 114/116 PARK STREET, LONDON, W.I. TEL: GROSVENOR 6022 and at Floor D, National Buildings, St. Mary's Parsonage, MANCHESTER 3. Telephone Deansgate 6016 Eagle Buildings, 217, Bothwell Street, Glasgow C2. Telephone Central 2175. 246a Corporation Street, BIRMINGHAM 4. Telephone Central 8168.

See us on Stand No. C.42 at the Building Exhibition.





Industrial Storage Equipment Division, WHITEGATE, WREXHAM, NORTH WALES, Tel: Wrexham 3566-8

Which ever way the wind blows

We can give you the conditions you are looking for; you can select from our range of Air Treatment equipment units that will create just whatever atmosphere you may require—where and when it is needed.

The Biddle range of Air Treatment equipment covers Heating, Cooling, Ventilating, Dehumidifying and Humidifying, and in each case models are available for industrial, domestic, commercial, medical or marine applications.





Biddle Radiant Heating Panels offer an easily-fitted, convenient and inexpensive heating system that requires no actual air movement apart from natural ventilation.

Space-saving, flexibility of installation, freedom from maintenance costs, durability and fuel economy pinpoint the advantages of these Radiant Heating Panels, manufactured to the customary high standards of all Biddle products. In two standard sizes of 6ft. by 3ft. and 8ft. by 4ft. they can be fitted either horizontally or vertically.

BIDDLE AIR TREATMENT

·creates the right atmosphere.

F. H. BIDDLE LTD., 16 UPPER GROSVENOR STREET, LONDON, W.I.

(Sales division of British Trane Co. Ltd.)

Telephones: Hyde Park 0532/9

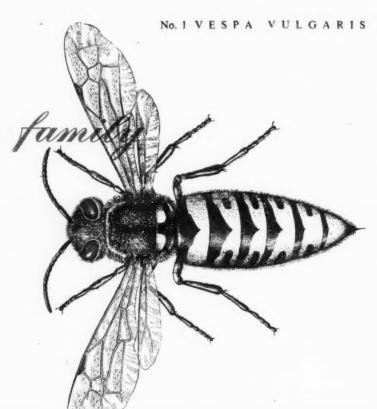
Cables: Efbiddle, Audley, London.

The

VESPIDAE fami

have

a point



Here's an interesting fact about the common wasp. Living in communities it constructs its nest by roofing existing cavities with layers of a paper-like substance until it is completely covered with this highly protective lining. What the wasp does by instinct "homo sapiens" learns by trial and error. However, SISALKRAFT will eliminate the trials and cut the margin of error too. For SISALKRAFT is almost untearable, pliable, clean and water-resisting—the ideal material for sarking, wall and floor lining, etc.

Then there is SISALATION (Reflective Insulation) which has all the virtues of SISALKRAFT, plus bright aluminium foil on one or both sides, for highly effective *thermal* insulation.



The Supreme BUILDING PAPER

Welcome to Stand 500-502 Gallery, Building Exhibition Olympia, November 16-30

ESTABLISHED 1857

J.H.SANKEY & SON.LTD

ALDWYCH HOUSE, ALDWYCH, LONDON, W.C.2.

Sole Distributors for British Sisalkraft Ltd.

Phone: HOLborn 6949 (20 lines) Grams: Brickwork, Estrand, London



The Gilbert Colvin School, Ilford, Essex. Ceiling of GYPROC Slotted Acoustic Tiles in the School Dining Hall.

Designed under the supervision of H. J. Mulder, A.M.I.C.E., M.Inst.Mun.E., A.R.I.C.S., Ilford Borough Engineer and Surveyor, in conjunction with A. E. Williams, Chief Assistant Architect, and J. E. Farnsworth, A.R.I.B.A., Senior Assistant Architect. General Contractors: J. & J. Dean Ltd., Leyton, E.10.

GYPROC SLOTTED ACOUSTIC TILES give sound absorption with fire protection

SOUND ABSORPTION

Coefficients* at frequencies (c.p.s.):-125 250 1000 2000 4000 0.15 0.50 0.80 0.60 0.25 0.30 * With a backing of 1" thick bitumen-bonded Fibreglass

FIRE PROTECTION

Surface Spread of Flame Rating -Class I (B.S. 476)

Incombustible gypsum core

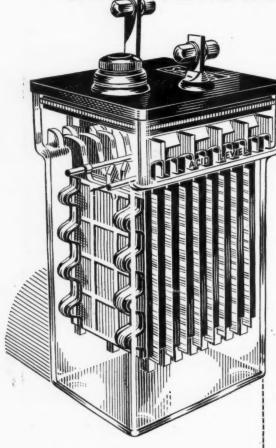
Makers of acoustic and thermal insulation products including Gyproc Insulating Plaster-board, Acoustic Gyproc, Gyproc Slotted Acoustic Tiles, Gypklith Wood Wool Slabs, Gypklith Fluted Panels, Insulex and ZONALEX Loase Fill Insulation, Gyplith Vermiculite Insulating Plaster, DEKOOSTO Acoustic Plaster.

GYPROC PRODUCTS LIMITED

Head Office: Singlewell Road, Gravesend, Kent. Telephone: Gravesend 4251-4. Telegrams: Gyproc, Gravesend. Glasgow Office: Gyproc Wharf, Shieldhall, Glasgow, S.W.1. Telephone: Govan 214-3. Telegrams: Gyproc, Gravesend. Glasgow. Midland District Sales Office: East Leake, near Loughborough.

London Office: Bath House, 82 Piccadilly, London, W.1. Telephone: Grosvenor 4617.

The Ideal Cell for



The P.& G. Closed Top Cell has a lid of moulded Dagenite composition with a rubber joint ring, and rubber gaskets between the terminal pillars and lid, to render the lid acid-tight

P. & G. also supply self-contained battery and charger cubicles for fire alarms, telephones and electric clocks.

Emergency Lighting

-exclusive to the P & G system

Every link in the chain of an emergency lighting system must be completely reliable—not least the source of electricity supply: THE BATTERY.

In the P. & G. Closed Top Cell this reliability rests upon the longest experience in battery manufacture. A design has been evolved which gives all the advantages of a sealed cellyet there is a lid which can be removed with the minimum of trouble. This is the ideal battery cell for emergency lighting.

3-POINT SERVICE

The P. & G. emergency lighting system is instananeous and automatic in operation and is covered by the P. & G. 3-Point Service comprising:

- —Technical advice and specification —Complete equipment
- -Regular inspection and report

ENQUIRIES TO:

Pritchett & Gold and E.P.S. Co. Ltd

137 VICTORIA STREET · LONDON · SWI



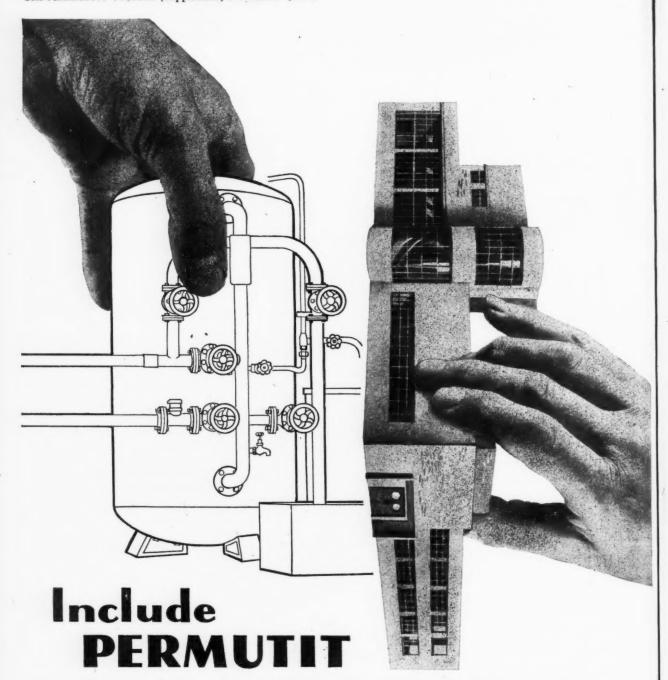
Henry Boot

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

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

В

OA/2469



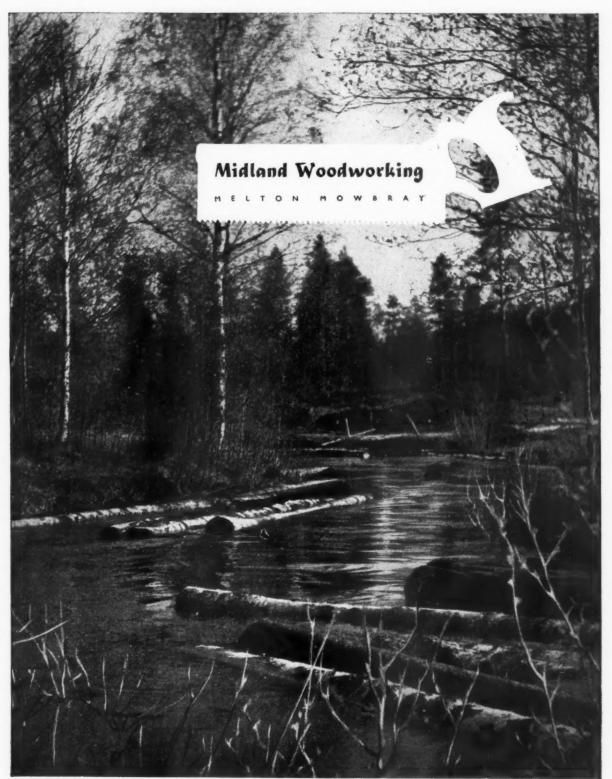
IN YOUR PLANS FOR SCHOOLS AND BLOCKS OF FLATS

Plan for economy by including a Permutit Water Softening plant in new buildings—schools, blocks of flats, canteens, self-service laundries and other municipal buildings. By preventing the formation of scale in boilers,

pipes, radiators and valves, a Permutit Water Softener will effect substantial economies in fuel and maintenance. It will also save soap, soda and detergents and simplify cleaning operations and dishwashing.

For further details please write to:

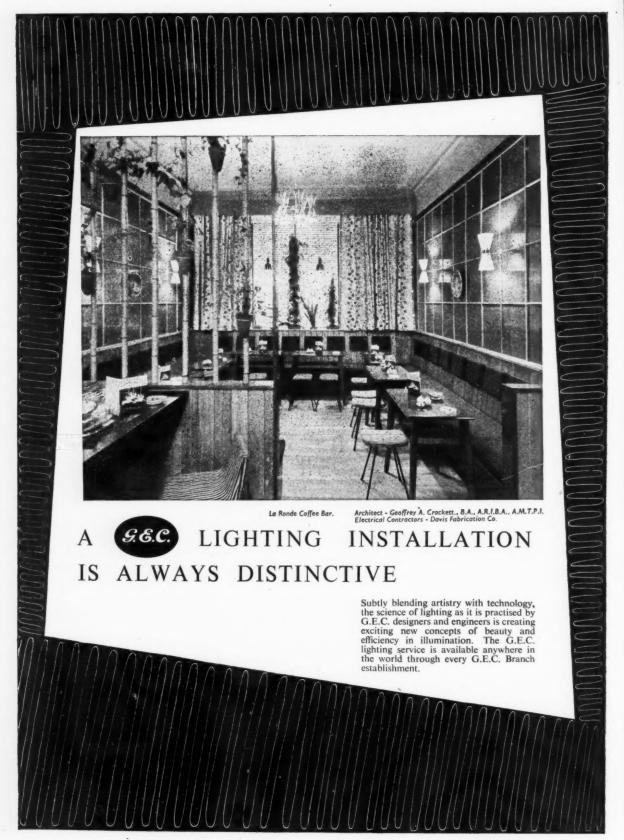
THE PERMUTIT COMPANY LIMITED (Dept. Z.X.226)
Permutit House, Gunnersbury Avenue, London, W.4. Telephone: CHIswick 6431



THE MIDLAND WOODWORKING CO. LTD., MELTON MOWBRAY

Specialists in high-class joinery for the Building Trade

CBC 20



THE GENERAL ELECTRIC CO 1TD MAGNET HOUSE KINGSWAY · LONDON · W.C.2

The Column of Marcus Aurelius in Rome like that of Trajan, records in relief this Emperor's victories against Germanic tribes in the years 172-173 A.D. ' It consists of 28 blocks of marble and is 95 feet high; to reach the top there is a spiral staircase in the interior which has 190 steps.

vertical transport in 190 A.D.

vertical transport today

is resolved with efficiency and comfort, using lifts and escalators by

J&E Hall Lin

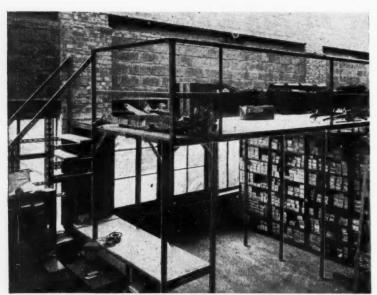
Lift, Escalator and Refrigerating Engineers

DARTFORD KENT

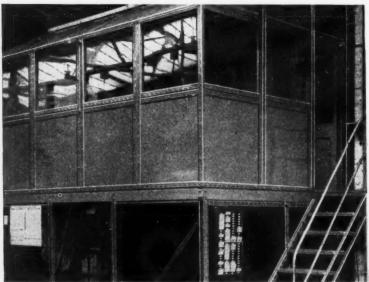


IT PAYS TO THINK OF DEXION

-at the planning stage



Service Depot builds storage platform. Iron Bridge Service Depot Ltd. of Southall, Middlesex, built this overhead storage platform to carry 20 tons of motor-car parts. It effects a big saving in space, and the supports also serve as dividers for storage bins. Storage structures of Dexion can make full use of any existing space; and they have the great advantage of ensuring easy adaptability to changing needs.



Machine Shop Engineer's office quickly built. Thomas Allan & Sons Ltd. of Thornaby designed this office with tool store underneath to be built with conventional materials. They used Dexion instead when they found it was quicker and cost less. In jobs of this sort, Dexion invariably supersedes old-fashioned materials and methods.

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

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

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

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

GET THE FACTS

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



DEXION

SLOTTED ANGLE



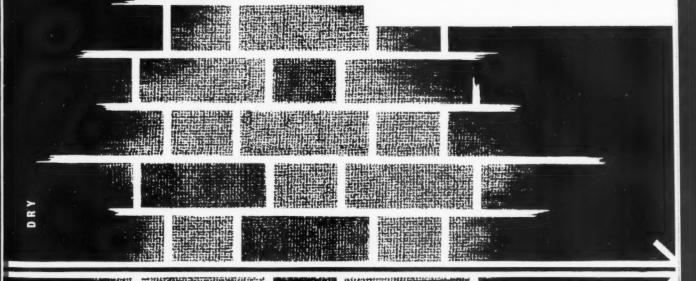


Dith. What price are now? we paying chi.

ASBEX

ASBESTOS BASE

BITUMEN DAMPCOURSE



AME

Manufactured by

PERMANITE LTD

455 OLD FORD ROAD + LONDON + E3
TELEPHONE + ADVANCE 4477 (II LINES)



We have extended the range of the Potterton No. I Series "Rex" and "D" Series "Rex" to include 8 section boilers. These boilers have the following ratings.

THESE ...
HIGHER RATINGS
AT LOWER

COSTS

18 D8	264.000 264.000		# A B I A T I 8 R (Accelerated circuitz) 1650 sq. ft.	
	18 D8	330	264	660 660

Their introduction is great news for the heating Engineer, since he can now make available to his client boilers of this higher capacity in more economical ranges than has hitherto been possible. They, naturally, have all the advantages of other Potterton Gas-fired Boilers.

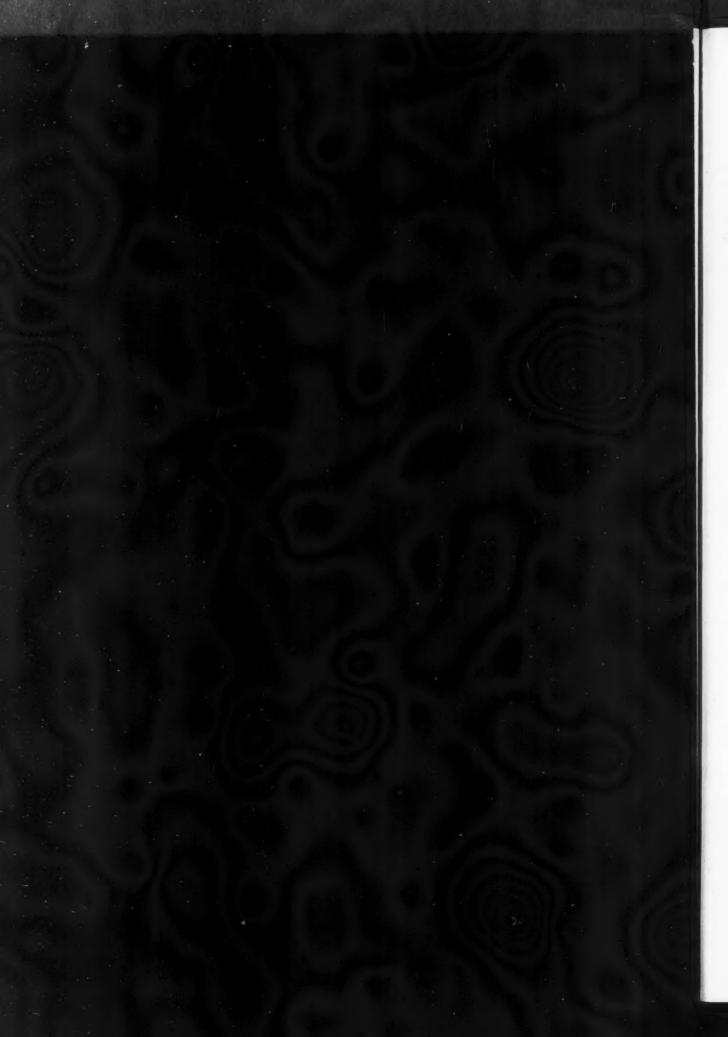
Potterton Gas-fired Bollers

POTTERTON

THOMAS DE LA RUE & CO. LTD. (POTTERTOR DIVISION) 20/30 Beckhold Road, London S.W.13.

DLR 490





SEMAS BEDDING MASTIC

For Bedding Wood or Metal Frames into Stone or Wood Surrounds.

SEAFLEX PUTTY

For Bedding or Glazing Glass to Wood or Metal Framed Greenhouses and Roof Lights, and for Bead Glazing.

SEMANCO NON-HARDENING COMPOUND

For filling Clearance Joints in Glass Block installations.

SEALCLAD NON-SETTING COMPOUND

SEALON GRADE L.180 METAL CASEMENT PUTTY

SEMANCO MASTIC

For exterior and interior fixing of "Vitrolite" Glass Panels.

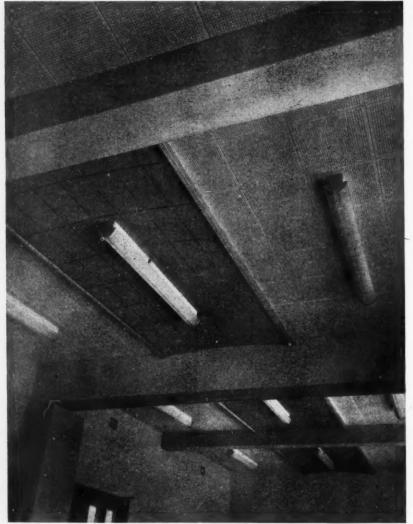
SEALANCO (ST. HELENS) LTD.

TELEPHONE: ST. HELENS 2432 and 7782



ST. HELENS, LANCS

THE LARGEST EXCLUSIVE MANUFACTURERS OF PUTTY AND COMPOSITIONS IN GT. BRITAIN



I.C.I. Copyright

CONFERENCE ROOM IMPERIAL CHEMICAL INDUSTRIES LTD.
WILTON WORKS, MIDDLESBROUGH,
DESIGNED AND INSTALLED BY OUR MAIN AGENTS:
DRAFTSELE LTD. 44 DEAN STREET, NEWCASTLE-UPON-TYNE.

The Illustration shows Ceiling Treatment designed to produce a Non-flat surface. Centre feature is one of $\frac{1}{2}$ in. Unitex Insulating Board with "Veelap" edges and false "Vees" cut on surface to match the 18 in. by 18 in. "UNITEX" Acoustiles.

METCO

SERVICE

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

MeTeO

°VEELAP°

 $\frac{1}{2}$ in. Insulating Board cut to sizes and edges processed with "Yee and Lap" or a "Moulding and Lap".

METCO

METAL FIXING SYSTEMS

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

Specielist Contractors are available for installation if desired.

stocks consist of:

INSULATING BOARDS
HARD BOARDS
PERFORATED HARD BOARDS
REEDED AND FLUTED HARDBOARDS
ENAMELLED HARD BOARDS
ACOUSTICAL TILES
JOINT COVERINGS
COVER STRIPS AND ACCESSORIES

 Your enquiries and early consultation on your problems are invited.



UNITEX

Acoustile Installation

The MERCHANT TRADING COMPANY Limited.

EFFINGHAM HOUSE, ARUNDEL STREET, STRAND, LONDON, W.C.2

Telegrams: "Themetraco, Estrand, London," Telephone: TEMple Bar 5303 (8 lines)

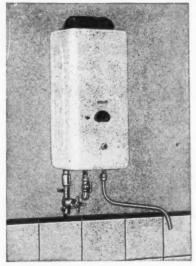
When you specify

EWART INSTANTANEOUS GAS WATER HEATERS

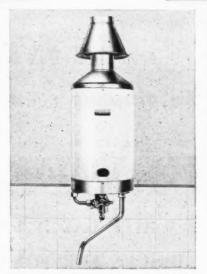
you specify dependability

There are solid reasons for the dependability of Ewart water heaters. They are built to give long service with the minimum of maintenance.

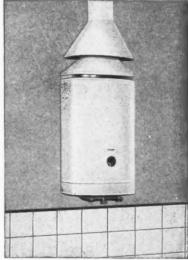
- * They have self-clearing steatite-tipped Bray burners that resist corrosion and blockage. The types of heat-exchanger employed are simple and designed to maintain a full flow of air and products of combustion, and thus obviate fouling of the flueways.
- * Automatic gas governors are fitted to these Ewart water heaters to prevent over-gassing and ensure consistent performance, thereby prolonging the life of the heating bodies.
- * Where pilot safety devices are fitted they are of exceptionally robust design. Alternatively, the interlocking tap safety device is of a well-tried pattern.



EWART M75. A sink water heater. Can easily be adapted as a multipoint to supply two sinks or handbasins—through existing taps if desired.



EWART \$140. A low-priced highly efficient instantaneous bath water heater. Will also supply adjacent handbasin through swivel spout.



EWART M210. A multipoint water heater which will supply instant and endless hot water in bathroom, kitchen, cloakroom, etc.

MARI famous for over 120 years!

EWART AND SONS LTD . WORKS ROAD . LETCHWORTH . HERTS

We shall be pleased to meet you



on STAND 52 ROW C

where our bricks may be seen "in the work"

BURWELL?

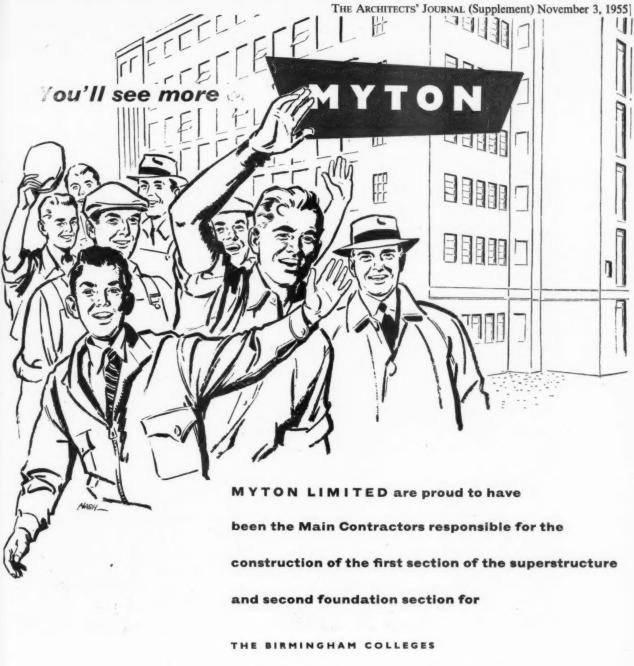
Kiln-fired WHITE GAULT FACINGS
and GAULT BRICKS FOR FOUNDATIONS

Available for prompt delivery

Brochure and prices on request

FISONS Limited · Brick Division · Harvest House · Felixstowe · Suffolk

Telephone: FELIXSTOWE 1441 Telegrams: FISONS, FELIXSTOWE



OF TECHNOLOGY, COMMERCE AND ART

TO BE OPENED BY

HER MAJESTY THE QUEEN, NOVEMBER 3rd 1955

For the City of Birmingham Education Department. ARCHITECTS: H. V. Ashley and Winton Newman. QUANTITY SURVEYORS: L. C. Wakeman and Partners | Messrs. Watkins and Decker.

MYTON

MYTON LIMITED Building and Civil Engineering Contractors

Now a member of the TAYLOR WOODROW GROUP

HEAD OFFICE: NEWLAND HULL.

PATENT GLAZING



Interior View of Factory

This is a modern factory for wool spinning and the process calls for fairly high humidity together with controlled temperature.

DOUBLE PATENT GLAZING was used to minimize the possibility of fluctuation in temperature through heat losses and also to avoid the excessive condensation

which would otherwise occur under such conditions.

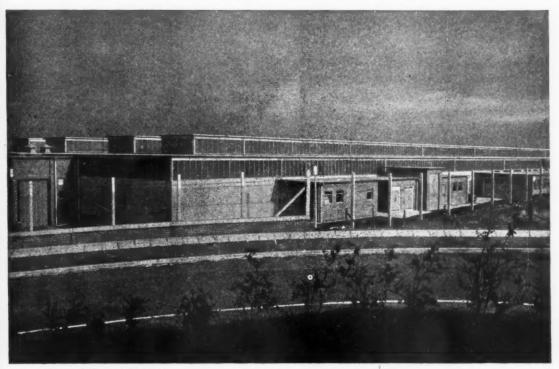
The thermal insulating and other special properties of double patent glazing enabled the Architects to air-condition the factory and thus achieve the most advantageous working conditions both for the process and the operatives.

Architects: William Holford & Partners, Liverpool & London

C

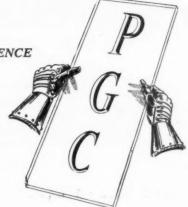
SPECIFICATIONS

JEREMIAH AMBLER FACTORY AT PETERLEE FOR THE NORTH EASTERN TRADING ESTATES LTD.



External View of the Factory

ISSUED BY
THE PATENT GLAZING CONFERENCE
BURWOOD HOUSE
CAXTON STREET
LONDON, S.W.1

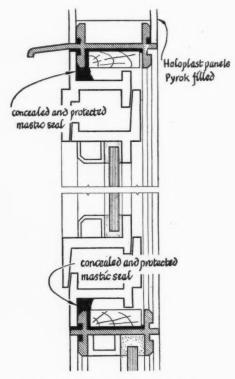


Contractor: Bovis Limited, London, W.1



Experimental and Design Office Block
De Haviland Aircraft Co. Ltd., Hatfield, Herts.

ARCHITECTS: Messrs James M. Monro & Son, B.Sc., A.R.I.B.A.

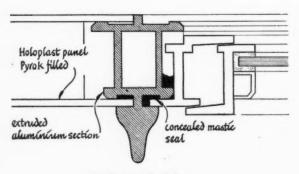


Typical vertical section showing use of specially designed aluminium sections

In the cladding of framed buildings

SECOMASTIC

provides lasting protection at the joints



Typical sectional plan

An important problem common to all techniques for cladding framed buildings is that of providing an effective and lasting waterproof barrier at the joints.

Correctly used, a non-hardening mastic can make a valuable contribution to the solution of this problem. But since the maintenance free life of the joints will be determined by the life of the mastic, the greatest care should be taken in using the correct grade applicable to the type of joint.

The Technical Department of SECOMASTIC Limited has studied the special problems connected with the sealing of joints in Wall Cladding and is in a position not only to advise on the particular grade of mastic best suited to a specific case, but also, where applicable, to collaborate in the design and detailing of suitable joints.

Please address all enquiries to Architectural Dept.

SECOMASTIC LIMITED . BRACKNELL . BERKSHIRE . Telephone: BRACKNELL 910 (5 lines)

THE ARCHITECTS' JOU HAL (Supplement) November 3, 1955

mithson

mulsion

Architects are invited to write for the SMITHSON HANDBOOK OF PAINTS & PAINTING PRACTICE TO THOMAS SMITH AND SON LIMITED 238-240 WHITECHAPEL ROAD, LONDON, E.I. TELEPHONE: BISHOPSGATE 3717-8-9

aint

Seven good reasons for building with





- 1. THERMAL INSULATION
- 2. LOAD BEARING PROPERTIES
- 3. HIGH SPEED OF LAYING
- 4. LIGHT WEIGHT
- 5. WORKABILITY
- 6. DIRECT FIXING 7. FIRE RESISTANCE

No. 6 Direct Fixing



House at Guildford in which 6" solid Thermalite has been used behind vertical cedar boarding. Architects: Brownrigg & Turner AA.R.I.B.A.

Door linings, skirtings, pipes, radiators, lavatory basins can all be fixed to walls built with Thermalite blockwork without plugging. These photographs illustrate how advantage can be taken of the direct fixing properties of Thermalite in external treatments. Weatherboarding, weatherhung tiling, tiles and cedar shingles can all be used in conjunction with Thermalite where the thickness of the cladding in cross wall construction may be as low as 4".

For two-storey load bearing walls, 6" blocks behind tiles or boarding give a 'U' value of O.17 B.Th.U's etc., increase the room area, reduce the cost and comply with Byelaw requirements.



Flats at Parkleys, Ham Common, in which 4" Thermalite has been used in panel walls behind weatherhung tiling. Architect: Eric Lyons F.R.I.B.A.

For further details and technical data apply to THERMALITE LIMITED Shepherds House Lane, Earley, Reading, Berks. Telephone: Reading 62694

The Thermalite process which has been developed in the laboratories of John Laing and Son Limited is protected by British Patents No. 648280 and 648229 and is also patented throughout the world



THE BUILDING EXHIBITION, OLYMPIA, LONDON NOV. 16 - 30 1955

If you want to know about the latest developments in Roof Construction, you will easily find your way to

Stand No. 32/33 Row B.

where "BITUMETAL", Briggs Modern Development in Aluminium Roofing and "CHALLENGE" Multi-Layer Roofing are displayed in an interesting and informative manner.



Briggs Roofing Organization has the scientific resources and highly specialised knowledge to tackle new Roofing problems and to advise on more familiar ones.

WILLIAM BRIGGS & SONS LIMITED

Vauxhall Grove, London, S.W.8

Head Office & Works: Dundee

Offices at: ABERDEEN-BELFAST-BRISTOL-DUBLIN-EDINBURGH-GLASGOW-LEICESTER-LIVERPOOL-NORWICH

A SERVICE EVERY ARCHITECT SHOULD KNOW ABOUT

A complete lighting scheme for any purpose and any premises worked out in collaboration with yourself — that is what Philips Lighting Design Service offers you, free of charge and without obligation.

Philips Lighting Design Service Staff includes a qualified architect who has made a special study of lighting and colour problems, and a highly skilled team of lighting engineers backed by the huge resources of the Philips organisation. The Building Exhibition at Olympia (November 16 – 30) would be an excellent place for you to learn more about this Free advisory service. We look forward to seeing you on the Philips Stand No. F.124.

If you are unable to visit us at the Building Exhibition, you have only to write or 'phone and we shall be glad to supply full details.



FOR IMAGINATIVE LIGHTING - TALK TO PHILIPS

PHILIPS ELECTRICAL LIMITED

LIGHTING DIV., CENTURY HOUSE, SHAFTESBURY AVE., LONDON, W.C.2. GERRARD 7777

(LD865)





Acoustics by BURGESS

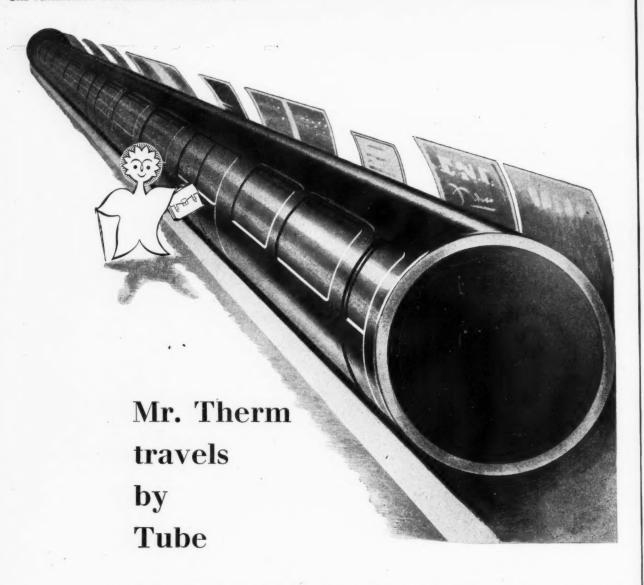
Radiant heating by SULZER

NOW! selective sound control with BURGESS acoustic tiles AND radiant heating by SULZER, write for information.

BURGESS PRODUCTS CO. LTD.

Acoustical Division, Hinckley, Leics.

SULZER BROS. (LONDON) LTD.
31 Bedford Square, London, W.C.1.



Gas has been sold in 'therms' since 1920. In the Thirties, the new unit of measurement was popularised by Mr. Therm, on the hoardings, in the papers.

Now, everyone knows Mr. Therm. His lambent figure stands for gas—and for progress. As part of this progress, the gas industry is increasingly using I.C.I. copper tubes and I.C.I. tube fittings, which have won wide acceptance on account of their reliability and consistent conformity to a rigorous specification—ensured by the latest methods of production and inspection.

For the home or the factory, the office or the school—right from mains to supply point—wherever there's gas, Mr. Therm and I.C.I. copper tubes are ideal partners.

I.C.I. COPPER TUBES AND FITTINGS

INCLUDING 'Kuterlon', 'Intex P.T.', 'Coneor', 'Instantor'



IMPERIAL CHEMICAL INDUSTRIES LIMITED, LONDON, S.W.I

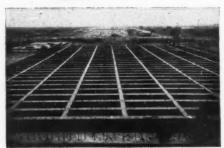
M370



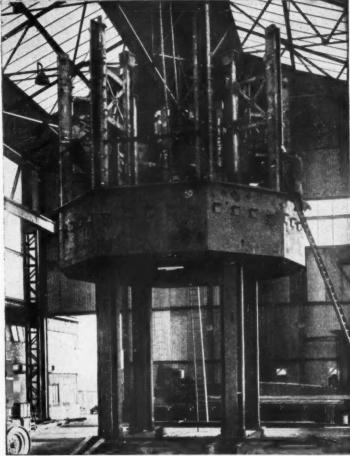
1 View of 70-ft. long Twin Welded Girders underneath Arrested Landing Deck.



2 Rocker Bearings at one end of the Girders.



3 Part of Deck Supporting Structure prior to erection of Steel Plating. Approx. 730 tons of steelwork were used in this contract.



Framework for the new heavy water moderated reactor E.443 which is being built at Harwell. The structure has been fabricated by us for Messrs. Head Wrightson Processes Ltd.

Unusual Construction by

WRIGHT, ANDERSON

& CO. LTD.



Telephone: GATESHEAD 72246 (3 lines)

Telegrams: "Construct Gateshead"

LONDON TECHNICAL OFFICES: REGENT HOUSE, KINGSWAY, W.C.2

Telephone: HOLborn 9811



of

or

I. at

d

ly

4 View of Raised Catapult Deck.



The illustrations
Nos. 1-5 are
by permission of
The Controller,
H.M. Stationery
Office and are
Crown copyright.

5 Another view of Deck, showing the Well. This construction involved approx. 550 tons of steelwork.

The contracts illustrated here involved special workmanship and unusual construction. Accuracy and tolerances of the highest order were called for. It is a tribute to Wright, Anderson & Co. that important work of this nature, with its exceptional problems and tech-

niques, should be confidently entrusted to their charge.

Whether your inquiry is in the difficult class or is a straightforward steel construction job, bolted, welded or riveted, we are always ready to assist you. Please do not hesitate to consult us.

CONTRACTORS TO GOVERNMENT DEPARTMENTS, N.C.B., BRITISH RAILWAYS, N.G.B., OVERSEAS GOVERNMENTS AND ADMINISTRATIONS

You were right!

They told me all I needed to know about that "Plasbestos" stuff you were talking about; I'm certainly going to give it a try. And what I liked was the way they offered to give me a hand with any other problems I had.

Well, I told you they were out to give us all the help they could.

You're right there. They sent me full details about some stuff called "Plasphalt," as well.

I've heard of that—Plastic roofing paste, isn't it?

Yes. I reckon it's just the job for waterproofing roofs. To start with it's easy to put on—spread it cold with a trowel. And you can put it on anything: tiles, zinc, concrete—the lot. You can put it into jointless floors and cement and other mixes to make them waterproof too.

You can bet it will be O.K. if Dussek make it; I've never found anything of theirs wanting. I've a good mind to put it on that new property of mine at Hillcrest. You know it's an exposed spot, and I don't want any rain finding its way in there. Good idea to stop the leaks before they start.

Well, if you go to Dussek, that's one problem you'll be able to forget about . . . hey, look here, I'd better get back to the site. See you again.



DUSSEK BITUMEN & TAROLEUM LTD.

EMPRESS WHARF, BROMLEY-BY-BOW, LONDON, E.J.

Telephone: ADVance 4127
Telegrams: Trinidite, Bochurch London.

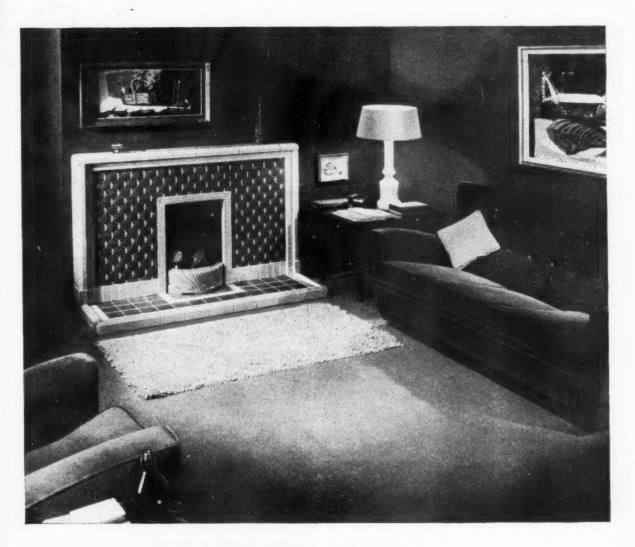


Warrington: Loushers Lane, Wilderspool.

Glasgow: Barrhead South Goods Station.

Cardiff: 12 Cathedral Road.

Branches, Associated Companies and Agents in: Australia, Belgium, British East Africa, Denmark, Maîta G.C., New Zealand, Norway, South Africa, Sweden and West Africa



TILES FIRST AND LAST

When your clients seek advice, the product that ensures their lasting satisfaction is Genuine Ceramic Tiles - the first choice of most leading builders and architects.

Proven by time, this versatile, economical and colourful stainless material is the perfect medium for fireplaces, bathrooms and kitchens.

Ceramic



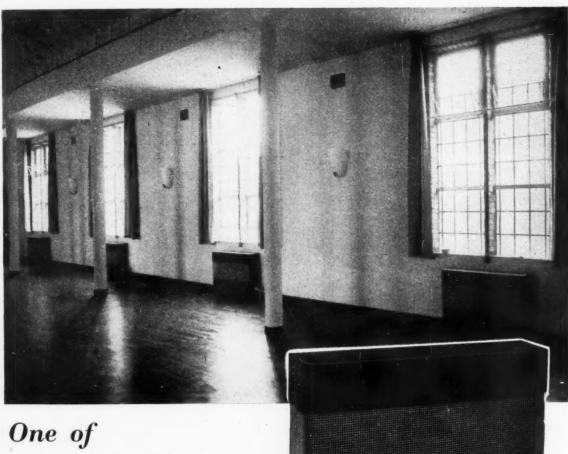








Glazed & Floor Tile Manufacturers' Association · Federation House · Stoke-on-Trent



One of
the many
Applications

FOR USING

DR Ugasar Balanced Flue Gas Heaters The RESULT of EXPERIENCE!

- Available in 7 sizes, from 30 to 114 cu. ft. p. hr.
- Completely sealed combustion system ensuring free ventilation of the products of combustion to the outside air.
- High heating-up rate.
- No condensation.
- Absolute Safety.
- DRU
 - No chimney flue required.
 - Ingenious Lighting.
 - Long Service Life.



Sole Agent for the U.K.:

895.195

THE

BUILDING EXHIBITION

Nov 16" Nov 30"

SEE OUR EXHIBIT

F. A. BORCHARDT, 3 Chesterfield Road, London, W.4. Telephone: CHIswick 4905.

Telegrams: FREDBOR, Chisk. London.



Joseph Mason brings a

REVOLUTIONARY PAINT

to the notice of Architects



a far superior finish at much less cost per yard super

This new Masopar Semi-Gloss Enamel brings phenomenal advantages in greatly increased coverage, ease of application and outstanding washability. The quality of high tenacity and the superb finish far surpass anything hitherto achieved.

One gallon will cover 120/160 square yards. It will dry, under normal conditions, in 5/6 hours, permitting a second coat the same day.

It is so easy to work that man hours can be reduced by at least 30 per cent. Its fine flow gives an infinitely superior finish. A 4-inch brush can be used with ease, and brush marks are entirely eliminated.

You can honestly scrub this paint without polishing or scratching the surface. Dirt, grease and pencil marks are readily removed.

Architects are invited to visit our works and examine this new Masopar Semi-Gloss Enamel under rigorous tests. It is available in pastel colours.

Samples to established architects and contractors on request.

joseph mason paints

JOSEPH MASON & CO. LTD., DERBY. Telephone: 46038





At FACTORY or OFFICE, Fingertip Control . .

staff is essential for the smooth running of any business,

With the flick of the key of the B.H.O.T.
Loudspeaker Master the executive effects instant contact with his staff, anywhere at office or factory.
B.H.O.T. provide all facilities related to smooth and efficient

inter-communication, on rentmaintenance basis or outright purchase. Write for full and detailed information.



THE BRITISH

ESTABLISHED 1890

HOME & OFFICE TELEPHONE CO. LTD.

73 Great Peter Street, LONDON, S.W.I Telephone ABBey 4242 P.B.X.)





OLD ROADSIDE HOTEL SOLVES HOT WATER PROBLEM



The Cotswold Gateway Hotel at Burford, Glos.

SADIA WATER HEATERS



CUT DOWN RUNNING COSTS
GIVE VALUABLE ADDITIONAL SPACE
MAKE POSSIBLE DRAUGHT BEER TRADE

Messrs Hunt, Edmunds & Co Ltd, the Banbury brewers,

are carrying out extensive modernisation of their several properties in the Cotswolds.

The latest to be completed is the beautiful old Cotswold Gateway Hotel at Burford, on the main

London/Cheltenham Road (A.40), owned by Wayside Inns Ltd (a subsidiary of Hunt, Edmunds & Co Ltd).

The alterations were planned by Hunt, Edmunds' architectural staff, and here too as on other occasions

Sadia Water Heaters of various capacity were installed. Before this, hot water was supplied by solid fuel boilers which, together with the coal, were housed in the two main cellars.

These cellars are now used for stocking beer in barrels and this makes possible a profitable retail trade in draught beer. But more important is the fact that there is now ample and constant piping hot water for guests' rooms and bathrooms, for the manager's flat and for use in the bar, kitchen, pantry and everywhere else. Wayside Inns Ltd. find that this simple, dependable and cleaner SADIA way provides a substantial saving in staff and running costs.



SAFE · CLEAN · ECONOMICAL
Aidas Electric Ltd, Sadia Works,
Rowdell Road, Northolt, Middx.
Telephone: WAXlow 2355



Bartrev the chipboard supplied in any length

Bartrev is now widely used in all kinds of building. It is shown here being laid on TROFDEK roofing at Deering Secondary School, Wilford, Nottingham, designed by R. M. Finch, O.B.E., M.I.C.E., City Engineer.

The board was supplied by William Evans and Company Limited.

For further information write to one of the Bartrev distributors any of whom can supply to any part of the country.

THE MERCHANT TRADING CO. LTD. Effingham House, Arundel Street, London WC2 Telephone: Temple Bar 5303 (8 lines)

WM. EVANS AND CO. (Distributors) LTD. 52 Stanley Street, Liverpool 1 Telephone: Central 5171

THE METAL AGENCIES CO. LTD. Avon Works, Winterstoke Road, Bristol 3 Telephone: Bristol 64611

MONTAGUE L. MEYER LTD. 14 Buckingham Street, Adelphi, London WC2 Telephone: Trafalgar 7766

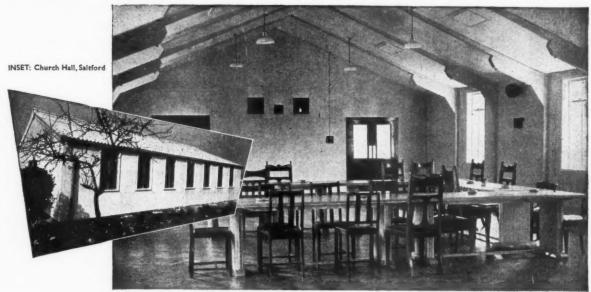
L. P. THOMAS CO. LTD. 12 Dixon Street, Glasgow C1 Telephone: Central 6092-3

H. T. TENNISON AND CO. LTD. 21 Story Street, Hull Telephone: Hull 36902-3

THE BRITISH DOOR MARKETING CO. LTD. Shobnall Road, Burton-on-Trent Telephone: Burton 4851

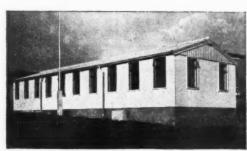






NURSES' RECREATION ROOM YEOVIL — Architects: Petter, Warren & Royden Cooper, F/F.R.I.B.A. Internal Finishings by Messrs. Biss and Moyle, Builders & Contractors. Yeovil.

WOOLAWAY GENERAL PURPOSE BUILDINGS ARE NOW GENERAL PRACTICE







Top Left: Additional Class Rooms-Weirfield School, Taunton.
Centre: Workshop-Littlesea Camp, Weymouth.
Bottom Left: Offices-Canteen-Salisbury Mathine Tools (Letchworth) Ltd.
Bottom Right: Scout Headquarters-Weymouth.
W/12

The reasons are simple

QUICK CONSTRUCTION LOW COST MINIMUM MAINTENANCE MAXIMUM DURABILITY

Woolaway T-Panel general purpose concrete buildings are being erected in increasing numbers all over the country. They are used as workshops and stores; office blocks and canteens; classrooms and village halls and for many other purposes.

Built with exceptional speed by the comprehensive Woolaway erection service, they represent the best value for money obtainable, since their cost is low and their maintenance negligible.

They are available in three standard spans of 16ft. 6in., 18ft. or 25ft. 6in. and in any length. There are two standard eaves heights of 6ft. 8in. and 8ft. 6in. T-Panel cladding can now be supplied with attractive exposed aggregate finishes.

Specialising in rapid erection service; full particulars, prices and delivery dates gladly sent on application to:

WOOLAWAY CONSTRUCTIONS LIMITED

Small Buildings Division

24 West Bay Works · Bridport · Dorset · Telephone: Bridport 2327





JAMES COMBE & SON LTD.

ENGINEERS

103, NORTH HANOVER ST. GLASGOW

ESTABLISHED 1840

Tel.: DOUglas 3837-8 Grams: "WARMTH, GLASGOW"

Visitors' waiting room, Vale of Leven hospital Specialists in

Specialists in

CONTRACTORS TO

HEATING BY LOW PRESSURE AND HIGH PRESSURE HOT WATER AND STEAM SOLID FUEL, OIL AND GAS INSTALLATIONS HOT AND COLD WATER SERVICES GAS, OIL AND COMPRESSED AIR PIPELINES VENTILATION AND AIR CONDITIONING OXY-ACETYLENE WELDING AND BURNING EQUIPMENT GENERAL ENGINEERING

RECENT CONTRACTS

INTERNATIONAL BUSINESS MACHINES LTD : KODAK LTD.
IMPERIAL CHEMICAL INDUSTRIES LTD. : SCOTTISH GAS BOARD
PRUDENTIAL ASSURANCE COY. LTD.

GLASGOW: LONDON: DUNDEE

VALE OF LEVEN HOSPITAL

Architects: John Keppie & Henderson & J. L. Gleave

50 YEARS SERVICE AS CRAFTSMEN IN JOINER WORK

> JOHN COCHRANE & CO. LTD.

> > JOINERY CONTRACTORS

TOWNHEAD WRIGHT WORKS, 70, DOBBIE'S LOAN, GLASGOW, C.4

Telephones: Bell 3328/9

LIGHTPROOF BLINDS

FOR HOSPITALS, UNIVERSITIES, SCHOOLS, ETC.

BRYDEN'S patent lightproof blinds have been chosen for the new Vale of Leven Hospital, Dumbarton. Fitted in many of the leading hospitals and clinics in the Country.

Hand or electrically operated.

HAND POWER LIFTS

FOR HOTELS, CANTEENS, CLUBS, ETC.

BRYDEN'S lifts have been giving satisfaction for over a century and have been installed in the new Vale of Leven Hospital.

Self-sustaining winding gear.

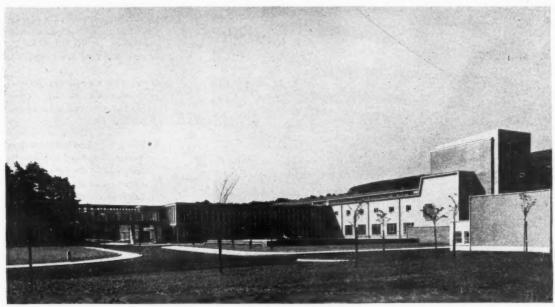
JOHN BRYDEN & SONS LTD.
[63 WEST REGENT ST., GLASGOW C.2
TEL. DOU. 1060

Manufacturers of all types of Window Blinds, Roller Shutters, Shop Sunshades, etc.

Agents for Kirsch 'Sunaire' Venetian Blinds

VALE OF LEVEN HOSPITAL, DUNBARTONSHIRE

Arch'tects: John Keppie and Henderson and J. L. Gleave.



Main Contractors:

Angus M. MacDougall & Co. Ltd.

DAVAAR STREET, GLASGOW, S. E.

Telephone: BRIdgeton 2313/4

VALE OF LEVEN HOSPITAL
ALEXANDRIA

CORK TILING

BY

KORKOID DECORATIVE FLOORS

GLASGOW, C. 2.



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

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

METSEC BUILDINGS

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



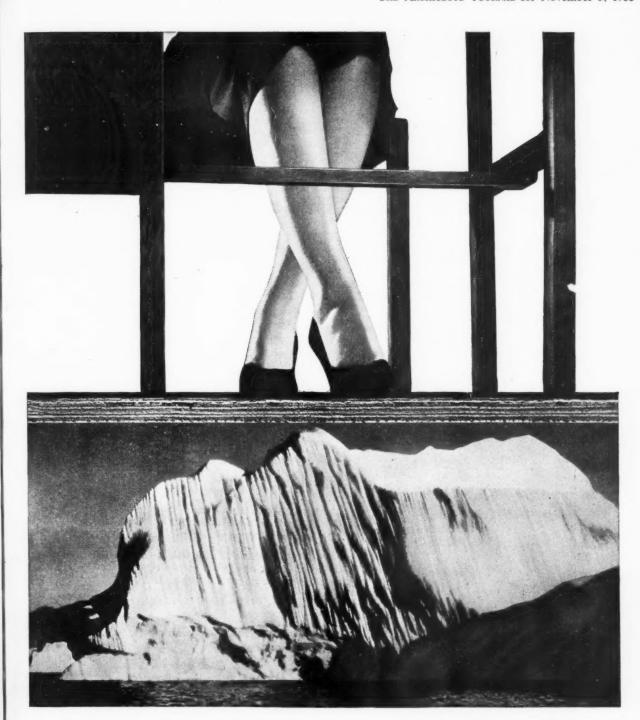


Send for this NEW CATALOGUE AJ, giving complete details and specification of Metsec Buildings. METAL SECTIONS LTD.

OLDBURY

BIRMINGHAM





How **CATESBYS** lino cured cold feet

TD.

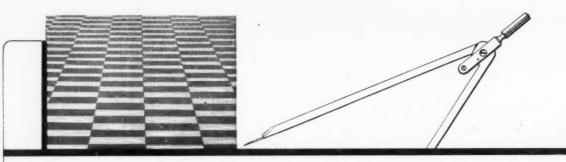
Somebody rang Catesbys recently to covering was solved by a rather special say that a refrigeration plant on the floor below was making life pretty chilly for the people in the offices above. Could Catesbys, as floor covering specialists, do anything about it?

Catesbys could and did.

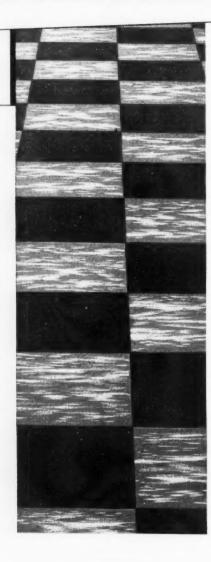
Our craftsmen fitted a thick cork carpet for insulation and heavy-weight Lino on top for wear. The difficult problem of fixing so thick a TOTTENHAM COURT RD . LONDON . WI . MUSEUM 7777

Catesby method-born out of 60 years experience in lino. Now the office is not only cosy and quiet, but remarkably comfy underfoot. Which only goes to show what Catesbys—and Lino-can do for you.

Catesbys Linoleum Contracts



Fundamental Facts





'PLASVIC' is a registered Trade Mark

If you are faced with the problem of deciding on a suitable floor covering for an important industrial client, your problem may be solved by De La Rue 'Plasvic' Floor Tiles. Their hard-wearing qualities and relatively low cost will appeal to the economist, their colours to the artist and their acid-resistance to the chemist. 'Plasvic' Floor Tiles have been found to meet most of the needs of industrial and commercial users. These (to mention only a few) include hospitals, laboratories, factories, stores, shops, cinemas, schools and power stations.

These are the advantages...

LONGER LIFE. 'Plasvic' Tiles retain their hard-wearing decorative quality indefinitely without danger of cracking.

GREATER RESILIENCE. 'Plasvic' Tiles are very flexible and will not chip or craze even if subjected to heavy blows. The surface recovers after varying weight loads.

MORE HYGIENIC. 'Plasvic' Tiles are manufactured with such precision that dirt traps caused by gaps between the tiles are eliminated. Tiles are proof against rot and termites.

FIRE RESISTANCE. 'Plasvic' Tiles do not support combustion and are self-extinguishing.

STAIN RESISTANCE. 'Plasvic' Tiles are unaffected by water, oils, fats, etc., and are proof against common acids and alkalis.

NEXT It

next

ence

'Va

that

beca

whic

and

year'

the

tect's

No

tradi

cated

asthe

SERIES F11. (Motor Showroom) combines these features with additional resistance against staining from motor car tyres.

EASY, INEXPENSIVE MAINTENANCE. 'Plasvic' Tiles are comfortable and quiet underfoot, yet they are tough and long-wearing and require the minimum of maintenance. They can be cleaned with a wet or dry mop and will take a wax floor polish if desired.

EASIER INSTALLATION. 'Plasvic' Tiles can be laid on most types of sub-floors. In the case of sub-floors laid direct to earth, an adequate damp course must be provided. 'Plasvic' Tiles, being extremely flexible, can be easily radiused to form coves and can be cut into motifs and patterns.

FOR FULL INFORMATION AND LEAFLETS WRITE TO: DE LA RUE FLOORS & FURNISHINGS LIMITED, DEPT. F.T.2. IMPERIAL HOUSE, 84-86 REGENT ST., W.I. TEL: REGENT 2901



THE ARCHITECTS' JOURNAL

EDITORIAL BOARD: (1) Consulting Editor, F. R. Yerbury, O.B.E., Hon. A.R.I.B.A. (2) House Editor, J. M. Richards, A.R.I.B.A. (3) Executive Editor, D. A. C. A. Boyne. (4) Editor Information Sheets, Cotterell Butler, A.R.I.B.A. (5) Editorial Director, H. de C. Hastings.

GUEST EDITORS (COSTS): (6) N. Stanley Farrow, M.B.E., M.I.O.B.; A. W. Cleeve Barr, A.R.I.B.A.; James Nisbet, A.R.I.C.S.; Ivan Tomlin, A.I.B.E.; E. F. L. Brech, B.A., B.SC.(ECON.), M.I.I.A.

TECHNICAL EDITOR: (7) Lance Wright, A.R.I.B.A.

SPECIALIST EDITORS*: (8) Planning (9) Practice (10) Surveying and Specification (11)

Materials (12) General Construction (13) Structural Engineering (14) Sound Insulation and Acoustics (15) Heating and Ventilation (16) Lighting (17) Sanitation (18) Legal.

Assistant Editors: (19) Chief Assistant Editor, Kenneth J. Robinson. (20) Assistant Editor (Buildings), L. F. R. Jones. (21) Assistant Editor (Production), W. Slack. (22) Assistant Editor (Information Sheets), V. A. Groom. (23) Assistant Editor (Costs), J. Carter, A.R.I.B.A. (24) Photographic Department, H. de Burgh Galwey, W. J. Toomey. (25) Editorial Secretary, Monica Craig.

* To preserve freedom of criticism these editors, as leaders in their respective fields, remain anonymous.

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

No. 3166 November 3, 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.; carriage, 1s. extra.



NEXT YEAR'S CONFERENCE

It is rumoured that the subject for next year's British Architects' Conference, to be held at Norwich, will be Value for money." ASTRAGAL hopes that the rumour will be confirmed, because this is one of the subjects which are officially the most neglected, and it is a worthy successor to this year's subject "The organization of the building industry and the architect's responsibilities."

No doubt it is partly snobbery, partly tradition, and partly inability, inculcated in the first place by the architectural schools, that the better-i.e., asthetically more refined—architect is not to be expected to be able to control or be interested in costs. The other extreme is the commercial, or business-man architect, who sacrifices architecture for his and his client's pocket.

The true professional man should, ideally, strike a balance between æsthetic, functional and financial considerations. The trouble is that the architect has to learn this most important aspect "in the field." He receives no training in the most complex subject of economics, or of job administration, as a student, which is the best time to establish the right approach to the subject.

If any reader now points out that the majority of our great architectural masterpieces were uneconomic and broke the client, ASTRAGAL'S reply is that architectural standards changed. In the Western World, at any rate, the architectural standards of monarchies, oligarchies, and totalitarian countries no longer apply. We must stop being escapist, and give people what they need at a price they can afford.

Yes, value for money is just the subject for 1956, bearing in mind the Budget.

THE BUDGET

Whether the state of the country really demands extra taxes ASTRAGAL cannot pretend to know, but a series of arbitrary jumps in all purchase tax rates suggests that nothing has been very carefully thought out. If, for instance, the domestic fire is inefficient and smoke-producing (and anyone who has

tried to buy smokeless fuels knows there are not enough to go round), why increase the tax on gas- and electricfires? Whatever their income, people must still cook and have some form of heating, and it does not make sense to tax essentials which are needed in all new houses.

The cuts in housing subsidies will obviously please the private enterprise builders, whose work will have to be more shoddy if prices are to be kept

Now turn to page 583.

PORTUGAL COMES TO LONDON

Except that one would have liked it to be twice as big, there is nothing to complain about in the magnificent Portuguese exhibition at the Royal Academy. Our oldest ally has done us proud, and has staged an exhibition of Portuguese art-treasures such as has not yet been seen even in Portugal, and from the heart-stopping crucifix by an unknown mediæval carver which greets you as you enter Gallery One, to the painted coaches from the famous Museu dos Coches in Lisbon in the Central Hall, it's all good, all curiously Portuguese in flavour, full of a sense of not being quite in the European tradition as we have come to understand it. One suspects that the Portuguese might feel the same about English art, too.

One room is devoted to photographs of architecture, and here, especially, one wishes that there were more, much more to see. For such buildings as are shown are extraordinary and intriguing













Overleaf are two pictures which contradict a Manchester Guardian correspondent's assertion that the Soviet style of architecture has not reached Peking. Above are some more of Peking's new buildings: top, traditional roofs on new blocks beside the Peihai Park; left, the Chinese People's Political Assembly Hall; centre, the Tungjen Hospital; right, a children's hospital.

-some, being almost straight English Perpendicular, intriguing in an obvious way; some, like the tiny Byzantine chapel of Sao Fructuose outside Braga, in a baffling way, because they defy all the canons of probability for seventh century building outside Italy; and some in all ways, like the exquisite and tiny Renaissance church of the Conception at Tomar, because they appear to be mislaid masterpieces that ought to figure in the standard histories. In any case, the date of the church at Tomar-1501-taken with the purity of its Florentine interior, puts its architect, Torralva, a long jump ahead of his French contemporaries, and even some Italians.

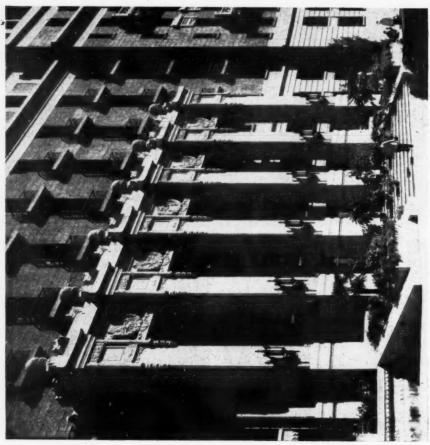
STORM OVER COLORADO

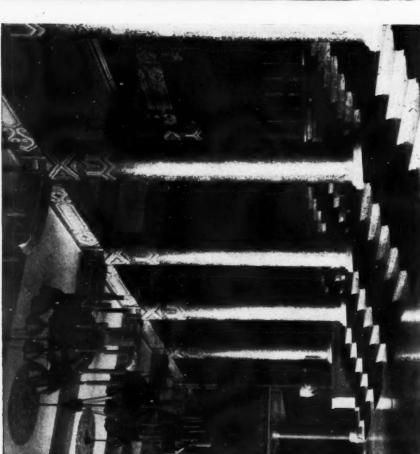
The storm which has blown up over the proposed US Air Force Academy project threatens to be a major architectural cause célèbre. It all began back in May when Secretary of the Air Force Talbott unveiled, so to speak, models of the proposed scheme at the Colorado Springs Fine Art Centre. To appreciate fully the heat of the ensuing brawl one must understand the importance of this project. For this is to the new all supreme US Air Force what Annapolis is to the Navy and Westpoint to the Army, and must be seen to be as significant in its way as were Versailles or Greenwich Hospital, in their day.

ASTRAGAL notes wryly that the academy is intended to be built at Colorado Springs, reputed to be the only spot in the US outside bombing range and for long the depository of national treasures and wealthy widows. The scheme was designed by Skidmore, Owings and Merrill, who are now so famous that they are known by the abbreviations S.O.M. The row was precipitated by a series of letters to the architectural press from veteran Frank Lloyd Wright, who, it now appears, had intended preparing a scheme, in conjunction with others, under the name of Kittyhawk Associates.

A year ago Wright withdrew because of the attitude of the American Legion which threatened to oppose any scheme connected with Wright, in view of his anti-war record. Apart from the understandable bitterness of one of the two greatest living architects possibly witnessing his last chance of building a major monument in his own country damned by the traditional philistine stupidity of the American Legion in such matters, there would really appear to be little connection between that and Wright's very strong letters to the press opposing the S.O.M. project. However, the disclosure that Wright was a competitor is clearly being used as part of the general smear campaign.

Wright in his best manner, but in what must seem to English architects an outrageously unprofessional one, attacks S.O.M.'s scheme as "Talbott's aviary," "a factory for bird men," "a violation of nature," and writes of the chapel for which the architects modestly said another year's study would be required, "I suggest ten more and then throw it away." All this internecine squabbling between architects has given a major opportunity for other vested interests to step in and create havoc, as might be expected. The design is a recognizable and worthy product from the S.O.M. stables, with plenty of glass and steel. It has therefore been attacked on the surface by the anti-modernist congressional lobbies as "alien, Euro-





Thought Moscow What

housing blocks—also shown on ASTRAGAL's page. But she points out that the traditional roof—" the eye rejoices to see it "—is " expensive and time-consuming, and is only this hotel, but also the People's Assembly Hall, shown in ASTRAGAL's illustration augur well for Chinese architecture; nothing could be more ridiculous than the more obvious of traditional Oriental motifs jammed on to contemporary buildings-nothing on page 581. She did not, however, miss the traditional roofs perched on undistinguished being discouraged now except for buildings of special significance." That that is except the more obvious of traditional Soviet motifs. week we agreed, on this page, with that city's views (or the views of its Guardian) on Would it be impertinent to correct what Manchester was thinking yesterday? Last some new school buildings in Cambridge, so perhaps we may be forgiven for publishing the above photographs—of a new hotel in Peking—in flat contradiction to a statement

" There are no signs as yet," wrote "that the wedding-cake architecture of the Soviet Pavilion in Peking Lena Jeger, M.P., "that the wedding-cake architecture of the Soviet Pavillon in Peking is influencing the Chinese." It is surprising that Miss Jeger, whose comments on Chinese architecture appeared in a "Letter from Peking," should have overlooked not made the other day by a Guardian correspondent.

tion hap Flor Edv

pean and un-American," but below the surface are quite clearly visible the interests of the brick and stone industries and unions.

So one finds the extraordinary situation where the American Legion, that arch-guardian of Americanism, is supporting or rather accepting a so-called "alien design" rather than see the most American of architects have anything to do with this new US Val-The outcome appears to be inevitable, as always when such a situation is allowed to get out of hand and politics interfere, namely, a com-Skidmore, Owings and Merrill are already incorporating large quantities of marble, stone and brick into their design and one can be almost certain that even if the original project was not as fine as Wright could have made it, the final buildings will be just the old, old story.

FORTY-FOUR MORE SHOPPING DAYS

The pocket furniture guide to pretty well end pocket furniture guides has appeared over the Pelican imprintinevitably, one supposes—in the form of Ralph Fastnedge's English Furniture Styles.* This snug opuscule of 320 packed pages and over 160 illustrations gives the field of furniture from 1500 to 1830 as thorough a treatment as it can ever hope to receive at the price-or even ten times the price-and anybody whose business or pleasure takes them within sight of antique furniture should make strenuous efforts to have it given to them for Christmas.

A thought, though. Like all good books on furniture, this one dries up at ASTRAGAL is not complaining about this in the present instance because he still thinks that Fastnedge offers fantastic value for money, but isn't it time we broke through the timebarrier and forgot an earlier generation's conviction that nothing good happened in Victoria's reign? As Peter Floud's monumental Victorian and Edwardian exhibition at the V & A three years ago made abundantly clear, there was plenty of nineteenth century furniture which remains good by the standards of the twentieth and can stand comparison with the eighteenth.

ASTRAGAL

English Furniture Styles, 1500-1830, by Ralph Fastnedge, Pelican Books, 5s.

£1000 RESEARCH FELLOWSHIP: Readers are reminded that the last date for the receipt of applications for the AJ Research Fellowship is Monday November 14-in just over a week's time. The membership of the Research Board, under whose direction the successful candidate will work, the details of the subject for study, and the reasons for the choice of subject, were all described in the Journal of October 13. The advertisement appears once again on page c of this week's issue. We should like to remind readers that the important subject for study is: "Information for the architect: what does he need and where will it come from?"

The Editors

IMPLICATIONS OF THE BUDGET

T F Mr. Butler cannot promise any results from his budget it is certain that the JOURNAL cannot. For some time now everyone has been expecting cuts in capital expenditure and reduced subsidies to local authorities. Nevertheless when the announcements were made they came as a shock. In one way the cuts are a good thing. The building industry has been overloaded. Building materials have been in short supply, particularly steel, and both builders and architects have been short of staff. The result, as usual, is skimped work and inefficiency. The application of a brake may give architects, clients and builders time to think and organize. Inevitably the cry will go up of unemployment, of the danger of "working yourself out of a job." While the country's economy is sound there need be no such worry. The hints of a recession in building found on the Continent need not be feared here for a simple reason: this country was the first to be industrialized, we must carry a bigger burden of out-of-date uneconomic building than there is on the Continent. Roads, railways, canals, docks, industrial building and industrial housing—all are due for renewal in large part. And renewal is essential for the success of trade. The building industry can be certain that it will be used to the limit that the nation can afford. The industry must improve its efficiency so that it is relatively so inexpensive it is bound to be used.

The cut in housing subsidies (not for slum replacement and for housing for new and expanded towns) from $f_{,22}$ to $f_{,10}$ (and their eventual abolition) is another matter. We commented on the issues in our leading article of October 6. Briefly, our argument was that no reform in subsidies and rents could be carried out fairly unless it was based on knowledge obtained from a national enquiry. We are not convinced

that the Government has that knowledge.

Most people agree, save possibly where it affects themselves, that those who can afford to pay an economic rent should not be subsidised. It is possible that many local authorities will endeavour, as a result of the abolition of the statutory obligation, to pay a part of the rates into the housing revenue account, to adopt what Mr. Sandys calls "realistic rent policies."

The Government policy for the young family in need of a house, which cannot go to a new town and does not live in a slum, seems to be one of persuading them, if the local authority will not subsidize them from its rates, to buy their own house. With the increase in loan charges, speculative builders will only be able to build houses cheap enough for such a family to afford by reducing standards. Spec. standards are low enough. Does the Government wish to drive them lower?

ADVISORY SERVICE FOR BUILDERS

The advisory service which the builders decided to set up with the American Conditional Aid money offered to them, is now open (see page 585). In future if a builder wants to get more out of his mechanical plant, make his estimating more realistic or improve his contract planning and site organization, he can call upon the new service.

This news must be added to those other signs that keep cropping up: The apprenticeship scheme, the management courses at Brixton, the startling changes in the methods of the top few firms and the collaboration of nine of the bigger contractors in a joint management course. Just as functionalism in design awakened among architects in the early thirties, so its counterpart—a functionalism of method—seems now to be starting among builders. So, even if the most frequent question the service has to answer is-" How do we get the drawings out of the architect?"—the new service should be welcomed and given every support by the profession.

Unquestionably, it will have an uphill task among established builders who have grown accustomed to accepted methods; for good organization is not so much an alternative way of doing things as the fruit of an analytical and functional approach, which is difficult to learn in middle life. short term use of the American money should therefore be consolidated with a large long term investment in the training of a new kind of supervisory level-men with a background of full-time technical training, in closer touch with ideas of architects and engineers, and with organizational techniques.



Competitions Not Out-Dated SIR,—With reference to ASTRAGAL'S comment upon the Aldwych Site Competition given in the issue of the ARCHITECTS' Stanley W. Milburn, F.R.I.B.A.

Richard Llewelyn Davies, A.R.I.B.A. Director, Division for Architectural Studies, The Nuffield Foundation

"Horse Slaughterer."

JOURNAL for October 6, indicating that he considered the competition system is on its way out now. Whilst agreeing that the final result is unfortunate, I would like to stress that, in my opinion, under no other system could such a fine design as that produced by Mr. Tait have been obtained. The difficulty in regard to competitions and architect's work in general arises, I think, through lack of appreciation of architecture by the client, and the unfortunate result of this competi-tion lies, I consider, largely at the door of public relations and not the competition system. Improvements will no doubt be made

from time to time in the regulation of competitions, but I hope that the system will continue for many years to produce the fine and inspiring developments in modern architecture such as are displayed in Mr. Tait's winning design.

STANLEY W. MILBURN.

Sunderland.

Why Didn't ASTRAGAL Start a Fight?

SIR,—Are architects too idle, or too shy, to discuss the principles of their art? I had expected a brisk reaction to Leslie Martin's fascinating and important talk on Mondriaan in the Third Programme last month. True to form, ASTRAGAL came in (A.J., Sept. 15) with an alert comment, which by its very wrongheadedness should have been just the thing to start a fight; instead we have had dead silence. This will not do; the issues are too important to be passed over, particularly just now when design is evolving so fast.

My own view, like Martin's, is that we can

learn from Mondriaan just because he excluded everything but related form and colour from his painting. If you reject Mondriaan and Mies Van der Rohe, you are rejecting all classical design from the Parthenon to Palladio at the same time.

RICHARD LLEWELYN DAVIES.

Fo a i

alı

He

pi

Aristotelian Or Platonist: Which Are You?

The letter published on October 13 from P. W. Lucey, was not so lucid as Mr. Lucey would like to think.

Basically, architects can be divided into two categories:

1. The Aristotelians, the free enterprisers,

who believe in an independent art and an independent architectural profession, and 2. The Platonists, the followers of the State or the Local "State" Council, who believe that the State is more important than the individual (architect) and/or are working to that end.

According to Mr. Lucey, many in category

(2) aspire to category (1).
What he objects to is those in category (1) wishing to invoke some Platonic regulations in order to preserve the independence of the profession, themselves and the future of Mr. Lucey. Which seems odd.

Lucey. Which seems odd.

If many Platonists aspire to be Aristotelians as Mr. Lucey suggests it is equivalent to saying that they wish to become what the Aristotelians wish to preserve. If this is so, then what Mr. Lucey (like many others) is prepared to do, is to trade his professional future (to which he aspires) for his own short-term personal advantage.

That is: like many similar thinkers, he believes in professional suicide. The freedom to use his own time as he thinks fit.

dom to use his own time as he thinks fit, is no more nor less than freedom to strangle himself by slow degrees.

Poaching is only an effect. What is the

cause?

If Mr. Lucey and his like had their wish they would be in private practice, and those there already would stay—if there was enough private work to go round. Why is there not enough to go round? Because the Platonists have a monopoly of a large part

of the pool or available work.

If Mr. Lucey and other Platonists wishes to instil a little "healthy" (?) competition into private practice, might it not be fair for private practitioners to wish to instil competition into the monopolist work carried out by the State and the other organ-

ized bodies. Has anyone tried it?
Is not this a matter for the Monopolies
Commission? I commend a little "masterly
activity" in this field to Mr. Lucey.

"HORSE SLAUGHTERER."



MOHLG

omwill the

Mr.

art

shy.

had rtin's iaan True . 15) very t the

had ssues parlving

can

and eject

you the ne. ES.

t:

r 13

Mr.

isers. d an

rking

egory ry (1) tions of the f Mr.

elians nt to t the is so, rs) is

ional

own s,

frees fit,

angle s the

those was hy is se the part

vishes

tition fair instil car-organ-

polies

sterly

R."

b State

N.

Housing Subsidies Cut

For a year or two the government is to pay a much reduced annual subsidy of £10 for each house (instead of about £22) built by local authorities. Eventually subsidies will be removed.

Subsidies will not be altered for houses

already built.

When Duncan Sandy's, the Minister of Housing, gave this news last week, he said that in New Towns and in over-spill areas the subsidy would be increased to £24.

The Minister's proposals are discussed on page 582.

page 583.

LCC

Dr. Martin's Deputy

Dr. J. L. Martin, architect to the LCC, is to have a deputy—F. G. West, aged 45, at present senior architect in charge of the general division of the Council's architects

department.

Before Mr. West took over his present job, some twenty months ago, he had been the LCC's assistant schools architect since December 1950. He has also been an MCC area architect, and has spent nine years in

private practice as a qualified assistant. His salary will be £2,750, rising biennially by £250 to £3,250.

NFBTE

Advisory Service for the Building Industry

If builders want advice about site organiza-If builders want advice about site organization, incentive schemes or better estimating they can now go to the new advisory service set up by the NFBTE. It is financed by a grant received from American Conditional Aid funds, but fees for advice will be charged so that the service becomes self-supporting. The Committee of Management includes Sir Hugh Beaver, Sir Richard Coppock, Stephen Hudson, Norman Longley and J. W. Train. The chairman is G. W. Grosvenor (past President of the NFBTE) and the MOW are to be represented at meetings.

and the MOW are to be single and the MOW are to the service is provided by a staff of management specialists under C. A. Francis, F.I.I. Tech., all of whom have experience of the building industry, and is available to all builders whether or not they are members of the Federation. Special attention will be given to the small- and medium-sized builder. These are the problems on which

the service will advise: Work Study, Incentives, Materials handling, Programming, Mechanisation, Costing, Office organisation, Personnel administration. The staff of a builder using the service will be guided to continue the techniques introduced by the advisory officers advisory officers.

RIBA

Contract Revision: Ideas from Architects Welcomed

Have you any suggestions for changes in the RIBA Standard Form of Building Contract? If so, you are invited to send them to The Joint Secretaries, The Joint Contracts Tribunal, 66, Portland Place, W.1, by February 29, 1956. The Tribunal will work on a revision of the Contract Form early in the year.

year.

The bodies represented on the Joint Contracts Tribunal are: the RIBA, the NFBTE,

the RICS, the Association of Municipal Cor-porations, the County Councils' Association, the LCC, the Urban District Councils' Association and the Rural District Councils' Association.

ABT

Too Little Money for Architects

A senior architect today is getting £600 a year less than he should.

That is what the general secretary of the ABT says in a leader in the current issue of his association's publication, Keystone.

He points out that under one of the ABT's 1937 agreements a senior architect received £700 per annum. If increases of the same percentage as the increases in the cost of living had been given, the same man would now be getting £1,750 per annum. In fact, he gets only £1,150. At the other end of



A model of one of the eleven-storey blocks, which form part of the LCC's Picton Street scheme now under construction. Ever since 1953, when it was first mosted, this scheme has been anxiously watched by all who, like the JOURNAL, have pinned great hopes on the idea of architects and contractors getting together at the design stage. The LCC have departed, just this once, from the traditional tendering system, and have appointed a Nominated Contractor. The scheme was divided into two parts to enable either party to back out mid-way if they so wished: but its success is now so far assured that both have committed themselves to the second part. Next week we shall publish a technical report on the scheme. (Designed by Architect to the Council: Dr. J. L. Martin.)

the scale, a young architectural or surveying assistant who, in 1937, received just a little less than a building craftsman, now gets £87 or more a year less.

These examples are typical of the trend ever since the beginning of the war," says

Mr. Shrosbree.

Action by the Government to stabilize prices and deal with the cost of living would certainly have the approval of all the ABT members, he says, but if this was conditional upon their accepting restraint or freezing of their wage claims it would most definitely be unacceptable to them.

LIGHTING

Architects' Conferences

The first of a series of conferences on elec-The first of a series of conferences on electric lighting arranged for architects was held at the ELMA Lighting Service Bureau, 2, Savoy Hill, W.C.2, on Thursday, October 20. The lecturer was A. D. S. Atkinson, technical editor of the Lighting Service Bureau, and his subject was "The Use and Abuse of Modern Electric Lamps." Abuse of Modern Electric Lamps.

The lecture included a brief review of fila-ment lamps, some attractive demonstrations the colour-rendering properties of hot cathode fluorescent lamps, a brief reference to sodium and industrial mercury vapour lamps, and a plea for architects not to forget the importance of positioning lamps

for ease of maintenance.

In the time available Mr. Atkinson gave a persuasive and interesting lecture, but one could have wished that he had included more detailed comparative information on the characteristics of the various lamps now available. Possibly this arose from a reluctance to burden his audience with too much technical data or the expectation that a lively discussion would bring out points of

The discussion was opened by Michael Patrick, principal of the AA school, and ranged over questions of comfort in relation to fluorescent lamps, capital costs and main-

tenance.

Symposium on "Vehicles in Housing Areas"

Members and probationary members of the AA can attend a symposium on "The Prob-lem of Vehicles in Housing Areas," at 36, Bedford Square, W.C.1, for £1 1s, per head (excluding lunch), on November 16. Papers to be read at the meeting (from 10 a.m. to 5.30 p.m.) will be circulated in

advance.

They will be as follows:

Iney will be as tollows:

Engineering and Traffic Implications; Use of Car or Public Transport, by Colin Buchanan; Sociological Considerations, by Miss M. B. Willis; Architectural Implications, Particularly Concerning New Towns, by Lionel Brett; Management and Financial Petury: Maintenance: Administration, etc. Return; Maintenance; Administration, etc., by C. H. Dodson; Architectural Implications, Particularly Concerning Medium and High Density Housing, by A. G. Sheppard Fidler.

MOW

Building Costs: Discussion on Better Organization

What builders call "labour problems" dominated exchanges between the floor and the platform at a discussion on "Reducing Building Costs by Better Organization" at the Building Centre on October 18. In the chair was G. W. Grosvenor, past president of the NFBTE and with him, R. W. Wates, J. H.

Mills, president of the NFBTO and C. A. Francis who is to run the new NFBTE ad-

visory service on management.
R. W. Wates said that the more carefully the contract is planned, the more capable the agent must be, that planned progress should be linked with incentive schemes and both should be clearly explained to the men. He began his talk with a promise not to blame the architect (a promise which the whole meeting kept) and ended with a plea for an improved costing system—"Costing should be dynamic, not historic."

J. H. Mills called for a reduction in the number (40,000, he said) of building firms of one or two men and drew attention to the problems of "what jobs should be done by which men" set by new materials and methods. "Do employers" he asked ironically, "want to do away with craftsmen and have us all 'operatives' instead?"

C. A. Francis explained that work study was fundamentally a matter of asking the following questions: what, why, when, how and how much—in respect of, say, the movements of a bricklayer. On bonus schemes he said that targets should be set for short periods (not more than a week), for small gangs (even for one man), payment small gangs (even for one man), payment should be prompt and that every job, even sweeping up, should be bonused. Men should be able to earn not less than about 30 per cent. over the basic rate. (7 to 10 per cent. is not an uncommon figure.) Mr. Francis concluded that organization and management should have equal place with technical studies in schools of building.

Points from the discussion: To solve the problem of seasonal and casual work, the industry must know its task for 20 years ahead. The agent or general foreman should be relieved of much of his clerical work (taking off quantities for ordering, etc.) by head office, and spend most of his time on daily and weekly planning and control of operations. Flat rate bonuses increase the cost of building. There is too much variation between incentive schemes on different sites. Site meetings should be a regular and more seriously regarded feature of the running of contracts.

It was a great pity that no one mentioned the architects—that no one felt they could help the industry to settle its problems.

Economy in the Use of Cement

A total of 3,630 tons of cement was saved on MOW sites in the placing of 124,482 cubic yards of concrete on 70 sites during the year ended April 30, last. This economy was achieved by having concrete placed according to guaranteed strength specifications and mix design methods used by the Ministry instead of in the manner that earlier standard specifications would have required. Altogether 117 different concrete mixes were required and on all but six sites these were designed at the contractors' request by the Ministry's engineers. The Ministry would like to see more contractors designing these mixes themselves to suit materials locally available.

The new guaranteed strength standards call for compaction by high frequency vibration for all quality-controlled concrete. It has been noted with satisfaction that contractors are tending to use vibration even when this is not specified. For compacting thin slabs in contact with the ground the most suitable process seems to be the vibrating roller. The Ministry hopes to extend the use of its specification for consolidation of this kind. Formerly this technique was practised only on roads; now it nique was practised only on roads; now it is being adopted for floors. The Ministry has acquired an ultra-sonic instrument, such as has already been applied satisfactorily in steel work, for testing the strength and

quality of concrete after it has been placed. The instrument is being used on sites of different types so that its potentialities may be explored.

Two films on the design of concrete mixes and vibrated concrete have recently been made by the Ministry under the Conditional Aid Programme, and it is hoped that they will soon be available to local associations, supervising grades, and operatives. The titles of the films, each of which runs for approximately 10 minutes, are:

Designing a Concrete Mix (Illustrates a selection of aggregates, tests, and trial

mixes to determine the most suitable mix

for a required strength).

Vibrated Concrete on a Building Site (Shows new ways of achieving economies in labour, materials, and shuttering. An immersion vibrator and a power float are seen at work).

Information on the possibility of seeing these films locally can be obtained from the Regional Technical Information Officer at the nearest Ministry of Works Regional

LMBA

Education for Management

The LMBA's anual Education Conference is to be held this year in Apothecaries' Hall, Blackfriars Lane, E.C.4, and the Minister of Education, Sir David Eccles, has agreed to open it. It takes place on the afternoon of Friday, November 11.

As craft apprenticeship has been very fully

considered at previous conferences, it has been decided that the theme of the conference this year will be Education for Management. H. J. Shelley, Chief Inspector for Technical Education at the MOE, is to give a short address on the National Certificate and Diploma Scheme, and D. A. G. Reid, Principal of Brixton School of Building, is speak on the Sandwich Course

BATH

Assembly Rooms Reconstruction by the PRA

Bath's Assembly Rooms, which were bailts Assembly Rooms, which were blitzed in 1942, are now being rebuilt by the National Trust. When completed they will be exactly as John Wood designed them in 1769-71.

The work, which will cost £300,000, is being done under the direction of Professor A. E. Richardson.

DIART

Efficiency of Fluorescent Lamps. Talk by F. Jackson, R. Molloy and F. Scott. IES meeting at the Lighting Service Bureau, 2, Savoy Hill, W.C.2. 6 p.m.

NOVEMBER 8

White Lead and Magnet: a White Lead Paint. Films by Associated Lead Manufac-turers Ltd. At the BC, 26, Store Street, W.C.1. 12.45 p.m. NOVEMBER 9

Design of Helicopter Operating Sites. Lecture by H. T. Hough (City Engineer and Surveyor, Liverpool). At the Royal Aero-nautical Society, 4, Hamilton Place, W.I. NOVEMBER 11 6 p.m.

RICS Presidential Address. By W. R. Brackett, O.B.E. At the RICS, 12, Great George Street, S.W.1. 5.30 p.m.

NOVEMBER 14

HOSPITAL

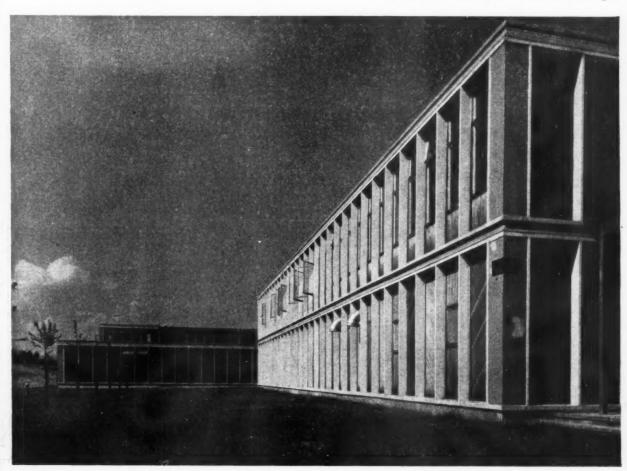
at ALEXANDRIA, DUMBARTONSHIRE
designed by J. L. GLEAVE of JOHN KEPPIE and HENDERSON and J. L. GLEAVE
chief assistant (now partner) T. R. SCOTT

assistant architects, I. J. PLENDERLEATH and J. P. BOYS
in conjunction with FORBES MURISON and R. T. CUNNINGHAM
chief architect and deputy chief architect, Western Regional Hospital Board,
and J. H. DAVIDSON, Department of Health for Scotland,
consulting engineers (structural) GEORGE DAVIE, CRAWFORD and PARTNERS
(heating, ventilating and electrical) IAN HUNTER and PARTNERS

quantity surveyors A. L. CURRIE and BROWN

The Vale of Leven hospital, Dumbartonshire, is the first completely new hospital to be finished in Britain since the war. In its present form it is a general hospital of 150 beds, but in emergency with little alteration, apart from a change of use of certain rooms, 280 beds can be accommodated. The laboratory, laundry, and administration accommodation are for Area use, and are therefore larger than is usual for a hospital of this size. The general contractor was Angus M. MacDougall & Co. Ltd. of Glasgow. For sub-contractors see page 612.

View from the south. The theatre block is on the right.



ixes een onal hey ons,

for

ced.

es a trial mix Site nies An

eing the r at

ent
ce is
lall,
r of
l to
n of

ully has iferfanfor give cate leid, g, is at

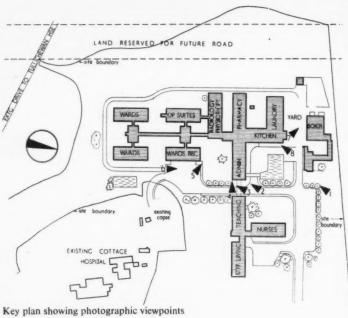
on-

t by they gned), is of

k by IES reau, ER 8

sites.
and
eroW.1.
R 11

R. R. Great

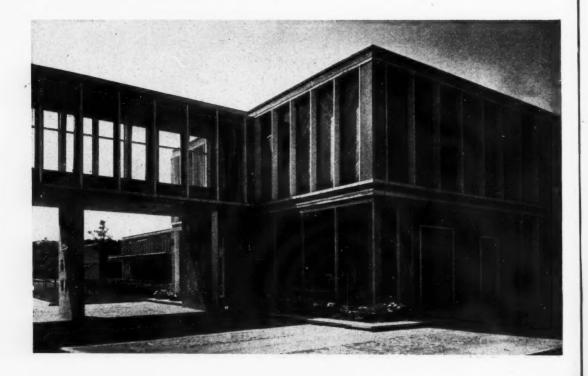


HOSPITAL IN DUMBARTONSHIRE

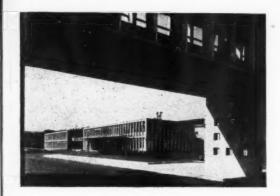
Left: the hospital, in a sheltered valley near Loch Lomond, is planned on two storeys. The ward units and other departments except kitchens, stores, and boilerhouse, are all standard-size (100 ft. × 40 ft.) rectangular blocks linked by an irregularly shaped services distribution building. The long axis of this follows the line of the valley, roughly north/south; planning convenience has taken preference over aspect and orientation where the two have been in conflict. The views obtained from the site are very good in every direction. On the plans, pages 590 and 591, the black lines show the brick-built distribution buildings and the fine double lines show the standard "accommodation units," steel framed, with prefabricated wall units. A 3 ft. 4 in. planning grid has been used in these buildings.

Below (viewpoint I): general view of the hospital as seen by a visitor approaching from the north. On the right is the service end of the "spine" corridor. Visitors and patients pass under the bridge on the left to the main hospital entrance, and all supplies are taken into the service entrance under the tower on the right. On the extreme right is the curved wall on the end of the mortuary block. The brickwork generally has a rough-cast finish, the facing bricks on the tower are golden brown Accrington-Nori and parts of the tower are faced with fluted asbestos cement sheets. Bottom: (viewpoint 2): the bridge connecting the administration unit (on the right) to the nurses' home. Under the bridge can be seen the canopy over the main entrance.









all

he

h/

er

ct.

ry

es

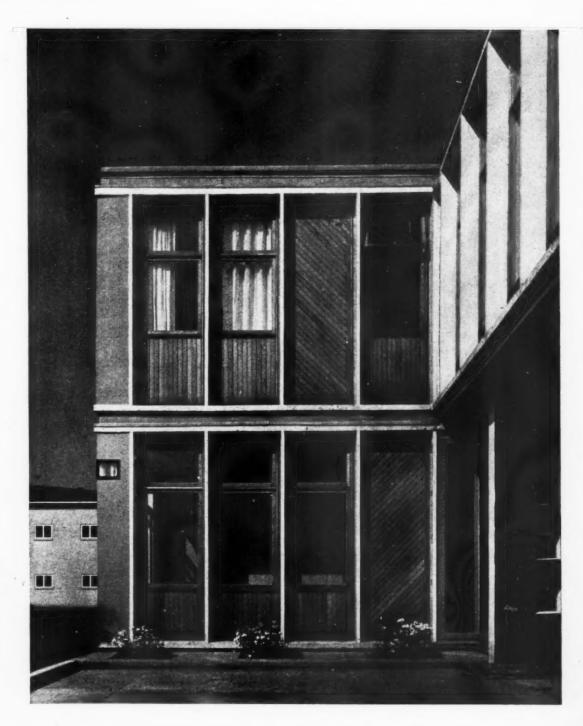
ole

eel

by

he ats ce, he all lly are int he en

Left (viewpoint 3): the entrance unit. This contains reception for in-patients and a small out-patient department. The construction of the walls of these units willbe shown as a Working Detail in a later issue. Although the external walls are planned on a 3-ft. 4-in. grid the units for the differing accommodation do not vary in size. While the overall dimensions are satisfactory for many of the departments, in others, notably the theatre suite and the nurses' home, they do not appear to have fitted so comfortably, but this, of course, must be set against the value of future interdepartmental flexibility. Below (viewpoint 4): close-up of the standard units. The boarding is Western Red Cedar. Five standard infilling panels are used. No formal pattern of windows is evident: elevations are given order only by strongly accented and regularly spaced concrete mullions.



KEY: to Ground Floor Plan

I. Wards

5901

- 2. Sitting, dining rm, visitors
- Sister and prep. rm
- 4. Sluice
- 5. Bath
- Ward kitchen
- Ward linen
- 8. Air treatment rm
- Operating theatre hall
- Sterilizing rm
- 11. Operating theatre
- 12. Nurses' changing rm 13. Doctors'
- Anaesthetising rm
- 15. Scrubbing-up rm
- 16. Plaster rm
- Bandage rm
- 18. Splint rm
- 19. Store
- 20. Prep. rm
- 21. Social worker
- 22. Consulting rm
- 23. Waiting space
- 24. Records
- 25. In-patients' reception
- 26. Treatment rm
- Reception office
- 28. Visitors' rm
- 29. Cubicles
- 30. Radiographer
- 31. Film store
- 32. X-ray
- 33. Viewing and reporting

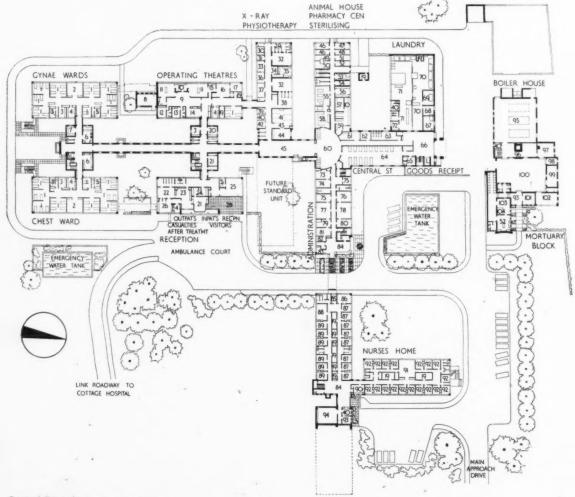
- 34. Wet viewing
- 35. Developing rm
- Radiologist
- 37. Emergency X-ray 38. Patients' waiting rm
- Wax rm 39.
- 40. Office 41. Treatment cubicles
- 42. Sunlight room
- Physiotherapy 44. Gymnasium
- 45. Lobby
- 46. Infected animals
- 47. Food store
- 48. Quarantine
- 49. Cage disinfecting 50. Cage washing
- 51. Normal animal house
- 52. Post-mortem rm
- 53. Cylinder store
- 54. Spirit store
- 55. Central sterilizing rm
- Bulk store 56.
- 57. Drug store 58. Central syringe
- 59 Pharmacy
- 60. Central supply
- 61. Hospital linen
- 62. Sewing rm
- 63. Women staff cloaks
- 64. Central stores
- 65. Male staff cloaks
- 66. Goods receipt hall
- 67. Infected work
- 68. Disinfected work
- 69. Foul wash house

- 70. Sorting and washing bay
- 71, Finishing and packing
- 72. Staff dispatch rm
- 73. Asst. matron
- 74 Marron
- 75. Typists
- Secretary
- 77. Accounts dept
- 78. Board rm. audit, waiting
- 79. Accountant
- 80. Medical supp.
- 81. Wages dept. 82. Cashier
- 83. Porter
- 84. Entrance hall 85. Kitchen
- 86. Domestic staff sitting
- 87. Domastic
- 88. Sisters' sitting rm
- Sisters' bedroom
- 90. Kitchen laundry
- 91. Nurses' sitting rm
- Nurses' bedroom 93. Visitors
- 94. Games rm
- 95. Boiler house
- Plant rm
- 97. Stand-by diesel
- 98. Hospital switch rm
- Transformer
- 100. Service yard
- 101. Chapel
- 102. Workshop
- 103. Mortuary
- 104. Chill rm

HOSPITAL IN DUMBARTONSHIRE

The plan of the hospital shows how the "spine" acts as a distribution channel from the service departments and general goods entrance at the north end to the wards and theatres spaced out along its length. This directional aspect of the plan is indicated externally by the shape of the lift and water tower over the main goods supply entrance, which "points" towards the wards. (Views 1 and 8.) On the plan it is apparent in the semi-circular wall of the central supplies hall, with its many doors and hatches leading to the service departments, such as central stores, pharmacy, and the central syringe department. This expression contrasts sharply with the directness with which other parts of the building are handled. The structure of the standard units is designed to take a third floor if necessary, and the ancillary departments (X-ray, pharmacy, kitchens, etc.) have been designed to provide for the possible increase in the bed complement.

F



KEY: to First Floor Plan

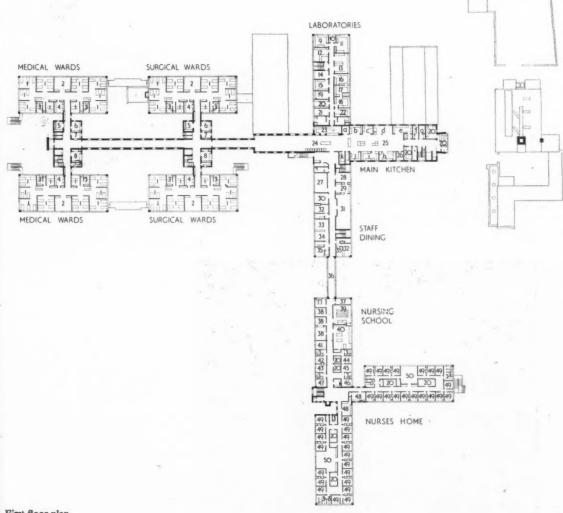
- I. Wards
- 2. Visitors' sitting and dining hall
- 3. Bathroom
- 4. Sluice
- 5. Ward linen
- Clinical rm
- 7. Trollery dressing rm
- 8. Ward kitchen
- 9. Histology lab.
- 10. Balance rm
- 11. Biochemistry rm
- 12. Receipts and dispatch
- office
- 13. Main lab.
- 14. Pathological office
- 16. Bacteriological lab.
- 17. Media rm

- 18. Sterilizing rm 19. Refrigerators and deep freeze
- 20. Store 21. Technicians rm
- 22. Wash rm
- 23. Canteen dish washing
- 24. Service area
- 25. Kitchen
 - (a) Trolley washing
 - (b) Pot washing
 - (c) Fish preparation (d) Boilers and steamers
 - (e) Vegetable prepara-
 - tion (f) Butchers
 - (g) Cold rm
 - (h) Pastry
 - (i) Diet kitchen
 - (j) Cutting and plating
 - (k) Crockery
- 26. Office
- 27. Out-door staff dining rm

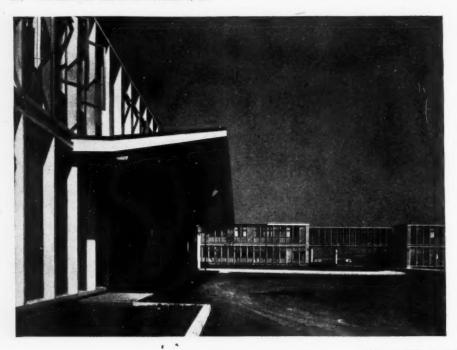
- 28. Domestic staff dining rm
- 29. Service rm
- 30. Doctors' dining rm
- 31. Sisters' and nurses' rm 32. Doctors' bed sitting rm
- 33. Matrons' bedrm
- " sit rm 34.
- 35. Bedroom
- 36. Connecting bridge
- 37. Staff rm
- 38. Study rm
- 39. Lecture rm 40. Demonstration rm
- 41. Sister tutor
- 42. Night supt.
- 43. Domestic supt. 44. Asst. matron
- 45. Kitchen supt.
- 46. Laundry 47. Home warden
- 48. Laundry and kitchen
- 49. Nurses' rms
- 50. Sitting rm



External glass-enclosed stair (viewpoint 5): On the right is the administration unit, with staff dining room on the first floor. The small windows in the services "spine" in the background give light to the service corridor. This has been designed to contrast effectively with the more transparent ward units.

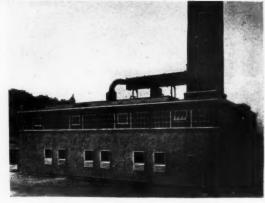






HOSPITAL IN DUMBARTONSHIRE

Above (viewpoint 6): the main entrance from the south. Right (viewpoint 7): the boiler house. Below (viewpoint 8): the supplies end of the services "spine." The tower accommodates the tanks and lift motors. The services "spine" is 3 storeys high. The basement contains service runs and the disposal corridor, the ground floor is for general communication, and the first floor is used only for food circulation. This layering of the hospital circulation reduces congestion at busy periods of the day. Visitors and patients use the ground floor only.

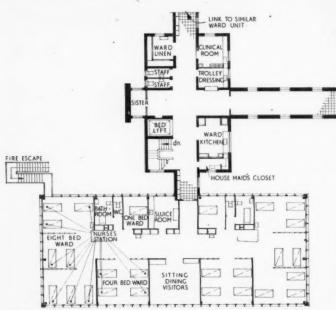






Above and below: interiors of a typical ward. Acoustic tiles are provided over the corridor area; the cork or semastic floor tiles are finished with a plastic sealer. Radiators and piping are exposed at the perimeter of the ward under the windows. Each patient has a reading light under his personal control, and the general lighting is from large opal fittings close to the ceiling.





Typical ward unit [Scale: 11" = 1'0"]

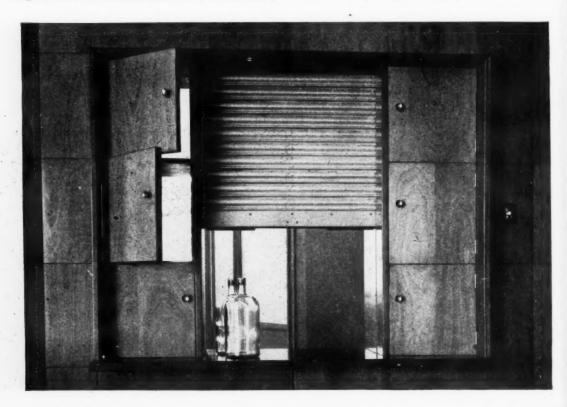
HOSPITAL IN DUMBARTONSHIRE

Above right: a patients' dayroom in a ward unit, open to the corridor on one side for easy supervision. Where an early ambulation regime is practised many patients in this room might still be in a weak state, and therefore this room needs

Left: each ward unit consists of two standard building units housing 52 beds, and a link unit which straddles the service distribution "spine." To shorten nurses' journeys about the wards, most of the ancillary rooms, as well as a bed-lift and stair are provided in the link block, and the beds, patients' baths and dayrooms are concentrated in the standard building units on either side. The wards themselves provide 25 beds each in a comparatively small area arranged for easy night supervision from the nurses' stations. Due to the division of space by glazed screens the wards do not seem cramped, and there are no dark areas at the centres of the blocks. The staffing of these ward units will differ from the normal provision. In traditional wards a sister has about 28 to 30 beds under her control; the Nuffield Hospitals Research Team has recently suggested one sister and a deputy to 64-80 beds. The wards at Alexandria, with 52 beds, fall between these figures, but if necessary the units can be separately administered by two sisters, each having 26 beds and sharing some of the ancillary rooms.



constant supervision. Normal domestic furniture is used here to get away from "hospital atmosphere." Below: one of the hatches in the central supplies hall. This is typical of the high standard of joinery throughout the hospital.

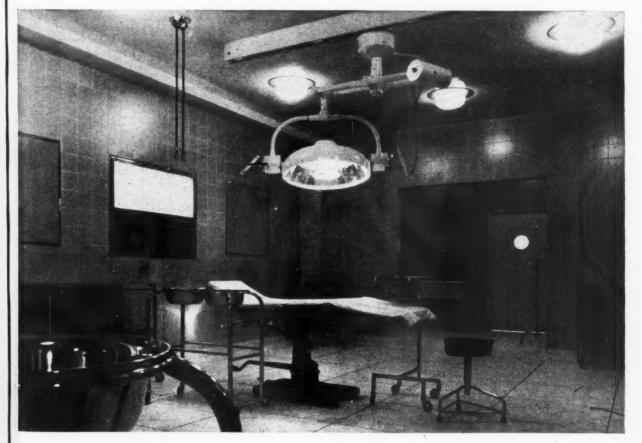




Above: the central supplies hall. The doors and hatches open into the central syringe and sterilizing department, the pharmacy, and linen and central stores departments. The absence of absorbent materials here, and in the service corridors, owing to economy, gives rise to a certain amount of reverberation. Below: an operating theatre. The two tubes hanging from the ceiling near the head of the

the nd its' ard ide asy the em the the 3 to rch -80 een ely ing

ere the igh table deliver oxygen and nitrous oxide for anaesthesia. Through the doorway is a scrub-up room with the door to the plaster room beyond. Small windows, used only for lighting when the theatre suite is being cleaned, are shuttered during operations. They can be seen on either side of the X-ray viewing screen on the left. The windows are not used for ventilation, and the operating suite is air conditioned.







Above: the outpatients' consulting room. The door on the right leads to four changing cubicles. Left: the main hospital kitchen. This is designed for a bed complement of 600, four times the existing number of beds in the hospital, in case of emergency. Below: interior of the bridge connecting the administration unit to the nurses' home.



CLIENT'S BRIEF: his stated requirements

An emergency project that would serve as a general hospital for Dumbartonshire and Argyllshire. The programme required accommodation for 150 beds, but at emergency spacing the wards will take up to 280. The ancillary accommodation is larger than usual for this size of hospital as there are two operating theatres, each of which can take two tables in

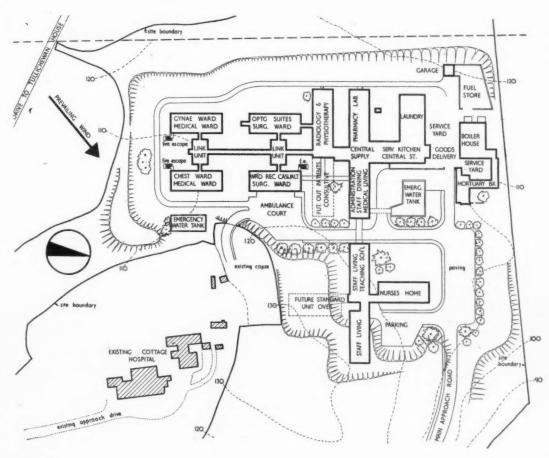
emergency; the kitchen is equipped to provide meals for 600; the laboratory and laundry are for Area use and administration accommodates the local board of management offices. An analysis of the hospital requirements was made, and this was based upon research into such matters as (a) planning for economy of staffing and general maintenance; (b) the maximum reduction of walking distances and services, and (c) the study of flexibility to allow for future changes.

Study was also given to standardization of structure to facilitate pre-ordering, pre-site fabrication and to allow for speedy and economical erection.

SITE: topography, surroundings, access, planting

The site of the hospital is a small sheltered valley at the south of Loch Lomond. There are fairly high hills to the west and south of the site, the direction of the Clyde and industrial areas. There are low hills to the east but it is fairly

open to the north, giving a view of Loch Lomond and Ben Lomond from the main approach road and forecourt to the hospital. The site before development was agricultural land. New planting has been restricted to the planting of young trees, the seeding of grass areas, hedges and shrubs about the main entrance, nurses' home entrance and main hospital drive and approach road. The area of the site is 9.25 acres.



Site plan

PLAN: general appreciation

In planning the hospital, two major decisions regarding general policy of hospital design were accepted. The first decision was that it was better to build a low rather than a multi-storey hospital to ensure that the buildings were sheltered by the surrounding hills from winds and rainstorms. While it was always the aim to reduce internal distances to a minimum, the low buildings give dispersal and would allow

adequate light, air and shelter to be available to the blocks if they were raised to their maximum three storeys in height. The second decision was that although the north-south axis of the hospital gives east and west orientation to the long sides of the wards, it was better that where opposition of requirements arose, aspect and orientation of wards should be sacrificed to obtain compactness in planning. The requirements asked for pointed to the two different plan elements used: (a) the communication link (finalized and permanent); (b) the accommodation groups (flexible). Hence the adoption of the idea that each department might be a multiple of a standard unit, the fundamental of the standard unit being that it can be built at first 1, 2 or 3 units high without change to the structure or foundations.

on the nospital to, four in case ing the

The Alexandria design, therefore, has developed to be a stem of finalized structure feeding groups of standard flexible units for each hospital department, with the number of standard units used for each group expanding or contracting according to the day-to-day relative importance of the departments. A single department may fill one or more units, but in all cases more units can be placed on the ground adjacent to a department or on top of existing units. Further research into planning, etc., led to the appreciation of the over-riding need for extreme structural flexibility in this or any hospital, especially in the accommodation units or standard units as they are called. The design, in consequence, is based on the contrast between the solid traditional services structure and the light prefabricated accommodation units.

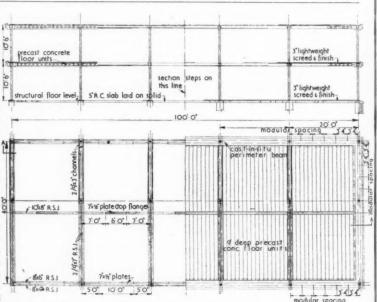
The backbone of the hospital is the main services spine, running north to south, three storeys in height. (a) The basement corridor is a walking duct containing all main pipe runs exposed for easy inspection and considered as a "soiled duct" as it is used for movement of incinerator rubbish. ward kitchen refuse, soiled linen, mortuary access, etc., so that there is no horizontalmovement of soiled trolleys at ground floor level. (b) The ground floor corridor is the "main

street" of the hospital for general communication between all departments and central supply. (c) The first floor corridor is for food service only. The basement and first floor corridors are restricted to staff use only, which means that visitors and patients use only the ground floor corridor for horizontal circulation, which makes their supervision more simple.

The main spine is rather like a line diagram even as built. Working from north to south in one straight line all initial services-gas, water, electricity and drainage outfall-link up with the extreme north end.

MAIN CONSTRUCTION: general appreciation

The standard building units are each 100 ft. × 40 ft. and are built on a steel frame with reinforced concrete floors and roofs. The stanchions are at 20-ft. centres on the long axis, but laterally the certre row is displaced 3 ft. 4 in. as 12 it was found that this made the planning of various types of accommodation within the standard overall dimensions easier. The external i walls run past the outer row of stanchions and modular continuity is completed by a precast concrete corner piece mastering the corner stanchion. Perimeter beams at roof and first floor level are of in situ concrete and the slabs are formed of 9-in. precast concrete hollow beams. Precast vibrated concrete mullions are inserted between the in situ perimeter beams at 3-ft. 4-in. centres and are then grouted in. The mullions are wide enough on their inside face to take the thickness of a partition (moler block, plastered both sides) and are rebated to receive the prefabricated wall panels. The panels are faced with Western Red cedar diagonal boarding and are lined with a sandwich of 1-in, bitumen bonded glass silk between plywood and insulating board. A 1-in, air space is provided behind the external seal. The wall panels are of six types providing various arrangements of fixed and opening lights or solid wall as required.



boarding and the panel incorporates a vapour Plan at first floor level of standard unit and section A-A [Scale: 1/3" = 1'0"]

MAIN CONSTRUCTION

Load bearing element	Locatio	n	Beam spans		Column grid	Reasons
Steel frame	accomn	ndard units known as nodation units, which ft. × 40 ft. × 10 ft. igh		nultiples of odule on which	20 ft. (multiples of 3 ft. 4 in. module)	
Loadbearing brickwork		orridor spine and its connecting stan- nits				Selected for communicating links due to reasonably permanent nature of the accommodation provided
Steel frame	Kitche boilerh	n, laundry and ouse	*			
Foundation type	6	Location		Sub-soil		Depth
Reinforced concrete piers of concrete foundations	n mass	All standard units		sand-stone, gra	cology of the site was red overly firm clay and stones with sam under the surface. A	Approximately 4 ft. below existing ground level
Reinforced concrete raft		In an area where a was encountered us			n layer of clay and stone was a depth of 4 ft. generally	
*		standard unit. This local nature	was of a	came directly	In most cases the gravel bed under the soft clay at a depth t. and 5 ft. For loadbearing	
Strip foundations		Communicating lini bearing brickwork	ks with load-		he site was considered fit to bearing pressure of 2 tons per	

sq. ft.

Outer wall type Location Materials Finish Prefabricated assembly panels. External wall cladding to all standard 1 in. t & g western red cedar vertical Oiled (Five standard types were boarding on building paper and fabricated) insulating board and I in. bitumenbonded glass wool with an air space 11-in. brick and 151-in. brick In main services spine, i.e. the stem of Common brickwork in part for harling, Harled and painted and load-bearing cavity walls finalised structure and in the link units. and Accrington Nori-golden brown Accrington facings The mortuary, post-mortem room and facings ancillary buildings Non-loadbearing cavity The kitchen and laundry which are Common brickwork Harled and painted brickwork Spandrel infill The boiler house which is steel framed Common brickwork Cement rendered internally. and thus spandrel infill allows for Fair-faced externally entry and erection of a future third boiler Sealed and painted 14-in, concrete walls Below ground in the main services Concrete spine, i.e. in the walking pipe duct Asbestos cladding Water tank tower and lift motor rooms Asbestos cement fluted sheeting Roof type Location Materials Finish All standard units 9-in. deep precast concrete hollow beams, 3-ply roofing felt with mineral spanning 19 ft. 3 in. surface finish as screed Pitched Staff cottages Pantiles on battens on felt on sarking Pantiles Flat Laundry 5-ft. prestressed precast hollow beams 3-ply roofing felt as before Flat Main corridor and link unit. Boiler 5-ft. reinforced concrete on 2-in. wood wool 3-ply roofing felt as before house and ancillaries as permanent shuttering Floor structure type Location Solid Laundry, boiler house, garage Minimum 4-in. hardcore 3-in. blinding con-Granolithic generally and granand post mortem crete asphalt d.p.c. concrete of various wood in laundry dry area and thicknesses, depending on conditions with terrazzo in post mortem nominal reinforcement specially strengthened under plant in laundry and boiler house where required Suspended precast hollow All standard units 5-in. precast hollow beams. 3-in. screed and Cork and thermoplastic tile in finish approximately, on ground floor, and wards and nurses' home. Terrazzo 9-in. precast hollow beams with 11-in. lightin operating theatre suite and animal house weight screed and 11-in. sand/cement screed and finish, on the first floor and roof Suspended r.c. in situ All link units and main corridor, 5-in. concrete floors on 2-in. wood wool Thermoplastic tiles, and quarry kitchen block and nurses' home tiles in kitchen permanent shuttering Suspended floor with wood Staff cottages Softwood joists Softwood t & g flooring ioists Internal wall type Location Materials Finish Moler block (lightweight Internal partitions on all upper floors at or near Lightweight concrete Plastered both sides building type) mid span Brickwork and breeze load-Internal partitions in link units, kitchen, stores, Plastered both sides bearing and non-loadbearing pharmacy, laboratory, etc. Glazed screens with panel infill Offices and corridors, and teaching school Painted Stove enamelled finish Insulated cork screens Ward screens Softwood framed partitions Ward unit corridor fitment Timber Clear plastic finish to beech used forming ducts Joiner built-in fittings between Nurses' home wardrobe fittings Painted rooms Ceiling type Framed plywood panels Painted gloss finish V-jointed panels fixed to suspended Operating theatres' hall to conceal air-ducting framing Painted eggshell finish Underside of all concrete hollow beams in Plaster Plaster on concrete. Soffit of precast standard units beams

ply.

vice

are

that

loor

akes

h in

ater,

with

ting

Ceiling type continued Location Finish Material Plaster on wood wool slab. Soffit of Underside of all wood wool acting as shuttering Plaster Painted eggshell finish reinforced concrete in situ. Floors to reinforced concrete in situ floors and roofs and roofs Perforated acoustic panels fixed Ward corridor and administration office Sound absorbing panels Painted eggshell finish direct to plaster corridor Perforated acoustic panels suspended Administration entrance hall Sound absorbing panels Colour washed on framing Exposed concrete beams Boiler house Reinforced concrete in situ roof with temporary shuttering

ARTIFICIAL LIGHTING

Source and fitting type Location Illumination level Mains, AC All conduits are concealed in floor, walls and ceiling Tungsten throughout General throughout ELMA recommended (values throughout) Fluorescent Laboratories Individual bed light Ward bed light Flexibility of lay-out for lighting and ease of access through crawling ducts, and Low level ward night lighting Ward units vertical cupboard ducts Special lanterns on 3-in, steel poles and box fittings in corner of buildings Roadway lighting Wiring and switching types Location Reasons and comments Heavy gauge conduit with PVC circuit wiring General Ease of access, flexibility Dual underfloor ducting in 2-in. × 2-in. trunking for LV Used in wards Paper insulated lead sheathed cables on perforated tray Main distribution Three panel oil circuit breaker board and 500 kVA transformer Power supply type How distributed 13-amp. Exclusively throughout hospital Low voltage inspection socket in ducts and motor rooms. Can also operate one lift and At each bed 2-amp. essential motors Diesel set started by mains failure provides Emergency supply standby lighting throughout

ELECTRICAL: MISCELLANEOUS

Call system and radio	Location	Comments
Luminous call and two programme radio	At all beds	
Radio only	Kitchen, laundry and sewing room	
Signals	Location	Comments
Five colour	Throughout, usually adjacent to clocks	Controlled by telephone operators
Clocks	Location	Comments
Master clocks with 30-second impulse "slaves"	Throughout	
1-second impulse " slaves "	Operating suite	
Telephones	Location	Comments
Automatic exchange and 60 extensions	Throughout building	
Coin boxes	Nurses' home and visitors' waiting room	
Fire alarms	Location	Comments
Closed circuit battery operated sectionalized system	Throughout	Fire escape lights switched on when alarm is

given

NATURAL LIGHTING

Wall glazing	Location	Reasons and comments
Continuous wall glazing and clerestorey	Laundry	To provide even distribution of daylight in working areas.
Metal casements	Boiler house, laundry, central stores, mortuary	Normal daylight standards
Wood casements	Corridors (circulation) and link units	Hole-in-wall type adequate in stem of finalised structure
Glass brick	Staircase window	
Prefabricated assembly panels	All standard units comprising large proportion of hospital	A maximum amount of light required in accommodation units but can be controlled or altered by interchanging panel types
Roof glazing	Location	Reasons and comments
Saucer domes 60-in. diameter (permanent ventilation type)	Kitchen roof	Good overhead lighting for cooking bays in kitchen, and to leave outer walls clear of low level glazing which would interfere with kitcher
*	*	equipment. Elimination of glare and in addition provides an even daylight factor

THERMAL INSULATION

walls

nd ease

n is

Type	Location	U-value	Comments
Wood-wool	All roofs of communication links with in situ concrete floors and roofs	0.53	
$\frac{1}{2}\text{-in.}$ fibre board in assembly panels, and 1-in. bitumen bonded mat	In all standard units assembly panels	0.122	" U " value calculated for assembly panel

Heat exchanger type	Location	Criteria temperatures and air changes per hour	Reasons and comments
CI radiators (hospital type) CI radiant panels with MS front plates	Generally Operating theatre suite	As tabulated in "The Computation of Heat Requirements for Buildings" published by the Institution of	currents which could occur with normal
flush with walls or ceilings Concealed convectors with fresh air and recirculated air inlets	and laboratory Animal house	Heating and Ventilating Engineers	radiators. Radiant ceiling panels in laboratory because of wall space largely taken up with permanent laboratory fitments. Cabinet heater rooms to pro-
Cabinet heater units (fan operated type) with fresh air (dust filter connected) and recirculated air inlets	X-Ray rooms		vide required high air change rate. Cabinet heater units with recirculated air inlets only in entrance halls, etc., because of restricted wall space. CI radiators elsewhere because of good
Cabinet heater units (fan operated type) with recirculated air inlets only	Entrance halls, etc.		general distribution of heat, easy access for control and cleaning and low cost. Thermostatic control of radiator circuits by 3-way mixing valves controlling flow water temperature in relation to external temperatures. Thermostatic control of cabinet heater units by internal thermo- stats operating on fan controls
Boiler type and capacity		R	easons for choice
Horizontal cylindrical multi-tubular MS draught, operating at a working pressur coking type coal stokers. Each boiler rat Sunk receiving coal hopper external to l run overhead in boiler house to high lev mechanical stokers	e of 105 lb. per sq. in. and ted at 10,200 lb., of steam p boiler house and mechanics	installed with mechanical get per hour, 212° F. st al coal conveyor from bunker st here coal gravitates into the	team boilers necessary because, although eneral heating is by hot water, a direct earn demand exists throughout the year for erilizing equipment, laundry and cooking quipment. Type of boiler chosen because of igh overall efficiency

		+		
Water heater type	Loc	ation	Reasons for choice	
For heating system, five in number (one of which is a standby), steam to water calorifiers, each rated at 1,000,000 B.Th.U. per h		ntral plant m	Steam available fro steam boiler referr	om general requirements red to above
Hot water storage type	Location	Mater	als	Capacity
Four in number (one of which is primarily for use of the central group laundry and one acting as a standby), steam to water storage calorifiers	Central plant room		r shell and heating y. CI steam chest	1,000 gallons each

6021

Pipes and jointing types

Steam and heating piping of mild steel of gauges'suitable for the various working pressures, with wrought iron, mild steel and malleable cast fittings as required. Joints welded or screwed according to circumstances. Condensate, hot and cold water piping of copper of gauges to suit the various working pressures with gunmetal fittings. Joints bronze welded or compression type according to circumstances

Location

Mains and branch mains in central basement duct and below floors. Branches generally at skirting level

Cold water storage

Tank room

Elevated over main axis of

hospital

Materials

Galvanized pressed steel, bolted sectional

Capacity

Approximately 25,000 gallons construction with central division

Mechanical ventilation

Mechanical air supply and exhaust systems. Air supply filtered, heated and humidified. Relationship between supply and exhaust systems arranged to ensure a higher static air pressure within the operating theatre suite than that outside to obviate infiltration of untreated air

Operating theatre

Location

chanical warm air supply with dust filters and mechanical exhaust

X-ray rooms Animal house

Warmed air supply and mechanical exhaust

Sterilizing rooms, main

Mechanical exhaust

kitchen and fume cupboards

SPECIAL ACOUSTICAL TREATMENT

Sound absorption material

Absorption coefficient Comments

Acoustic tiles, grade C.1

Ward ceilings in all-standard units

0.55

Ceiling absorbent is related to activity in the treated area and the function

Administration entrance hall Administration office corridors

Sound insulation

Location

Insulation standard

Comments

In all floors of standard units

Laid in accordance with BRS Digest No. 19 covering sound transmission reduction through concrete floors

Good standard of sound insulation required between wards (vertically)

SOIL WASTE

for soil and storm water

Cork flooring (in ward floors)

Type of system

Separate system to main sewer

Location hospital

Materials CI and fireclay Methods and comments

CI under roads and buildings and for all long horizontal internal runs in laboratory

Main site drainage also takes adjoining existing cottage hospital

Drain types

Fireclay and CI Dilution type for acid collection to laboratory wastes

Location

CI within building. Laboratory syringe dept.

General throughout the

Materials

Chemical lead and fireclay receivers

Method and comments

To suit by-laws for the area (most vertical pipes in ducts). Chemical lead and fireclay receivers for acid resisting

Drainwater disposal type

Copper gutters and r.w.p.

In-Situ concrete gutters

Roof sumps

Location

Generally throughout

Materials

Comments

Standard units (wards only) Lead sumps CI pipes

Copper and CI r.w.p.

In standard units which have connecting link unit Separate system for rainwater disposal

Lifts type

bed lifts

Capacity speed Two electrically-operated

Relation to traffic circulation

basement

Situated in link unit between wards and

Motor room position

One electrically-operated goods lift

1,500 lb., 55 ft. per min. 2,250 lb., 55 ft. per min.

adjacent to the main spine corridor Situated adjacent to kitchen and terminating in goods receipt hall on ground floor and in

Directly above lift shaft forming penthouse in conjunction with a structure housing small storage tank (cold water)

One electrically-operated

400 lb., 55 ft. per min., self-levelling type

Nurses' home entrance hall at a central point

Apparatus, sprinklers, etc.

linen lift Three rubbish hoists

Hand operated

In ward kitchens in the link units between

FIRE

Structural precautions, grade of protection

Structural floors are protected with vermiculite type screed and concrete. Non-inflammable finish to beech woodwork in ward units

Hose reels. Fire warning bells. Five hydrants. Extinguishers (hand type) in laboratories, operating theatres, boiler house, main kitchen, etc.

ment ly

15

in board

n the

ont

tage

ducts).

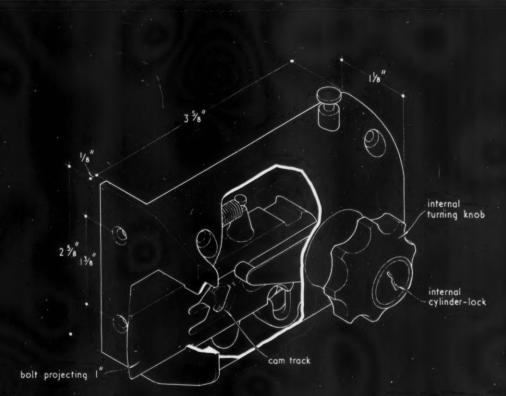
unit

ming ith a age

.

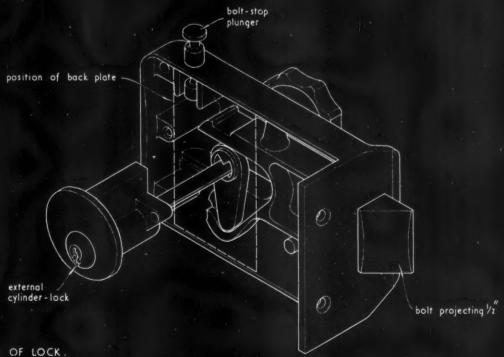


The Architects' Journal Library of Information Sheets 543. Editor: Cotterell Butler, A.R.J.B.A.



INTERNAL VIEW OF LOCK (SENIOR MODEL).

note: the Standard model is identical in design and specification to the Seniar model except that it does not include the internal cylinderlock.



REVERSE VIEW OF LOCK.

44.J2 · REM · SECURITY LOCK

This Sheet describes the Rem security lock which, owing to its design principle, has several positive advantages over the conventional types of lock, combining as it does the convenience of a rim lock with the safety of a dead lock. The lock is approved by the L.C.C. and other authorities.

There are two models available, Senior and Standard.

The design of the lock utilises the constant mesh cam and cam track principle, which is used in many forms of precision engineering, e.g., gunnery, aeroengineering, etc., but has not been previously applied to lock-making. There are only three moving components. The controlling cam track is cast into the lock bolt, making it possible to provide a far greater bolt projection than is usual in locks of this type.

There are three positions that the bolt of the lock

can take up:

1. Every time the door is closed the bolt automatically shoots forward to the full projection of 1 in. and is deadlocked. It can be withdrawn by turning the knob on the inside of the door or by the use of the key on the outside. When the bolt is in this position all components are free from any tensional or other stress loading.

2. When operated by the internal turning knob or outside key mechanism, the bolt projects ½ in., as with an ordinary night latch, but automatically returns to the fully-extended position when the door

is closed.

3. The bolt may be held in the fully-withdrawn position by depressing the bolt-stop plunger.

With the Senior model only, a second cylinder type mechanism is housed in the internal knob and operated by the same key as the external cylinder. By turning the key in this before leaving the premises, it is possible to lock the bolt in the fully-extended position so that it cannot be withdrawn by turning the knob from inside the door. This means that no one can gain entry by breaking a pane of glass or cutting a hole in a wood panel, as the lock cannot be opened from either side of the door. The use of the knob mechanism does not interfere in any way with the normal operation of the lock and the door can still be opened by the key from the outside. In addition it is not possible to turn the lock by forcing the cylinder ring on the exterior of the door, as the back plate fits into the actual lock casing and cannot be twisted so as to shear its gimp pins and allow the cylinder to move round.

A hole 11 in. in diameter is drilled on a centre line 2% in. from the edge of the door. The cylinder is then fitted into the hole from the outside in such a position that when the key is inserted into the lock its notches are pointing upwards. The back plate is fitted on to the cylinder with the connecting screws which should be cut if they are found to be too long. The back plate is fastened to the door with gimp pins. The door should be rebated to take the bolt end of the lock casing which should be flush with the edge. The casing is fixed with wood screws. The staple is fixed to the jamb in a similar manner.

All lock casings are bronze-finished. Exposed parts of the external cylinder lock may be finished in bronze, chrome or brass as desired.

Further Information

All locks are sold under guarantee. The Standard model is particularly suited for master and submaster control.

Compiled from information supplied by:

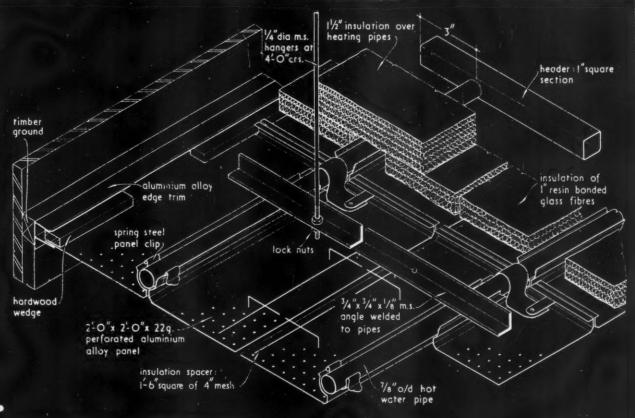
Remploy Limited

Address: 25-28, Buckingham Gate, London, S.W.1. Telephone: Victoria 6621.

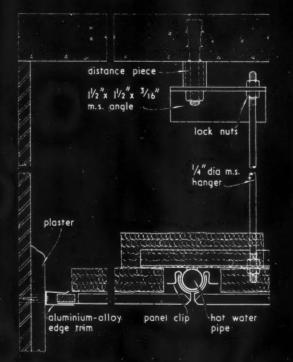




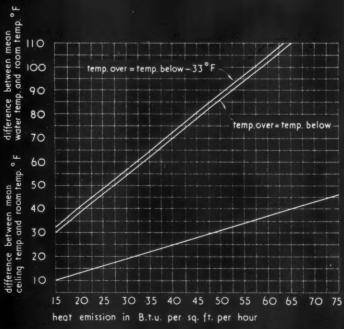
The Architects' Journal Library of Information Sheets 544. Editor: Cotterell Butler, A.R.I.B.A.



GENERAL ASSEMBLY OF COMPONENT PARTS.



TYPICAL SECTION.



HEAT EMISSION AND MEAN CEILING TEMPERATURES.

29.H1 ·FRENGER· SUSPENDED HEATING AND ACOUSTIC CEILING

This Sheet describes the Frenger suspended heating and acoustic ceiling. The drawings on the face show the general assembly and a typical section.

Principle

The Frenger ceiling provides an acoustic surface and at the same time a form of heating which takes up no floor or wall space. No major structural alterations are necessary for its installation in existing buildings. The ceiling, which is suspended from the structure above, consists of a grid of hot water pipes concealed by metal acoustic panels (to which it acts as a supporting framework). It is covered on the upper surface by an insulating material which reduces loss of heat upwards and absorbs sound. The panels, being in direct contact with the pipes, radiate heat to the room below. Services may be run in the space over the panels, which are easily removed for access.

Weight

The weight of the standard ceiling, including the water in the pipes, is approximately 2.5 lb./ft.2

Components

Hot water pipes: The grid is formed from electrically-welded tube; $\frac{7}{8}$ in. o/d stretchers at 2 ft. 0 in. nominal centres are welded at each end to 1-in. square headers. Connections are provided on the headers for coupling to the heating system, their location and the arrangement of flow to suit requirements.

Perforated ceiling panels: These are 2 ft. 0 in. square nominal and are pressed from aluminium sheet. Two parallel edges of the sheet are turned up and shaped to fit round the stretchers; the other two edges are bent as shown to stiffen the panel. The panels may easily be cut to fit round projections on the wall surface or to take light fittings.

Insulation: The standard material is resin-bonded glass fibres, 1 in. thick in the perforated panels with 1½-in. thick strips over the heating tubes.

Insulation spacers: The insulation is kept clear of the panels by welded wire spacers to provide an insulating air-space and to prevent the perforations from becoming clogged when the panels are painted.

Panel clips: Two types of clip are used: a positive locking clip to hold the panels in position and an intermediate spring steel clip to ensure close contact between panel and tube.

Hangers: The pipes are welded to $\frac{3}{4}$ in. by $\frac{3}{4}$ in. by $\frac{1}{8}$ in. mild steel angles which are secured by lock nuts to $\frac{1}{4}$ -in. diameter steel hangers. These hangers which are set into the floor slab are fixed at approximately 4 ft. 0 in. centres.

Light fittings: Special light fittings are designed for this ceiling to replace one or more of the standard panels; names of suppliers may be obtained from the manufacturer.

Finish

The panels have a Pyluminised finish and are usually painted after erection with two coats of matt oil paint. (Specification details may be obtained from

the manufacturer.) The heating pipes and hangers are rust-proofed.

Heat Emission

A graph is shown on the face of the Sheet giving the heat emission plotted against the difference between mean water temperature and room temperature and also against the difference between mean ceiling temperature and room temperature.

Example: Where a heat emission of 55 B.t.u./ft.² h. is required to maintain a room temperature of 65° F. (with the room above at the same temperature), the difference between the mean temperature of circulating water and the room temperature is 95° F., i.e., the mean water temperature is 160° F. The difference between mean ceiling temperature and room temperature is 35° F., i.e., the mean ceiling temperature is 100° F. Where the ceiling is below a roof exposed to an external temperature of 30° F. the emission at this mean water temperature would be 53 B.t.u./ft.² h.

Thermal Capacity

The Frenger ceiling has a thermal capacity of about 0.45 B.t.u./ft.², extremely low when compared with embedded heating panels or radiators. Consequently, when the heating system is turned on there is no long time lag before the heating takes effect.

Sound Absorption

The absorption coefficient of the ceiling may be adjusted to suit particular requirements by using insulating materials of different thicknesses and types, and by using areas of unperforated panels. Painting the panels will not affect their acoustic properties. Given below are the results of the National Physical Laboratory's test on perforated Frenger ceiling panels: the specimen, 10 ft. square, was spaced 5½ in. from walls and backed by the standard material, Fibreglass resin-bonded mat about 1 in. thick, 0.2 lb. per sq. ft.

	for frequ	uency ban	ds in regi	on (c/s)	
125*	250	500	1000	2000	4000
0.20	0.55	0.70	0.50	0.40	0.25

^{*} The accuracy is subject to reservation at this frequency where the measurement presents special difficulty.

Further Information

The manufacturer maintains a technical service to advise on problems relating to the Frenger ceiling and to prepare detailed schemes for installations.

Compiled from information supplied by:

Frenger Ceilings Limited

Address: 67, Great Russell Street, London, W.C.1. Telephone: Chancery 5534/5.

Planning precautions, access for fighting

Good approach road to building from two directions and continuous 10-ft. wide perimeter road round hospital

Two emergency anti-static water tanks

Smoke doors in all main corridors

Means of escape

Fire escape balconies and stairs to all wards, nurses' home and public areas

COLOUR

Paint types Where used Oil paint (gloss) Halls, ceiling, woodwork, etc., (softwood) Clear cellulose varnish Ward corridor fittings Heat resisting paint Boiler flues (horizontal)

French polish Furniture Aluminium paint

Boiler plant and ancillary plant Cement paint Main duct area

Oil paint (exterior quality) Reinforced concrete mullions and perimeter beams, doors, balconies, bridges

Colour treatments

All colour schemes were developed from a specially prepared 18 colour range. Colour is used to identify departments throughout the hospital and to give a bright, stimulating effect, non-institutional in character. Restful schemes are adopted in offices and white largely used in rooms of a clinical type. External colour has also been introduced in mullions, entrances, panel walls, canopies, water tank and static water tank

FITTINGS AND EQUIPMENT

There was, in addition to the many storage fittings in the wards, nurses' home, laboratory and pharmacy and the movable furniture and fabrics, all the mechanical equipment necessary for the running of the hospital

Laundry equipment and plant; kitchen equipment and plant; private automatic branch exchange type of internal telephone service; piped oxygen and nitrous oxide supply; refrigeration plant; electro medical equipment; medical furnishings

With the exception of medical furnishings, all of these services were dealt with by the architect and consulting heating and electrical engineer

TIME SCHEDULE

Contract signed	Work commenced	Work completed	Type of contract	Comments
August, 1952	August, 1952	July, 1955	Schedule of quantities. Several works contract	Separate contract for heating, electrical steelwork, civil engineering, kitchen and laundry equipment,

In order to maintain a fast rate of building it was decided to let the contract for civil engineering work in the autumn of 1951, and in the spring of 1952 another contract was let for the erection of reinforced concrete foundation piers for standard unit steelwork. This enabled the main contract to start quickly and efficiently in the summer of 1952, as in addition all standard unit steelwork had been pre-ordered.

The main contract was let in phases for speed of scheduling, detailing and in order to take full advantage of an early site start to building operations

DETAILED PLANNING OF SELECTED AREAS

One of the accommodation units to which particular attention has been given is the ward unit. There are six ward units in all, two for surgical needs, two for medical, one for gynaecology, and one for chest patients. With the exception of the Chest Ward where special equipment has been supplied for local sterilization of dishes, all ward units are similar in layout and detail.

The plan of the ward unit was based on the assumption that one sister would control 52 beds, which involves the use of two standard units and a connecting link unit for the ancillary accommodation. The 52 beds are split down into four nursing units of 13, each with a nurse's station. The usual arrangement of the 13 beds is an eight bed ward, a four bed ward, and a one bed ward. With different arrangement of

standard screens several variations have been used. In all cases the screens are partially glazed and the nurse has complete supervision of all her beds from her station.

The plan of the nursing unit was adopted after it had been proved diagrammatically that end access to a block meant longer walking distances. Noisy compartments, such as the bed lift, ward kitchen, etc., are in the link unit to isolate them structurally from the bed accommodation, and the rooms requiring drainage are kept to the inside of the standard units so that the perimeter with the best air and light is left free for bed space. The height of the wards is only 9 ft. 6 in., but this seems satisfactory because the alcove arrangements mean that there are no large compartments on plan. This reduced height, in fact, is an advantage in giving an intimate and

non-institutional character to the wards.

When coming on duty a nurse leaves her cloak in her wardrobe near the staff lavatory in the link unit, taking her handbag and books, etc., to her nurse's station. A nurse's station is a L-shaped counter containing knee space, drawers, filing cabinets, etc., with a dwarf glass screen to cut off draughts, record board and shaded reading light, and small cupboards behind the storage wall. The station is raised on a low step so that, when sitting, the nurse has a view of her 13 beds, and, in fact is only 25 ft. away from her farthest patient and is quickly conscious of any movement or disturbance. Signal lights from beds are placed so that they can be seen from either of two nurse's stations in case one is temporarily unoccupied. A plan of a ward unit appears on page 594.



COST ANALYSIS

Total ground floor area of superstructure	62,320 sq. ft.
Total floor area (excluding basement)	114,820 sq.ft.
Total floor area of basement	13,120 sq.ft.
Storey heights of basement	8 ft.
Total depth of basement	7 ft.
Tender date	7th July, 1952
Tender cost of superstructure	£303,501
Installations and finishings	€120,874
Tender cost of foundations and basement	£73,690
Tender cost of ancillary buildings and all external works	£76,817
Gross total cost (exclusive of electro-medical equipment and medical furnishings, kitchen and laundry plant and furnishings)	£574,882
Gross total cost (but excluding civil engineering work and street lighting not actually related to the building)	£519,921
Cost per ft. super of floor area including basement	81s. 4d
Cost per ft. cube including basement	5s. 11d

	Cost per sq. ft.	Cost per sq. ft.	Cost per sq. ft.
	in pen:e	in pence	in pence
	Ward unit	Nurses' home unit	Admin. and office unit
Preliminaries, scaffolding and general items	52.24	52.24	52.24
Underbuilding to structural floor level	196.58	196.58	196.58
External claddings and facings	153.00	152.34	152.34
Internal load bearing walls	_	-	_
Internal partitions, four	22:35	40.32	25.50
Steel frame	71.93	71.93	71.93
Roof	88.71	88.71	88.71
Staircase	_	-	_
Floor finished	49.99	40.97	37.41
Windows and doors external	Incld.	Incld.	Incld.
Doors internal and borrowed lights	11.80	33.80	30.83
Wall and ceiling finishes	28.40	40.67	38.30
Joinerwork fittings	33.09	78.86	18.97
Ironmongery	2.96	6.52	6.22
Glazing	1.12	1.18	1.18
Plumbing—External	15.41	15.41	15.12
Internal	22.83	38.54	14.23
Sanitary fittings	25.32	17:79	5.04
Gas	0.89	2.07	_
Electrical	53:37	35.58	35.58
Heating	33.80	27.27	31 · 42
Painting	32.97	42.69	34.39
Drainage	13.36	21.34	20.75
Special sound installation	Included in floor		
Special thermal installation Included in outer walls		ter walls	
Total	910.39	1,004.81	882.07
	~ 75s. rod.	83s. 8d.	73s. 6d.

COST ANALYSIS: comments

In examining the cost analysis shown above, certain points must be borne in mind before using the information as a guide in the design of similar establishments: (a) The hospital covers a large area and contains extra buildings for administration, for local board of management, for area laundry and area laboratory. (b) The scheme combines permanent traditional structure with light prefabricated units resulting in widely contrasted forms of construction. (c) On this particular site a major planning decision was taken to build a low rather than a multi-storey hospital. This factor is bound to be reflected in the cost of such elements as foundations,

roof etc. (d) The scheme would appear to have been carried out as a guide for future hospital planning, as no target costs are stated in the plan brief. Indeed hospital costs are an unknown quantity at the present time.

Read in conjunction with the specification, the analysis indicates only in broad outline a general level of costs per square foot of the individual sections of each of the blocks. For example the cladding and facings element contains prefabricated panels, curtain walling, solid brickwork and traditional windows. The roof construction element contains pre-stressed concrete, pre-cast concrete, in situ concrete and

pantiles. A more detailed analysis would be necessary to ascertain the comparative cost of these forms of construction and to show where the greatest costs are encountered. And in view of the dispersed planning it would be useful to have ratios of total floor area, ground floor area and upper floor area so that proper comparison of these elements could be made.

A point of interest in which research into cost could profitably be made would be the relative value of a central distribution of service feeds within the spine building which contains the basement service ducts, as against individual distribution of services in each block.

TECHNICAL SECTION

Advertised at the same time as the JOURNAL'S Research Fellowship is the new Chair of Building Science at Liverpool University (see page xcv last Although this appointment is of a wholly different nature, its objectives have much in common with those of the JOURNAL'S Research Board. In the "further particulars" of the post, all the factors in our technical revolution are listed, and the point is made that "neither in Schools of Architecture nor in Schools of Engineering nor in Faculties of Science nor in the building industry itself is there, on the one hand, any means for bringing all these new problems and all this new knowledge into focus; nor is there on the other hand any means of directing the attention of those most closely concerned to the information which they ought to have." In other words, what the Journal's Research Board are attempting at the professional level, Liverpool University are attempting at the academic and educational levels. Good luck to them.

This week's special article

d be

st of

where

view

ful to

rarea

rison

cost lative

feeds

s the

ridual

27 FURNITURE AND FITTINGS British standard specification for school furniture

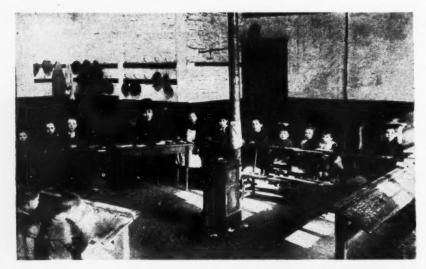
The number preceding the week's special article or survey indicates the appropriate subject heading of the Information Centre to which the article or survey belongs. The complete list of these headings is printed from time-to-time. To each survey is appended a list of recently-published and relevant Information 'Centre items. Further and earlier information can be found by referring to the index published free each year.

The new British Standard on School Dining Tables and Chairs, BS 2639:1955* which was published on October 17, opens a new phase in the specification of school furniture. This shows a departure from BS/MOE standards of 1950 in two respects: first the new standards are to be based on new anthropometric and statistical studies of schoolchildren and of their needs; second, they are to specify the performance of the furniture and not the design, thus leaving wider scope to the manufacturer. Since the studies which lie behind these standards go beyond the subject of school furniture and bear directly on the practice of functionalism, we have asked David Medd, of the Architects and Building Branch of MOE, and a member of the Committee which is drafting the new standards, to discuss them in two articles. In this, his first, he discusses the principles governing the standards; and in a second article which we will publish shortly he will describe the anthropometric studies in greater detail.

*Obtainable from BSI. 4s.

In spite of the magnitude of the post-war school building programme and the enormous amount of furniture and equipment that goes with it, there has been relatively little guidance or public discussion about school furniture as a subject on its own. This is perhaps understandable when one considers the pressure of work on all those concerned with school design, but regrettable because in essence the subject of furniture and equipment contains, in of educators and architects, essential for

microcosm, all the importance and the human and technical interest of school building design itself. A school is not merely a building, but a unit full of life, of which the children and staff, the furniture and equipment, the buildings and grounds are all essential parts. It follows that because school furniture is related both to the needs of the users and to the dimensions and character of the building, the same collaborating team





As teaching methods change, so must the design of school buildings and furniture. Fig. 1, top left, shows a classroom for primary children about 60 years ago. Fig. 2, centre left, shows a conversion made in the same school about 25 years ago and Fig. 3, bottom left, shows primary school children working in groups in a school opened in 1954.

good building design, is also essential for good furniture design and selection.

POST-WAR DEVELOPMENTS

After the war the manufacturers of furniture held no large stocks of standard designs and were consequently willing and eager to develop new ideas. At the same time, the early post-war schools were making a complete break with the past, and the absence of prototype furniture probably encouraged the rapid development of the general character of post-war school furniture. The work of a comparatively small number of designers and manufacturers collaborating with local authorities quickly became the basis on which stock designs were established and, because manufacturers continued to be willing to develop new ideas, an evolutionary pattern of design and development was started which enabled both current and experimental requirements to be met. Since the war there have been two events which in principle have tended to interrupt this pattern: the standard designs of furniture for the raising of the school leaving age, prepared by a panel of designers working for the Board of Trade, and the BS/MOE Standards for School Furniture 11-22 published in 1950. The first of these was in the nature of an emergency operation, and temporary standardization was fully justified to secure the necessary production and concentration of effort. With the exception of anthropometric consideration the designs





Can we help to solve it? We specialize in the manufacture

of composite materials suitable for any type of partitioning. Our technical services are at your disposal.

William Mallinson and Sons Ltd.

TIMBER AND VENEER MERCHANTS
MANUFACTURERS OF PLYWOOD, ARMOURPLY, PANELS, COMPOSITE PARTITIONING AND INSULATING BOARDS

130-150 HACKNEY ROAD

Telephone: Shoreditch 7654 (10 lines)

the ft,

or

br

te of ed al he

ng he

bed an p-

nt

ts

pt nise, or E bne

to

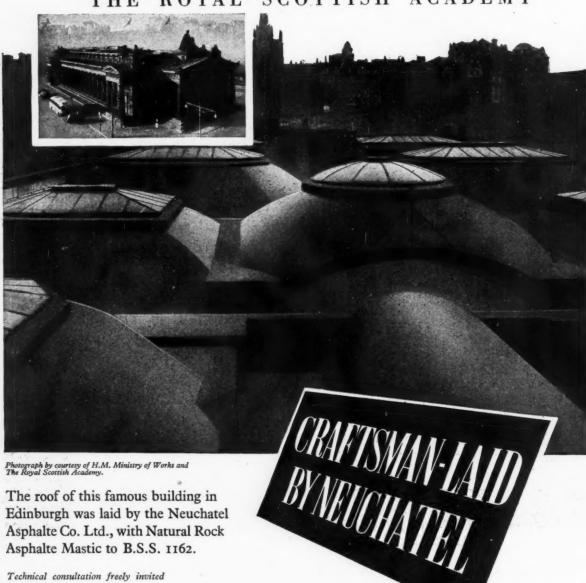
n-

ns

LONDON, E.2

Telegrams: "Almoner," London

THE MASTIC ASPHALTE ROOF this famous public building ROYAL SCOTTISH ACADEMY THE



The roof of this famous building in Edinburgh was laid by the Neuchatel Asphalte Co. Ltd., with Natural Rock Asphalte Mastic to B.S.S. 1162.

Technical consultation freely invited

SPECIALISTS FOR 80 YEARS IN ASPHALTE for Roofing, Tanking, Flooring and Roads. Also NACOFELT ROOFING and Approved Laying Contractors for ACCOTILE FLOORING.

Sole Concessionaires of all Natural Rock Asphalte mined in the Val-de-Travers, Neuchatel, Switzerland.

NEUCHATEL ASPHALTE THE COMPANY

58 Victoria Street, London, S.W.I

Telephone No. of Contracting Depts.: RENown 1321

Branches: | BELFAST BIRMINGHAM GARDIFF EDINBURGH FROME GERSON DELEGATION OF THE MANCHESTER NEW CASTLE OF THAM (KENT) PLYMOUTH PORTSMOUTH BELFAST BIRMINGHAM CARDIFF EDINBURGH FROME GLASGOW LEEDS



01

were good and were not without influence on the furniture made after the termination of the scheme. The BS/MOE specifications, on the other hand, have not had the influence—one must admit fortunately commensurate with the enormous amount of information they contain. In effect, this document selects one design for each article under consideration and proceeds to give what are virtually working details of that particular design. One of the purposes of these specifications may have been to concentrate production into a small number of types and by such standardization achieve economy; but school furniture is not an appropriate subject for standardization of types, and any new BS on the subject should help the customer, the designer, and the manufacturer in a different way.

PRINCIPLES FOR THE NEW STANDARD

The BS Committee which is now studying the subject of school furniture has agreed to the principles which should guide it in its work, and these are likely to strain the existing format of a BS specification. Nevertheless, they may also prove of value when other subjects suggesting similar treatment come under consideration. Each article or group of articles is to be considered under three main headings, for which titles are not yet fixed. Broadly, these are as follow:

- 1. The requirements of the user or client.
- 2. Those aspects affecting comfort and posture.
- 3. Those aspects affecting strength and durability

Sufficient information under these broad headings will give the necessary data to the designer and manufacturer to enable them to produce furniture that will meet the client's requirements in terms of educational suitability, size, comfort and strength without imposing on the designer any limitation of material, technique or style. There are obviously difficulties in this approach, as the educational requirements are not easily expressed, the dimensional data at present available are in many instances inadequate and often difficult to interpret, and new methods for expressing the strength of furniture which do not restrict technique have to be established.

(1) THE REQUIREMENTS OF THE USER

This section should convey to the designer a clear impression of the educational purpose and use of the furniture, giving a description of the kind of activities for which it will be used. Such information is of more value to the designer than a description of features of particular design. It is important in this connection that a forward-looking viewpoint should expressed, as without this there is a danger that the requirements of yesterday will be perpetuated into the future. The BS specification for gymnasium equipment illustrates this danger: in effect, this standardizes particular designs and thus stultifies development. Whilst this approach simplifies life for the unimaginative customer and the manufacturer, it inhibits the practice and development of some of the current ideas

and teaching methods in physical education; but if the designer can know and understand the direction in which future educational trends are likely to go he will be better equipped to produce designs which, while meeting today's requirements, will not inhibit those of tomorrow. This is a challenge to educational clients to think creatively about the furniture and equipment they would like to see in their schools.

(2) COMFORT AND POSTURE

In spite of the quantity of furniture that has been made, much of it has been designed with insufficient knowledge of the dimensions necessary to ensure comfort and convenience in use. How common it is to see shelves and pegs that are out of reach, chairs that are too high, tables and chairs that give insufficient knee room, window sills that are too high. Such shortcomings are the direct result of a lack of the right kind of information being available to designers. One of the chief responsibilities, therefore, of the new BS standard is to make the necessary investigations and trials in order to establish this essential dimensional data needed for the design of school equipment. Upon the appropriate selection of dimensions-not only for furniture but for the building design as well-will depend the comfort and convenience of the users, and only through them can order and scale be achieved which will be in sympathy with the children for whom the designs are made.

Dimensional data, to be of direct use to the designer, involves more than the mere measurement of children. Firstly, anthropometric data have to be interpreted in terms of posture and dynamics before furniture can be designed: for example, to design a school table and chair to be used for writing requires a knowledge not only of children's dimensions, but also of the best posture for writing; or to determine the height of a peg the comfortable reach of a child must be known, but this dimension is a modification of the maximum reach of the child's arm. Secondly, guidance is needed for the selection and distribution of different sizes of furniture and equipment. Obviously stature, rather than age, will more accurately determine the various dimensions affecting furniture sizes, and it is necessary therefore, to work out from anthropometrical data the smallest range of sizes that will cover adequately the requirements of the school age range, and the best distribution of these within the particular age group of each class

In the preparation of the standard for school dining room chairs and tables there is evidence to suggest that these anthropometric and dynamic factors may well prove to be the most useful contribution the new standard can give. They will call for several adjustments to current practice, but the most casual observer of children sitting at their tables should be convinced that such adjustments are urgently needed.

Common faults are:

1. Chairs too high, feet cannot rest on the floor and consequently uncomfortable pressure is caused under the thighs. To avoid

this there is a tendency to sit on the front edge of the seat, which prevents the use of the back rest.

2. Table too high. The forearm cannot be brought into a comfortable position for writing without turning the body round, resulting in bad posture.

3. Knee clearance too small. The combination of too high a chair and too deep a rail, drawer or locker under the table reduces knee room and restricts leg movement. Consequently, there is a tendency to sit on the front edge of the chair.

The proper relationship between chair and table sizes is a most important factor which is likely to have drastic implications for many current designs.

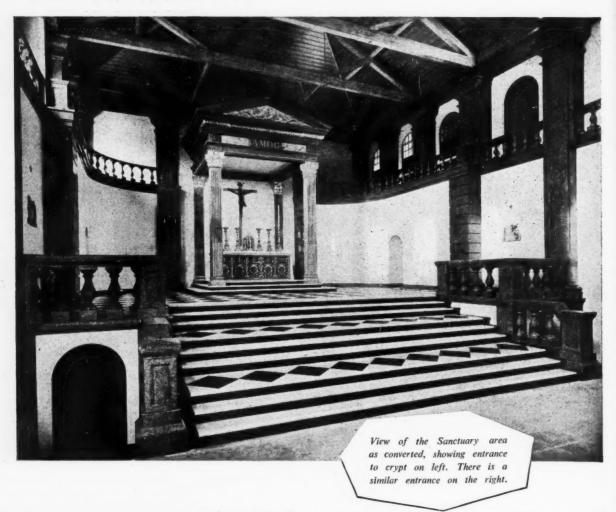
This applies equally to adult furniture. The development of desks and tables with drawers over the knee space has tended to increase their height, and the current common adult chair to table height relationship of 18 in. to 30 in. is undoubtedly too high for comfortable sitting and writing for the majority of people, particularly for long periods of time.

The anthropometric work now in progress on school furniture has led to the suggestion that a similar study should be given to all appropriate articles of equipment covered by BSI specifications. For example, the BSI are investigating the subject of modular coordination jointly with the Building Research Station with a view to achieving a common dimensional basis for all building components, to give flexibility and simplicity in design, and economy in manufacture. Anthropometrics and human dynamics should have their effect on the design of furniture and equipment just as they do on the design of building components that are man-handled and the dimensions of assembled components.

(3) STRENGTH AND DURABILITY

No specification of an article of furniture can be considered complete unless the standard of strength and durability can be established. Normally this is achieved by specifying minimum sizes of members, size and number of joints and qualities of materials to be used. But this method, while assuring the customer of a standard of performance, ties the hands of the designer and manufacturer, restricting them to the use of the particular materials and techniques specified. Consequently, this approach, though frequently used in the past, is unsatisfactory in the present context, and the problem, in short, is to devise a method of specification which, while guaranteeing a standard to the customer, will give freedom to the initiative and imagination of the designer, enabling him to meet changing educational requirements and to use new techniques and materials that may be developed. It would also be an advantage if a specification could provide a common basis for tendering when there may be several different designs of a particular article of furniture; at present the absence of such a specification prevents a comparison unless the designs are identical. The Furniture Development Council have

The Furniture Development Council have made important developments in specifying



18th Century Tennis Court Converted to Chapel

During the conversion of the 18th century indoor Tennis Court into a chapel for the Jesuit Theological College at Heythrop Hall, Enstone, in Oxfordshire, additional accommodation was provided by excavating under the Sanctuary area and forming a crypt to contain six small chapels. A further nine side chapels were added on the north and south walls having their entrances in the main building. Owing to the slope of the land, this involved excavation into the subsoil on the north side.

The concrete forming the crypt, also the concrete floors and retaining walls of the side chapels were made completely waterproof by the inclusion of 'PUDLO' Brand Waterproofer throughout the thickness of the concrete.

Consulting Ecclesiologists: The Brothers Anthony & Ældred Bartlett of B.O.W.S. & Bartlett Ltd.

Contractors: Messrs, Walker-Symondson Ltd.



Descriptive booklet and the Specification

No. 5A, worked to in this case will be sent on request.

CEMENT WATERPROOFING POWDER

The most reliable fire cement is 'FEUSOL'. Have you tried it?

The word 'PUDLO' is the registered Trade Brand of Kerner-Greenwood & Co. Ltd., by whom all articles bearing that Brand are manufactured. Sole Proprietors and Manufacturers:

KERNER-GREENWOOD & CO. LTD., KING'S LYNN, NORFOLK

Building Exhibition, Olympia, November 16th-30th, Stand 338, Row S.

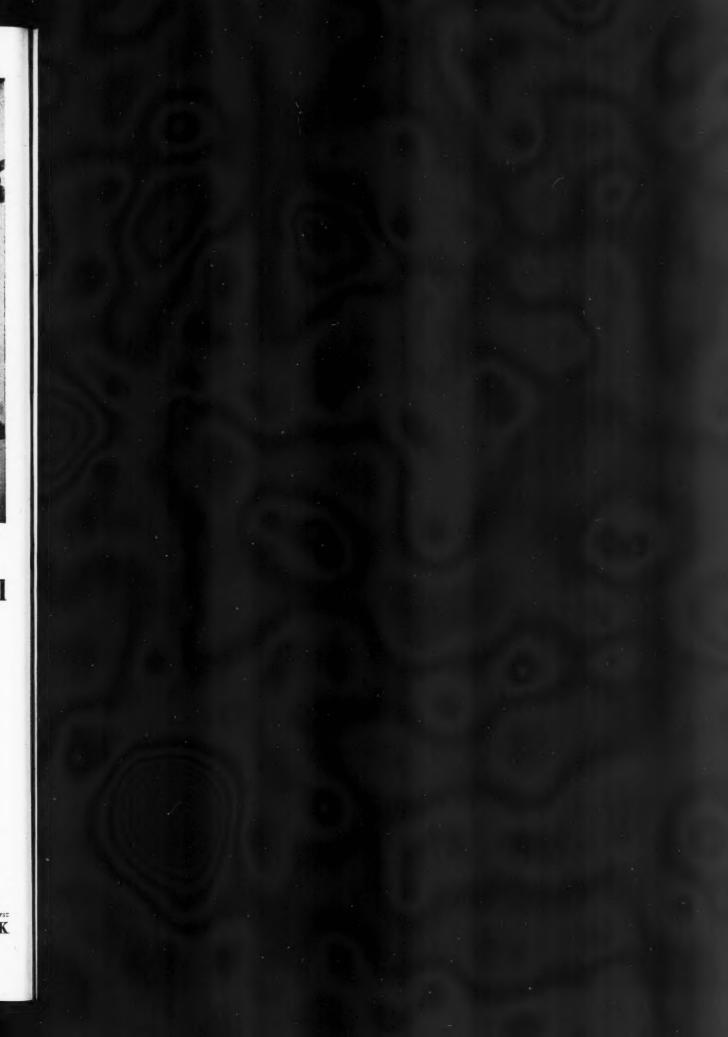






Fig. 4, a standard test for establishing the strength of the joints in a chair.

strength in terms of performance tests, some of which are already incorporated into British Standards specifications for certain articles of domestic furniture (BS.1960: parts 1, 2 and 3; 1953). Modifications to these techniques are now being developed in Sweden. A particular test, or series of tests, is devised, through which selected samples of production articles must pass. The skill lies firstly in determining what is a reasonable standard of strength for a piece of furniture, and secondly in devising a quickly and easily applied test which will assure this standard. It is necessary to become familiar with the kind of use and abuse to which furniture is subjected, and to make tests on samples which are clearly either unnecessarily robust or are inadequate in strength, in order to establish within definite limits a standard of strength in furniture which has proved to be reasonable. This strength has then to be expressed in performance test terms. These tests, each designed for a particular article of furniture, will have to be exhaustively checked and made applicable irrespective of the materials and techniques employed in the design of the article under test.

Recent experience in the working out of tests for domestic furniture will be of considerable benefit to the work on school furniture, as it is hoped that many of the testing techniques will be applicable to both, leaving the agreeing of the appropriate standard of strength as being the main problem.

SUMMARY

Now that the question of arrangement of British Standard specifications for building components is under review it is hoped that a new format on furniture will be acceptable. For example, the requirements of nuts and bolts, hinges and manhole covers change comparatively slowly, but furniture for schools is continually susceptible to new ideas of design and education. A distinction must be drawn, therefore, between a British Standard design-entirely justified in many circumstances-and what one might term British Standard data for design. Only by confining the new standard to these last two constants will it be of real service to those educators and designers who are anxious to serve and shape through development work the evolving pattern of education.

INFORMATION CENTRE

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

18.172 construction: theory

WELDING

Welding techniques and uses in the USA. (OEEC [Paris] 1955. 7s.) Report of an OEEC mission on welding in America of interest to architects and engineers.

The mission spent five weeks in America during 1953 to study various aspects of welding which had received little attention by previous European national teams. The report covers research, technical education, testing and inspection, new welding processes, structural welding and handling devices. As one would expect, there is reference to the drive which goes into every aspect of the subject, but one of the main criticisms is that the Americans do not appear to be aware of similar work being done in Europe. However, we have much to learn from the American approach to the subject and the report is concluded by three pages of recommendations for action in Europe.

18.173 construction: theory

SHELL DESIGN

Analysis of Symmetric Cylindrical Shells. John McNamee. (HMSO 1955. 12s. 6d.) Theory of thin cylindrical shells, of interest to architects and engineers with a knowledge of higher mathematics.

The author will be remembered for his interesting paper to the 1953 Symposium on Concrete Shells when he dealt with the various methods of analysis and gave time comparisons for the same example worked by the various methods. In this book are printed a series of lectures which he gave at the University of Liverpool, and with the help of DSIR these are now made available to a very wide audience at a reasonable price. As the title suggests, only symmetric cylindrical shells are dealt with and, assuming the reader has a modest knowledge of higher mathematics, he will find the book particularly easy to follow. The theory is developed in chapter I by using concepts of beam and slab analysis with which the architect and engineer are familiar. Chapter II adopts the theory in a general way to a symmetric shell with symmetric loading. Chapter III introduces the matrix analysis and computation of a numerical example by this process. No doubt many architects and engineers are doubtful of any long mathematical process which purports to

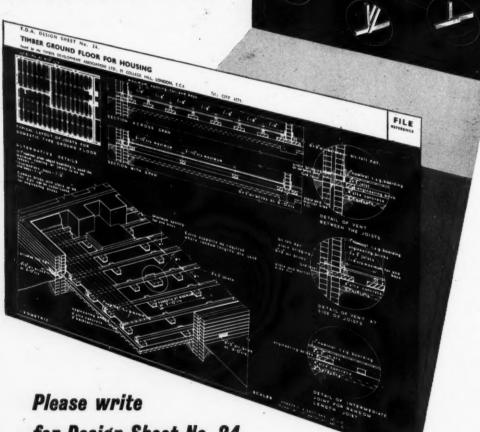


the T.D.A. Ground Floor follows the T.D.A. Roof, known and used by Housing Authorities in all parts of the country, as a further contribution to efficiency and economy in building.

the TDA-

floor design saves cost, time, excavation and bricks; it allows the use of joists in random lengths, finished with softwood boarding or decorative hardwood strip, and above all provides a warm, resilient...

Ground Floor



for Design Sheet No. 24

ISSUED BY THE TIMBER DEVELOPMENT ASSOCIATION LIMITED • 21 COLLEGE HILL • LONDON • E.C.4

and branches throughout the country

an ex more plicat speak allow simpl for ce ever, who more book the n

specia

18.1 PRES Conc Rep Cong were on pr beam ultim struc Pape and Mag the f in E discu trans conte

station be or have

22.74
MUS
Com
Obse
ship,
(Jour
Ame
of th
and
musi
acour
The
rang
seatii
rever
facto

Subject absorption were that acoulobtain be 1

One

secon Was

YD 784

provide an answer to their problem and, in view of the length of time and the specialist nature of the work involved in an exact solution, there is every reason for more research being devoted to less complicated methods of design. Generally speaking, the stresses are sufficiently low to allow room for error and one or two simpler design methods give good answers for certain ranges of shell proportions. However, these are better employed by persons who have dealt with and understood the more exact analysis and Mr. McNamee's book should go a long way in introducing the newcomer to this technique.

18.174 construction: theory PRESTRESSED CONCRETE

First Congress of the Federation International de la Precontrainte. (Cement & Concrete Association. 1955. 50s.)

Report of the proceedings of the 1953 Congress held in London. Three subjects were considered at the Congress, fire effects on prestressed concrete, statically determinate beams of prestressed concrete designed on ultimate load and statically indeterminate structures in the elastic and plastic states. Papers were submitted prior to the congress and these were reported upon by Hill, Magnel and Guyon, respectively. Following the report came a general discussion from the floor. This book now prints the reports in English, French and German and the discussions, where necessary, in an English translation. The reports were reviewed in this JOURNAL on November 5, 1953. The content of session 1 is of interest to architects but the sessions on ultimate load and statically determinate structures would only be of interest to engineers. The work would have been of considerably more interest had the original papers also been printed.

22.79 sound insulation and acoustics

MUSIC ROOMS

Comparison of Objective and Subjective Observations on Music Rooms. J. Blankenship, R. B. Fitzgerald and R. N. Lane. (Journal of the Acoustical Society of America. July, 1955.)

The article is based on a careful study

The article is based on a careful study of the properties of music practice rooms and emphasis has been placed on the musician's findings in regard to desirable acoustics.

The study of a number of rooms of sizes ranging from 6 ft. by 9 ft. to an auditorium seating 500, reveals that proper control of reverberation time remains one of the major factors in obtaining good acoustics. For the smaller rooms a value of about 0-4 seconds, reasonably level at all frequencies was found best. It was noted that a value of 0-6 seconds caused adverse comment. Subjective tests were made with and without absorbent panels in position, some of which were dummy panels. These tests showed that to some extent the visual presence of acoustic treatment influenced the judgments obtained. Perhaps acoustic treatment may be likened to justice in that it must also appear to have been done.

appear to have been done.

One room in which so-called polycylindrical diffusers form most of the wall treat-

ment received bad ratings of musical quality, although no reasonable acoustical defects could be found.

23.213 heating: ventilation

ELECTRIC FIRES

Electric Fires. (Electrical Review. 23.9.55.) A further collected list of equipment. Tabulated data on name, type loading, elements, finishes and price of electric fires. Many are illustrated. Architects will shed tears of despair over a number of the designs and regret that even the better ones suffer sadly in appearance from the addition of the necessary, and now obligatory, safety guards. Is it really so difficult to produce something decent in appearance?

23.214 heating: ventilation DOMESTIC FIRES

Domestia Solid Fuel Appliance Design and the Beaver Report. Report of paper by Dr. Harold Hartley to Coal Utilisation Council. (The Builder, 16.9.55.)

Everyone must be in general agreement with the aims of the Beaver Report on Air Pollution, but ideas about how best to meet the desired reduction of atmospheric pollution are less generally agreed. Smoke from domestic chimneys forms a major item for attack and architects could have a big part in the job. This paper by a very well known authority should be of interest to all concerned with house design.

First the magnitude of the pollution problem is briefly outlined and the legislative provisions recommended in the Beaver Report are referred to. The bulk of the paper deals with possible ways of tackling the reduction of smoke emission from houses and is really an argument in favour of the use of either closed stoves of the free-standing type or of down-draught open fires. Some very strong arguments are put forward in favour of down-draught appliances for, not only do they seem capable of burning bituminous coal with very little smoke emission but of using a small sized coal of this type. This use of small sized coal is an important advantage. The arguments are illustrated by test results from down-draught appliances of which diagrams are given, and it is claimed that a down-draught open fire burning small coal gave a smoke emission of only one-twelfth of that of an up-draught fire.

Since the cost of "smokeless" fuels is likely to be very high and, in any case, such fuels cannot be available in adequate quantities for many years, it seems that the down-draught appliance may prove to be the practicable answer.

In the light of all this the author makes pertinent comment upon some of the proposals for legislation.

24.194 lighting ELECTRIC APPLIANCES

Domestic Appliances. (Electrical Review. 14.10.55.)

This issue contains a 24-page review of all types of electrical appliances for domestic use. Many are illustrated. There is a list of manufacturers.

Also in this number of the Electrical Review are brief 'articles on Interference Suppression, Domestic Equipment Standards, and Testing Domestic Equipment.

28.20 miscellaneous COLOUR IN HOSPITALS

The use of Colour in Hospitals. P. H. Knighton. (Regional Architect, Newcastle Regional Hospital Board.)

The booklet sets out, modestly, to be "of interest and possibly of service" to those concerned with spending £4 or £5 million on hospital decoration annually. It follows generally the path pointed by the Ministry of Education 1953 bulletin, "The Use of Colour in Schools," which is quoted extensively. In a foreword, The Viscountess Ridley echoes Florence Nightingale in pointing out that since hospitals are concerned with health, decoration schemes should never be designed to conceal dirt, and adds that while gloomy charity may once have been an appropriate atmosphere for hospitals, the scientific and humanist approach is now more highly valued.

The booklet sets out the arguments for a methodical approach to the use of colour and gives useful indications of the desirable "atmosphere" in the various departments of a hospital. There is a good section on colour in relation to lighting and vision, and another on the use of the various decorative finishes available and their function and economy in different locations. In the actual colour schemes proposed (there is a coloured chart which sets out nine examples) there is evidence of nervousness. In the text, quite bold recommendations are made and demonstrated in diagrams, but most of the colours selected for the chart are pale pastels. It is true that very vigorous colour schemes may be badly applied, and it is therefore dangerous to offer them for uncritical application, but the schemes proposed by Mr. Knighton are so unatmospheric that they are in effect interchangeable. They do not demonstrate his thesis that every department has its own colour expression.

The book is illustrated by useful diagrams and, unaccountably, by tasteless little jokes which could have been omitted from a publication of this type.

THE INDUSTRY

From the Industry this week Brian Grant reports on a canteen advisory service, a new immersion heater, a smoke detector for smokeless zones' and a connector box.

ADVICE ABOUT CANTEENS

Comparatively few firms nowadays expect their canteens to show a profit, the provision of meals at less than cost price being, like the luncheon voucher system, a means of providing a tax-free wage increase and at the same time creating a reasonable amount of goodwill. There is, however, no reason why any canteen should not be properly planned and efficiently run, and many people may not know that Lyons run an Industrial Canteens Advisory Service which will work with the architect in the planning stages and with the manufacturer later on. It is probably true to say that Lyons have more experience than anyone else in this country of the large-scale production of





Produced in quantity

to a high standard

at a new low cost

VENTURA 80

for nu that sys

for

from by

th

ca

on

Th

for full details ask for

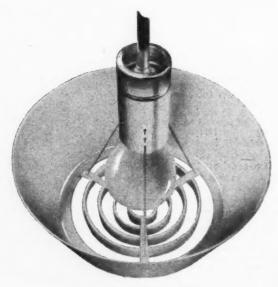
publication V.80.

SPECIFICATION. The 12" diameter louvred diffuser is moulded in a white translucent non-static high temperature plastic, and its position is adjustable for use with a 200w. 150w. or 100w. lamp.

Direct downward lighting is obtained through the louvred aperture, the top is open giving shadowless ceiling illumination. Diffused general lighting with low brightness is obtained through the translucent sides.

Metalwork is in anodised aluminium, finished satin silver.

787	V.80. Basic Type for attachment to existing suspensions	22/8 + 4/3 P.T.	
	V.82. Ceiling Type	26/8 + 5/0 P.T.	
<u> </u>	V.84. Flex Suspension Type	28/0 + 5/3 P.T.	
<u> </u>	V.86. Tubular Suspension Type	30/8 + 5/9 P.T.	

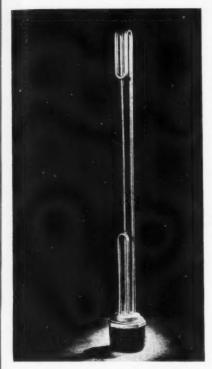




MERCHANT ADVENTURERS LIMITED

43, MORTLAND ROAD, LONDON, W.II.

VENTURA DIVISION TELEPHONE: PARK 5617 (5 LINES)



The GEC immersion heater with a 1 kW. element (for the sink) and a 2 kW. element (for the bath).

food and also of the serving of it to large numbers of people. It is also well known that they have a most efficient costing system and the advice given is therefore based on accurate knowledge of the performance of different manufacturer's equipment and the life which may be expected from different types of dining-room equipment. Here, presumably, the advice required by the architect ends, but the Advisory Service can, if required, help in the selection and training of canteen staff and, if necessary, provide regular progress reports when the canteen is running. Surveys of existing canteens can also be made and advice given on re-equipment. (J. Lyons & Co. Ltd., Cadby Hall, London, W.14.)

The MK fused connector box for fixed appliances such as clocks. Colour: brown or ivory.



ELECTRIC WATER HEATING . . .

The GEC has just announced a new dual service immersion heater which makes use of two elements, one short and the other long. The short element, which is rated at 1 kW., provides a few gallons of hot water at the top of the tank, while the longer one, which is rated at 2kW., heats the entire tank and is intended for use only when baths or large quantities of water are needed. This system provides much the same service as the under-draining-board heaters which were produced by a number of manufacturers soon after the end of the war, but uses the normal hot water cylinder. The heater is produced in three models to fit different sizes of tank, the projections of the long heater being 23 in. 27 in. and 30 in. Control is by a twin-switch unit, with switches marked "sink" and "bath." The price of the heater is £6 9s. 9d., including 34s. 9d. purchase tax, and the switch unit is 18s. A thermostat for the short element is supplied separately at 28s.

. . . AND SMOKELESS ZONES

It is now some weeks since the City of London became a smokeless zone, but so far I have seen no reports of any prosecutions and fines. Reasonable excuses may perhaps be accepted for some time longer, but sooner or later fines will be inflicted and readers may therefore like to know that the GEC produces a smoke detection and warning system. The installation consists of a projector which is mounted so that it directs a beam of light across the boiler flue, the beam falling on a photo-electric cell. If the smoke density increases beyond a certain point, the light beam is cut off and the photo-electric cell, through a system of amplifiers and relays, switches on a red warning light which stays on until the smoke density has fallen below the limit, when a green light is switched on automatically. This system may well be useful where the chimney stack is out of sight of the boiler house and some form of automatic warning device is necessary. (The General Electric Co. Ltd., Magnet House, Kingsway, London, W.C.2.)

CONNECTOR BOXES

The photograph on the right shows the new MK fused connector box which has been designed to allow clocks and similar fixed appliances to be looped from a ring main circuit. The removable carrier, which is held in position by a small thumbscrew, contains a 1-amp, cartridge fuse and there is also proper provision for earthing. Fixing centres are 2% in., so that the fitting can be mounted in standard BS 1363 boxes and, if required, the extremely shallow back projection will fit into a plaster depth box and thus avoid the need for chasing partitions. Prices per dozen are 70s, in brown and 75s, in ivory. Messrs. MK, incidentally, have just issued a new catalogue and, wonderful to relate in these days, have also announced some price reductions. (MK Electric Ltd., Wakefield Street, London, N.18.)



15.S6, 15.T8, 15.T9. REFERENCE BACK

Readers are asked to note the following amendments.

15.S6, Reverse of Sheet, heading "General Applications," sub-heading "Veneers," to last sentence should be added "... but it is not recommended that it should be used without considerable experience of its application and its limitations. It is generally better to face a brick or plaster wall with well-secured hardboard and apply the veneers subsequently."

15.T8, Reverse of Sheet, heading "Fixing," sub-heading "Veneers," last paragraph should read "The adhesives recommended are of the spirit-solvent type . . ."

15.T9, Reverse of Sheet, heading "Construction Generally," second sentence, delete example of adhesive given in brackets.

22.D12, 22.D13. REFERENCE BACK

22.D12, Face of Sheet, "General Assembly of Component Parts." From note to hook bracket delete " at 12 ft. 0 in. maximum crs." The wall fixing is now a ½-in. channel. Reverse of Sheet, under "Components," Deep tee, steel is now 13 in. wide; deep tee, aluminium-alloy is now 2 in. high. Standard tee, delete steel section, aluminium-alloy tee is now 11 in. high. Angle trim, add 11 in. by 1 in. Add at end, Wall channel: ½ in. and ½ in. Under "Fittings," "Hook brackets," delete sentence beginning "A pressed steel bracket . . .". The figures in the table of safe spans have been revised: the manufacturer should be consulted. 22.D13, Face of Sheet, " General Assembly of Component Parts." From note to hook bracket delete " at 12 ft. 0 in. maximum crs." Delete note be-"With aluminium sections ginning "m.s. or aluminium-alloy tees at 2 ft. 0 in. crs." and at lower right "... at 2 ft. 0 in. crs." Delete sub-headings to "Sections thro' Tees at Wedges." The wall fixing is now $a \frac{3}{4}$ in. channel.

29.H1 CANCELLATION

Sheet 29.H1 (published 26.11.53) has been cancelled and should be removed from collections. It is replaced by Sheet 29.H1 published in this issue.

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

3.11.55

Buildings Illustrated

Vale of Leven Hospital, Alexandria, Dunbartonshire. (Pages 587-604.) For the Department of Health for Scotland, through the Western Regional Hospital Board. Architect: J. L. Gleave, M.A., A.R.S.A., A.R.J.B.A., M.T.P.I., of John Keppie & Henderson & J. L. Gleave, Chief Assistant (now partner), T. R. Scott, D.A. (GLAS.), A.R.I.B.A. Assistant architects: I. J. Plenderleath, D.A. (DUNDEE), A.R.I.B.A., and J. P. Boys, D.A. (DUNDEE), A.R.I.B.A., in conjunction with Forbes Murison, A.R.I.B.A., and R. T. Cunningham, A.R.I.B.A., Chief Architect and Deputy Chief Architect, Western Regional Hospital Board, and J. H. Davidson, A.R.I.B.A., Department of Health for Scotland. Consulting Engineers: structural, George Davie, Crawford & Partners; heating, ventilating and electrical, Ian Hunter & Partners. Quantity surveyors: A. L. Currie & Brown. General contractors: Angus M. MacDougall & Co. Ltd. Sub-contractors: Civil Engineering Contract, reinforced concrete foundations (stage 1), Crowley Russell & Co.; reinforced concrete foundations (stage 2), Angus M. MacDougall & Co. Ltd.; steel work, metal staircases and balconies, Redpath, Brown & Co. Ltd.; precast concrete floor and roof beams, Concrete Ltd.; precast ground floor beams, Girling's Ferro-concrete & Co. Ltd.; concrete reinforcement, The Expanded Metal Co.; joiner, casements, John Cochrane & Co.; assembly panel, James Y. Keanie Ltd.; plumber, cast lead, gas fixtures and fittings, water supply, William Fleming & Co.; sanitary fittings (Shanks) supplied by Thomas Graham & Co.; plasterwork, R. Y. Ritchie & Co. Ltd.; tile work (stage 1) and reinforced concrete mullions, Toffolo Jackson & Co.; tile work and terrazzo (stage 2), wall finish, John Youdon & Sons Ltd.; roofing (stage 1), William Briggs & Co.; roofing (stage 1), William Briggs & Co.; roofing (stage 2)

Ruberoid Co. Ltd.; ironmongery, Parker, Winder & Achurch; rubbish hoists, dark blinds, John Bryden & Son Ltd.; flooring, Semtex Ltd. and Korkoid Decorative Floor (stage 1), George Stevenson (Gesco Cork) (stage 2); electrical wiring (stage 1), Jas. Kilpatrick & Son Ltd.; electrical wiring (stage 2), electric heating, Claude Hamilton & Son Ltd.; fire alarm bells, Jas. Kilpatrick & Son Ltd.; fire alarm bells, Jas. Kilpatrick & Son Ltd.; heating (central) (stage 1), James Combe & Son Ltd.; heating (central) (stage 2), and ventilation, G. N. Haden & Sons Ltd.; heating (grates in cottages), Alexander Dunn Ltd.; electric light fixtures, Merchant Adventurers, Frederick Thomas; telephones, G.P.O., Standard Telephones & Cables Ltd.; clocks, Gent & Co. Ltd.; painter, Guthrie & Wells; kitchen equipment, James Stott & Co. Ltd.; roller shutters, William Holt & Co.; laundry, D. & J. Tullis Ltd. and Thomas Bradford & Co. Ltd.; furniture supplied by Wylie & Lockhead Ltd., Findlater Smith Ltd., David Elder, D. MacDonald Bros., Watson (typewriters, desks, etc.); sterilizing equipment and electrical medical equipment, Ministry of Works; hose reels and fire appliances, Pyrene Co. Ltd.; metal windows, Henry Hope & Son; pressed metal water tanks, Braithwaite & Co. Ltd.; bed screens, John Weston & Co. Ltd. (Medino Screens); glass, Scottish National Glass & Glazing Co. Ltd.; stairtreads, Ferodo Ltd.; shrubs and trees, Sportsworks Ltd.

Correction

We regret that owing to an oversight the words "A subsidiary of the Brightside Foundry & Engineering Co. Ltd." were omitted from the Brightside Heating & Engineering Co. Ltd., Sheffield, advertisement, which appears on page xviii in this issue.

Demountable partitions by Compactom Ltd. on the Fourth Floor, Time and Life Building W1

Architect:
Michael Rosenauer F.R.I.B.A.

When you decide to divide

BUILDING EXHIBITION Visit us on Stand 60, Row C, Ground Floor, Olympia.



you'll find the most suitable materials and

finishes for all requirements combined in Compactitioning -

the complete, individual service of

COMPACTOM PARTITIONING

Write for full details to COMPACTOM LTD., OXGATE LANE, CRICKLEWOOD, LONDON, N.W.1

Telephone: GLAdstone 6633 (3 lines)

SPACE HEATING

er,

ing, oor ork) Jas. ing ton rick td.:

age cenden (es), res, nas; s & td.; uipller O. &

vid pelent

ces,

nks, ohn ass, td.; ees.

1

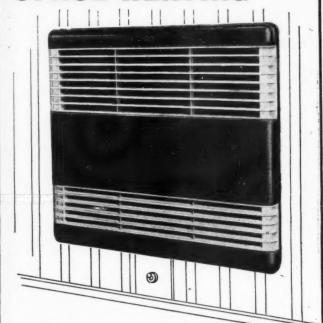
the

side

vere

ise-

this



that saves space

The beauty of Thermovent B Series Inset Heaters is their unobtrusiveness. They can be safely built into walls, partitions, or even furniture. The front panel projects only 1% into the room. No special insulation in the recess is necessary. Their convection efficiency is exception 1—which means the heater can be sited almost anywhere in the room and still operate with complete effectiveness.

Thermovent Inset Heaters are designed for appearance as well as performance. The front panel is made in black or walnut-finish plastic with matt-gold enamelled steel grilles.

NEW AUTOMATIC HEAT CONTROL

An externally accessible THERMOSTATIC CONTROL is incorporated in BC models for easy adjustment to the required temperature. The thermostat reacts instantly to temperature changes in the room, thus improving the operational efficiency of the heater and lowering running costs.

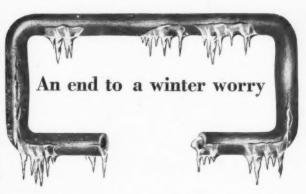
The Thermovent Technical Advisory Service will gladly co-operate in the planning of comfortwarmth installations in premises of every kind.

Thermovent

ELECTRIC COMFORT HEATING

Thermovent Electric Space Heating is well worth looking into! Write for catalogue of the full range of Thermovent heating equipment.

THERMOVENT HEATING . E. K. COLE LTD . 5 VIGO STREET . LONDON . W1



Water pipes of 'Shirene' never burst however hard the frost

With 'Shirene' plastic tubing, burst water pipes are now a thing of the past. Although so tough as to be virtually indestructible, 'Shirene' has sufficient "give" to accommodate the pressure of water turning to ice. Think of the damage and inconvenience property owners and householders will be saved. 'Shirene' is also much cheaper than conventional piping. Flexible, many times lighter than metal and fareasier to work, it takes a big load off the plumber's shoulders. Builders' and plumbers' merchants too will find they're on to a good thing with 'Shirene'. Additionally, 'Shirene' is the perfect medium for agricultural supply lines, industrial or chemical plumbing, and all kinds of cold liquid conveyance: It is non-toxic, and quite unaffected by most acids, alkalis, salt water, air or soil.

White or colours can be had in a wide range of standard sizes up to 12". Larger sizes specially made. Coils of 50', 100', 250', and up to 500', each wrapped in hessian and labelied with full details. Immediate delivery of all standard sizes in all coil lengths.

* VISIT US AT STAND No. 277N AT THE BUILDING EXHIBITION



'Shirene' is a product of Shires, the largest manufacturers of moulded cisterns in Europe. For full details and trade terms write to:

DEPT.A.1, SHIRES & CO. (LONDON) LTD., GREENBOTTOM WORKS, GUISELEY, YORKS. (Factories also at London and Stoke) Shires (Ireland) Ltd., Stannaway Drive, Crumlin, Dublin.



57

MACHINE ROOM DIMENSIONS LIFT PLANNING ... a few reminders EQUIVALENT DEAD LOADS **UPON** The type of passenger OVERTRAVEL Type of building. Number of floors Population per floor **DEPENDS** The position of Lifts Number of Lifts. Car Capacity of Lifts Type of Control. Speed PUT YOUR LIFT PROBLEMS LIFT WELL SIZES TO HAMMOND & CHAMPNESS AND LET THEM PREPARE THE ANSWERS LANDING OPENINGS COMPLIANCE WITH REGULATIONS GOODS AND SERVICE Hammond & Champness Ltd Gnome House, Blackhorse Lane, London, E.17. Tel: Larkswood 1071 PIT DEPTHS

thought you'd look at this

THE ENGRAVERS GUILD LTD

MAKERS OF PRINTING BLOCKS

WINDSOR HOUSE · CURSITOR STREET · LONDON · E.C. 4

the unique features of ROBERTSON Q-DECK

include ...

The 'Top-Speed' method of fixing Q-Deck units is used exclusively by the Robertson Erection Service. Unsightly fasteners, such as hookbolts, are not used. 'Top-Speed' fastening is fully explained on page twelve of Robertson Q-Deck Publication QD.3. Have you had your copy?

- 'top-speed' fixing
- minimised fire risk
- clean flat soffit
- ✓ permissible spans up to 14 ft. no blistering of felt weatherproofing resistance to corrosive conditions

ROBERTSON THAIN LIMITED

Ellesmere Port · Wirral · Cheshire

Telephone: Ellesmere Port 2341 Telegrams: "Robertroof"



'TOP SPEED' FIXING

Sales Offices:

LONDON
GLASGOW
BELFAST
BIRMINGHAM
NEWCASTLE
LIVERPOOL
SHEFFIELD
MANCHESTER
CARDIFF



Smoke Abatement

* There need not be Smoke with A FLAVEL FIRE!





E MAY perhaps be pardoned for wasted—and they are very economical the lower part of the fire. Both turning the phrase for our headline, because it is true. Flavel smokeless fuel fires satisfy both the TWO MODELS smoke abatement requirements of The two models available at once for Flavel smokeless fuel fires for new provide constant heat (controllable warmed and practically no heat is form a convenient shelf and to expose

on fuel.

public authorities and the traditional quantity delivery are the 'Newbold' British love of a friendly, open fire. and the 'Flavel Seymour'. Both are This is why public bodies throughout modestly priced and available in a range the country are continually specifying of varied and gleaming colours. They are styled to harmonise with either development schemes. These fires contemporary interior decoration or solid fuel. with more conventional schemes. over a wide temperature range) and Heavy-duty fire bars are a Flavel they burn for hours without being feature ensuring long service, and touched. Heat is delivered at near- the long-burning attachment of the floor level so that the whole room is 'Flavel Seymour' can be dropped to

models can be supplied with gas ignition if required. Insulation in the well of these grates is obtained by an air pocket thereby avoiding the use of fire bricks which, in replacement, can prove very costly.

* The 'NEWBOLD' and 'Flavel SEYMOUR' burn best on smokeless fuel but they can use any

SMOKELESS SINCE 1920's

For new constructions, Flavels (who pioneered smokeless grates in the 1920's) also manufacture a full range of built-in labour-saving appliances, details and prices of which will be sent on request - or your Flavel stockist will gladly give you further information.

SIDNEY FLAVEL & COMPANY LIMITED . LEAMINGTON SPA

See a **FLAVEL** first

Telephone: 100 Head Office) 3091 (Sales Office) Telegrams: FLAVELS

OUTSTANDING SUCCESS!!!

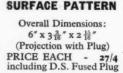


COOKER CONTROL UNITS

SURFACE AND FLUSH PATTERNS



FLUSH PATTERN





Overall Dimensions:

6\frac{1}{8}^{\tilde{x}} \times 3\frac{1}{8}^{\tilde{x}} \times 1\frac{1}{8}^{\tilde{x}}

(Projection with Plug)

Dimensions of Box:

6'' \times 3'' \times 2''

PRICE EACH - 31/including D.S. Fused Plug

Architects, consultants and municipal authorities have quickly seen the advantages of these new DS Cooker Control Units. Electrical contractors and builders appreciate their easy installation and trouble-free servicing.

• Streamlined, styled to suit modern kitchen interiors • Ivory plastic cover of thick section with contrasting red switch operating levers—positive "ON-OFF" indication • Compact design provides simple installation • Complete safety for users • Easily cleaned • Main switch 30 Amp. DP-AC with large silver rivet contacts • Auxiliary circuit 13 Amp. DP-AC switch socket outlet to B.S.S. 1363/1947. Switch contacts break on both poles for added safety.



Auxiliary circuit for use with kettles and other electrical kitchen appliances.



Adaptor plate for surface type provides concealment of supply and outgoing cable.

This new DS range of quality products represents the highest possible value in up-to-date Cooker Control Units. Other types are available in cream stove enemelled finish.

IMMEDIATE DELIVERY
NOW AVAILABLE FROM STOCK

SEND FOR CATALOGUE DSP-2

D.S. PLUGS LTD

MANCHESTER 5 and SALTERBECK, WORKINGTON. Also at LONDON, GLASGOW, BELFAST, LEEDS, CARDIFF, NEWCASTLE, BIRMINGHAM.

Trinidad LAKE ASPHALT FOR PERFECT

LAKE ASPHALT

is a valuable component of good mastic on account of its remarkable consistency and is provided for in

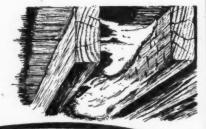
BRITISH STANDARDS 1076: 1942, 1410: 1947, 1451: 1948.

Further particulars on request from

PREVITÉ

CAPEL HOUSE 54 NEW BROAD ST LONDON E.C.2 Tel: LONdon Wall 4313

STOP DRY ROT



WITH DEEP PENETRATION
HIGH STERILISATION

ENTOKIL

DRY ROT FLUID



in the RENTOPAIL

The easy, safe method of killing DRY and

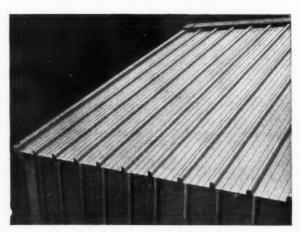
The easy, safe method of killing DRY and WET ROT and all FUNGAL ATTACKS permanenly No repeat treatment necessary . . . and afterwards the multi-purpose Rentopail is useful for 5 gallon container—AT NO EXTRA COST. Ask for Rentokil Dry Rot Fluid by name. Stands 400/401, Building Exhibition.

RENTOKIL LTD., (A.J.) FETCHAM, LEATHERHEAD, SURREY

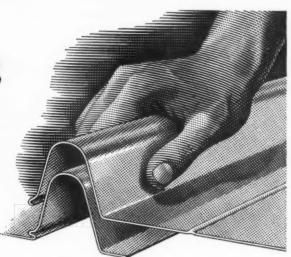
New complete system for roofing and siding—Noral 'SNAPRIB' Sheet

Noral 'Snaprib' sheet is the latest development in aluminium roofing and siding, a complete system that is simple, economical and neat.

Simple—because the basis of 'Snaprib' is the simple but very strong snap-joint by which the sheets are joined together, the roofing or siding being secured by special clips. Economical—because the speed of assembly cuts labour costs. Neat—because all joints and fastenings are concealed, and a complete range of specially-designed accessories is available.



Roof and walls are good-looking and weatherproof.



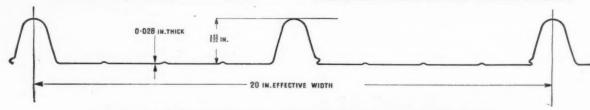
Easily snapped together, the joints 'lock' powerfully against suction loading.

'Snaprib' can be used for roofing houses—traditional or prefabricated—or for siding and roofing industrial buildings. It can be fixed on metal or timber purlins, and insulation boards can be incorporated. It comes in lengths up to 20 ft., so that end-laps can often be avoided altogether. Where necessary, it can readily be dismantled without damage and used again on another installation.

Like other forms of Noral building sheet, 'Snaprib' combines strength with lightness, and needs no painting or other costly maintenance.

The 'Snaprib' system is fully covered by patents held by Cookson Sheet Metal Developments Ltd.

For our descriptive brochure 'Noral Snaprib Sheet', or for specific information, please write to the nearest of the undermentioned Sales Offices.



Northern Aluminium

COMPANY - LIMITED

Sales Offices

AD ST

11 4313

d WET anently d afterul for 5 T. Ask

URREY

LONDON: Bush House, Aldwych, W.C.2. Telephone: Temple Bar 8430 BIRMINGHAM: 14 Bennetts Hill, 2. Telephone: Midland 5236
MANCHESTER: 75 Piccadilly, 1. Telephone: Central 5479 BRISTOL: Peloquin Chambers, 18 St. Augustine's Parade, 1. Telephone: Bristol 20351
NEWCASTLE: Groat House, Collingwood Street, 1. Telephone: Newcastle 20878 LEEDS: 27 Park Row, 1. Telephone: Leeds 33621



ap the architectural press

A selection of books on building practice

NEW WAYS OF BUILDING Edited by Eric de Maré, A.R.I B.A. Contributors: Dr. K. Hajnal-Kónyi (concrete), O. Bondy (steel), Phillip O. Reece (timber), K. Cheesman (glass), W. B. McKay (brickwork), Philip Scholberg (light metals and plastics), C. C. Handisyde (insulation). A book on building construction which acts as an appendix to existing standard works. It is written by a group of authors, each a specialist in his own subject, on whose knowledge the general practitioner can rely. Bound in full cloth boards. Size 9½ ins. by 7½ ins., 256 pages, over 200 photographs, plans and drawings. Second, revised, edition. Price 30s. net. Postage &d.

NEW WAYS OF SERVICING BUILDINGS Edited by Eric de Maré, A.R.I.B.A. Contributors: John Bickerdike (lighting), J. R. Kell (Heating Larger Buildings), C. C. Handisyde (House Heating), H. G. Goddard, (Plumbing, Sanitation and Hygiene), K. Cheesman (Interior Finishes), Philip Scholberg (Addenda). A companion Volume to New Ways of Building, similarly compiled. Each author has made a special study of his subject. Size 9\frac{1}{2}ins. by 7\frac{1}{2}ins., 228 pages including 44 pages of plates. Price 30s. net. Postage 8d.

BUILDING MATERIALS by Cecil C. Handisyde. Foreword by A. H. Moberly, formerly Chairman of the R.I.B.A. Text and Reference Books Committee. The first of three books on building construction to be published at the recommendation of the Text and Reference Books Committee of the R.I.B.A. Size 9\frac{1}{4} ins. by 6 ins. 336 pages with 58 diagrams and photographs. Price 30s. net. Postage 8d.

STRUCTURE IN BUILDING by W. Fisher Cassie and J. H. Napper. The second text-book in the same series as Building Materials. Size 9 ins. by 6 ins. 266 pages with over 150 diagrams and half-tones. Price 30s. net. Postage 7d.

PLASTICS IN BUILDING by Joseph B. Singer. A text-book giving up-to-date information on the practical application of plastics in the building industry. Size 8½ ins. hy 5½ ins. 176 pages with over 50 line-diagrams and 30 half-tones. Price 18s. net. Postage 5d.

ACOUSTICS IN MODERN BUILDING PRACTICE by Fritz Ingerslev. Foreword by W. A. Allen. A Danish scientist is the author of this text-book, a general introduction to architectural acoustics. Size 8½ ins. by 5½ ins. 300 pages, over 220 line and half-tone illustrations. Price 35s. net. Postage 8d.

THE MODERN FACTORY by Edward D. Mills. A book to help solve the many problems of factory planning, design and construction. Size $9\frac{1}{2}$ ins. by $7\frac{3}{8}$ ins. 196 pages with bibliography, index, 44 pages of plates and many line-drawings. Price 30s. net. Postage 8d.

THE MODERN SHOP by Bryan and Norman Westwood. A practical, comprehensive, up-to-date book concerned with the planning, design and equipment of the smaller retail shop. Second, revised, edition ready this month. Size $9\frac{1}{2}$ ins. by $7\frac{1}{2}$ ins. 194 pages with 140 line illustrations and 180 half-tones. Price 30s. net. Postage 8d.

a complete new, illustrated 1955 catalogue will be sent on application to

ap the architectural press

9-13 Queen Anne's Gate London SW1

overseas

Canada The British Book Service (Canada) Ltd., Kingswood House, 1068
Broadview Avenue, Toronto, Ontario, Canada.

South Africa E. Maxwell Arnot, P.O. Box 275, Cape Town, S.A.

Sanbra

for choice



The No. 5312 ELM "Easilyne" Bath Mixer was first shown at the B.I.F., Castle Bromwich, in May this year.

Immediately, the Trade and the Public appreciated its skilful design, which combines efficient purpose and attractive appearance. Naturally, the subsequent enquiries for such a quality-first product have been encouraging.

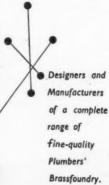
Note especially the re-styled "telephone rest" and the fingertip control in place of the conventional and often awkwardto-operate diverting lever . . . and, of course, the "Easilyne" headworks.

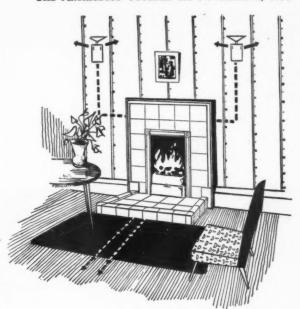
YOUR enquiries are invited.

ASTON HALL ROAD . BIRMINGHAM, 6

Visit our Exhibit STAND 75, ROW D

OLYMPIA Nov. 16 - 30th





Open fire radiation uniform space heating...

With Dunn's AIRDUN Convector Fire you have the best of two systems of heating. Primarily, you have all the advantages of the traditional open fire-including radiant heating and economy control. In addition to this, you have a continuous flow of warm convected air entering the room from grilles situated in the wall or fireplace. (In the example illustrated the grilles are concealed behind light fittings in the wall). The AIRDUN Convector has several applications and is especially suited for heating other parts of the house from the one fire.

AIRDUN CONVECTOR FIRE

For full technical details write to the manufacturers who will be pleased to advise you on your specific heating problems

ALEXANDER DUNN LIMITED

Bothwell Road, Uddingston, Lanarkshire.

Tel. Uddingston 500



The fitting illustrated is a

standard P41 Pendant comprising

stove enamelled reflector with

slots for upward lighting and

concentric louvres, as

supplied to Chaddesden Secondary

Modern School.

Architect:— Architects' Co-Partnership

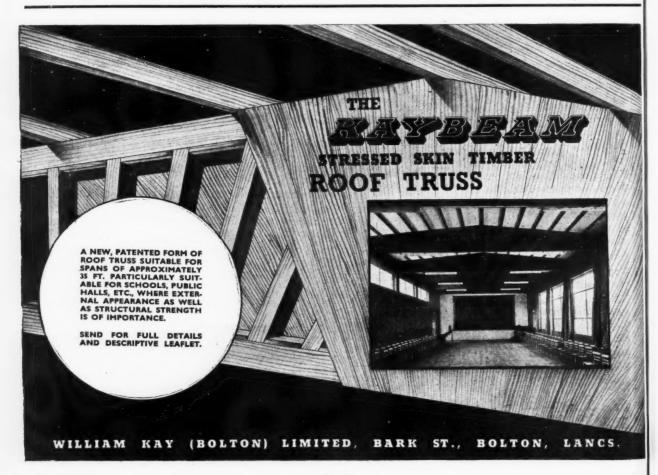
lighting for special installations

Hume Atkins can advise on lighting schemes and prepare proposals and estimates, including the preparation of special designs in appropriate styles.

A wide range of commercial lighting fittings for tungsten and fluorescent lamps is also available

by Hume Atkins

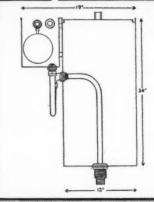
Hume Atkins & Co. Ltd., 66, Victoria Street, London, S.W.1. Tel.: ViCtoria 0161 - New Icknield Way, Letchworth, Tel.: Letchworth 2011/2



ret you out of HOT WATER Trouble

Specified by Local Authorities. Architects and Heating Engineers throughout the country.

2011/2



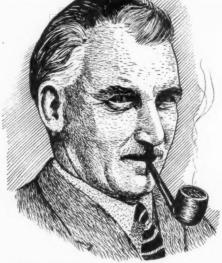
DURHAM

CALORIFIER

ROLYAT TANK CO. LTD. . CROMWELL ROAD . YORK

YOU CAN

HALF



specified them for 20 years

FORDHAM

Nothing difficult about fitting Fordhams. They are surprisingly light and fitted with concealed brackets which make installation simple, save on labour. Yet the Fordham shell, pressed from a single sheet of steel is practically indestructible and can be frozen solid without damage. The high efficiency fittings are good for a lifetime of trouble-free service.

LIMITED FORDHAM PRESSINGS

FIT A

THE

That's one reason why I've

Dudley Road, Wolverhampton.

'Phone: 23861







SINGLE GARAGES

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

LEAN-TO GARAGE

Designed for building on to the house or existing wall. Width required only 8'. Rear door available.





MULTIPLE GARAGES

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

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

Attractive Deferred Terms FREE DELIVERY IN ENGLAND AND WALES **5 YEARS** FIRE INSURANCE

Send for FREE illustrated Brochure

ERNEST BATLEY LTD.

63 Colledge Road, Holbrooks, Coventry. Tel: 89245/6

THE FACULTY OF ARCHITECTS AND SURVEYORS

Ecor

(with which is incorporated the Faculty of Surveyors of England)

Incorporated (1926) as a Professional Centre

ARCHITECTS

Corporate membership is available to Architects registered in the United Kingdom and Oversea

SURVEYORS

Examinations are held bi-annually in the following sections: Building, Land, Valuation, Municipal, Quantity, Hydrographic, and Urban and Rural Estate Management.

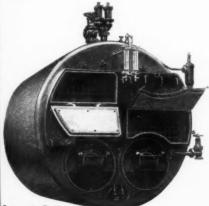
Important Note: Certain concessions in respect of admission to membership on practice qualifications from Surveyors engaged in the profession will apply for a limited period.

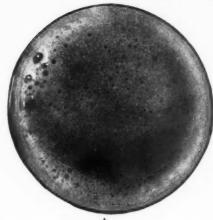
Further particulars may be obtained from:

The Secretary (K) 68, Gloucester Place, London, W.1. Telephone: WELbeck 9966.



"Now, you're guessing..."





but it doesn't take twenty questions to learn that the Marshall & Anderson Organisation of Motherwell, equipped with modern Anderson Organisation of Motherwell, equipped with modern Fusion Welding Plant, including X-Ray equipment, Stress Relieving Furnaces, Union Melt, and many other automatic machines, Heavy Press, Flanging, and large capacity Spinning facilities, and powerful Hydraulic Plant, are supplying some of the most important industries throughout the world with Boilers, Pressure Vessels, Dished Ends, Storage Tanks, Fractionating Columns, and Corrugated Furnaces—all subject at very vital stage of fabrication to constant control and visibles. every vital stage of fabrication to constant control and vigilant examination, in accordance with all codes—Lloyd's Class I A.O.T.C., and Api-Asme.

WELDED OR RIVETED BOILERS

MARINE LOCO TYPE
SCOTCH MARINE
ECONOMIC DOUBLE
WET BACK AND
ECONOMIC TREBLE
DRY BACK PASS
VERTICAL CROSS TUBE
FLEMING PATENT
VERTICAL MULTITUBULAR
WASTE HEAT

DISHED AND FLANGED ENDS FROM SMALLEST TO LARGEST DIAMETERS

FLANGED BOILER MATERIAL

CORRUGATED FURNACES (MACHINED ROLLED)

HEMISPHERICAL FUR-

FABRICATEDSTRUCTURES PUSION WELDED PRES-SURE VESSELS

FUSION WELDED BOILER DRUMS

FABRICATED STAINLESS
STELL AND STAINLESS
CLAD VESSELS

ALUMINIUM PRESSINGS AND WELDMENTS



& **ANDERSON** MARSHALL

MANSE ROAD, MOTHERWELL, LANARKSHIRE, SCOTLAND Telephone; Moti.erwell 900 (3 lines) Telegrams: "Marine," Motherwell London Office: 34 VICTORIA STREET, LONDON, S.W.1. Telephone; Abbey 5904. Telegrams; Broomsyde, Sowest, London

A "thirsty-eye view" of a pint of beer. **Economic Boiler**



S

g

al

of

e le

If the contract demands low cost plus maximum efficiency you are safe with DUBLOTANK. It needs only a wall depth of II ins. and is suitable for a working head of 10 flats.

Note these DUBLOTANK points:

- Initial cost less than ordinary circular tank of equal strength.
- Fits any standard cupboard and gives greater efficiency because of short flow and return pipes
- Suitable for installation in buildings with head of water up to ten flats. supplied with standard immersion heater is and plugs.
- * Felt lagging supplied as standard.

Write for Illustrated Folder A.I.

SPECIFICATION

SPECIFICATION
Size 4lin, high, 23in, wide, 1lin, back to front and made to British Standard Specifications, maximum test pressure 100 lbs. per sq. in, Unit complete with 4-lin, tappings for flow, return, cold supply and hot draw-off, also 1-24in, tapping with plug for immersion heater.

D.M.CUTHELL & CO. LTD.

QUEEN STREET, EDINBURGH PHONE: CALEDONIAN 7285

floors and roofs

TROFDEK

Schools, Hospitals, Blocks of flats, Offices, Factories—over 200 contracts in fifteen months—have been built quicker and more cheaply thanks to TROFDEK. With this system of prefabricated roof construction, Architects, Engineers and Public Authorities "throughout the country" have solved the problems of weight versus strength versus cost: TROFDEK (requiring no steel), weighs only 2-3 lb. per sq. ft., but carries required roof loads up to a free span of 24ft.

And now, TROFDEK SUPERSPAN UNITS for free spans up to 40 ft.-weighing only 3 lb. per sq. ft.-will contribute in even greater measure to the saving of weight, time and money in all building construction.

> TROFDEK SUPERSPAN WILL BE SHOWN PUBLICLY FOR THE FIRST TIME AT THE BUILDING EXHIBITION-STAND NO. 610, EMPIRE HALL GALLERY, OLYMPIA.

H. NEWSUM SONS & CO., LTD. (TROFDEK DIVISION) GAINSBOROUGH & LINCOLN. Telephone: GAINSBOROUGH 2391



TROFDEK STRUCTURAL SYSTEMS : WORLD PATENTS

LARDER LIGHT... and Ventilation Greenwood's Larder Lights simplify construction and are available in various sizes for instant and easy installation. They are made in heavy gauge steel and are supplied hot dipped galvanised. The ventilation panels are multi-louvred, weather-resisting and backed by insect-proof screens. For light and ven-

tilation Greenwoods have the answer and will be pleased to supply full technical data on request.



The 'Permavent' Venti-Light opens only from the interior and is firmly secured when closed. Available in five standard sizes.

FIXED LIGHT FRAME

Made in two types: with louvred panels above and below glazing, and with louvres at top only. Available in six standard







WOOD'S AND AIRVAC VENTILATING COMPANY

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

BEACON HOUSE, KINGSWAY, LONDON, W.C.2. CHAncery 8135/6/7. "Airvac", London

Electrical Products by . . .

GENTS'

- SYNCHRONOUS MAINS CLOCKS
- . ELECTRIC MASTER CLOCK SYSTEMS
- PROGRAMME INSTRUMENTS
- TIME RECORDERS
- TOWER CLOCKS
- WATCHMAN'S CLOCKS
- STAFF LOCATION SYSTEMS
- FIRE ALARM SYSTEMS (Manual and Automatic)
- . BELL AND INDICATOR SYSTEMS;
- LIQUID LEVEL INDICATING RECORDING AND CONTROL EQUIPMENT

Comprehensive illustrated literature FREE on request:-

SENT & COMPANY LIMITED

LIMITED · FARADAY WORKS
London Office & Showrooms: 47, Victoria Street, London, S.W.I.

LEICESTER

Also at: BELFAST

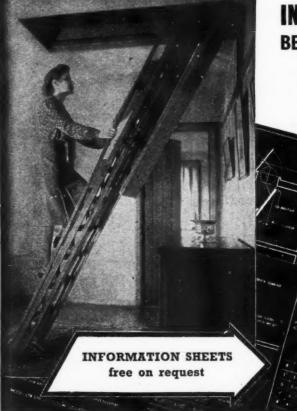
don

BIRMINGHAM .

BRISTOL

EDINBURGH

GLASGOW & NEWCASTLE



BERNER'S PATENT LOFT ACCESS STAIRS POPULARLY KNOWN AS LOFT LADDERS by the FIRST and ORIGINAL inventors

Patentees and Manufacturers

LOFT LADDERS LTD

The loft can increase the living space of the average house by at least 20 per cent.

With a Berner's Patent Loft Ladder, access is as safe and easy as walking up the stairs. Information sheets, issued on request, show in detail how this space may be made available both in new work and conversion.

Write for fully descriptive catalogue (A.J.) and prices of the various types.

There is a wide range of different types varying in price from £15 • O • O upwards

Our Loft Ladders are now free of Purchase Tax.

LOFT LADDERS LTD

The first and original inventors of Loft Ladders and Loft Access Stairs

BROADWAY WORKS, BROMLEY, KENT Tel.: RAVensbourne 2624

WHENEVER PREFABRICATION

IS REQUIRED

Timber framed.
Unit construction.
Simple and quick in erection.
Weatherboard or asbestos walls.
8' 10' 12' 15' 20' 25' 30' WIDE
7' 8' 10' HIGH TO EAVES

As supplied to:
Sports and Social Clubs.
Education Authorities.
Parochial Councils.
Borough Councils.
Hospital Boards.

ALSO
STEEL FRAMED BUILDINGS
AND NISSEN TYPE BUILDINGS
FOR INDUSTRIAL USES

Specify THORNS



Photograph by courtesy of Bedford Group Hospital Management Committee.

Enquiries invited. Write for details and prices.

J. THORN & SONS LIMITED (Dept. 188)

Brampton Road, Bexleyheath, Kent.

Tel. Bexleyheath 305

BD651a

PLASTER WELL with plasfaweld

THE PERFECT KEY FOR ALL PLASTERS

A permanent bonding fluid—for only 6d. a square yard!

No hacking needed—just brush it on!

Detailed instruction booklet free with every can!

FOR ALL SOUND CLEAN SURFACES HOWEVER SMOOTH OR POROUS

Plastaweld

PERMANENT BONDING FLUID

Our Technical Dept. will gladly help you with your particular problems.

Just telephone Clissold 5307 or write to Dept. AJ. with Technical or Trade enquiries

Sole Manufacturers: J. MANGER & SON LTD., 57d KINGSLAND HIGH ST., LONDON, E.8



LIGHTING IN KEEPING

The lighting of the Reception Room of Leathersellers' Hall is a fine example of the quality of the work done by Allom Brothers Limited.

The period fittings incorporate modern indirect lighting reflectors and special candle flame lamps.

In this complete lighting scheme, all the fittings were specially designed and manufactured by

ALLOM BROTHERS LIMITED

LIGHTING SPECIALISTS

LOMBARD ROAD, MORDEN ROAD, LONDON, S.W.19.

Sla

iries

E.8

LIBERTY 7636-8

Photograph by courtesy of the Leathersellers' Company. Architects: Louis de Soissons, A.R.A., and Partners.





Bostik Adhesives and Sealing Compounds

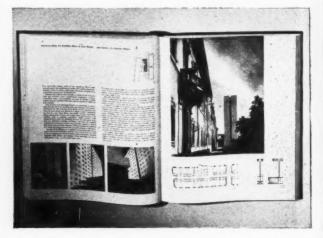
The word 'Bostik' is a registered trademark of

B. B. CHEMICAL CO. LTD., Ulverscroft Road, Leicester.

ready this month

ITALY BUILDS: ITS MODERN ARCHITECTURE AND NATIVE INHERITANCE, BY G. E. KIDDER SMITH, A.I.A., PHOTOGRAPHS BY THE AUTHOR

THE MOST SUPERB and significant book on Italian architecture which has yet appeared, this is the climax of Mr. Kidder Smith's famous series on European



architecture which began so auspiciously with Switzerland Builds and Sweden Builds. Not only will it profoundly influence every architect and planner, it will also delight and stimulate every student, traveller and lover of Italy who studies its 264 well illustrated pages.

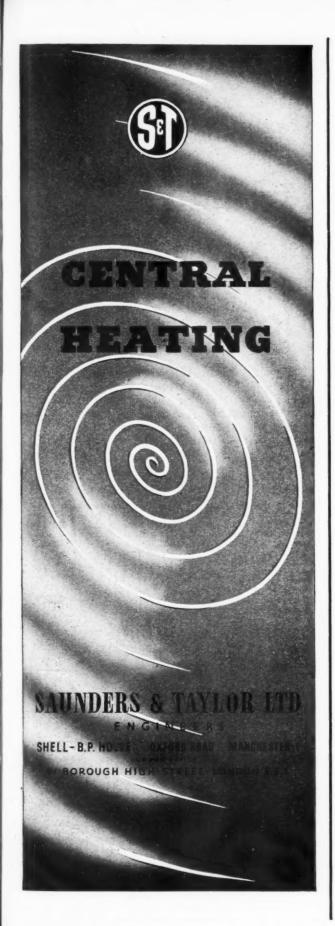
In the first half of the book the incredible architectural inheritance of the country is, virtually for the first time, examined critically by a modern architect. Historic architecture and planning have been lifted from the category of the dull text-book and infused with a life which has particular pertinence for us today. Ernesto N. Rogers provides a perceptive Introduction, and with the stage thus set we are given the brilliant modern work which burst on the world with such impact. Italy Builds captures the spirit and imagination, the lessons and ideas of the country's post-war architecture in galvanic fashion. The almost unknown but shining contribution of housing and commemorative architecture (including the most significant memorials in Europe), the imaginative shops, the scintillating exhibitions are among the many building types which introduce the climax of the book-the incomparable work of Pier Luigi Nervi, the greatest architectural engineer of the twentieth century.

Size 11½ in. by 8½ in., 264 pages, with over 750 illustrations. Introduction by Ernesto N. Rogers. The text set in English and Italian. Price 56s. net. Postage 1s. 6d. inland; 1s. 2d. abroad.

This edition not for sale in Italy or the U.S.A.

THE ARCHITECTURAL PRESS

9-13 Queen Anne's Gate, Westminster, S.W.1



ARCHITECTURAL JOURNALS

from the

U.S.S.R.

PUBLISHED IN THE RUSSIAN LANGUAGE

These Journals, containing news and articles of particular interest to British architects, are available on subscription from the Soviet Union.

ARCHITECTURE OF THE U.S.S.R.

Annual subscription 80s.

Monthly

MOSCOW ARCHITECTURE AND BUILDING

Annual subscription 60s.

Monthly

MUNICIPAL HOUSING

Annual subscription 40s.

Eight issues

BUILDING INDUSTRY

Annual subscription 50s.

Monthly

HYDROTECHNICAL CONSTRUCTION

Annual subscription 26s.

Eight issues

A complete catalogue of Russian-language trade and technical journals will be sent free on request to

COLLET'S BOOKSHOPS

Dept. R₃8, 44 & 45 Museum Street, LONDON, W.C.1.

Cheques should be made payable to Collet's Holdings Ltd.

Fifty industries concerned with building contribute to

THE BUILDING EXHIBITION 1955 **NOVEMBER 16 – 30** OLYMPIA LONDON

THE EXHIBITION

is the largest event of its kind in the world, nowhere else can there be seen under one roof so extensive a range of modern building materials, plant and equipment:

is supported by all the Government Departments concerned with building, by the Royal Institute of British Architects, The Royal Institution of Chartered Surveyors and many professional and industrial organisations.

ARCHITECTS, BUILDERS

and representatives of public authorities realise the advantages to be gained by seeing under one roof the latest methods and ideas which the British building industry has to offer the world.

An Exhibition, which is held once every two years, allows time for manufacturers to develop new ideas and exhibits of outstanding importance.

Everyone concerned with building operations of any kind should take the opportunity which the Exhibition provides of acquiring a more efficient and intelligent approach to modern problems and of achieving higher productivity in building. productivity in building.

TECHNICAL COLLEGES & SCHOOLS

Students and apprentices will be working in the Exhibition giving frequent demonstrations.

EXHIBITORS

Many of the 600 firms provide displays of working machinery, plant and equipment covering every phase of activity in modern building. Individual firms exhibit their techniques, materials and manufactured goods in more than fifty associated industries.

NEW BUILDING TECHNIQUES

Reviews of new techniques, prefabricated buildings of all kinds, including dwellings, systems for industrial buildings, hospitals, schools and other purposes, may

TIMBER AS A BUILDING MATERIAL

A number of timber-producing countries will provide displays of the uses of timber in building.

CONCESSION TICKETS ARE AVAILABLE FOR ORGANISED WORKS VISITS OF TWELVE OR MORE

THE BUILDING EXHIBITION MILLBANK LONDON, S.W.I 32

TATe Gallery 8134/8

CONTEMPORARY **DESIGNS** in DOOR **FURNITURE**



As suppliers of the Ironmongery for the ALEXANDRIA HOSPITAL Dunbartonshire to the instructions of the Architects, Messrs. John Keppie, Henderson & J. L. PAR 3828

Gleave we offer further contemporary designs

ARCHITECTURAL DOOR & WINDOW FITTINGS.

small selection from our extensive range has met the approval of architects everywhere. Enquiries are invited for all types in Brass, Bronze, Iron or Aluminium.

> Ask for special folder of Contemporary Designs C.D. 80

PARKER, WINDER & ACHURCH LTD.

80 Berkley St. Corner, Broad St., BIRMINGHAM I. (Midland 5001)

LONDON: 16 Grosvenor Place, S.W.1. SLOane 2232 & 2339 MANCHESTER: 16 John Dalton St., M.N.2. BLAckfriars 9478

OUTSTANDING VALUE ORNAMENTAL IRON

GATES

SOLD ONLY TO THE TRADE

Ideal for Estates and Competitive Building.

Special Prices for Contract Order.

throughout Agents United Kingdom.

3' opening -- €3.18.6 Send for catalogue and name 3' 4" opening - £4.5.0 of nearest stockist. Double Gate 7' - £10.7.10

Over 70 designs. Prices up to £75.

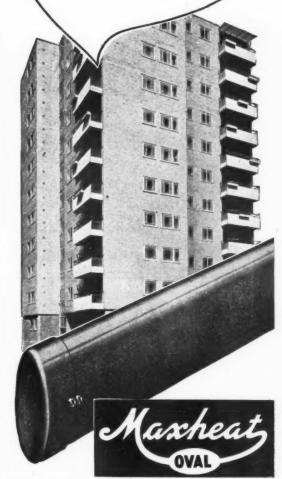
THE PRESTON Overall Height 3' 5"

Retail Prices:

Telephone: BRIGHTON 22191 2 3



Tubular Electric Heaters of course!



Photograph by courtesy of the L.C.C.

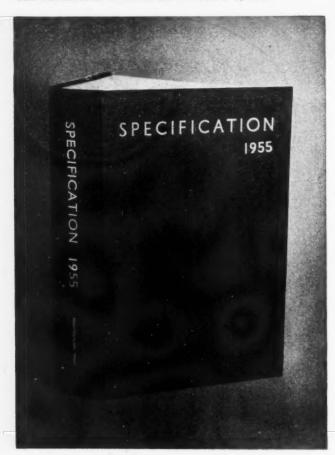
These heaters, each 1' 9" long, have been installed in the airing cupboards of the L.C.C. flats at the Alton Estate, Roehampton Lane, London. Maxheat can be supplied singly or in tiers up to 6, and in lengths up to 17 feet.

MAXHEAT — FOR BETTER SPACE HEATING

THE

ENGINEERING CO. LTD. Old Trafford, Manchester 16.

London Office: 234, VICTORIA ST., S.W.I. Tel; ABBey 4072 & 1356.



just published SPECIFICATION 1955

CL

Mai 13 sho mor pap

giv

Pu

to

Editor: F. R. S. YORKE, F.R.I.B.A.

THE 1955 EDITION of this unique complete guide to the writing of building specifications, long acclaimed as the standard work covering all sections of the building industry, has been scrupulously revised throughout by its editor, F. R. S. Yorke, F.R.I.B.A. and now runs to 1288 pages (1246 pages in 1954, 1176 in 1953). It contains a completely re-written section on illumination, and also major changes have been made in the sections on electrical engineer, metal worker (particularly the references to copper alloys), structural aluminium (with the help of the Aluminium Development Association), heating engineer. In each of its 36 sections will be found not only full details of the established methods of building construction but also the latest information about the constantly changing and ever increasing number of proprietary systems and materials.

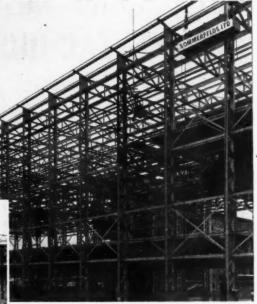
During recent years the demand for copies has been so great that the edition has been absorbed immediately on publication. You are therefore urged to place your order now for the 1955 edition. The price is 30s. net. Postage 2s. 3d. (3s. 2d. abroad).

THE ARCHITECTURAL PRESS, 9-13 QUEEN ANNE'S GATE, S.W.I

structural steelwork

DESIGN • FABRICATION • ERECTION





Sellington . SHROPSHIRE TEL: 1000 FLEXBOARDS, PORTABLE ROADS & AIRFIELDS ETC.

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 care of "The given above.

Public and Official Announcements

25s. p*r 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, 1982.

I.B.A.

ection made

iral pment tions

ials.

1. S.W.I

OUNTY BOROUGH OF DERBY.

COUNTY BOROUGH OF DERBY.

BOROUGH ARCHITECT'S DEPARTMENT.

HEATING, VENTILATING and MECHANICAL ENGINEER. A.P.T. Grades VIVI, 2750—21,000 per annum.

Applicants must be experienced in design of heating, ventilating and hot and cold water services, preparation of estimates and drawings for large public buildings and schools, and should be Associate Member of the Institution of Heating and Ventilating Engineers.

Commencing salary will be according to qualifications and experience.

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

Application form obtainable from and to be returned to the Borough Architect, The Council House, Corporation Street, Derby, not later than Monday, 14th November, 1955.

G. H. EMLYN JONES.

Town Clerk.

19th October, 1955.

BOROUGH OF UXBRIDGE.

SENIOR ASSISTANT ARCHITECT.
Applications are invited for the appointment of a SENIOR ASSISTANT ARCHITECT on the staff of the Borough Surveyor and Architect at a salary in accordance with A.P.T. Grade IV, viz. £705—4855 per annum, including London weighting at age 26 or over. A car allowance on the essential user scale will be paid to a candidate providing his own car. Applicants should have had a good architectural training and experience and preference will be given to Associates of the Royal Institute of British Architects. The appointment will be subject to the National Scheme of Conditions of Service, the Local Government Superannuation. Applications stating age, marital state, present and previous appointments, qualifications and experience and giving the names and addresses of three referees, should be forwarded to Harold E. G. Stripp, F. R.L.C.S., M.Inst. R.A., Borough Surveyor & Architect, 263. High Street, Uxbridge, not later than 9th HOUSING and COMMONATION.

MADE AVAILABLE IF REQUIRED. Candidates are required to disclose in writing whether to their knowledge they are related to any member or senior officer of the Connect.

BORDUIGH OF MITCHAM.

BOROUGH OF MITCHAM.
APPOINTMENT OF ARCHITECTURAL
APPOINTMENT OF ARCHITECTURAL
Applications are invited for the above appointment in the Borough Engineer and Surveyor's Department to A.P.T. Grade II of the National Scale of Salaries (£560 × 4/£20 to £640 per annum) plus London "weighting."
Further particulars may be obtained from the Borough Engineer and Surveyor. Town Hall, Micham, to whom applications must be forwarded endorsed "Architectural Assistant" by first post on November 17th, 1955.

R. H. WHITE.

R. H. WHITE, Town Clerk.

Town Hall, Mitcham. Surrey. 27th October, 1955.

PEMBROKESHIRE COUNTY COUNCIL.
COUNTY ARCHITECT'S DEPARTMENT.
Andications are invited for the post of ASSISTANT ARCHITECT on the permanent staff. Applicants should be members of the R.I.B.A. by examination and/or holding equivalent academic qualifications with experience of contemporary Architectural and/or Structural design. Salary Scale Grade IV A.P. & T. Division (£675 × £30 to £825 per annum) commencing salary according to qualifications and experience.

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

Forms of application can be obtained from the County Architect, County Offices, Haverfordwest, and should be returned duly completed to the undersigned not later than 12th November. 1955.

Clerk of the County Council.

County Offices,
Haverfordwest.

County Offices, Haverfordwest. October 17th, 1955.

CITY OF NOTTINGHAM.

ASSISTANT QUANTITY SURVEYOR, GRADE
A.P.T. V (2750-2900 per annum).

Applications are invited for the above position
in the City Engineer's Department.

Applicants should be Associates of the Royal
Institution of Chartered Surveyors or have extensive professional experience. The person appointed
will be required to be responsible for all quantity surveying work on individual major
contracts. Commencing salary will be according
to experience.

to experience,
HOUSING ACCOMMODATION IS AVAILABLE.

ABLE.
Applications on forms to be obtained from R. M. Finch, O.B.E., M.I.C.E., City Engineer and Surveyor, Guidhall, are to be returned to him by 19th November, 1955.
Guidhall, Nottingham.

Guildhall,
Nottingham.

BOROUGH OF BEDFORD.

APPOINTMENT OF TWO SENIOR ASSISTANT
ARCHITECTS.

GRADE A.P.T. V.—VI (£750—£1,000).

Applications are invited for the above appointments from candidates who should be A.R.I.B.A.
These successful candidates will be engaged on a variety of work including two storey housing and multi-storey flats, the design of a new municipal office block and an extension to the museum. There will also be work in the planning of redevelopment areas.

A house or flat will be made available to suitable applicants and the Council are prepared to pay removal expenses.

Application forms and other particulars may be obtained from the undersigned to whom applications should be returned not later than Wednesday, 16th November, 1955.

Borough Engineer & Surveyor.

Borough Engineer & Surveyors Office,
Newnham House,
Bedford.

3502

NEWCASTLE REGIONAL HOSPITAL BOARD.

NEWCASTLE REGIONAL HOSPITAL BOARD.
ARCHITECTURAL STAFF APPOINTMENTS.
(Philip H. Knighton, M.B.E., A.R.I.B.A.,
Regional Architect).
In connection with a large new hospital project,
the Board invites applications for the following
permanent, superannuable appointments on the
headquarters staff of the Regional Architect in
Newcastle.

headquarters staff of the Regional Architect in Newcastle.

(a) ASSISTANT ARCHITECT. Applicants must be registered Architects. Commencing salary within grade £640 × £25 (4) × £30 (4) × £35 (2) to £950 p.a., will be according to years of practical experience since becoming a registered Architect.

(b) ARCHITECTURAL ASSISTANT. Applicants must have passed the Intermediate examination of the R.I.B.A. or an examination recognized by the Institute as equivalent, and some practical experience is essential. Commencing salary within grade £480 (at age 21 or over) × £20 (7) × £25 (2) to £670 p.a., according to practical experience since passing Intermediate examination but on texceeding £560.

(c) ARCHITECTURAL DRAUGHTSMAN, Applicants should have had previous experience in an Architect's Drawing Office and be neat and quick draughtsman. Commencing salary £390 (at age 21 and over); subtract £20 for each year below 21) × £20 (2) × £25 (6) to £580 per annum.

The posts offer opportunity for gaining all

year below 21) × £20 (2) × £25 (6) to £580 per annum. The posts offer opportunity for gaining all round general, as well as hospital, experience and for doing good class work in an expanding department. Evening study facilities are available at Kings College of Durham University in Newcastle. Applications stating age, qualifications, past and present appointments, present salary and details of experience and training together with the manes of three referees (of whom at least two should be architects) should be forwarded to the Secretary, Newcastle Regional Hospital Board, Walkergate Hospital, Benfield Road, Newcastle-upon-Tyne 6, not later than 12th November, 1955.

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

Applications are invited for appointment as full-time LECTURER IN STRUCTURAL ENGINEERING and associated subjects.
Candidates should hold one or other of the following qualifications:—
(a) B.Sc. (Eng.), with structural engineering

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

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

(c) A.M.I.C.E.

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

The successful candidate will be required to take up the appointment as soon as possible. Salary will be in accordance with the Burnham (Further Education) Scale for Lecturers (Men), 6965×225 to £1.065.

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

R. P.HLING.

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

COUNTY BOROUGH OF GREAT YARMOUTH.

APPOINTMENT OF SENIOR ASSISTANT

ARCHITECT.

Applications are invited for the above appointment in the Borough Engineer's Department at a salary within A.P.T. Grade V (2750—4590). Applicants must be A.R.I.B.A. with wide experience in the design and administration of large contracts for specialized buildings carried out by a Local Authority. Preference will be given to applicants having experience in new library buildings.

Housing accommodation will be made available. Applications, in an envelope endorsed "Senior Assistant Architect," giving names and addresses of two referees and stating age, professional training, qualifications, experience and present and previous appointments with salaries, must reach me not later than 12 noon, 19th November, 1955.

FARRA CONWAY, Town Clerk.

Town Hall, Great Yarmouth. 27th October, 1955.

Great Yarmouth.
27th October, 1955.

LAGOS EXECUTIVE DEVELOPMENT
BOARD—NIGERIA.
ASSISTANT ARCHITECT. 21,500 per annum.
(1) Applications are invited for the above appointment.
(2) The Board is responsible for large-scale planning control, outline and detail planning and construction for both new development and redevelopment for industrial, residential and comercial purposes in Lagos. These responsibilities follow very similar lines to those of a Development Corporation operating under the New Towns Act. 1946.
(3) Candidates must preferably have experience in large-scale housing development, and be a Associate Members of the Royal Institute of British Architects.
(4) Conditions of appointment are as follows: Appointment is for one tour of 18 to 24 mouths in the first instance, renewable by mutual agreement. The Board operates a Provident Fund to which the officer contributes 10 per cent. of his salary. Leave is granted at the rate of seven days on full pay for each month resident in Lagos. Free first-class air passages are provided for the officer and his wife, and assisted passages (maximum £75 per child) for up to two children, or separation—allowance of £75 per annum per child in lieu thereof. Partly furnished quarters are provided, for which a rent of 10 per cent. (maximum £150 per annum) of the officer's basic salary is charged.

(5) Application forms obtainable from and returnable in duplicate to the Commissioner for Nigeria in the United Kingdom, 41. Buckingham Palace Road, London, S.W.1. Mark correspondence L.E.D.B.

PADDINGTON BOROUGH COUNCIL.

The following vacancies occur in the Department under the control of the Director of Housing and Borough Architect, in which there is at present, and contemplated, an interesting programme of civic building and housing schemes. Suitably qualified and experienced applicants are required with a knowledge and enthusiasm for the best contemporary work. Commencing salaries within scales will depend on qualifications and experience.

the best contemporary work. Commencing salaries within scales will depend on qualifications and experience.

(1) SENIOR ASSISTANT ARCHITECT (A.P.T. VI—2855 to £1,030 p.a.). Applicants must be A.R.I.B.A., with practical experience of building work and a personality likely to obtain results with other staff. They should also have experience in the design and supervision of housing schemes, including multi-storey flats, and be acquainted with local government procedure. Some experience in town planning would also be an advantage. (Quote A.246.)

(2) ASSISTANT ARCHITECT (A.P.T. V—2780 to £930 p.a.), A.R.I.B.A. candidates preferred, with some experience also in design and supervision of building works of some magnitude and a knowledge of local authority requirements. (Quote A.247.)

(3) ARCHITECTURAL ASSISTANT (A.P.T. III—2630 to £755 p.a.). Applicants should be Inter. R.I.B.A. and be capable of preparing working and detail drawings and sketch drawings on smaller schemes. Should also be quick and competent draughtsman, with an adequate knowledge of building byelaws, housing manual standards and modern construction techniques. (Quote A.248.)

(4) QUANTITY SURVEYDOR'S ASSISTANT (A.P.T. III—2590 to £670 p.a.). Candidates should have experience in preparation of estimates, working up, abstracting, billing, site measurement and working up to final account stage. Preference to candidates being holders of, or at standard of, Inter. R.I.C.S. (Quantities Sub-division.)

(4) QUANTITY SURVEYDOR'S ASSISTANT (A.P.T. III—2590 to £670 p.a.). Candidates should have experience in preparation of estimates, working up, abstracting, billing, site measurement and working up to final account stage. Preference to candidates being holders of, or at standard of, Inter. R.I.C.S. (Quantities Sub-division.)

of. Inter. R.I.C.S. (Quantities Sub-division.)
(Quote A.249.)
(5) BUILDING SURVEYING ASSISTANT
(A.P.T. II—2590 to £670 p.a.). Candidates should have practical knowledge of building construction, experience in surveying and levelling, the repair, adaptation and conversion of civil and residential properties, and be capable of preparing plans, specifications and estimates of costs in respect of those works and their supervision. Candidates preferred at advanced stage of preparation for R.I.C.S. Intermediate or equivalent examination. (Quote A.250.)
Applications in writing to the undersigned by 16th November, 1955.

W. H. BENTLEY.

Town Clerk.

W. H. BENTLEY, Town Clerk. Town Hall, Paddington Green, W.2.

BOROUGH OF OLDBURY.
BOROUGH SURVEYOR'S DEPT.—ARCHITECTS' SECTION.

Applications are invited for the appointment of an ARCHITECTURAL ASSISTANT, Grade A.P.T. III (1600—1728), in the Borough Surveyor's Department. Applicants for the appointment should be good architectural draughtsmen, with experience in the preparation of working drawings and details from preliminary sketches, and should have good experience of housing and education work normally undertaken by Local Authorities and capable of administering small building contracts.

contracts.

The appointment will be superannuable, subject to the National Conditions of Service and to the selected candidate passing a medical examination. Housing accommodation will be available to married applicants if this is required. Applications, giving particulars of age, qualifications and experience, and the names of two referees, should be delivered to the undersigned not later than Saturday, 12th November, 1955.

KENNETH PEARCE, Town Clerk.

Town Clerk. Municipal Buildings, Oldbury, Birmingham. 27th October, 1955.

27th October, 1955.

27th October, 1955.

WAR OFFICE.

Vacancies exist for ARCHITECTURAL ASSISTANTS in the Architectural branch of the Directorate of Fortification and Works, Chessington, Surrey.

Candidates must have at least three years' architectural training, experience in an architect's office, and be of Intermediate R.I.B.A. standard. A varied programme of design is undertaken, including married quarters, barracks, hospitals, schools, clubs, layouts of estates and cantonments, for Home and Overseas.

Applicants must be British of British parentage. Salary range is 2453 (at 21)—2710, plus overtime. Starting pay according to age, qualifications and experience, with annual increases subject to satisfactory service. Prospects of promotion and establishment. Canteen facilities.

State age, full details and experience, to Secretary of State for War, War Office (C.5.D), R.558, Northumberland House, W.C.2.

MIDDLESBROUGH EDUCATION

MIDDLESBROUGH EDUCATION
COMMITTEE.
APPOINTMENT OF ARCHITECTURAL STAFF.
Applications are invited from suitably qualified
persons for the following vacancies in the office
of the Education Architect (K. J. Caton,
ARIRA ARIRA of the Ed

Appointments will be made within the grades as indicated, subject to qualifications and experi-

(a) ONE SENIOR ASSISTANT ARCHITECT, A.P.T., Grade V (£750—£900)

(a) ONE SENIOR ASSISTANT ARCHITECT, A.P.T., Grade V (£750-£900).
(b) ASSISTANT ARCHITECTS, Special Grade (£650-£775).
(c) ONE ARCHITECTURAL ASSISTANT, A.P.T., Grade II (£550-£640).
HOUSING accommodation is available for the successful applicants for posts (a) and (b), if

required.

Application forms and particulars may be obtained from the Director of Education, Education Offices, Woodlands Road, Middlesbrough, to whom completed forms should be returned not later than Saturday. 19th November. 1955. 3475

later than Saturday. 19th November. 1955. 3475

LINDSEY (LINCOLNSHIRE) COUNTY
COUNCIL.

ARCHITECT'S DEPARTMENT.
Vacancy on the permanent staff for:—
ASSISTANT ARCHITECT, A.R.I.B.A., or REGISTERED ARCHITECT, Grade V £750/4900. 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 and names of two persons to whom reference can be made, to be sent to the undersigned not later than Wednesday, 9th November, 1955.

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

SURREY COUNTY COUNCIL.

Applications invited for appointment of ASSISTANT QUANTITY SURVEYOR Grade IV. £676-£825-£825 p.a., plus London allowance. Should be Associate Member R.I.C.S.

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

EDINBURGH COLLEGE OF ART.

Applications are invited for the post of SENIOR
ASSISTANT in the School of Architecture.
Salary scale £940×£50—£1,190 per annum; placing
according to qualifications and experience.
Applications are also invited for the post of
ASSISTANT INSTRUCTOR in the School of
Architecture. Salary scale £990×£30—£990 per
annum; placing according to qualifications and
experience.
Forms of application and conditions of appointment may be obtained from the Secretary, Edinburgh College of Art, Lauriston Place, Edinburgh,
3, and should be returned to him not later than
19th November, 1955.

J. R. BROWN,

J. R. BROWN.

CITY OF SASKATOON.
PROVINCE OF SASKATCHEWAN, CANADA.
Applications are invited for the following

PROVINCE OF SASKATCHEWAN, CANADA. Applications are invited for the following appointments:—

(1) ARCHITECTURAL ASSISTANT, Grade IX (\$310.00-\$330.00 per month). Should be Associate Member of R.I.B.A., or be eligible for Associateship. Should have extensive knowledge of contemporary design and construction, sand also be interested in planning.

(2) PLANNING ASSISTANT, Grade IX (\$310.00-\$330.00 per month). Should be Associate Member of Town Planning Institute, or be eligible for Membership. Should be conversant with basic Planning Principles, especially in the field of design and layout.

(3) SENIOR DRAUGHTSMAN. Grade VI (\$245.00-\$275.00 per month). Should have at least 5 years experience in the design and construction of all types of structures, eligibility for Associateship of R.I.B.A. would be an advantage. Knowledge of Planning Technique and ability to prepare Planning drawings would also be necessary.

Graduates from a recognised University would

Knowledge of Planning Technique and ability to prepare Planning drawings would also be necessary.

Graduates from a recognised University would receive priority for appointments (1) and (2).

These appointments owing to the distance involved will be established as temporary for a period of two years only, but satisfactory service may mean a reconsideration of the terms of employment during this period. It is not, however, proposed to subsidise passages or fares.

The Department is in charge of all aspects of Building and Planning for the City. Work is proceeding on survey sub-division layouts, statistics, park and landscape design leading to the eventual development of an advisory plan. Building designs are being prepared for various Municipal buildings, and advisory drawings are prepared for building projects in the City.

Saskatoon has a population of over 60,000, is a University City, and a producing and market centre for a large Agricultural area.

Applicants should reply by air mail giving full details of age, experience, and all relevant factors in list form. Small examples of work should be included, and also a recent photograph.

It is essential that applicants should start as should be included.

Applications will be received until 1st December, 1955, and should be addressed to the undersigned at:

The Planning and Building Department.

City Hall,

City of Saskatoon,

Saskatchewan. Canada.

W. E. GRAHAM,

D.Arch., D.T.P., A.R.I.B.A.,

A.R.A.I.C., A.M.T.P.I.

3441

A.R.A.I.C., A.M.T.P.I.

CITY OF PETERBOROUGH.
CITY ENGINEER'S DEPARTMENT.

(1) ARCHITECTURAL ASSISTANT, A.P.T.
GRADE II.
Applicants should be of Intermediate R.I.B.A.
standard, possess a sound knowledge of building
construction, and be capable of preparing working
and detail drawings under supervision.
(2) ASSISTANT QUANTITY SURVEYOR, A.P.T.
GRADE II.
Applicants should be students of the Royal
Institution of Chartered Surveyors and should be
capable of abstracting, billing, site measurement,
taking of quantities for small work and settlement of final accounts.
Applications, stating age, experience, details of
qualifications, together with copies of three recent
testimonials, should be sent in envelopes endorsed
as to the respective appointment to Mr. L. H.
Robjohn, M.B.E. A.M.I.C.E., City Engineer &
Surveyor, Town Hall, Peterborough, to reach him
not later than 19th November, 1955.
Honsing will be provided, if necessary.
Canvassing, directly or indirectly, will disqualify. Candidates must disclose whether they
are related to any member or senior officer of
the Council.

C. PETER CLARKE,
Town Clerk.

C. PETER CLARKE, Town Clerk. Town Hall, Peterborough.

BOROUGH OF SCUNTHORPE.
ASSISTANT ABCHITECTS.
Applications are invited for Assistant Architects to work under the direction of the Chief Assistant Architect, in the Department of the Borough Surveyor.

(1) ASSISTANT ARCHITECT, Grade A.P.T. V (2750 x 200 x 6900)

(1) ASSISTANT ARCHITECT, Grade A.P.T. V (£750 × £30-£900).
(2) ASSISTANT ARCHITECT, Grade A.P.T. IV (£675 × £30-£925).
(3) ASSISTANT ARCHITECT, Special Grade (£650 × £25-£775).
Preference will be given to Chartered Architects, and the commencing salary will be fixed according to qualifications and experience.
The work will be of an interesting and varied character in an expanding town with a population of nearly 60,000.
Housing accommodation will be available if required.

riousing accommodation will be available if required.

Applications, stating particulars of training and experience, and giving the names of two referees, should reach the undersigned not later than 12th November, 1955.

W. P. ERRINGTON, Town Clerk.

Municipal Offices, 34, High Street, Scunthorpe. 21st October, 1955.

COUNTY BOROUGH OF MERTHYR TYDFIL, BOROUGH ENGINEER, SURVEYOR AND TOWN PLANNING OFFICER'S DEPART. MENT. (a) TWO PERMANENT SENIOR ENGINEER. ING ASSISTANTS (PUBLIC WORKS SEC-TION) on maximum of A.P.T. Grade IV (6925 p.a.)

Ap appo (a) Grad (b)

Ap and const Ap

qual Co qual Fa

Dist

vaca

R.I.

Pr in fi Loca

subs

Men

men Offic

(a) Gra Th subj

MI

exp exp A27 8.W

with

TION) on maximum of A.P.T. Grade IV (£825 p.a.).
(b) ONE PERMANENT SENIOR ENGINEER. ING ASSISTANT (PLANNING DEPARTMENT), on maximum of A.P.T. Grade IV (£825 p.a.).
(c) ONE PERMANENT SENIOR ARCHITEC. TURAL ASSISTANT, on maximum of A.P.T. Grade IV (£825 p.a.).
(d) TEMPORARY ENGINEERING ASSISTANT, on maximum of A.P.T. Grade II (£640 p.a.).

TANT, on maximum of A.P.T. Grade II (£66 p.a.).

Applications are invited for the above appointments. A house will be provided, if required, for appointments (a), (b) and (c).

Applicants for appointments (a) and (b) must be Corporate Members of a Chartered Institution, and should have had good all-round municipal engineering experience. Applicants for appointment (b) should have had experience in a Planning Office.

Applicants for appointment (c) must be Associate Members of the Royal Institute of British Architects, and must have had good all-round experience in the architectural work usually undertaken by a local authority. Planning experience would be an advantage.

Applicants for appointment (d) must hold the Intermediate Examination of a Chartered Institution; the duration of this appointment will be approximately 12 months.

The appointments are subject to the provisions of the Local Government Superannuation Acts and to the passing of a medical examination. They are terminable by one month's notice on either side.

Applications, stating age, past and present appointments. gualifications and experience.

and to the passing age, past and present appointments, qualifications and experience, together with copies of three recent testimonials, should be delivered to the undersigned not later than Wednesday, 16th November, 1955.

Canvassing in any form will disqualify.

T. S. EVANS.

Town Clerk.

Town Hall, Merthyr Tydfil.

COUNTY BOROUGH OF DONCASTER.
PLANNING ASSISTANT.

(AMENDED ADVERTISEMENT.)

Applications are invited from suitably qualified persons for the above appointment, at a salary within the Special Grade £650-£775. The successful applicant will be engaged either on the preparation of detailed schemes in connection with town centre redevelopment projects, in which case architectural training and experience would be desirable, or engaged on the administration of all aspects of Development Control.

The appointment will be subject to one month's notice on either side, the provisions of the Local Government Superannuation Act, and the successful candidate passing a medical examination.

Applicants must state whether to their knowledge they are related to any member or senior
officer of the Council.
HOUSING ACCOMMODATION IS AVAIL
Applications, stating age, past and present
appointments (with dates and salaries), qualifications and experience, together with the names
of two referees, must be received by the Borough
Surveyor and Planning Officer, 2, Priory Place,
Doncaster, not later than Saturday, 12th November, 1955.

H. R. WORMALD, Town Clerk.

1, Priory Place, Doncaster. 22nd October, 1955.

BOROUGH OF ILFORD.

BOROUGH ENGINEER'S DEPARTMENT.

ARCHITECTURAL DRAUGHTSMAN. Permanent staff. Salary Grade A.P.T. I \$500—\$580

point on the scale to be fixed having regard to experience. Applicants must be capable draughtsmen, should 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 THIS APPOINTMENT.

Appointment superannuable and subject to medical examination. Application forms, obtainable from the Town Clerk, Town Hall, Ilford, Essex, must be returned by Saturday, 19th November, 1955.

WEST SUSSEX COUNTY COUNCIL.

WEST SUSSEX COUNTY COUNCIL.
COUNTY ARCHITECT'S DEPARTMENT.
Applications are invited for the following pointments:—

appintations are invited for the following appointments:—

(1) SENIOR ASSISTANT ARCHITECT (non-established post) at a salary of £860 per annum.

(2) ASSISTANT ARCHITECT, at a salary in accordance with special Grade III, A.P.T. Division (£550 to £775 per annum) of the National Scales of Salaries.

Further particulars should be obtained from the County Architect, County Hall, Chichester, to whom detailed applications must be submitted not later than 17th November, 1955 be submitted not later than 17th November, 1955.

County Hall, Chichester.

24th October, 1955.

BOROUGH OF NEWCASTLE UNDER LYME BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT. Applications are invited for the following

AND ART-

SEC-EER-ENT).

ITEC. SSIS point-d, for ust be ution, icipal

sually ex-

d the

nstituisions Acts ation.

resent rience, onials, later

Clerk. 3455 R.

alified salary The on the

n with h case ald be of all onth's

aminaknow-senior VAIL-

resent names prough Place, Novem-

Clerk.

NT. Per-0-£580

encing ard to aughts-experi-cularly

CON-ON OF NNEC-

ect to obtain-Ilford, Novem-3438

(non-num. ary in A.P.T. ational

from ter, to ted not

ouncil.

NT.

DEPARTMENT.
Applications are invited for the following appointments:—

(a) PRINCIPAL ASSISTANT ARCHITECT, Grade A.P.T. VI (£825—£1,000 p.a.).

(b) ASSISTANT QUANTITY SURVEYOR, Applicants for post (a) must be fully qualified and experienced, particularly in the design and construction of schools.
Applicants for post (b) will be required to take off quantities for schools and other works. Preference will be given to applicants holding technical qualifications.
Commencing salaries will be in accordance with qualifications and experience.
Favourable consideration by the Council to the provision of housing accommodation will be given if required.
Application Forms and Conditions of Appointment may be obtained from the Borough Engineer and Surveyor, Lancaster Building, High Street, Newcastle, Staffs., and must be returned to him not later than Monday, 21st November, 1955.
C. J. MORTON.
District Bank House, High Street,
Newcastle, Staffs.

NORTH RIDING EDUCATION COMMITTEE.
Applications are invited for the following vacancies in the Education Architect's Department.—

(a) ARCHITECTURAL ASSISTANT.

Applications are invited for the following vacancies in the Education Architect's Department:—

(a) ARCHITECTURAL ASSISTANT.

A.P.T. II. Salary £500—£580.

Applicants to have passed the Intermediate R.I.B.A.

(b) ASSISTANT QUANTITY SURVEYOR.

Special Grade £650—£775.

Applicants to be Members of the R.I.C.S.

(c) QUANTITY SURVEYING ASSISTANT.

A.P.T. II. Salary £560—£540.

Applicants to have passed the Intermediate R.I.C.S.

Previous experience may be taken into account

A.P.T. 11. Salary £560—4540.
Applicants to have passed the Intermediate R.I.C.S.
Previous experience may be taken into account in fixing commencing salaries, and experience with Local Authority not essential. Car, travelling and subsistence allowance where applicable. Local Government Superannuation Act. Canvassing disqualifies. Further particulars from F. Barraclough, County Hall, Northallerton. 3510
CITY ARCHITECT AND PLANNING OFFICER'S DEPARTMENT.
SURVEYING ASSISTANT required, Grade A.P.T., IV (6578—7625). Candidates must be qualified Members of the Royal Institution of Chartered Surveyors or equivalent; additional qualifications an advantage. Post offers varied duties in Estates Management Section of Department, dealing particularly with General Maintenance work and small alterations, including all repairs, re-decoration, etc., for all Council Buildings (e.g., Houses, Offices, Shons, Markets, etc.) Local Authority experience desirable.
Permanent, pensionable post (medical examination); HOUSING ACCOMMODATION, if required, provided by the Council; car allowance. Forms of application and conditions of appointment from the City Architect and Planning Officer, Town Hall, Oxford, to whom they must be returned by 26th November, 1955.

HARRY PLOWMAN,
Town Clerk.
3459
EAST RIDING OF YORKSHIRE COUNTY

Town Hall. Oxford. 3459

EAST RIDING OF YORKSHIRE COUNTY
COUNCIL.
Applications are invited for the following permanent appointments on the staff of the County
Architect.
(a) ASSISTANT ARCHITECT, Grade IV
(6375—6285).

(a) ASSISTANT ARCHITECT, Grade 1v (2675-2625).

(b) ASSISTANT QUANTITY SURVEYOR, Grade IV (2675-2625).

The appointments are superannuable and subject to the passing of a medical examination. Applications, giving particulars of age, training, qualifications, experience, past and present appointments, stating salaries, together with the names of three referees, should be addressed to the County Architect, County Hall, Beverley, and must be received by him not later than Friday, 18th November, 1955.

THOMAS STEPHENSON, Clerk of the Council.

County Hall, Beverley.

County Hall, Beverley. October, 1955.

October, 1955.

INISTRY OF WORKS require ARCHITECFURAL ASSISTANTS for drawing office in
London, Edinburgh and various provincial offices,
with at least three years' training, experience in
an architect's office and of Inter. R.I.B.A. standard. London salary 2463 to 4725 p.a., elsewhere
slightly less. Starting pay according to age and
experience, prospects of promotion and permanency. State age, details of training and
experience, to Chief Architect, Ministry of Works,
A27 (P). Abell House, John Islip Street, London,
8.W.I.

3168

8.W.1.

3168
THE COUNTY COUNCIL OF CLACKMANNAN.
ARCHITECTURAL ASSISTANT wanted for County Architect's Department. Salary scale £585 by £15 to £630 per annum. Superannuated post. Medical examination.
Applications, stating age, 'qualifications and experience, with copies of three recent testimonials, to the County Clerk, County Buildings, Alloa, within 10 days of publication of this advertisement.

3435

COUNTY BOROUGH OF DUDLEY.

ARCHITECTURAL ASSISTANT.

Applications are invited for the above appointment in the office of the Borough Architect.

Salary £560—£640 per annum.

Applications, together with names and addresses of two referees, to reach me by Saturday, the 12th November, 1955.

P. D. WADSWORTH,

The Council House. Dudley, Worcs.

P. D. WADSWORTH,
Town Clerk.

22nd October, 1955.

2348

COUNTY BOROUGH OF BOURNEMOUTH.
BOROUGH ARCHITECT'S DEPARTMENT.
SENIOR ASSISTANT ARCHITECT. Salary
Grade, A.P.T. IV (£675-£925 p.a.).
Applicants for above post must be fully qualified
(by examination) Members of the R.I.B.A., have
experience of architectural works required by
Local Authorities, and be conversant with the
Education Building, 1944, Act.
Successful candidate will be appointed at present
salary if within the incremental scale. Application forms and further particulars from Borough
Architect, Town Hall, Bournemouth. Completed
applications, with copies of three recent testimonials, must reach undersigned by 10 a.m.,
19th Nov.

A. LINDSAY CLEGG, Town Clerk.

BOROUGH OF CHELMSFORD.

BOROUGH ENGINEER, SURVEYOR AND
ARCHITECT'S DEPARTMENT.
Applications are invited for the under-mentioned
appointments:—
(a) ONE ASSISTANT ENGINEER, Grade
A.P.T. V (£750-£900 p.a.).
(b) THREE ASSISTANT ARCHITECT, Grade
A.P.T. IV (£675-£825 p.a.).
(c) ONE ASSISTANT ARCHITECT, Grade
A.P.T. IV (£675-£825 p.a.).
(d) ONE ASSISTANT ENGINEER, Special
Grade (commencing salary £700 p.a.).
Housing accommodation if required. Further
particulars from the Borough Engineer, Municipal
Offices, Duke Street, Chelmsford. Closing date:
22nd November, 1955.

msfora.

B. A. FRANCIS,
Town Clerk.
3512

METROPOLITAN BOROUGH OF HAMPSTEAD require an unestablished ASSISTANT ARCHITECT, A.P.T. IV. £675—£285, plus London weighting, for Housing Architect's Section. The successful applicant will be in a team engaged on house and flat development schemes; there are opportunities to gain valuable experience in an architect's office and on the site. Applications to Town Clerk, Town Hall, Haverstock Hill, N.W.3, with names of three referees, by the 18th November, 1955. Canvassing will disqualify, and no housing accommodation can be provided. 3507 LONDON COUNTY COUNCIL. Brixton School of Building, as soon as nossible, ASSISTANT, Grade B, for Building Construction and Supervise Studio Work in courses in Architecture and Surveying, Should be Fellow or Associate of R.I.B.A. or R.I.C.S., with good professional experience. Teaching experience and advantage. Burnham F.E. salary scale, £525×525—£534, plus London allowance of £36 or £48. Individual minimum and maximum commencing salary according to age, qualifications, and experience. Application forms from Secretary at School, Ferndale Road, S.W.4, returnable by 19th November. (1761) 3446

November. (1761) 3446

COUNTY OF ESSEX.

ILFORD COMMITTEE FOR EDUCATION. Applications are invited for the following appointments in the Education Architect's Section of the Borough Engineer's Office:—

(a) TWO ASSISTANT ARCHITECTS, Grade A.P.T. IV/VI (£675-£1,000 per annum, plus London weighting).

(b) TWO ARCHITECTURAL ASSISTANTS, Grade A.P.T. I (£500-£550 per annum, plus the appropriate London weighting).

(c) ONE TECHNICAL ASSISTANT, Grade A.P.T. I (£500-£550 per annum, plus the appropriate London weighting).

(d) ONE DRAUGHTSMAN, Higher General Division.

(d) ONE DRAUGHTSMAN, Higher General Division.

Applicants for posts (a) must be Associates of the R.I.B.A. and have considerable experience in the planning, designing and supervision of school buildings and have had administrative experience. Applicants for posts (b) must have had at least two years' drawing office experience in connection with school buildings.

Applicants for post (c) should have good knowledge of building construction and experience in dealing with minor alterations and general maintenance of school buildings.

Applicants for post (d) should be neat and accurate draughtsmen and have a knowledge of building construction.

The salary will be in accordance with the appropriate grades of the National Joint Council scale, plus the London Area allowance. There will also be paid such travelling and subsistence allowances as may be determined from time to time by the Essex County Council.

The posts are superannuable and subject to medical examination.

Applications should be made on a form to be obtained from and returned to the Borough Engineer and Surveyor, Town Hall, Ilford, together with copies of not more than three recent testimonials, within 14 days of the appearance of this advertisement.

BOROUGH OF EDMONTON.

ARCHITECTURAL ASSISTANT required for Borough Architect's Department, A.P.T. II (£560 ×£20-£640, plus weighting £10-£30, according to age). Alternate Saturdays free. Canteen facilities. Financial assistance for studies. Applications on forms from Town Clerk, Town Hall, Edmonton, must be delivered by 19th November.

GOUNTY COUNCIL OF THE WEST RIDING OF YORKSHIRE
COUNTY PLANNING DEPARTMENT. Applications are invited for the appointment of DEPUTY COUNTY PLANNING OFFICER at a salary within the range of £1,535-£1,797 10s. per annum. Applicants should have a wide and varied experience of planning and possess a considerable knowledge of local government procedure. They should be Members of one or more of the appropriate technical institutions and should preferably be Corporate Members of the Town Planning Institute. An architectural qualifications, stating age, qualifications and experience, and giving the names and addresses of three referees, should reach the undersigned not later than 14th November, 1955.

ARTHUR BATES,

T. Northgate, Wakefield.

**ARCHITECTS interested in progressive design

ARTHUB BALLO,

71, Northgate, Wakefield.

ARCHITECTS interested in progressive design and construction are required for work on the Council's large and varied Building Programme of Technical, Secondary and Primary Schoois and other Public Buildings. The office is organised on a group basis, and Architects are encouraged to exercise as much individual responsibility and initiative as poss; be.

Candidates must be Associates of the R.I.B.A. Salaries within scales 4750–4900 and 4675–4825.

N.J.C. conditions of service. Details and application forms from the County Architect, Springfield, Maidstone, Kent. Closing date: 22nd November. 1955.

Maidstone, Kent. Closing date: 22nd November, 1555.

CARLION URBAN DISTRICT COUNCIL.

APPOINTMENT OF ARCHITECTURAL

ASSISTANT.

Applications are invited for the above appointment at a salary in accordance with A.P.T., Grade IV, viz., 2675×250-4252, the point of entry to be determined having regard to the applicant's experience.

Qualifications: Final R.I.B.A. or Registered Architect.

The appointment will be subject to the provisions of the Local Government Superannuation Act, 1937, National Scheme of Conditions of Service, and to satisfactory passing of a medical examination.

Applications, stating age, qualifications and details of experience, together with names of three referees, to be forwarded to the Engineer and Surveyor by 10 a.m. on Monday, 14th November, 1955.

1955.
HOUSING ACCOMMODATION WILL BE MADE AVAILABLE and removal expenses will be paid by the Council.

A. E. F. WALKER.
Clerk of the Council.
Carlton, Nottingham.
28th October, 1955.
3505

Carlton, Nottingham.

28th October, 1955.

Tenders Invited

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

CARLTON URBAN DISTRICT COUNCIL.
FOXHILL ROAD HOUSING SITE, SCHEME
No. 83, SITE No. 25.

PROPOSED ERECTION OF 22 TRADITIONAL
HOUSES.

Tenders are invited for the erection of 22 traditional houses on the above site, being 10 houses on Laurel Road (6 No. Type R and 2 No. Type T).
21 houses on Lilac Avenue (8 No. Type R and 4 No. Type T).
Drawings and General Conditions of Contract may be inspected at the office of the Engineer and Surveyor, E. C. Kirk, Esq., AM.I.C.E., F.R.I.C.S., during normal office hours, from whom forms of tender, specification and bills of quantities may be obtained on payment of a deposit of £2 2s. The deposit will be refunded on receipt of a bona fide tender not subsequently withdrawn and of all the documents supplied.
Tenders in plain sealed envelopes, endorsed "Foxhill Road Housing," must be delivered to the undersigned not later than 10 a.m. Wednesday, 23rd November, 1955.

The Council does not bind itself to accept the lowest or any tender.

Clerk of the Council.
Council House, Burton Road,
Carlton, Nottingham.
24th October. 1955.

3440

Architectural Appointments Vacant

Architectural Appointments Vacant
4 lisss or under, 7s. 6d.; each additional liss, 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 18-48 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.

ARCHITECT'S ASSISTANT required (intermediate standard). Telephone Whitehall 1624.

ARCHITECTURAL ASSISTANTS, Intermediate to Final standard required. Herbert, Son & Sawday. 18, Friar Lane, Leicester. 3461

A SCHILLLIAR 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.I. Tel. Abbey 5861.

Tel. Abbey 5861.

DINBURGH.—Senior and Intermediate Assistants required. Write, giving particulars of experience and salary required, to Mesers. David Carr & Stuart Matthew, 14, Lynedoch Place Ediaburgh, 3.

D. & B. Y. TETLOW, A/A.B.I.B.A., M/A.M.T.P.I., 1, The Friary, Lichfield, have vacancies for ASSISTANT ARCHITECTS, preferably school-trained, with two years' experience. Planning qualification an advantage. Young and buay practice ranging from dog kennels to factories, and from Hull to Torquay. Salary £550—2750.

INTERMEDIATE STANDARD ASSISTANTS required. Interesting contemporary work. Five day week. 4550 per annum. Good draughtsmanship essential. Write or telephone for appointment Edward D. Mills, P.R.I.B.A., 15, Carlisle Street, London, W.I. Gerrard 8305-6. 3197

ARCHITECTURAL ASSISTANTS required, from 2nd Year to Intermediate Standard R.I.B.A. for Housing and Estate work in West End Office. Salary 2300 to 4550 p.a. according to qualifications and experience. Good prospects for advancement. Apply Mr. Young. Percy Bilton Ltd., 113, Park Street, London, W.I. Tel. Mayfair 8240.

Bilton Ltd., 113, Park Street, London, W.1. Tel. Mayfair 3240.

THE Architects' Journal Research Board invites applications for a FBLLOWSHIP which will enable the holder to work on the following: Information for the architect: what does he need and where will it come from. The value of the Fellowship, which is tenable for a year, or some less period by arrangement, is £1.000, plus certain expenses. The holder for 1956 will work full-time at the Architectural Association, London, under the direction of a Research Board consisting of architects engaged in research and practice. He will be expected to visit various research establishments and architects' offices. The Fellowship is open to anyone in the English-speaking world who has completed a course qualifying him (or her) for registration as an architect, and has had three or more years' practical experience after qualifying. The study itself is concerned only with British architectural practice. Further details and application forms are obtainable from the Secretary, Research Board, The Architects' Journal, 9, Queen Anne's Gate, London, S.W.1. Last date for the receipt of applications is November 14, 1985.

EAST ANGLIAN Architect has vacancy (with prospects) for qualified SENIOR ASSISTANT. Details of experience and salary required

A RCHITECTURAL ASSISTANT. Works Architect offers excellent prospects to young assistant in busy Department. Intermediate standard. Salary from £550 per year, according to exper ence. Five-day week, bonus, non-contributory pension scheme, canteen and other welfare facilities. Sené full particulars of experience to The Personnel Manager, George Ellisen Ltd., Perry Bar, Birmingham 22B.

Birmingham 22B.

Birmingham 22B.

LEWELLYN SMITH & WATERS invite applications from qualified and unqualified SENIOR and JUNIOR ARCHITECTURAL ASSISTANTS, to work on interesting programme of work, including large industrial projects. Salary according to experience and ability. Write 103, Old Brompton Road, S.W.7.

2026

COMPETENT ARCHITECTURAL ASSISTANTS, all grades required immediately for Industrial and Housing Projects, in Yorkshire Architect's Offices, Write stating experience, qualification, when available and salary required. Walker & Collinson. Architects & Surveyors, 12, The Exchange, Bradford, 1.

ARCHITECTURAL ASSISTANT required, of Inter. to Final standard. Salary £400—£600. Five-day week. Alexander Graham, 15 The Tything, Worcester.

ARCHITECT in Exeter requires SENIOR and

A RCHITECT in Exeter requires SENIOR and JUNIOR ASSISTANTS. Charles E. Ware & Son, 20, Richmond Road, Exeter, Devon. 3423.

A RCHITECT in Glasgow requires ASSISTANT, competent in carrying out work with minimum supervision. Salary according to experience.

A RCHITECTURAL ASSISTANT (A.R.I.B.A.) required on the Architect's Staff of a large Industrial Group near Birmingham. Responsible appointment on major projects of development with good prospects of long term employment. Apply stating age, details of experience and approx. salary required, to Box 3431.

A RCHITECTURAL ASSISTANT Intermediate standard or above, required in busy southwest London office. Reply, stating age, salary and experience, to Box 3228.

A RCHITECTS' ASSISTANT, with ability and experience in Schools and varied works—capable of taking charge of new office in Birmingham—required immediately. Apply, stating full particulars, to Quick & Lee, Chartered Architects, 11, Waterloo Place, Leamington Spa. 3353

INTERESTING and permanent positions offered to ARCHITECTURAL ASSISTANTS, Intermediate to Final standard. Must be fully conversant with building construction and particularly services, fittings and finishing work required in industrial and appropriate hubble of Assistance. in industrial and commercial buildings. Assistance in house accommodation given. Write stating age, quantications, experience and salary required, to Dept. P.B., Beecham Buildings, Ltd., Snipston on Stour, Warwickshire.

QUALIFIED and experienced SENIOR ASSIS-TANT ARCHITECT required for varied work. Salary #800-2900. Pension schome available. T. H. Johnson & Son, F.R.I.B.A., 20, Priory Place,

A RCHITECTURAL ASSISTANTS with A RCHITECTURAL ASSISTANTS with drive and enthusiasm needed for design and detail work on atomic energy buildings and contemporary factories. This work offers good opportunities for assistants of up to final standard, in a pleasant office opposite victoria Station. Please reply in confidence giving qualifications, previous experience, age, etc., to Box 275, Glovers Advertising Ltd., 351, Oxford Street, W.L. 3266

ARCHITECTS' CO-PARTNERSHIP require unmarried, qualified, experienced ASSISTANT in their Lagos office. Maximum tour 14 months. Flat provided. Write 44, Charlotte Street, London, W.I., or telephone Langham 5791.

RCHITECTS' CO-PARTNERSHIP require qualified ASSISTANT with experience. Write Charlotte Street, London, W.1, or Telephone meham 5791.

ARCHITECT'S Department of a large multiple retail concern with offices in London require the following:

(1) SENIOR ARCHITECTURAL ASSISTANTS.
(2) JUNIOR ARCHITECTURAL ASSISTANTS.
(3) SHOPPITTING DRAUGHTSMAN.
(4) BULLDER'S CLERK.

There is a pension scheme, and a five-day week is in operation with the exception of December and January. Dining room available for the use of staff. Applicants should write giving particulars of age, experience, and salary required. Box 3257.

BOX 3257.

BEACON & LAING, 9, St. Paul's Square,
Bedford, have a further vacancy for a keen
ASSISTANT, under 30, for a variety of interesting
3344

work.

ARCHITECTURAL ASSISTANT, with previous office experience. R.I.B.A. Intermediate standard, required. Particulars to Frank Baker & Clark, 7, York Place, Scarborough. 'Phone 613.

A RCHITECT'S ASSISTANT required to work under Staff Architect of a large and expanding multiple combine in the West End of London. Splendid opportunity for responsible young Architect interested in shop premises. Good salary. S-day week. Excellent canteen. Write, stating in confidence previous experience and salary required, to the Personnel Manager, Jax Stores, Ltd., 49/53, Poland Street, London, W.1. 3351

A SSISTANT ARCHITECTS, of Intermediate or Final R.I.B.A. standard, are required for busy N.W. London office engaged on interesting and varied works of contemporary character, including office and industrial schemes, multistorey flats and maisonettes, private and municipal housing. Superannuation scheme and 5-day week. Applications should be made in writing, stating age, qualifications, experience, and salary expected, to Sydney Greenwood, A.R.I.B.A., 33, Bunns Lane, London, N.W.7. 3355

A. BOXALL, A.R.I.B.A., has vacancies at Chilef ASSISTANT. Salary according to quali-

CHIEF ASSISTANT. SHARY ACCORDING TO QUARTICATION and experience.

SENIOR ASSISTANT. A.R.I.B.A., with good office experience. Salary about £700.

INTERMEDIATE ASSISTANT. R.I.B.A. later, with some office experience. Salary £450—exan.

JUNIOR ASSISTANT. Salary £100—£150, with facilities for part-time study.

And in London for:—
INTERMEDIATE ASSISTANT. As above. Good variety of work, but mainly schools. Applications in writing please, with full details, to 81, Moulsham Street, Chelmsford.

JUNIOR ASSISTANT required in busy, small London office. Must be good draughtsman, able to do working drawings and details quickly for a variety of work. Salary by arrangement and according to ability. Box 3361.

ARCHITECTURAL ASSISTANTS, of R.I.B.A. Final or Intermediate standard (or equivalent), required immediately for interesting and varied work in private practice, 50 miles London. Salary in accordance with age and experience. Please send full details to Box 3345.

EADING firm of Building and Civil Engineering Contractors require an ARCHITECTURAL ASSISTANT ARCHITECT for their Regional Office in Manchester. The salaries we are offering are £600 and £850 per annum, respectively. Please apply, giving full details of qualifications and experience, to Box 3370.

ARCHITECTURAL ASSISTANT

ARCHITHCTURAL ASSISTANT required in busy London Office with varied practice. Good salary and prospects for suitable applicant. 5-day week. Write giving particulars of age, qualifications, experience, etc., to Box 736, c/o 7, Coptic St., W.C.1.

£8

Po

Poule

I M WICH,

kugi in co

age tion

Ap

B

arcl

the рга and

will one

pas

and

Loi

boo

CO-OPERATIVE WHOLESALE SOCIRTY LTD.
ARCHITECT'S DEPARTMENT,
LONDON.
ASSISTANT ARCHITECTS, WORKEB-UP,
AND SHOP FITTING DRAUGHISMAN,
Applications are invited from suitably qualified
persons. Salary on a scale £485-£545 inclusive
of L.W., with placing according to age, qualifications and experience. The posts are superannaable, subject to medical examination. Five-day
week in operation. Applications stating age,
experience, quantications and sanary required
to.-W. J. Reed, F.R.I.B.A., Chief Architect,
Co-operative Wholesale Society Ltd., 99, Lenna
Street, London, E.I.

Zégo
CO-OPERATIVE W HOLESALE SOCIETY LTD.
ARCHITECT'S DEPARTMENT, BIRMINGHAM
Appointments in a newly formed franch
Office. Interesting and varied commercial and
industrial projects.

(A) SENIOR ASSISTANT ARCHITECT with
experience in store and shop design.

(B) ASSISTANT ARCHITECTS capable of preparing working drawings and details from peliminary sketches.
Applications stating age, experience, qualifications and satary required, to G. S. Hay, A.E.I.B.A.
Chief Architect, Co-operative Wholesale Society
Ltd., 1, Balloon Street, Manchester, 4.
CO-OPERATIVE WHOLESALE SOCIETY LTD.
ARCHITECT'S DEPARTMENT, MANCHESTER
APPLICATIONS are invited for the following
Applications stating are invited for the following
Applications and satary required and industrial
APPLICATIONS are invited for the following

A repointments:

(A) SENIOR ASSISTANT ARCHITECTS wise experience of work in commercial and industrial projects.

(B) ASSISTANT ARCHITECTS capable of preparing working drawings from preluminary details.

details.

There is a five-day week in operation, and applications stating age, experience, qualifications and salary required should be addressed to G. & Hay, A. K. I. B.A. Chief Architect, Co-operative Wholesale Society Limited, 1, Balloon Street,

Manchester, 4.

A RCHITECTURAL ASSISTANTS required in A west End onice, quantified or Intermediate standard, Varied and interesting work. Five-day week. Salary range £600—£800. Box 2999.

WANTED urgently: Capable DRAIGHTS MEN for preparing working drawings of industrial buildings from sketch designs. Salary according to experience. Write or telephone to Percy Bilton Ltd., 113, Park Street, W.I. Telephone number MAYfair &240.

A RCHITECTURAL ASSISTANT, about Intermediate standard, required for busy country practice. Agricultural, domestic and industrial work. Box 3451.

UNIOR DRAUGHTSMAN, completed National

Work. Box 3451.

JUNIOR DRAUGHTSMAN, completed National Service, required by the John Lewis partnership for planning and shopfitting, detailing of work in progress and contemplated re-building at various centres. Pay according to experience, but not less than £400 p.a. Snopping discount, good holidays and amenities, non-contributory pension scheme. Write in first instance, giving ful details of past experience, to Director of Personnel, John Lewis & Co Ltd., Oxford Street, London W.1.

SCCHOOLS Excellent concentration for Street, London

John Lewis & Co Ltd., Oxford Street, London W.1.

CHOOLS.—Excellent opportunity for SENIOR ASSISTANT ARCHITECT to take charge of a large new School Programme South-West; only applicants with first-class experience in modern School Design and supervision of Contracts will be considered. Other ASSISTANTS of Intermediate Standard are invited to apply for Junior Posts. In each instance applicants are required to provide full details of their experience, etc. and salary required. Box 3448.

JUNIOR ARCHITECTURAL ASSISTANTS required in busy office handling a wide variety of interesting work. including commercial domestic, school and brewery projects. Please apply stating experience and salary required to:—Portess & Richardson, Lloyds Bank Chambers, Peterborough.

WANTED—Experienced ARCHITECTURAL ASSISTANT capable of preparing working drawings, specifications and site supervision. Box 3503.

ARCHITECTURAL ASSISTANTS.

ARCHITECTURAL ASSISTANTS.

THE BRISTOL AEROPLANE COMPANY
LIMITED requires two qualified architectural assistants for interesting and varied work in the Company's Architects' Department. This post will afford a good opportunity to broade experience. Details of age, training and experience should be addressed to the Chief Personnel Officer. Filton House, Bristol. All replies will be treated in the strictest confidence.

ARCHITECT'S ASSISTANT not below Intermediate R.I.B.A. standard, urgently required in Architect's Department of Consulting Engineers. Sound experience in design and construction essential. Good salary. Full particulars to Sir Bruce White, Wolfe Barry & Partners, I. Lygon Place, Grosvenor Gardens, S.W.I. SLO 0451.

ARCHITECTURAL ASSISTANT required for

ACHITECTURAL ASSISTANT required for the Sheffield Branch Office of a large industrial concern. Applicants should be of Intermediate standard and capable of carrying out work on the design and remodelling of service stations. Pension and Life Assurance scheme, generous sickness benefits, social club, giving full details of age, experience and salary required to Box 3491, quoting reference AA873.

Y LTD. KER-UP,

KER-UP,
ISMAN.
quantified
Increasive
quaitificaperangFive-day
ing age,
required
irchitect,
Leman
2800

Y LTD., NGHAM. following Branch cial and

CT with

e of pre-

qualifica-K.I.B.A., Society 2862

Y LTD.,
ESTER.

TS with able of

ut Inter-country ndustrial National

National
partneralling of
ilding at
ence, but
nt, good
pension
ving full
ersonnel,
London,

SENIOR arge of a est; only modern acts will of Interor Junior required nee, etc.,

NTS re-

e variety nmercial, Please required Bank 3439

working ervision.

MPANY

architected work

This
broades
d experiPersonnel
clies will
34%

w Inter-required ag Engi-construc-culars to Partners, S.W.L. 3494

ired for

ying out f service scheme, Write,

d salary

2800 A.R.I.B.A. with several years post means experience to take charge of medium size job. Five day week. Morris de Metz, F.K.I.B.A., 2492

POLLEKS BAT, Midd.esex, office, requires capual and ASSISTANT, about Intermediale stage, with good experience of estate development and private domestic work. Please write in first instance to booth and Booth, Leignton House, potters bar, Midd.esex 3476

SENIOR ARCHITECTURAL ASSISTANT.

IMPERIAL UHEMICAL INDUSTRIES LIMITED, Alkall DIVISION, Winnington, Northwich, Cheshire, has a vacancy for a SERIOR ARCHITECTURAL ASSISTANT in the Civil fing connection with industrial and adm.nistrative middlags, offices and laboratories. App.icants, ago 35–45, should have passed the final examination of the R.I.B.A.

A sound Knowledge of construction and experience in industrial work is essential, together with a good showledge of specifications and quantities should be capable of preparing schemes and estimates, and be able to carry out projects from steen plan stage to completion with a minimum of supervision.

Penson and profit-sharing scheme. Removal expenses up to 450 for married men. Application forms available from staff Manager, please quote reference GES/ARCTEC. 3477

BUSY London Office requires two ARCHITECTURAL ASSISTANT with considerable perspective experience, particularly able to do quick interior colour setches. Five-day week, good salaries. Lewis Solomon. Son & Joseph. 21, Bloomsbury Way, W.C.I., HOL 5108 or 7082.

SENIOR ARCHITECTURAL ASSISTANT required in small City Office for varied and interesting projects. Possibility of partnership later to right man. Please reply with details of age, experience and salary required, to Box 3453.

ARCHITECTURAL ASSISTANTS.
Please apply with details of experience, age, and be able to accept with waried practice. Please write with details of age, experience and salary required, to Box 3453.

incations to G. S. operative Street, 2861

rmediate Five-day

BOALD FIELDING, A.R.I.B.A., required, to Salary required, to Aldwych House, London, 1.1. Telescope with the control of the con

TWO ARCHITECTURAL ASSISTANTS required for small expanding department engaged on industrial, commercial and high quality contemporary house development schemes. Wide scope from design to completion, including site visits and supervision. Five-day week, superannuation scheme. Salary range £550—£550 per annum. Please write with details in confidence to: Howard Farrow Ltd., Architectural Department, 1, Russell Parade, Golders Green Koad, N.W.11.

DEVEREUX AND DAVIES, 3, Gower Street, W.C.1, require ASSISTANT—Inter. to Final standard with some practical experience. Vacancy suitable for keen person wanting to work in relatively small office where freedom and a high standard of individual responsibility encouraged.

JUNIOR ARCHITECTURAL DRAUGHTS-MEN urgently required for work at head office. Reply giving details of experience to Sir Alfred McAlpine & Son, Ltd., The Oaks, Hooten, Cheshire.

Cheshire.

AGA RCHITECTURAL ASSISTANT aged tw.ntyfive required in Architect's Department of
Esso Petroleum Company, Limited. Candidates
must be first-class draughtsmen with a sound
knowledge of building construction. There is a
superannuation scheme and salary will be paid
according to ability. Please apply to the Personnel
Manager. Esso Petroleum Company, Limited, 16,
Charles II Street, Haymarket, London, W.1. 3471

WANTED—Architects.
QUANTITY—Six.
STANDARD—Inter. or Final.
SALARY—By arrangement.
WORK—Various.
COMMENCING—Immediately.
RING—HUNter 0331.

ESTABLISHED firm of West End Architects have vacancies for all grades of ARCHITECTURAL ASSISTANTS, qualified or unqualified, in the salary range of 6550-£1,000, according to experience and abilities. Varied work with opportunities for taking responsibility and supervising work in progress.

ARGE multiple firm in Liverpool requires
TWO SENIOR ARCHITECTURAL ASSISTANTS with full knowledge of construction and
design and able to take full responsibility in building new Stores, and extending and modernising
existing Stores, etc. Reply stating age, experience and salary required. Box 3464.

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

SENIOR SHOPFITTING DRAUGHTSMAN required by leading London Shopfitters. Sarary £300 to £1,000, plus bonus and pension scheme. Box 3018.

UNIOR ASSISTANT, competent to make measured surveys and prepare working drawings, required by Wallis & Smith, Chartered Architects, Hasingstoke. Apply by letter, stating saiary required.

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

W.C.2.

The London Hospital, Whitechapel, E.1, requires JUNIOR ARCHITECTURAL ASSISTANT. Salary #440 to ##155 p.a. according to experience, pus London weighting. Post superannuable. Applications stating age, present salary and brief particulars of experience to be sent to the House Governor. Accommodation is available in Kensington if successful candidate is a woman.

2677

EXTENSION OF SOUTH BANK DEVELOPMENT.—The reconstruction and development
scaeme for St. Thomas' Hospital (facing the
Houses of Parliament) necessitates the appointment of two more ARCHITECTURAL ASSISTANTS, R.I.B.A. Inter. or F.aal standard. Starting salary from £480—£780, according to qualifications and experience. Enquiries to W. Fowler
Howitt, A.R.I.B.A., 27, Paris Street, London,
S.E.I (WAT. 4391/2).

A RCHITECTURAL ASSISTANT required immediately. Must be single meantime, willing to emigrate to Canada by own initiative and be receptive to Canada by own initiative and be receptive to Canadal ndesign and construction. Applicants should be thoroughly trained and experienced in the preparation of working drawings. Excellent opportunity for young architect with pioneering spirit. Salary starting at \$300.00 per month. Apply direct to J. Russell Baxter, A.R.I.B.A., M.R.A.I.C., Box 791, Kitimat, B.C.

B.U.

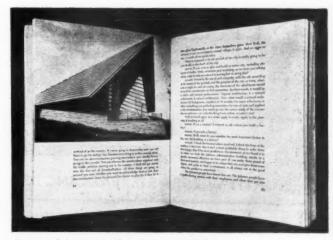
QUALIFIED and Experienced SENIOR ASSISTANT ARCHITECT required for varied work. Salary £809—£900. Pension scheme available. T. H. Johnson & Son, F.R.I.B.A., 20, Priory Place, Doncaster.

The Future of Architecture

BY FRANK LLOYD WRIGHT

THIS BOOK PROVIDES a valuable contribution to the philosophy of architecture by one of the greatest living American architects; the Grand Old Man of American architecture as the Architects' Journal has called him-he is now 88. To practising architects, to students of architecture, to connoisseurs and to interested laymen-all of whom have long been familiar with illustrated examples of Frank Lloyd Wright's work-it will prove provocative and stimulating because it comprises in one volume the major statements he has made during the past quarter-century of the thought and feeling that have inspired his work.

In the first section, 'Conversation,' Mr. Wright explains his aims and achievements as a creative designer in more than sixty years of strenuous practice from his early days in Chicago under Louis Sullivan until the present time. The remainder of the book brings together, for the first time in a single volume, several rare works originally published in separate editions, only one of which-An Organic Architecture: The London Lectures (1939)—has previously been published in this country (it has long been out of print). The other sections, new to English readers, are Modern Architecture: The Princeton Lectures 1930); Two Chicago Institute Lectures (1931); and Some



Aspects of the Future of Architecture (1937).

Finally, as a useful appendix to the theories, beliefs and criticisms that have preceded it, Mr. Wright adds (1953) a brief essay, The Language of an Organic Architecture, in which he clearly and carefully defines his terms, and appends his 'nine-word lexicon needed, world-wide, at this moment of our time." The book has a portrait frontispiece, and many illustrations of Frank Lloyd Wright's buildings.

Size 101 in. by 81 in., 326 pages thoroughly illustrated. 50s. net, postage 1s. 3d. inland.

This edition for sale only in U.K. and Commonwealth,

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

A DAMS, HOLDEN & PEARSON require ARCHITECTURAL ASSISIANTS immedi-ately. Write, giving particulars of experience and salary required to 58, Gordon Square, W.C.1. 3517

A RCHITECTURAL ASSISIANTS, SENIOR and JUNIOR, required for varied and interesting work. Piease write stating age, experience and salary required. Martin & Martin & W. H. Ward, F/A.K.I.B.A., 106, Colmore Row, Birmingham, 3.

INTERMEDIATE grade ASSISTANT required: interesting and varied work of contemporary character; modern offices. J. Seymour Harris & Partners, 4, Greenfield Crescent, Edgbaston. Birmingham. 15.

JUNIOR ASSISTANT required in City Office good draughtsman-salary by arrangement and according to ability. Write stating age and experience, Box 3509.

A RCHITECTURAL RCHITECTURAL ASSISTANTS required immediately. Salary by arrangement. Five-week. Scherrer and Hicks, 19, Cavendish day week. Square, W.1.

LONDON TRANSPORT require temporary under sapervision, schemes and working drawings for transport premises. Applicants must have good background of architectural training and office experience. Salary range £690-£840; commencing salary according to qualifications and experience. Free trave; medical examination. Applications to Recruitment and Training Officer (F.EV 552), Londor Transport, 55, Braadway. S.W.1. For acknowledgment enclose addressed envelope.

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

A R.I.B.A., Polytechnic Diploma, ten years wide experience and responsibility with leading progressive architects and authorities, desires responsible position or partnership with established architect or firm in Midland or Southern counties. Box 3474.

B A., A.R.I.B.A., with experience in domestic employment with a local architect in the Croydon area. Box 3484.

SENIOR ASSISTANT, A.R.I.B.A., in large and varied country town practice, requires partnership in the South West area, or position as Senior Assistant with definite prospects. Capital readily available. Box 3480.

A SSOCIATE, experienced, seeking change from drawing office work, would welcome opportunity as MAINTENANCE SURVEYOR—preferably southern area. Box 3457.

ARCHITECT, M.C.D., B.Arci A.R.I.B.A., A.M.T.P.I., desires of private practice with good prospects. area preferred. Car owner. Box 3467. B.Arch.(L'pool).

ENIOR ASSISTANT (31), Dip.Arch., A.R.I.B.A., with 4½ years' post-qualifying experience at home and overseas, able to take complete charge of contracts from sketch plans to final accounts, seeks progressive appointment, preferably in Scotland or South West England. Salary £900 min. Box 3434.

A RCHITECTURAL ASSISTANT requires London appointment. Several years' experi-ence, varied work. Box 3499.

A SSISTANT R.I.B.A. Intermediate nearing Final, 8 years' office experience, seeks progressive post any district Sussex. Box 3493.

SENIOR Architectural and Surveying Assistant
Higher National Dip.: C. and G. Cert.
requires permanent position in commercial or
industrial concern N/W London-Home Counties.
Experience detailing, working drawings, land and
building surveys, site supervision, estate development. Willing to work hard in progressive post.
Salary £800. Box 3488.

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 18-54 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.

BUILDING SURVEYING ASSISTANT (about R.I.C.S. Inter. standard), with 2 years practical experience, required by City firm of Chartered Surveyors and Architects. Box 2774.

BECRETARY SHORTHAND TYPIST required by Buildings Surveyor to Grocers and Pro-vision Merchants. Office hours 9—5.30 five-day week. Apply The Buildings Surveyor, The Worlds Stores Ltd., 33, Trinity Church Square, London, S.E.1. Telephone HOP 0162.

TURAL) required by large Petroleum Company for its Estate Department, Lonoon. Candidates should have experience in surveys of exising buildings, land survey, and should be able to propare working drawings for structural alterations and layout and equipping of large and small offices. Men aged 25/32. Salary according to age experience and qualifications. Pension scheme, canteen tacinties, social and sports cub activities Please apply in writing to Box ZA.3.7, Deacon's Advertising, 36, Leadenhall Street, E.C.3. 32. CUANTITY SURVEYOR (in beds, Bucks and Herts area). Experienced in site measuring. Interim valuations and preparation of final accounts. Permanent position with excellent propects for enterprising applicant. Must be carowner or able to drive. Apply Box 3436.

A SISTANT BUILDING SURVEYOR, intermediate standard, good draughtsmalessential. Apply Geo. Head & Co., 40, Bake Street, W.I. (Tel.: Weibeck 1318).

BUILDING SURVEYORS required by major oil company in its Bristol, Birmingham and Newcastle branch offices. The work is in connection with the development and remodelling of petrol filling stations, garages, workshops, etc. Applicants should have a sound knowledge obuilding construction and bye-law requirements and be capable of carrying out site surveys, etc. Must be a car driver. Pension and Life Assance Scheme, generous sickness benefits. Write giving full details and stating age, experience and salary required to Box No. 3490 quoting reference B.S. 876.

Other Appointments Wanted

PECIFICATIONS, etc., typed quickly an accurately. Architectural terminology full-understood. Very moderate charges. Send to-M.R., 23 Queensborough Terrace, London, W.

SECRETARY (aged 29) five years' experience in office of leading architects seeks pot where her secretarial qualifications and informed interest in contemporary architecture and town planning will be of value. Box 3443.

Services Offered

4 lines or under, 7s. 6d.; each additional line. 22
THE SITE SURVEY COMPANY, Blackheau
London, S.E.3. New Telephone Number.
LEE Green 7444-5. Engineering and Architecturi
Surveys anywhere in the country.

STRUCTURAL STEELWORK



NORTH WHARF RD., PADDINGTON, LONDON, W.2. Phone: PAD 8486-7

Specify

½in., ¾in., lin. and 2in. CANADIAN INSULATION BOARD

again fully available

THE TENTEST FIBRE BOARD CO., LTD. Fiboard House, Oakleigh Gardens, N.20. Grams: Fiboard, Norphone, London Phone: HiLiside 8801 (7 lines)

FOR INSULATION BOARD . HARDBOARD IN NBOARD . HORNITEX AND ACOUSTIC BOARD

We cordially invite all readers of THE ARCHITECTS' JOURNAL to visit our stand and examine all our publications at the Building Exhibition, Stand 355T, Olympia

THE ARCHITECTURAL PRESS

COOD LETTERING is essential for Commemorative Wall Tablets, Foundation Stones, stc. Designs prepared and estimates given for the finished work in any suitable material. Renowned as a Centre for Lettering since 1844. Sculptured Memorials, 67, Ebury Street, S.W.1. 9170

RCHITEC

on. Candi or Candi of exist

s of exist.
be able to
ral altera
and small
ing to age
on scheme

n scheme . Deacon's

Bucks and measuring. of final of final

ast be car

OR, interaughtsman 40, Baker

by major agham and

in connected the connected the

uirements irveys, etc. Life Assur-ts. Write

ts. Write experience oting refer-

nted

nickly and ology fully Send to:-ndon, W.2 3500 experience

seeks port d informed and town

al line, h Number:

L to

ur

a

SURVEYS, levels and detailed drawings for new or alteration projects, reports, specifica-tions for repairs, etc. LIV 1839.

FREELANCE Designing, Detailing, Perspectives. Presentation Drawings, Specifications, Supervision, Murals. Architectural Interior Shop and Store Fitting, Exhibitions. Millet, 52, Portune Green Road, N.W.6. HAMpstead 8303.

TYPEWRITING/DUPLICATING. — Specifica-tions, etc., undertaken by experts. Reason-able charges, Stone's Secretarial Services, 3219

NAMEPLATES, PLAQUES, CRESTS, etc., in bronze, brass and plastic, quotations and lay-outs submitted. Abbey Craftsmen Ltd., 78, Ganaburgh Street, London, N.W.1 Euston 5722.

A RCHITECT. B.Arch., A.R.I.B.A., starting own practice offers services to busy architects in West Midlands and Black Country.

Box 3489.

A RCHITECTS' Specifications typed accurately and speedily. Part-time secretarial assistance available. Kirby Secretarial Services, 21, Manchester Street, W.1. WELbeck 2291. 3449

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

TO BUILDERS, ARCHITECTS AND DEVELOPERS.

We are instructed to acquire for Clients with a Quarter Million Pounds available for Permanent Investment anywhere in London or Provinces.

PARADES OF SHOPS OR OFFICE BUILDINGS

UNDER CONSTRUCTION AND SHOP SITES

UNDER CONSTRUCTION AND SHOP SITES
Developments taken over in any stage of construction, and agreed value of Land and Works
(if any) so far undertaken will be paid
IMMEDIATELY with BALANCE AGAINST
CERTIFICATES; or Building Contracts would be
taken over so that Vendor has no further financial
obligation in either event.

ARCHITECTS WILL BE RETAINED

Particulars and Plans to Surveyors: NGRMAN HIRSHFIELD & PARTNERS

95, George Street, W.1,
WEL. 9145 (5 lines),
who will immediately inspect all propositions.
3432

DEVELOPERS having finance available are to proceed, preferably in principal cities. Existing Architects would be retained. Douglas Graham & Co., Surveyors, 34, Sackyille Street, W.I. REGent 8366. Ref:—NJW. 3487

For Sale
4 lines or under, 7s. 6d.; each additional line, 2s. B ECONDITIONED Ex-Army Huts and Manu-lactured Buildings, Timber, Asbestos, Nissen Type, Hall Type, etc. All sizes and prices. Write, call or telephone: Universal Supplies (Belvedere), Ltd., Crabtroe Manorway, Belvedere, Kent. Tel.: Brith 2948.

DRAUGHISMAN'S DRAWING BOARD, 6 ft. velease pedal. Adjustable pencil rack. Straight edge. Also T square, 5 ft. 420 or offers. Box

COWLEY AUTOMATIC LEVEL in Leather Case. Tripod, Target and one levelling rod of 5 ft. (calibrated in ½ in.) and two extensions of 4ft. and 3 ft. Hardly used. Cost 422, accept £15. Rickmansworth (Herts) 5083. Box 3469.

Partnership

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

A R.I.B.A., University trained, experienced in small contemporary and traditional work of good standard, seeks partnership. Capital available. Box 3433.

Miscellaneous

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

J. BINNS, LTD., Specialists in the supply and fixing of all types of Fencing, Gates and Closkroum Equipment. Harvest Works, 95/107, St. Faul's Road, N.1. Canonbury 2061.

EXCEPTIONAL offer 3rd floor at 94, New Bond St., W.I. 1,300 sq. ft. £950 p.a. Long lease available, perfect natural lighting suitable for drawing office. Tel. GRO. 6001.

PASSENGER LIFTS. Many of the most attractive and efficient modern lifts installed on the Continent are by wertheim of Vienna. Average delivery time 7 months. U.K. representative, Ian Henderson, Ltd., 184, Sloane Street, S.W.1. Belgravia 3271.

NAMEPLATES AND SIGNS, Bronze, Brass and Plastics. Church Metalwork. Quick delivery. Austin, Luce & Company, 19, College Road, Harrow, Middlesex. Tel.: Harrow 38139.

MAYFAIR Estate Agents willing to let two furnished offices preferably to Architect or Surveyor with whom co-operation could be effected. Box 3501.

Educational Announcements

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

R. I.B.A. and T.P.I. EXAMS.—Stuart Stanley
G. A. Crockett, M.A./B.A., F./F.B.I.B.A.,
M./A.M.T.P.I. (Prof. Sir Patrick Abercrombie in
assn.), prepare Students by correspondence,
19, Adelaide Street, Strand, W.C.2. TEM. 1603/4.

You are invited to write for an illustrated

(free) catalogue of

B O O K S on architecture, planning,

and kindred subjects to The Architectural

Press, 9-13 Queen Anne's Gate, London, S.W.1

COURSES for all R.I.B.A. EXAMS.
Postal tultion in History, Testimonles, Design, Calculations, Materials, Construction, Structures, Hygiene, Specifications, Professional Practice, etc. Also in general educational subjects.

general educational subjects.
ELLIS SCHOOL OF ARCHITECTURE
Principal: A. B. Waters, M.B.E., G.M., F.R.I.B.A.
Phone: KEN 4477
and at Worcester
and two Worcester

Steel furniture for Church and Municipal Bodies,

Canteens, Cafes, Sports Clubs

EBEL : STAK-A-BYE FOLD-A-BYE NEST-A-BYE

Sebel Products Ltd. 177 West Street, Erith, Kent

THE TYROL HAND OPERATED

Pat. No. 510492

FOR APPLYING TYROLEAN

OPEN TEXTURE (ROUGH CAST) **FACINGS**

- LIGHT WEIGHT
- RAPID COVERAGE
- SIMPLE TO USE
- **BASY TO CLEAN**

PRICE £9.18.0 each delivered free any part of U.K. Enquiries TYROL SALES LTD. (Div. H)

54, Park Lane, Croydon, Surrey. Telephone: CROydon 4529

ARCHITECTURAL

- contemporary

SIGN letters

IN A VARIETY OF METALS & FINISHES

WARD AND COMPANY

128 CHELTENHAM ROAD, BRISTOL & TELEPHONE 21536

MODELS

ESTAB. 1883.

John B. THORP 98 GRAY'S INN ROAD, TOWN PLANNING
PUBLIC BUILDINGS
ESTATES and
INTERIORS

TELEPHONE:

RY

HOLBORN IOLL

For Electric motor Starters of proved reliability-specify-

HADE BY GEORGE ELLISON LIMITED . PERRY BARR . BIRMINGHAM .- 228

Chapel Field Works, Dukinfield, Cheshire London Office: 50 Bloomsbury Street, London, W.C.1 Subsidiary of William Kenyon & Sons Ltd.

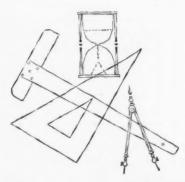
We offer to architects and builders a wide range of thermal insulation materials. Our service includes technical guidance and supervision on site at all stages of construction.

V 28

Alphabetical Index to Advertisers

	PAGE	** 10 113 741 MI	PAGE	35-4- 351 744	PAGE
Acrow (Engineers), Ltd	ev	Engravers' Guild, Ltd., The	lxxvii	Meta Mica, Ltd	ciii
Aidas Electric, Ltd	lix	Evode, Ltd.	xli	Midland Woodworking Co., Ltd.	xxxiii
Air Control Installations, Ltd		Ewart & Sons, Ltd.	lxxxvi	Mills Scaffold Co., Ltd	ii ii
Allom Brothers, Ltd.	xci	Faculty of Architects & Surveyors Falkirk Iron Co., Ltd., The	XV	Montgomerie, Stobo & Co., Ltd	lxxxvi
Architectural Press, Ltd., The lxxxii, xcii,			AV	Myton, Ltd.	xliii
D-11 T A TA3	cii	Fibreglass, Ltd	iv	Nairn, Michael, & Co., Ltd.	xxiii
Batley, Ernest, Ltd.	lxxxvi	Fisons, Ltd.	xlii	National Federation of Clay Industries.	AAU
B.B. Chemical Co., Ltd	xcii	Flavel, Sidney, & Co., Ltd	lxxix	Ltd The	-
Black Shoothing Fold	xvii	Floor Treatments, Ltd.	IAAIA	Newsum, H., Sons & Co., Ltd.	lxxxviii
Black Sheathing Felt	XXXI	Fordham Pressings, Ltd.	lxxxv	Neuchatel Asphalte Co., Ltd., The	lxx
Boot, Henry, & Sons, Ltd	AAAI	Franki Compressed Pile Co., Ltd., The	viii	Northern Aluminium Co., Ltd	lxxxi
Booth, John, & Son (Bolton), Ltd	lvi			Parker, Winder & Achurch, Ltd	XCV
Briggs, William, & Sons, Ltd.	xlix	General Electric Co., Ltd., The xi		Patent Glazing Conference	
Brightside Heating & Engineering Co.,	AllX	Gent & Co., Ltd	lxxxix	Permanite, Ltd.	xxxvii
Ltd The	xviii	Glazed & Floor Tile Manufacturers Asso-	lv	Permutit Co., Ltd., The	xxxii
British Home & Office Telephone Co.,	Avin	ciation, The	IV	Philips Electrical, Ltd	1
Ltd.	lviii	Greenwoods & Airvac Ventilating Co.,	Lawrentii	Pilkington Bros., Ltd	xxiv
British Paints, Ltd.	vi	Ltd.	lxxxviii	Previte & Co., Ltd	lxxx
British Plaster Board (Manufacturing),	**	Gyproc Products, Ltd	xxix	Pritchett & Gold & E.P.S. & Co., Ltd	XXX
Ltd.	xiii	Hall, J. & E., Ltd	XXXV	Ranalah Gates, Ltd	xev
British Reinforced Concrete Engineering	20111	Hammond & Champness, Ltd	lxxvi	Range Boilers, Ltd.	vii
Co., Ltd., The	evi	Higgs & Hill, Ltd		Rentokil, Ltd.	lxxx
Bryden, John, & Sons, Ltd	lxii	Hobbs, Hart & Co., Ltd	cv	Robertson Thain, Ltd.	lxxviii
Building Exhibition, The	xciv	Holophane, Ltd	xii	Rolyat Tank Co., Ltd., The	lxxxv
Burgess Products Co., Ltd	li	Hope, Henry, & Sons, Ltd	lxviii	Rubery, Owen & Co., Ltd	xxvi
Cape Asbestos Co., Ltd., The	XXV	Hume, Atkins & Co., Ltd	lxxxiv		
Cascelloid.	X	Ibstock Brick & Tile Co., Ltd	-	Sanbra, Ltd.	lxxxiii
Catesby's Linoleum Contracts	lxv	Imperial Chemical Industries, Ltd	111	Sanders & Forster, Ltd.	xxviii
Cement Marketing Co., Ltd., The	ix	Kay, William (Bolton), Ltd	lxxxiv	Sankey, J. H., & Son, Ltd	xciii
Cochrane, John, & Co., Ltd	lxii	Kerner-Greenwood & Co., Ltd		Saunders & Taylor, Ltd	XXXIX
Cole, E. K., Ltd	lxxv	Kingfisher, Ltd.		Sealanco (St. Helens), Ltd Sebel Products, Ltd	ciii
Collet's Bookshops	xciii	Korkoid Decorative Floors		Secomastic, Ltd	xlvi
Colt Ventilation, Ltd	iii			Shires & Co. (London), Ltd	
Combe, James, & Son, Ltd	lxii	Lawley, W. & J., Ltd Lindsay's Paddington Ironworks (1948),		Sommerfelds, Ltd.	
Compactom, Ltd	lxxiv			Smith, Thomas, & Son, Ltd	xivii
Copper Development Association	xxii	Ltd Loft Ladders, Ltd			
Coseley Engineering Co., Ltd., The		Lyons, J., & Co., Ltd.		Taylor Woodrow (Building Exports), Ltd.	xi cli
Costain Concrete Co., Ltd	XX			Tentest Fibre Board Co., Ltd	xlviii
Cuthell, D. M., & Co., Ltd	lxxxvii	MacAndrews & Forbes, Ltd	ev	Thermalite, Ltd.	
	xviii-lxvi	MacDougall, Angus M., & Co., Ltd	lxiii	Thorn, J., & Sons, Ltd	ciii
Dexion, Ltd.		Magnet Joinery, Ltd		Thorp, John B.	
Dixon's Paints, Ltd		Manger, J., & Son, Ltd.		Timber Development Association, Ltd.,	lxxif
Docker Brothers		Mallinson, William, & Sons, Ltd		The	eiii
D.S. Plugs, Ltd.		Marshall & Anderson, Ltd		Tyrol Sales, Ltd	
Dunn, Alexander, Ltd.		Mason, Joseph, & Co., Ltd		Ward & Co.	cili
Dussek Bitumen & Taroleum, Ltd		Mellowes & Co., Ltd		Wardle Engineering Co., Ltd., The	
Econa Modern Products, Ltd		Merchant Trading Co., Ltd., The		Woolaway Constructions, Ltd	
Ellis School of Architecture		Metal Sections, Ltd., 110		Wright Anderson & Co., Ltd.	101
Ellison, George, Ltd					4181
For Appoi	ntments (W	anted or Vacant), Competitions Open, Draw	ings, Traci	ings, etc., Educational,	
Legal Not	ices, Misce	llaneous Property, Land and Sales, see x	evii, xevii	i, xeix, e, ei, cii, ciii.	

The canteen took sixty years planning ...



... but now the knowledge, born of sixty years experience, is at your immediate disposal. By our expert advice in planning, layout and equipping—in fact in all matters relating to canteens—your difficulties are resolved and success becomes a certainty.

RIVerside 2040

J. LYONS & CO. LTD.
INDUSTRIAL CANTEENS
ADVISORY SERVICE
CADBY HALL, LONDON, W.14.

PAGE xxxiii ii lxxxvi xliii xxiii

XXXVIII

IXX
IXXXI
IXXXI
XCV
XXXVII
XXXII
IXXXI
XXVII
IXXXX
IXXVIII
IXXXI
IXXXIII
IXXXIII
IXXIII
XXIII





Write for full details to : ECONA MODERN PRODUCTS LIMITED
AQUA WORKS HIGHLANDS ROAD SHIRLEY BIRMINGHAM
Telephone & Telegrams: Solihull 3078



In planning the modern factory or office block, the Architect may be concerned with a hundred windows and perhaps twice as many doors and cupboards-all demanding locking equipment equal to the importance of the building. There is none more dependable, none with a

greater reputation than that produced by Hobbs Hart—builders of security equipment for the Bank of England, Tower of London, Windsor Castle, Houses of Parliament, and prominent commercial con-You are invited to cerns. consult us on all security problems.

HOBBS HART

& COMPANY LIMITED

Headquarters of General & Commercial Security



HOBBS HART & CO. LTD (DEPT F) STAFFA, ROAD, LEYTON, LONDON Ere

SHOWROOMS: 76 CHEAPSIDE, LONDON, EC.

TIMBER CONNECTORS

Made to B.S.S.1579



"TECO" double bevelled SPLIT-RING



"BULLDOG" circular TOOTHED-PLATE



"TECO" heavy duty SHEAR-PLATE



"TRIP-L-GRIP" framing anchors

Our "Design Manual for Timber Connector Construction" contains full technical data on the above Timber Connectors

Have you applied for a FREE copy

MACANDREWS & FORBES LTD.

2 CAXTON STREET, WESTMINSTER, LONDON, S.W.1 Telephone: Abbey 4451/3

GARAGE DOOR FIT





MODEL I: for a minimum clearance of €10.16.6 16" above head of door

MODEL 2: for a minimum clearance of 2" above head of door £11.19.6 Prices ex-works; subject to trade discounts **Architects and Builders** Up & Over Garage Door Fittings because . . .

when they subtract from the cost of the fitting the saving effected by having a single-leaf door of light construction, there is little difference between the total cost of this modern easy-to-operate door and the clumsy, rapidly deteri-orating, old-fashioned twoleaf type.

All enquiries to: ACROW (ENGINEERS) LTD. South Wharf, London, W.2. AMB 3456 (20 lines)



Issued by The British Reinforced Concrete Engineering Co. Ltd.

