

THE ARCHITECTS' JOURNAL

FINE ARTS



standard contents

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

NEWS and COMMENT

Astragal's Notes and Topics

Letters

News

Diary

Criticism

TECHNICAL SECTION

Information Sheets

Information Centre

Current Technique

Working Details

Questions and Answers

Prices

The Industry

CURRENT BUILDING

Major Buildings described:

Details of Planning, Construction,

Finishes and Costs

Buildings in the News

Building Costs Analysed

Architectural Appointments

Wanted and Vacant

No. 3405]

[Vol. 132

THE ARCHITECTURAL PRESS

11 and 13, Queen Anne's Gate, Westminster,

W.1. 'Phone: Whitehall 0611

Price 1s. od.

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 I one week, II to Z the next. In all cases where the town is not mentioned the word LONDON is implicit in the address.

AA	Architectural Association, 34/6, Bedford Square, W.C.1.	Museum 0974
AAI	Association of Art Institutions. Secy.: J.H.Holden, College of Art, Cavendish Street, Manchester 15	
ABS	Architects' Benevolent Society. 66, Portland Place, W.1.	Langham 5533
ABT	Association of Building Technicians. 156, Waterloo Road, S.E.1.	Waterloo 5427
ACGB	Arts Council of Great Britain. 4, St. James's Square, S.W.1.	Whitehall 9737
ADA	Aluminium Development Association. 33, Grosvenor Street, W.1.	Mayfair 7501/8
ARCUK	Architects' Registration Council. 68, Portland Place, W.1.	Langham 5861
BAE	Board of Architectural Education. 66, Portland Place, W.1.	Langham 5721
BC	Building Centre, 26, Store Street, Tottenham Court Road, W.C.1.	Museum 5400
BCC	British Colour Council. 13, Portman Square, W.1.	Welbeck 4185
BCCF	British Cast Concrete Federation. 105, Uxbridge Road, Ealing, W.5.	Ealing 9621
BCIRA	British Cast Iron Research Association. Alvechurch, Birmingham	Redditch 716
BDA	British Door Association. 10, The Boltons, S.W.10.	Fremantle 8494
BE	Building Exhibition. 11, Manchester Square, W.1.	Hunter 1951
BEDA	British Electrical Development Association, 2 Savoy Hill, W.C.2.	Temple Bar 9434
BIA	British Ironfounders' Association. 145, Vincent Street, Glasgow, C.2.	
BID	Building Industries Distributors. 52, High Holborn, W.C.1.	Glasgow Central 2891
BINC	Building Industries National Council. 11, Weymouth Street, W.1.	Chancery 7772
BOT	Board of Trade. Whitehall Gardens, Horseguards Avenue, Whitehall, S.W.1.	Langham 2785
BR	Building Research Station. Bucknalls Lane, Watford.	Trafalgar 8855
BSA	Building Societies Association. 14, Park Street, W.1.	Garston 4040
BSI	British Standards Institution. British Standards House, 2, Park St., W.1.	Mayfair 0515
CABAS	City and Borough Architects Society. C/o S. A. G. Cook, A.R.I.B.A., Borough Architect and Director of Housing, Town Hall, High Holborn, W.C.1.	Mayfair 9000
CAS	County Architects' Society. C/o S. Vincent Goodman, F.R.I.B.A., Shire Hall, Bedford.	Holborn 3411
CCA	Cement and Concrete Association. 52, Grosvenor Gardens, S.W.1.	Bedford 67444
CDA	Copper Development Association. 55, South Audley Street, W.1.	Belgravia 6661
COID	Council of Industrial Design. 28, Haymarket, S.W.1.	Grosvenor 8811
CPRE	Council for the Preservation of Rural England. 4, Hobart Place, S.W.1.	Trafalgar 8000
CUC	Coal Utilization Council. 3, Upper Belgrave Street, S.W.1.	Sloane 4280
CVE	Council for Visual Education. 13, Suffolk Street, Haymarket, S.W.1.	Sloane 9116
DIA	Design and Industries Association. 13, Suffolk Street, S.W.1.	Reading 72255
EJMA	English Joinery Manufacturers' Association (Incorporated). Sackville House, 40, Piccadilly, W.1.	Whitehall 0540
EPNS	English Place-Name Society. 7, Selwyn Gardens, Cambridge.	Regent 4448
FAS	Faculty of Architects and Surveyors. 68, Gloucester Place, W.1.	Welbeck 9966
FASS	Federation of Associations of Specialists and Sub-Contractors, 14, Bryanston Street, W.1.	Welbeck 1781
FBBD	Fibre Building Board Development Organization Ltd. (Fidor), Stafford House, Norfolk Street, W.C.2.	Covent Garden 3008
FBI	Federation of British Industries. 21, Tothill Street, S.W.1.	Whitehall 6711
FC	Forestry Commission. 25, Savile Row, W.1.	Regent 0221
FCMI	Federation of Coated Macadam Industries. 37, Chester Square, S.W.1.	Sloane 1002
FDMA	The Flush Door Manufacturers Association Ltd. Trowell, Nottingham.	Ilkeston 623
FLD	Friends of the Lake District. Pennington House, nr. Ulverston, Lancs.	Ulverston 201
FMB	Federation of Master Builders. 33, John Street, W.C.1. Tel.: Chancery 7583 (6 lines)	
FPC	The Federation of Painting Contractors, St. Stephen's House, S.W.1.	Whitehall 3902
FRHB	Federation of Registered House Builders. 82, New Cavendish Street, W.1.	Langham 4341
GPDA	Gypsum Plasterboard Development Association. 11, Ironmonger Lane, E.C.2.	Monarch 8888
GC	Gas Council. 1, Grosvenor Place, S.W.1.	Belgravia 4321
GG	Georgian Group. 2, Chester Street, S.W.1.	Belgravia 3081
HC	Housing Centre. 13, Suffolk Street, Pall Mall, S.W.1.	Whitehall 2881
IAAS	Incorporated Association of Architects and Surveyors, 29, Belgrave Square, S.W.1.	Belgravia 3755
ICA	Institute of Contemporary Arts. 17-18, Dover Street, Piccadilly, W.1.	Grosvenor 6186
ICE	Institution of Civil Engineers. 1, Great George Street, S.W.1.	Whitehall 4577
IEE	Institution of Electrical Engineers. Savoy Place, Victoria Embankment, W.C.2.	
IES	Illuminating Engineering Society. 32, Victoria Street, S.W.1.	Covent Garden 1871
IGE	Institution of Gas Engineers. 17, Grosvenor Crescent, S.W.1.	Abbey 5215
IHVE	Institution of Heating and Ventilating Engineers. 49, Cadogan Square, S.W.1.	Sloane 8266
IIBDID	Incorporated Institute of British Decorators and Interior Designers. 37, Soho Square, W.1.	Sloane 1601/3158
		Gerrard 5056

ACME

—FLOORING SPECIALISTS FOR 100 YEARS

IMMOVABLE-ACME HARDWOOD FLOORS

ACMEPAVING FOR FACTORY FLOORS

ACMETYLE SUPER P.V.C. TILES

ACMELYNO LINOLEUM

ACMECORK CORK TILES

ACMETRED RUBBER FLOORING

ACMEPYLE FITTED CARPETS

ACME FLOOR RENOVATION SERVICE

Technical Brochures gladly sent on request.

ACME

**FLOORING & PAVING
CO.(1904) LIMITED**

RIVER ROAD, BARKING, ESSEX. RIPpleway 2771 (P.B.X.)

IT'S HARDLY SURPRISING...

that more and more Architects
and Builders are specifying the



BATLEY

Suparise

SPRING CONTROLLED

UP & OVER DOOR GEAR

because they know that Suparise is exceptionally robust, reliable and easy to fit. Available for new installations, with a choice of Aluminium Alloy or selected Timber Doors; or for converting existing hinged doors to 'Up & Over' Doors.

PRICE £11.10.0. (Gear only).

Alternatively complete Batley Up & Over Doors can be supplied in ribbed Aluminium Alloy (£20) or exterior grade Mahogany Ply (£19), or Roller Shutter doors in selected timber laths.

Generous Trade Terms available

Brochure from :- **ERNEST BATLEY LTD.**

63g, Colledge Road, Holbrooks, Coventry 89245

YEAR

VING
ITED

(P.B.X.)

ects
the

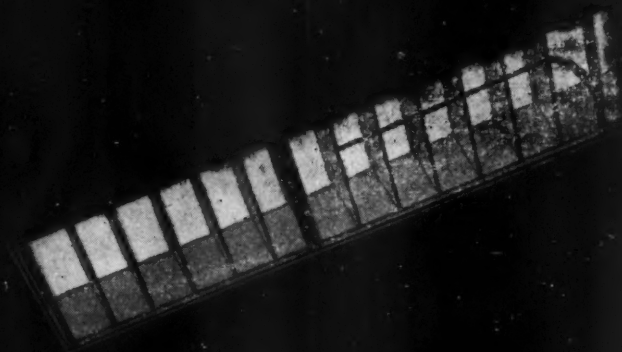


AR

excep-
reliable
a choice
nverting

supplied
ahogany

89245



The silent firefighter

This fire ventilator saved a plant worth £3,500,000
It could well save yours

As any fire chief will tell you, fire in an unventilated area quickly produces choking, superheated smoke and fumes—conditions which keep firefighters out of the building and make effective firefighting virtually impossible. Perforation of the roof is the only remedy, but this is a hazardous operation which often endangers the life of the fireman.

The Colt Dual Purpose Ventilator has a special device that's acutely sensitive to heat. It opens *automatically* at a pre-determined temperature,

releasing smoke, heat and fumes, keeping the fire localised. Firemen can enter the building, find the seat of the fire and extinguish it—with minimum damage to plant and equipment.

Colt dual-purpose ventilators have the added advantage that under manual control they can be used for normal plant ventilation and provide excellent day-to-day working conditions.

Widespread adoption by industry is proof of managerial faith in the silent firefighter.



Dual-Purpose Ventilators

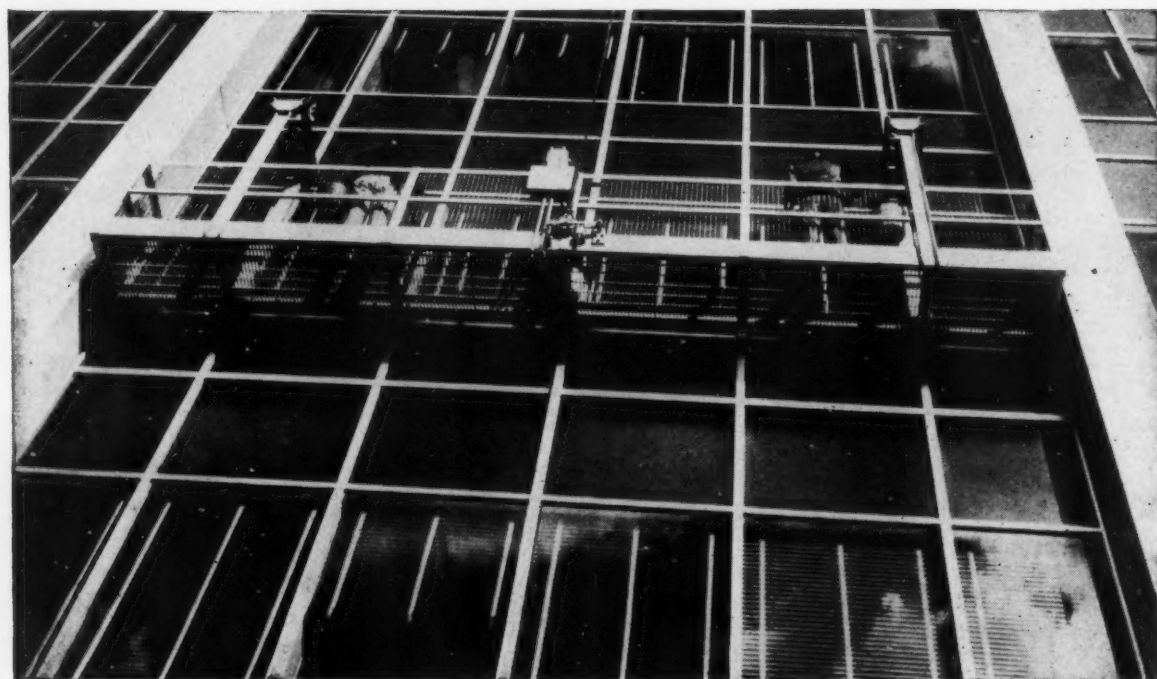
Automatic Fire protection—day-to-day controlled ventilation

FOR INFORMATION WRITE TO DEPT. 89: COLT VENTILATION LIMITED, SURBITON, SURREY. ELMBRIDGE 0161





How to clean acres of glazing!



The increased use of curtain walling, with its vast areas of glass and other sheet cladding materials, plus the demand for sealed air-conditioned buildings, has given rise to a major functional problem—that of accessibility for cleaning, service and renewal.

The 'ESCALER' Elevator system solves this problem. Providing completely safe access to every square inch of building face, the architect gains complete freedom in fenestration which hitherto was conditioned by the scale of opening lights.

The 'ESCALER' system includes roof track, roof car and platform tailored to suit the modules and contour of new buildings.

Operators have complete push button control of location and required height. Electrical and mechanical interlocks prevent any misuse. Building Superintendent may be contacted by 'phone from any platform location. Platforms are restrained to building face by "built-in" guides which form an architectural feature of the building.

For buildings up to six storeys high, angulated cable versions are available.

The 'ESCALER' system lends itself to flexibility and we welcome discussion with Architects at the planning stage of any new project. Layouts of proposals are submitted without obligation.

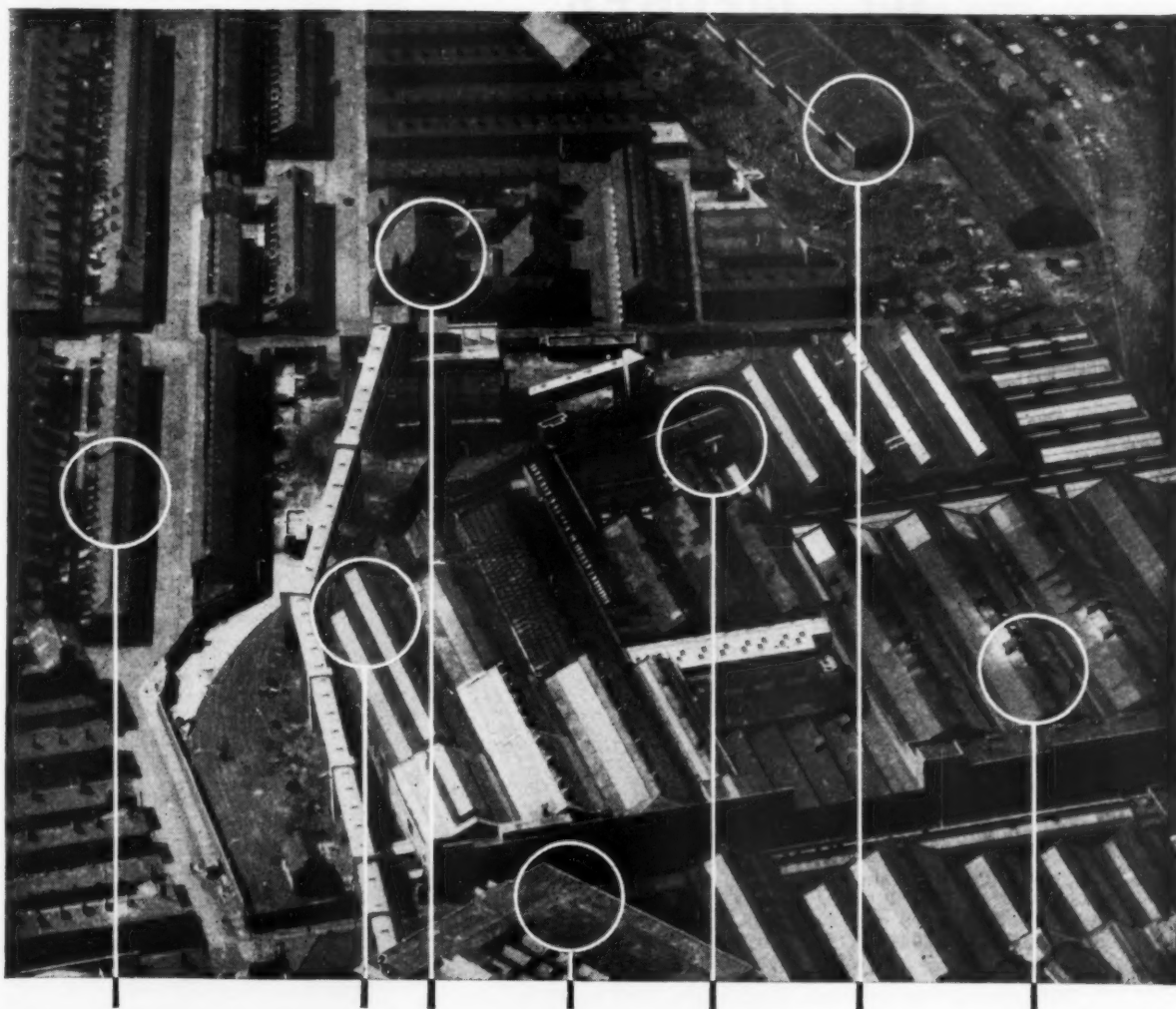
The ESCALER Elevator



Write for brochure (GG8) to:

ACCESS EQUIPMENT LTD
MAYLANDS AVENUE, HEMEL HEMPSTEAD, HERTS
Boxmoor 5781-4. Telegrams: Accesequip, Hemel-Hempstead.

TA253a



Any type of roof can be waterproofed

with the

EVODE

BUILT UP ROOFING SYSTEM

* Permanent waterproofing for large or small roofs * Applied cold without preliminary treatment * Used and proved for over 25 years
* Foreman demonstrators are available to assist your contractors labour, or, if you prefer, our contracts department can undertake the work for you and provide free maintenance.

A PRODUCT OF **EVODE** OF STAFFORD

ROOF WATERPROOFING · CONCRETE ADMIXTURES AND HARDENERS · PROTECTIVE PAINTS AND BITUMINOUS COATINGS · GAP AND JOINT SEALING MASTICS AND GUNS · INDUSTRIAL ADHESIVES

Are YOU using the EVODE PERSONAL SERVICE TO DESIGNERS? Write or phone our London Office for details.

* **SEND FOR LITERATURE** EVODE LTD., (BUILDING CHEMICALS DIVISION) STAFFORD. Phone: 2241 (5 lines)

London Office: 82 VICTORIA STREET, S.W.1. Telephone: ABBey 4622 (3 lines)

M-W.189

Why WEYDEC is the 'product of the future'* for ARCHITECTS



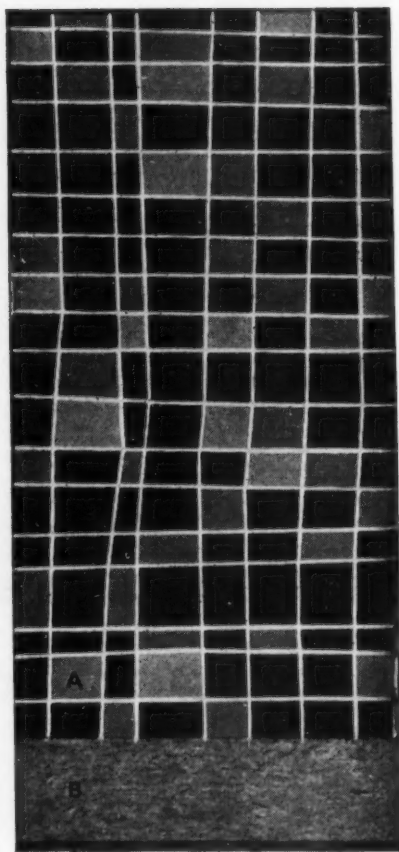
WEYDEC offers an exceptional advantage to Architects—it is a *constructional* board with its plastic surface already *factory bonded* to a Weyroc core. This advantage shows itself in various ways:

COMPLETE DEPENDABILITY. Basically, the value of Weydec is the strength of its Weyroc core—a first-class precision board. This means that you can specify whatever plastic-surfaced unit you want in colourful, hardwearing WEYDEC, *knowing* that the finished job will be entirely to your satisfaction.

COST-SAVING. Weydec saves costs in two important ways. Because it does away with the 'glue-pot', it saves your *contractor* time and labour. And, because a ready-bonded plastic-surfaced board costs less than buying the board and surface separately, it saves money for your *client*.

CHOICE. Weydec is available in a standard range of patterns for normal use—one of these attractive patterns is reproduced here.

AND STILL MORE CHOICE. In addition, you are welcome to take full advantage of our Design Service. Through this, you can have your own design or patterns from Sanderson's decorative laminating paper incorporated into the melamine surface of Weydec.



- A. This design is one of the new Weydec surfaces.
- B. The Weyroc core ($\frac{1}{4}$ " or $\frac{1}{2}$ ").
- C. Non-decorative plastic balancer on reverse side.

* This means from today onwards! Greatly expanded production of Weydec now makes it possible for you to get all you want. So, contact your Weydec Distributor straightaway!

weydec

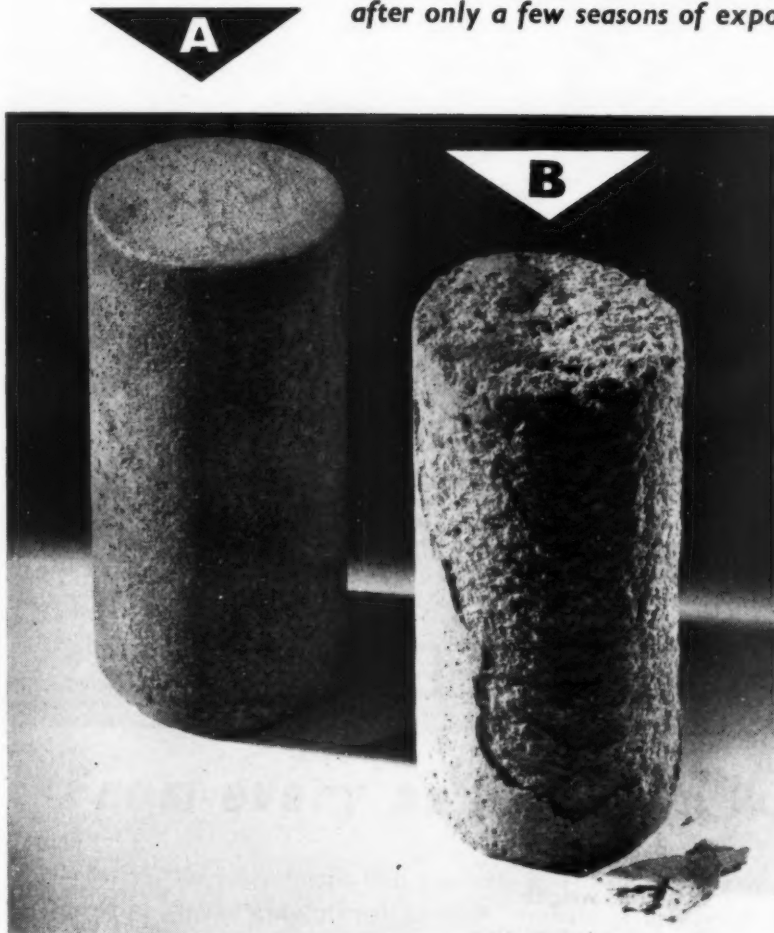
melamine surfaced Weyroc

Write for a free sample to:—

THE AIRSCREW COMPANY & JICWOOD LTD · Dept. **AJ.16** · WEYBRIDGE · SURREY · TEL: WEYBRIDGE 2242/7
WPS74

The Reason Why

The illustration below explains why it is often found necessary to repoint joints in brickwork after only a few seasons of exposure



The cylinder marked 'A' consisted of mortar gauged 1 part cement to 6 parts sand by volume plus **FEBMIX ADMIX** Mortar Plasticiser. The cylinder marked 'B' was composed of 1 part cement to 1 part hydrated lime to 6 parts sand by volume. Both the cylinders of mortar were allowed to cure for one month and were then subjected to 30 cycles of freezing and thawing at which point the mortar cylinder containing **FEBMIX ADMIX** was unaffected. But, as can be seen from the above photograph, the cylinder of cement lime sand mortar had badly disintegrated.

For permanent strength and good appearance and lasting life, bricklaying mortar must be able to withstand alternate freezing and thawing to which it is subjected many times a year. That mortar plasticised with **FEBMIX ADMIX** has that property is proved by the condition of the mortar joints in the many thousands of buildings that have been erected in the past 8 years with **FEBMIX ADMIX** incorporated.

**For durable
brickwork**

USE FEBMIX-ADMIX

MORTAR PLASTICISER

It costs you money NOT to use it!



(GREAT BRITAIN) LTD.

102 Kensington High Street, London, W.8. WES 0444

Albany Road, Chorlton-cum-Hardy, Manchester 21.

CHO 1063

PHB 9607



*There's nothing
as good as
Vermiculite for*
ROOF SCREEDS

- * Warm in winter
- * Cool in summer
- * Resists fire
- * Saves weight
- * Anti-condensation
- * Absorbs sound

specify **VERMICULITE**

FOR ROOF SCREEDS, FLOOR SCREEDS, PLASTERS AND LOOSE FILL



Send for full details :—
The Association of Vermiculite Exfoliators
59 Gresham Street, London, E.C.2 Telephone : METropolitan 9101



From every angle—your wisest choice!

Whatever the angle from which you view it, Tretolin is your wisest choice for painting building surfaces. Unlike conventional coatings, Tretolin is unaffected by the alkali often present in these surfaces. Even in the most difficult industrial atmospheres Tretolin will stand up stubbornly to the most aggressive conditions. Its attractive eggshell finish gives years of wear and protection and—a further important virtue—requires the minimum of preparation when repainting finally becomes necessary. Make Tretolin your first choice—it will be your wisest!

We shall be glad to send you a set of specification sheets and colour range.

Tretolin Paint

The Paint for Building Surfaces

CONCRETE • RENDERINGS • ASBESTOS CEMENT • ETC.

TRETOL LTD., Tretol House, The Hyde, London, N.W.9.

Telephone: Colindale 7223



Something new ahead *and underfoot!*

LUXOL

POLYURETHANE LACQUER FOR EXTERIOR CLADDING

Luxol Polyurethane Lacquer supersedes conventional varnish coatings for all exterior cladding because of its outstanding durability under extreme weather conditions. The exceptional ability of this new coating to maintain its handsome finish over markedly longer periods, its deep build, plus its ease of application and speedy drying, combine to make it one of the most advanced materials offered to the architect and the builder for some considerable time.

LUXOL

POLYURETHANE LACQUER FOR FLOORS

Here is a brilliant new protective floor finish — for all types of floors — that keeps its shine for long periods *without polishing* in spite of the heaviest wear.

So tough and hard-wearing is Luxol Polyurethane Lacquer that it protects the actual floor covering from all wear and dirt and yet its own non-slip surface remains unspoiled. Floor upkeep is minimised, a damp mop quickly removes dirt and leaves floors clean and new-looking.

Luxol Polyurethane Lacquer is eminently suited to the needs of all public buildings especially where traffic is heavy and maintenance expensive.

BRITISH PAINTS LIMITED

PORTLAND ROAD, NEWCASTLE UPON TYNE, 2
NORTHUMBERLAND HOUSE, 303-306 HIGH HOLBORN, LONDON, W.C.1
31, WAPPING, LIVERPOOL

BELFAST, BIRMINGHAM, BRISTOL, CARDIFF, GLASGOW, LEEDS, MANCHESTER, NORWICH,
PLYMOUTH, SHEFFIELD, SOUTHAMPTON, SWANSEA AND ALL PRINCIPAL TOWNS.



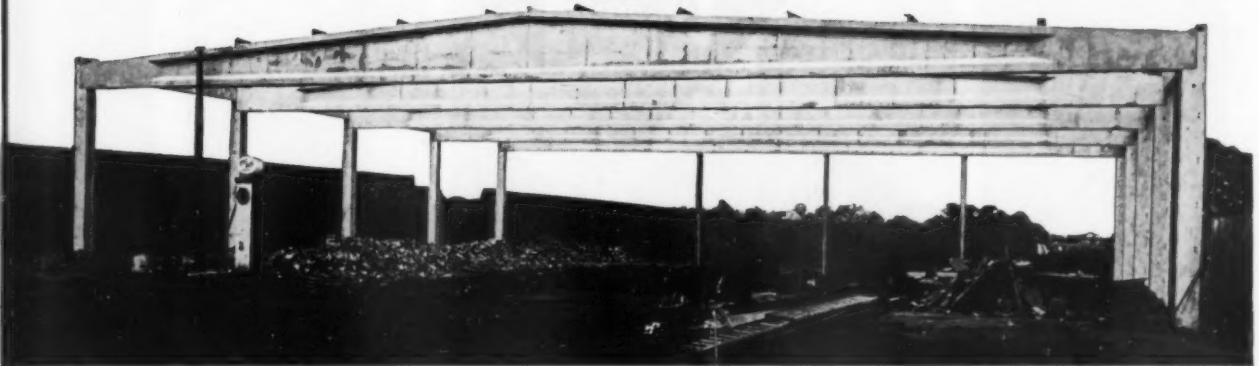
COLOUR ADVISORY SERVICE

This special department of British Paints Limited is at the disposal of architects and builders throughout the country. At their request Colour Advisory will plan colour schemes for entire office blocks, factories, etc. — freely and without obligation.

THE NEW



LONG SPAN BEAM



FOR SPANS UP TO 70 FT—ROOF PITCH 4°

Longer spans by special arrangement

This new pre-stressed concrete long span beam has the great advantages of a low pitch angle and great strength. Precon offer the complete service of foundations, frame and roofing (normal and insulated). Attractive precast concrete eaves gutters are also available.

This new beam is offered at an exceedingly competitive price.

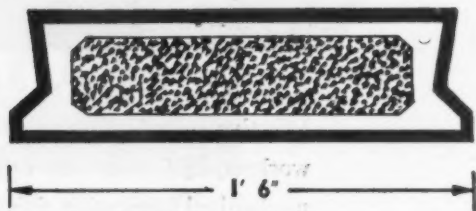
For Precon Reliability and solid value for money also specify:

PRECON PORTAL FRAMES

in spans from 15' to 50'

PRECON FLOORS

(Erection Service available by special arrangement) the floor with the built-in heat and sound insulation at no extra cost.



St. Albans Market, City Engineer, A. S. Moody, A.M.Inst.C.E.,
M.I.Mun.E., A.M.T.P.I.

Precon Limited, Harbour Road, Rye, Sussex, Telephone: RYE 3003

TAS/PR13

think **Steelwork**

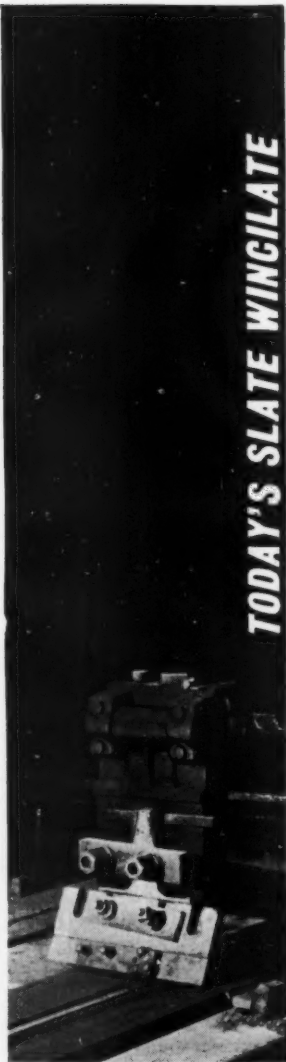
think **Boulton and Paul**



A team of specialists at your service . . . A wealth of skill and experience . . .
Effective co-operation to speed your plans . . . Assured quality of material and
workmanship from the originators of **STEELWORK BY AUTOMATION**—
mechanised fabrication giving improved deliveries and lower costs. Write for details.

Boulton and Paul Limited • NORWICH • LONDON • BIRMINGHAM

AP/CE41



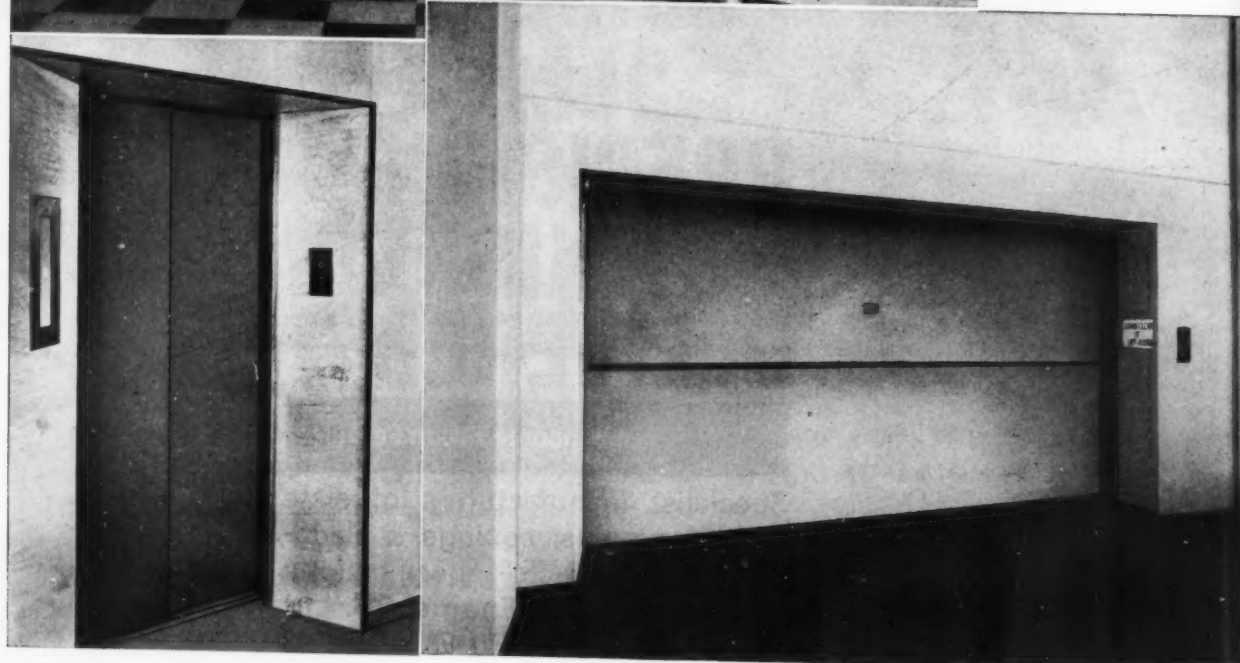
QUARRIED SELECTED PRECISION FINISHED DELIVERED

The Wincilate Group Service

Specialist manufacturers of slate
cills, surrounds, copings & cladd-
ings to architects' specifications
The Bow Slate & Enamel Co. Ltd
The Town Hall, Bow Rd. E3. ADV 2203



BOLTON





There's a **BOLTON DOOR** for every type of Lift



Bolton Lift Doors cover every requirement and now include radial doors for lift cars or landings, two-speed doors, bi-parting doors with either horizontal or vertical action, shutter doors and multi-leaf doors.

All these doors may be had in a wide variety of finishes.

Our latest leaflet, reference AJ.352 describes and illustrates the range of doors and their applications.

BOLTON GATE COMPANY LIMITED BOLTON LANCs

Branches at:- Belfast, Birmingham, Bristol, Dublin, Liverpool, London, Manchester, Newcastle-on-Tyne

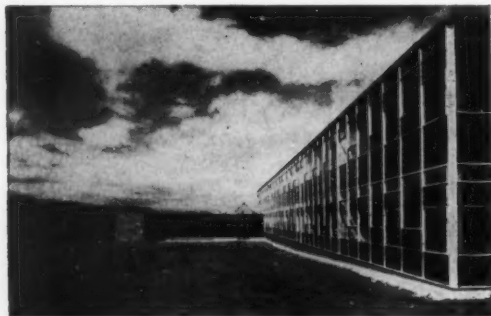
 BG 352



ESCOL

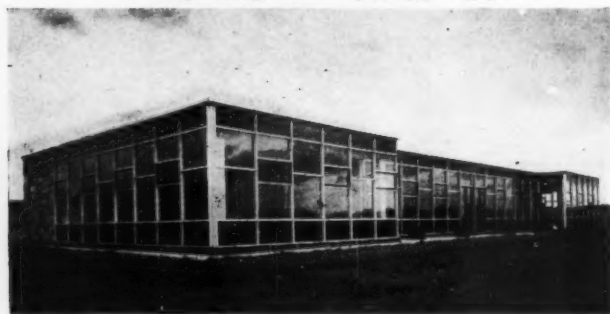
Resists ALL Normal Atmospheres

The porcelain enamelled finish of Escol Infilling Panels resists sea atmospheres, and is totally impervious to all normal atmospheric conditions. Colour and texture do not deteriorate; they require no maintenance other than occasional washing and are absolutely **PERMANENT**.



Borestone Primary School, Stirling

*Architects: Alison & Hutchison & Partners, Edinburgh, in association with County Architect, Stirlingshire County Council.
Framing Manufacturers: Standard Maclean Ltd., Hamilton. Contractors: Stuart Construction Ltd., Glasgow.*

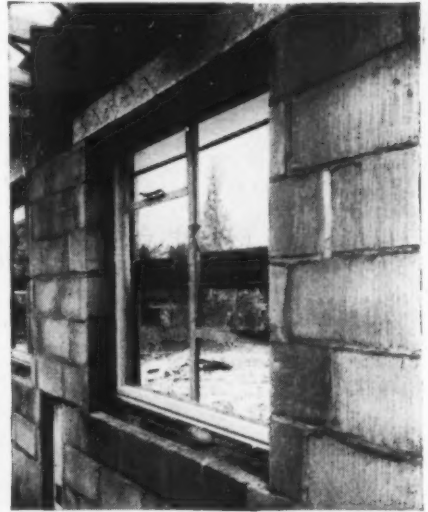


Stewart & Gray Ltd.

offer a specialised service in the development, manufacture and all technical aspects of porcelain enamelled steel in architecture. It is at the disposal of all architects.

STEWART & GRAY LTD SWAINS RD, LONDON, SW17. Tel: MITcham 1634 (5 lines)

Members of the Vitreous Enamel Development Council and the Porcelain Enamel Institute



Space saving insulation with

THERMALITE

Loadbearing insulating building blocks

In these single storey houses at Crowthorne in Berkshire, 3" loadbearing Thermalite Blocks are being used for the internal partition walls. They will provide a high degree of *extra* insulation plus an overall saving of internal space of approximately 12½ cubic feet.



Properties of Thermalite.

1. Dry density 50 lb./ft.³
2. Compressive strength to BS:2028 type A.
3. Moisture movement/drying shrinkage to BS:2028 type B.
4. Thermal conductivity (k) 1.4 B.T.U.'s, etc.
5. Nominal face size 18" x 9" or 9½", actual sizes 17½" x 8½" or 9¼" x 2½", 3", 4", 5", 6" and 8½" (tolerance to BS:2028).
6. Fire resistance 4" loadbearing plastered hot face—2 hour grade. Fire resistance 4" non-loadbearing unplastered—4 hour grade.

The photograph shows the neat returns to the reveals, typical of Thermalite construction. No special Corners or Closers are necessary; Thermalite Blocks are readily and accurately sawn. Note how easily the hot air ducting has been accommodated.

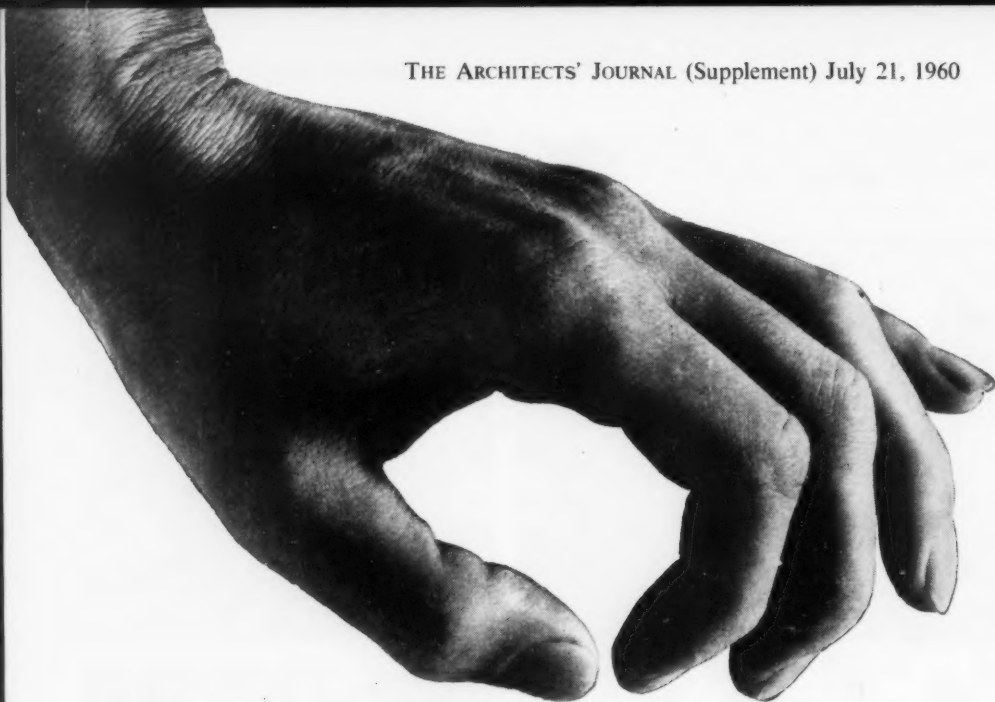
Thermalite is particularly suited to dry construction. Direct reliable fixing without need for plugs further reduces the cost of this economic construction method. Note, too, that the cable channelling is spiked directly to the Thermalite wall for speed and simplicity.

For further information and samples apply to:

THERMALITE YTONG LIMITED

Hams Hall, Lea Marston, Sutton Coldfield, Warwickshire.
Telephone: Coleshill 2081.

A LAING COMPANY



Sssh!

The boon of silence... silence in which to work without strain or tension... silence in which to think and plan... silence ensured by—aluminium. Used in strip or panel form, anti-corrosive, finely perforated aluminium gives excellent sound absorption and heating elements can be incorporated if desired. It is also light, tough, non-inflammable and washable. On all development problems concerning aluminium acoustic ceilings British Aluminium work closely with the manufacturers—a list of whom they will gladly supply.

BRITISH ALUMINIUM



THE BRITISH ALUMINIUM COMPANY LIMITED NORFOLK HOUSE ST JAMES'S SQUARE LONDON SW1

to work
which to
aluminium
ve, finely
ound ab
orporated
ammable
problems
British
turers-

M

N SW



Save stand-by battery space with the new **CHLORIDE** Stationary Cell

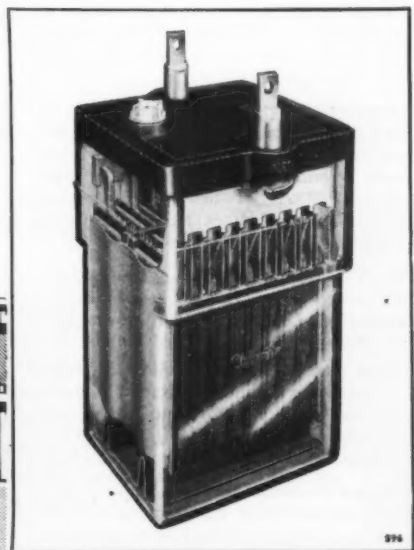
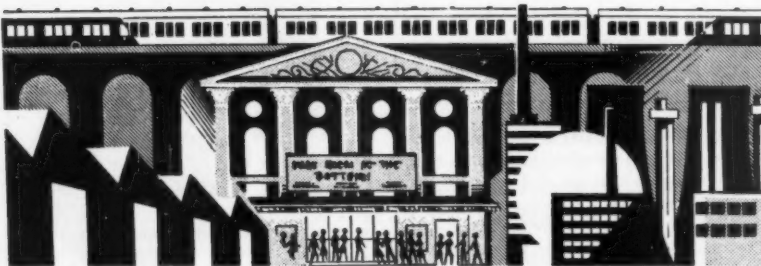
THIS LIGHT, robust cell, with its Planté positive and pasted negative plates, Porvic microporous separators and many other improvements in material and design, saves up to 50% of previously necessary battery space—yet performs its duties with greater efficiency and complete reliability. Specially designed for stand-by duties entailing discharge rates between, say, the 3-hour and the very high rates demanded for switch-closing purposes, it is ideal for trickle-charge operation and has all the remarkable length of life associated with the Planté type of construction.

The field in which the new cell is designed to replace current Planté types is a very wide one. Emergency lighting*, switch operation and emergency supply in hospitals, theatres, cinemas and other public buildings, nuclear and conventional power stations, all rely on trickle-charged batteries. In Great Britain today such batteries occupy millions of cubic feet of valuable space. The new Chloride cell could free almost half of it.

*The new cell will from now onwards be fitted in all Keeplite units—the Chloride Company's automatic emergency lighting system.

A PRODUCT OF CHLORIDE BATTERIES LIMITED
BACKED BY WORLD-WIDE SERVICE

Makers of Exide Batteries



Enquiries to: London, Elgar 7991; Bristol 64086; West Bromwich 2361; Leeds 20248; Glasgow, Bridgeton 3734; Manchester, Blackfriars 1158; Belfast 27953



It pays you and your clients to put in *solid fuel* central heating

Lowest running costs. The big news in central heating these days is the amazing cheapness of the solid fuel systems. For example, the average weekly running cost for a two- or three-radiator system can be as little as 9/9d! Just compare that with oil, gas and electricity—see chart on right.

Lower installation costs. Compared with oil, solid fuel systems are much cheaper to buy and install. The new solid fuel boilers are really streamlined and require very little attention. They are thermostatically controlled and finished in gleaming vitreous enamel in a range of modern colours.

N.C.B. Housewarming Plan—offers a personal loan to cover the whole cost of a central heating installation. Low interest—five years to pay—tax relief.

Lowest maintenance costs. Solid fuel systems cost practically nothing to maintain. But with other fuels, skilled maintenance is necessary and this can cost from £5 to £15 per year—another 2/- to 6/- a week on the running cost.

Compare the costs. These are typical weekly costs, averaged over the year, for centrally heating a three-bedroomed house or bungalow—and hot water summer and winter. Look how much cheaper solid fuel is.

6 or 7 radiators and hot water ▼			
2 or 3 radiators and hot water ▼			
COKE in independent boiler	9/- per cwt	9/9d	15/-
SMALL ANTHRACITE in gravity feed boiler	12/- per cwt	—	14/1d
GAS	1/4d therm plus, say, 2/8d a week standing charge	16/1d	23/6d
ELECTRICITY	1d unit (No standing charge included)	18/2d	29/10d
OIL	1/5½d gallon	*12/10d	*22/8d

* plus 2/- to 6/- a week maintenance cost.

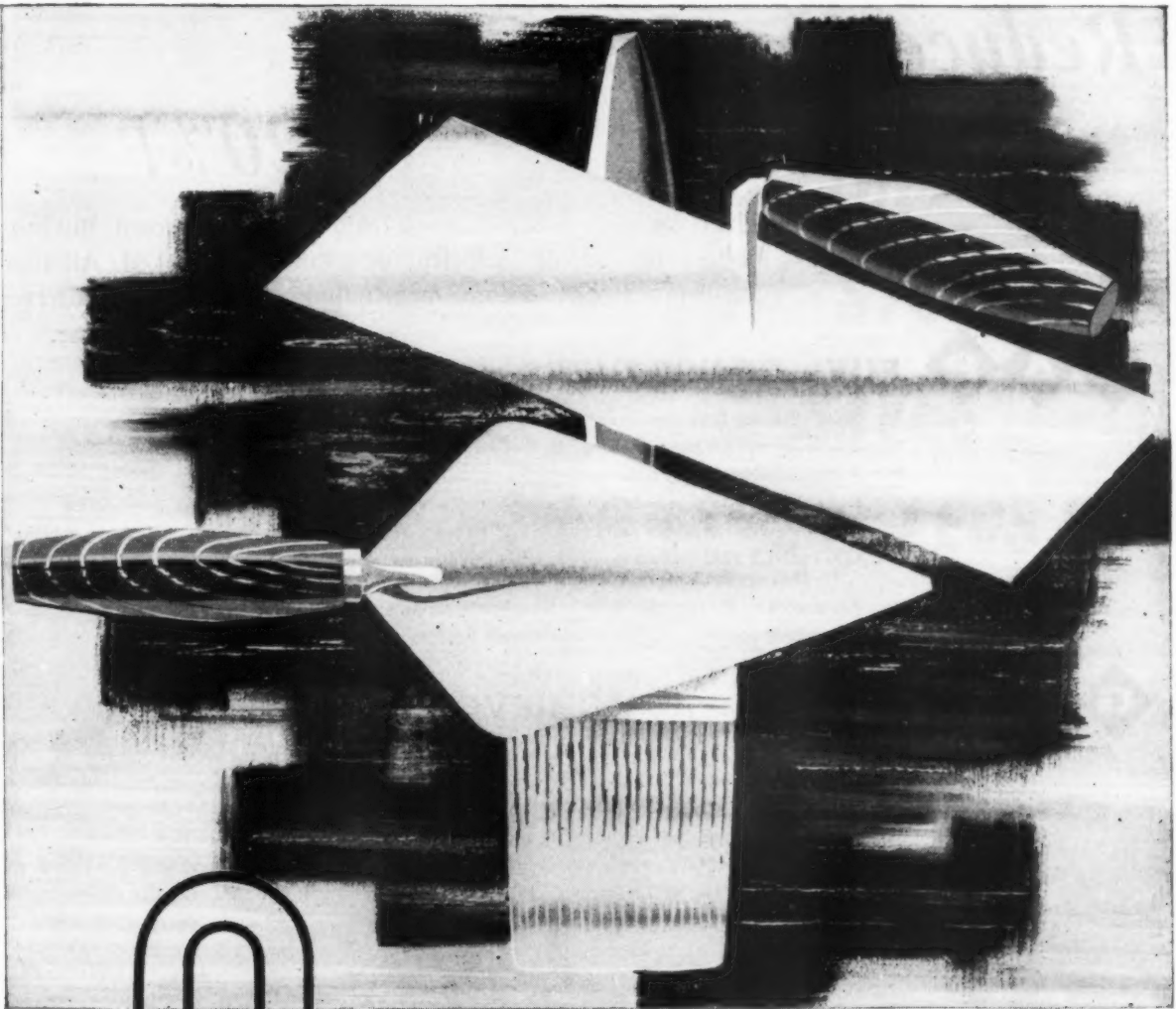
Write for FREE booklet on Central Heating and list of other technical publications to the Coal Utilisation Council, 3 Upper Belgrave Street, London, SW1. Also available 'Central Heating for Houses', a complete 120-page illustrated survey of all the various systems available, from the open-fire-and-back-boiler to the small-pipe system. Copies 2/6d each.

The cheapest
central heating
there is —
SOLID FUEL



ISSUED BY THE COAL UTILISATION COUNCIL





THERE ARE

DIFFERENT

CEMENTONE PRODUCTS

including decorative finishes and cement additives. Technical advice or information is available on request.

Joseph Freeman
Sons & Co Ltd
Cementone Works
London SW18
Phone: VANDyke 2432



Cementone No 1	Permanent Colours for Cement
Cementone No 2	Waterproofing Powder
Cementone No 3	Transparent Waterproofer
Cementone No 5	Concrete Floor Binder
Cementone No 6	Waterproof Flat Finish
Cementone No 7	Flat and Gloss Finishes
Cementone No 8	Concrete Hardener
Cementone No 9	Waterproof Stoneface Composition
Cementone No 10	Surface Tinter

Reduce Heating Costs by 20%!

The coke boiler is the cheapest form of heating known. But most boilers are old, or inefficient or indifferently stoked. All these problems can be overcome by installing a G.A.P. Fuel Conserver.



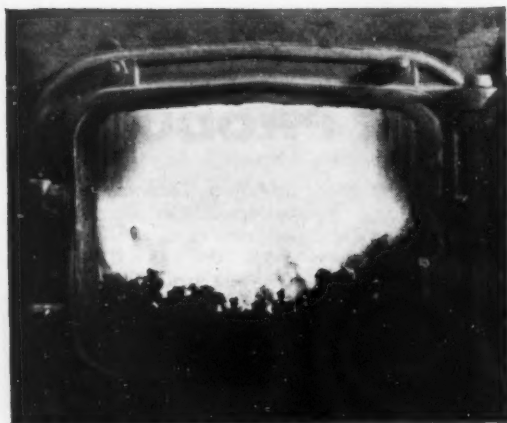
FUEL CONSERVERS

- * Raise efficiency from approximately 55% to a guaranteed 80% and
- * Enable savings normally of *at least* 20% of fuel charged; clinkering almost eliminated.
- * Automatically maintain water temperature—exactly as required at all times.
- * Reduce stoking time to as little as one hour in 24—leaving your boilerman free for other duties.
- * During installation do not require the fire to be out for more than six hours—and that can be at night.
- * **COST ONLY £235** (including installation) for boilers up to 1,000,000 B.Th.U., or £250 for larger boilers. They are available on hire purchase.
- * Are invaluable for factories, office blocks, hotels, shops, schools and blocks of flats.
- * Are already used by County Councils, British Railways, Air Ministry, G.P.O., etc.



HOW IS THIS ACHIEVED?

Equipment, working on a unique patented system of recirculation, extracts the unburned flue gases, mixes them with prime air and feeds a controlled amount of the mixture back into the ash pit. This is not a forced draught system but a balanced draught. The controls ensure that the fire never burns at full load unnecessarily. A kindling clock will fire the boiler for a predetermined amount each hour to keep the boiler operational when full heat is not required. A 24-hour clock can be pre-set at any time of the day or week so that the boiler can be brought up to the temperature required by thermostatic control automatically. Any day or days can be omitted if desired (i.e. for weekends or Bank holidays).



Photograph of G.A.P.-fitted boiler 16 hours after stoking.

*Write today for booklet
and further details*

GAP FUEL CONSERVATION LTD
Department F
6 Claremont Place, Sheffield 10

THE BRITISH COKING INDUSTRY ASSOCIATION

approves the fitting of the G.A.P. conversion unit to boilers burning **HARD COKE**. Sectional boilers, to which the G.A.P. is fitted, operate most economically and efficiently on graded **HARD COKE**.

Information on hard coke may be obtained from

THE BRITISH COKING INDUSTRY ASSOCIATION,
74, Grosvenor Street, London, W.1
(Telephone: MAYfair 9736)



**THIS
SYSTEM
SAVES
MY LEGS!**

These days, particularly where staff is below strength, anything that helps to reduce unnecessary walking to and fro for hard-worked nurses, deserves serious consideration. Gents Luminous Call System not only saves nurses legs, it also makes it easier to provide the quiet, efficient service so essential to the peace of mind and comfort of patients.

No wonder so many hospitals, in all parts of the World, have adopted Gents Luminous Call System as standard equipment.

Please send for a copy of Book 1 Section 4 which gives full details.

GENTS *Luminous Call System*
OF LEICESTER

GENT & COMPANY LIMITED • FARADAY WORKS • LEICESTER

London Office and Showroom: 47, Victoria Street, S.W.1.

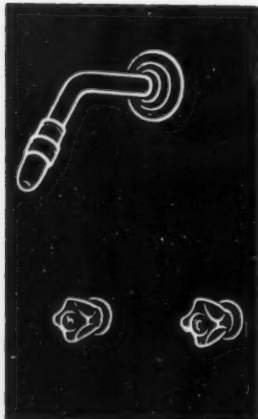
Also at: BIRMINGHAM • BRISTOL • EDINBURGH • GLASGOW • NEWCASTLE • BELFAST

nuastyle matching bathroom fittings

attractive
styling
quick cleaning
easy fitting
lasting quality



G1050 $\frac{1}{2}$ " Washbasin mixer fitting with $1\frac{1}{4}$ " pop-up waste. Inlets screwed $\frac{1}{2}$ " B.S. pipe, male, with centres 8" to 10". A truly serviceable and attractive adjunct to any modern bathroom.



D1611 Shower fitting with $\frac{1}{2}$ " hot and cold taps. Inlets screwed $\frac{1}{2}$ " B.S. pipe, male. Adds the final refinement to the bath.



D1032 Bath fitting with $\frac{1}{2}$ " taps. Inlets screwed 1" B.S. pipe, male. Bold contemporary design adds a luxury touch at reasonable cost.



B206 Bidet fitting with $\frac{1}{2}$ " hot and cold taps. Transfer valve to rim or douche incorporates $1\frac{1}{4}$ " pop-up waste. Flush or douche at finger touch.

Illustrated here are four of the many fittings from the NUASTYLE range. Manufactured of highest quality materials in our own factory and conforming to the highest precepts of contemporary design and functional purpose. Boldly coloured vacuum-coated "Armipex" indices are clearly and legibly marked, red for hot water, blue for cold. Smooth untrammelled lines and heavy chromium plating ensure easy cleaning and ease of use. Installation too, is simple.

These are but a few of the many products of the Armitage Brass Plant whose range includes not only NUASTYLE fittings, but also fittings for a wide variety of purpose in Hospitals, Laboratories, Schools etc. Our representative will gladly tell you all about them or show you samples of the NUASTYLE range illustrated.

Descriptive literature available in response to your request.

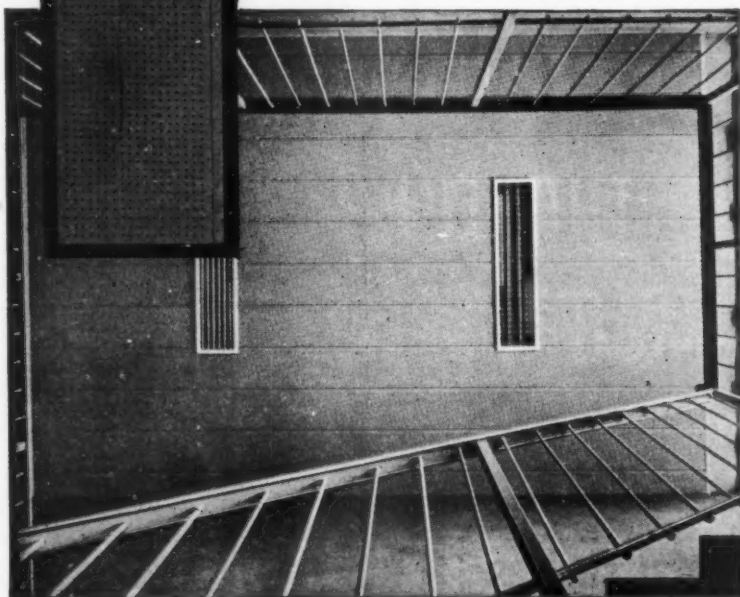
G1050 & D1032 available with the NUASTYLE NU-FLO, the mixer without back-flow.

designed to harmonise
with Armitage Ware
bathroom fixtures

Armitage Ware

Edward Johns and Company Limited (Established 1817) Armitage Staffordshire
Telephone: Armitage 253 (5 lines)
Brass Foundry: Cannock Staffs.
London Office and Showrooms: 332/337 Grand Buildings, Trafalgar Square W.C.2
Telephone: WHItchall 8063 and 2488/9

ANKARBOARD makes sound sense in busy buildings



Ankarboard has been chosen by many leading companies because it eliminates noise-stress and improves working conditions. Ideal for board-room and stairway alike, it cuts extraneous noise to the minimum while providing limitless opportunity for pleasing decorative effects.

ANKARBOARD can be supplied treated to Class 1 for spread of flame B.S.S. 476/53

ACOUSTIC BOARDS

$\frac{1}{2}$ " or $\frac{3}{4}$ " thick, are available in 12" or 16" widths and in lengths up to approx. 18'. Grooved and ship-lapped for easy fixing. (Also available unperforated as insulation "longboards").

ACOUSTIC TILES

$\frac{1}{2}$ " or $\frac{3}{4}$ " thick in sizes 12" x 12", 16" x 16", 24" x 24", 12" x 24", 16" x 32", and 32" x 32". Tiles are bevelled on all four edges.

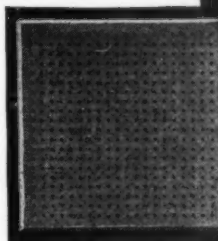
PERFORATIONS FOR BOARDS AND TILES

4 m.m. holes at 15 m.m. centres. Depth of holes is arranged for maximum acoustic effect while corner holes are bored to half thickness, thus ensuring good grip when tiles are screwed or nailed to fixing grounds. Random perforations also available.



Ankarboard Acoustic Boards and Tiles fitted throughout the new offices of Thos. Parsons and Sons Ltd., Mitcham.

*Architect: J.V. Hamilton FRIBA.
Staff Architect
Messrs Clutton 'London' SW1.
General Contractor:
F.G. Minter Ltd., London.
Ceilings by: Insulatall
Services Ltd., London WC2.*



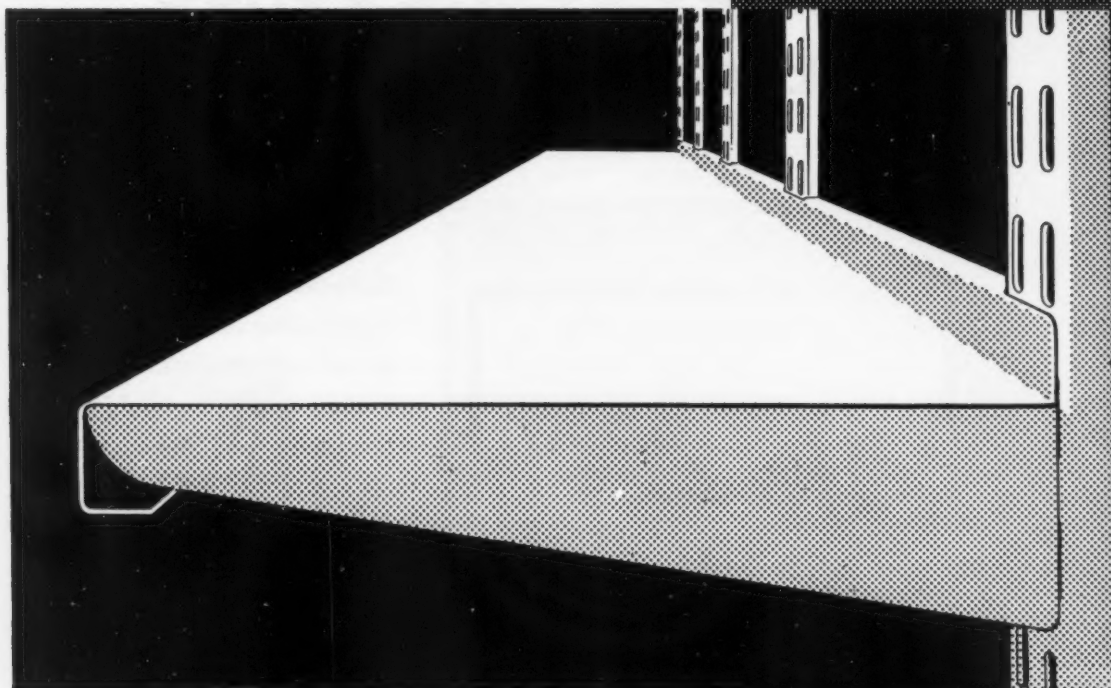
Manufactured by

SVENSKA CELLULOSA AKTIEBOLAGET • SUNDSVALL • SWEDEN

*For further particulars apply to the Sole Selling Agents for U.K. and Eire:-
MARTIN OLSSON (Fibreboards) LTD. MELBOURNE HOUSE • ALDWYCH • LONDON WC2*

These New fittings mean GREATER ADAPTABILITY...MORE APPLICATIONS FOR

SPUR



New **SPUR** metal shelves

Designed to clip in to standard SPUR brackets, these new shelves are excellent for display use. Neat, attractive with no projecting edges, they can be quickly mounted, without the use of tools, and easily removed for adjustment to new shelf heights. Available in durable Willow Grey colour finish. Sizes 24 in. x 7 in., 24 in. x 10½ in., 36 in. x 7 in., and 36 in. x 10½ in. For glass shelves a special adaptor clip can secure the glass shelf onto the standard SPUR bracket.

NEW SPUR ADJUSTABLE HOOKS

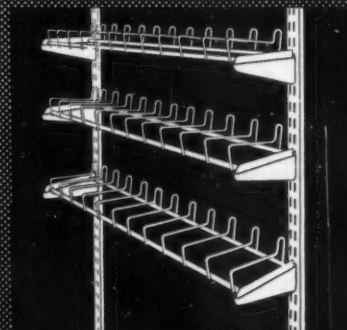
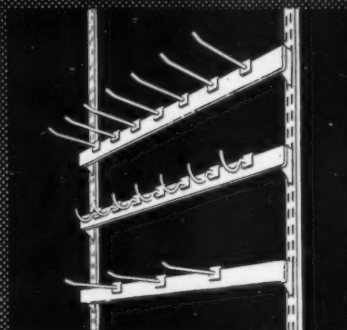
For shops, stores, cloakrooms, schools—wherever hanging accommodation must be provided simply and economically. Hooks clip on to special cross-bar units and can be quickly re-adjusted to meet changing needs. Two patterns available (as shown). Willow Grey colour finish. Cross bars in 2-ft and 3-ft lengths.

NEW SPUR BOTTLE RACKS

For shops, cellars, warehouses and the home. Attractive enough for window and shop displays! Light, strong, rigid. Available in attractive, durable Terra Cotta colour finish. Racks (24 in. x 10½ in.) accommodate 6 bottles and clip in to standard SPUR units.

SPUR *simplest, most attractive adjustable shelving*

SAVAGE AND PARSONS LIMITED • WATFORD • HERTFORDSHIRE • WATFORD 26071





DON'T SHUT OUT THE DAYLIGHT

"Don't shut out the daylight", says the client. "It isn't natural". Your answer must be: **UNILUX** Translucent Sheeting which permits 85% light transmission—natural light. **UNILUX** is available in a variety of attractive colours, and can be supplied to match the profile of any standard roof sheeting.

UNILUX is fire-retardant, durable, strong, light in weight, easy to work and easy to fix. It is unaffected by weather and climatic conditions and needs no maintenance.



Daylight Saving — with **Unilux**

UNILUX is made by a member-company of the U.A.M. Group — a name synonymous with "better building". The "**U.A.M. GROUP INFORMATION BULLETIN**" is published every two months to keep you informed of the Group's activities. May we add your name to our Mailing List?

Unilux

the Best in Translucent Sheeting

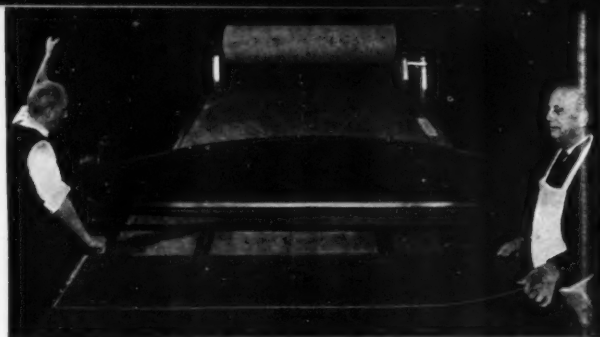
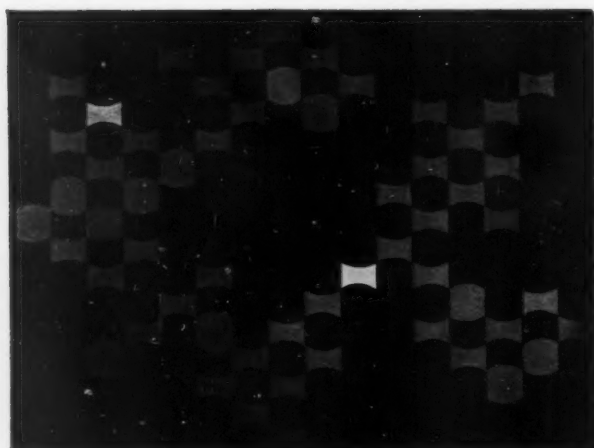
U.A.M. PLASTICS LIMITED · 10LPITS · WATFORD · HERTFORDSHIRE · Telephone: WATFORD 34551

This is the second in a series of articles designed to interest and inform architects on the techniques and scope of linoleum opportunities open to them with modern linoleum floorcoverings.

linoleum contractors' techniques

To an increasing extent in the last few years, flooring contractors have cut linoleum into tiles instead of laying it in the form of sheet; some of them say that they use tiles for 90% of their work. This article explains some of the reasons for the change and suggests ways in which the architect can turn this new flexibility to advantage.

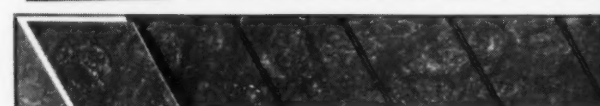
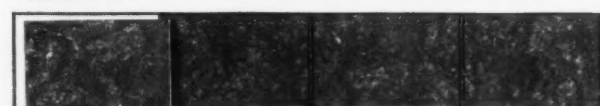
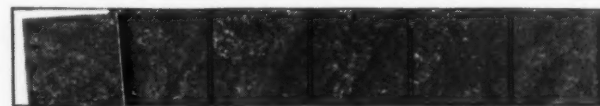
Linoleum in sheet form is still cheaper to lay when large unobstructed areas are to be covered; but when faced with complex outlines and central pillars, especially in cramped areas, flooring contractors have found that they can install tiles with very little waste of material, and at costs that are competitive with sheet linoleum. It is here that some knowledge of the contractors' techniques and working methods can help the architect to design interesting floors and still keep down costs.



Photos of guillotining and die-cutting: Courtesy E. J. Elgood Ltd.



Cutting tiles The contractor uses a guillotine to cut 'slabs' of linoleum across the roll, wide enough to allow a small margin for trimming the tile later. The tiles themselves can be hand-cut by knife—a slow and expensive process—guillotined, or die-cut.



Guillotining Hand-operated or power-driven guillotines can cut squares, oblongs and triangles almost equally economically.



Die-cutting Some contractors have semi-automatic machines that cut tiles up to 18" square in one movement. These machines also accept special dies to cut other shapes—such as those below—simultaneously with the rectangular tile. (Both parts of the tile should be used in the design to minimise waste.) The design of such shapes should avoid running the shaped cutter into the corner of the tile, where it would create strong side pressures during cutting.



good Ltd.

linoleum
g the tile
xpensive

squares,

that cut
so accept
taneously
ed in the
uld avoid
it would



Strip cutting Lacing strips and border strips, in widths ranging from 1/4-inch to 18 inches, are used to form decorative effects or borders. (For use as borders, they are cut slightly wide to allow for fitting to irregularities of the wall line.) The cutting machine slices almost through the thickness of the linoleum to make the strips, which are then finally separated as required by the layer on site.

Economical tile sizes Since linoleum is delivered in rolls 72 inches wide, contractors find the following sizes the most economical to cut:

NOMINAL: * 9 inches, 12 inches, 18 inches, 24 inches, 36 inches.

*Actual sizes are approximately 1/4-inch less than the nominal sizes of all purpose-cut tiles.



THE USES OF SHEET LINOLEUM

This article does not, of course, set out to show that tiles have entirely replaced the traditional way of laying linoleum in sheet form—even where the architect wants to introduce designs in his floor. Below are three ways of using sheet linoleum in individual situations:—

Hand-cut designs Linoleum is easier than most floor coverings to cut into individual designs, and cutting by hand offers the designer the greatest possible freedom of treatment in producing a spectacular floor like the one shown below. At such a focal point—it was, in fact, John Piper's 'Baroque Room' in *The Observer's* Film Festival—the extra cost would be amply justified.

Courtesy Design magazine



THE SYMBOL DESIGNED BY RAYMOND LOWMY
Courtesy International Harvester Company
of Great Britain Limited

Architects: Albert W. Moore & Son
Flooring Contractors: The Lino-Tile Co. Ltd

Hand-cut motifs Most contractors employ craftsmen who will enjoy reproducing in linoleum a motif like this one, laid in the entrance hall of International Harvester's offices in City Road, London.

Repeated motifs hand-cut by template For special purposes, the contractor can make a hardboard or metal template to cut out several motifs—and the corresponding spaces for them in the background.

NAIRN DESIGN BOOK

A full-colour book illustrating new directions in floor design will soon be available to all interested architects. If you would like to receive a free copy immediately upon publication, please write to: Michael Nairn & Company Limited, P.O. Box 1, Kirkcaldy, Scotland.

NAIRN MELOTONE LINOLEUM

The new range of colours of Nairn Melotone Linoleum, consisting of 8 muted shades with softly blended marking, is illustrated on the right-hand edge of this page, together with a selection of colours from the plain and marble ranges in 4.50 mm gauge. A large selection is also available in 6.70 mm gauge. Please write for information to one of the addresses below or consult your technical representative.

NAIRN TECHNICAL ADVISORY SERVICE

Technical representatives, based at our offices in different parts of the country, are at your service to give advice or information on all matters concerning floorcovering materials. If you wish to consult one of these representatives, please write or telephone to any of the following offices:

MICHAEL NAIRN & COMPANY LIMITED
P.O. Box 1, Kirkcaldy, Scotland
Kirkcaldy 2011 (10 lines)

LONDON EC1: 131 Aldersgate Street
Monarch 3211 (8 lines)

BIRMINGHAM 2: 65 Temple Row
Midland 5989 (2 lines)

BRISTOL 4: 349 Bath Road
Bristol 77840

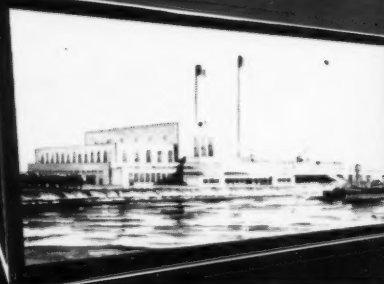
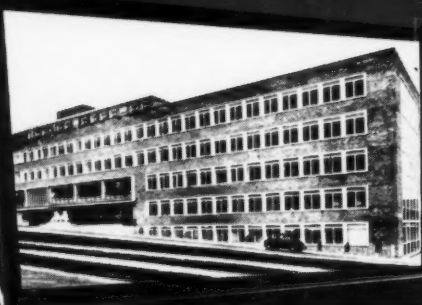
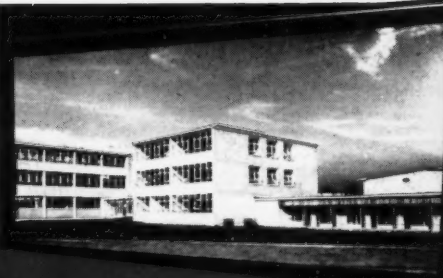
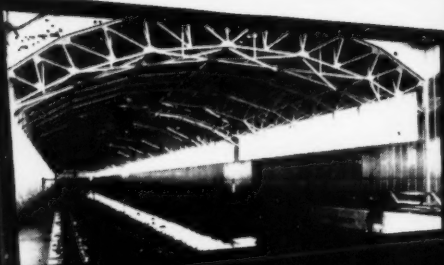
MANCHESTER 1: 4 Canal Street, Minshull Street
Central 1417 (3 lines)

GLASGOW C5: 113 Centre Street
South 1011 (3 lines)

NEWCASTLE-ON-TYNE: 41 Grainger Street
Newcastle 22807

NAIRN

METAL WINDOWS AND CURTAIN WALLING



- National Ships, Hydrodynamics Laboratory, Feltham.
Architects: Ministry of Works Architects Dept.
Contractors: Sir Robert McAlpine & Sons Ltd.
- Taylor Woodrow Group Overseas Companies & Myton Ltd., Western Avenue.
Architects: T.P. Bennett & Son, F/R.I.B.A.
Contractors: Taylor Woodrow Construction Ltd.
- Garrard House, Gresham Street, E.C.2.
Architect: Major A. S. Ash, F.R.I.B.A.
Contractors: Sir Robert McAlpine & Sons Ltd.
- Tilbury Generating Station.
Architects: Sir Alexander Gibb & Partners.
Contractors: Walter Lawrence & Sons Ltd.

For further information about recent achievements and current developments, please write to the Curtain Walling Division at our Head Office:



TOP TO BOTTOM

- Nightingale County Secondary School, Wanstead.
Architects: Tooley & Foster, F/A.R.I.B.A. in collaboration with H. Connolly, C.B.E., F.R.I.B.A., County Architect.
Contractors: J. & J. Dean Ltd.
- Knightsbridge Development for Malkay Investments Ltd.
Architects: Guy Morgan & Partners, F.R.I.B.A.
Contractors: Humphreys Ltd.
- Moor House, London Wall.
Architects: Lewis Solomon, Kaye & Partners, F/A.R.I.B.A.
Contractors: Token Construction Co. Ltd.

AYGEE LIMITED

Head Office: **CENTURY HOUSE • 100 WESTMINSTER BRIDGE ROAD, LONDON, S.E.1**

TELEPHONE: WATERLOO 5600 (15 lines)
CABLES & GRAMS: AYGEEGLASS LONDON

AND AT BIRMINGHAM, GLASGOW
AND SOUTHALL

G

E.I

THALL

Fire precautions begin with Lindoco FIRE-CHECK DOORS

It is agreed everywhere that tomorrow's buildings must be protected against fire. How best to achieve this? The use of factory-hung Lindoco Fire-Check doorways is an obvious starting point. These craftsmen-built doors have a core of solid Stramit which defies fire vigorously. They are available, complete with frames, in two types, Half-Hour and One-Hour. Both can be supplied in any size to suit individual requirements. Please write to us for further details.



OFFICIAL!

Lindoco patent factory-hung doorways are highly-efficient fire-barriers which fulfil all Fire-Check requirements as laid down by B.S. 476—1932 and BSS.459, Part III, 1946. Tests by the Department of Scientific and Industrial Research and Fire Offices Committee Joint Research Organisation indicate that the "half-hour type" door also passed for the GRADE "E" fire-resistance.

National Physical Laboratory tests show that the Lindoco Fire-Check door, with its core of solid Stramit, provides better insulation against airborne sound than a solid timber door. Official test report forwarded on request.

There's an open-and-shut case for

Lindoco FIRE-CHECK DOORS

ALSO AVAILABLE: HIGH QUALITY FLUSH DOORS, PANELLED DOORS, GLAZED DOORS, GARAGE DOORS, ETC.

LINDEN DOORS LTD · COWLEY PEACHEY · UXBRIDGE · MIDDLESEX · TELEPHONE: WEST DRAYTON 3751

N

**OVER 1,000 BUILDERS
MERCHANT STOCKISTS
THROUGHOUT THE
UNITED KINGDOM ARE
READY TO MEET
YOUR NEEDS**

SCOTTISH
OFFICE
LEITH: 37940

NORTHERN
OFFICE
LEEDS: 23499

WESTERN
OFFICE
KNOWLE: 3780

SOUTHERN
OFFICE
READING: 64063

EASTERN
OFFICE
HERTFORD: 2530

HEAD OFFICE
GRAVESEND: 6176

Unsurpassed nationwide
Technical Representation

IN ALMOST EVERY TOWN THERE IS A

URALITE

covers the country!

The ever increasing demand for 'Nuralite' Roofing has made big expansion essential . . .

BIG EXPANSION IN TECHNICAL REPRESENTATION

A representative is always at hand to advise you . . . just phone your Regional Office.

BIG EXPANSION IN PRODUCTION

Production is rapidly increasing - over 1,000 Builders Merchants can quickly meet your demands

'NURALITE' STOCKIST

Send for this informative booklet and full details of our Technical Service or enquire at your nearest Builders' Merchant.

Name
Address

Post to
THE NURALITE COMPANY LTD
One of the British Uralite Group of Companies
WHITEHALL PLACE, GRAVESEND, KENT



A.J.I

How to save up to 30% on wiring costs

Think of the time required
for terminating and testing
M.I. Cables.

Think of the money saved
if this is done before
they are delivered.



BICC BRINGS THE FACTORY TO THE WIREMAN

Wiring units consist of M.I. cables assembled in the factory. Cables are cut to the customer's specified length, sealed — and if required fitted with glands or other accessories.

After comprehensive testing the units, which can be colour or code identified as required, are dispatched in suitable containers.

On receipt they need only be fixed into position and connected up—just like T.R.S.

Wiring units are ideal for the repetition wiring of offices, housing estates and blocks of flats.

They can also be used to advantage in the wiring of machine tools, petrol

pumps etc. Remember—M.I. cable wiring units with an oversheathing of P.V.C. offer complete protection against corrosion.

Here are Further Advantages—

There is no wastage: only the exact lengths required are supplied.

No special M.I. tools are needed.

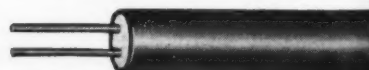
Any wireman can install them, even without previous M.I. experience.

All units are pre-tested TWICE before leaving the factory.

The time saved leads to drastically reduced installation costs: UP TO 30%.

Any size of M.I. cable can be provided in wiring unit form and, because of factory mass produc-

tion facilities, they can be produced at a very low cost providing that sufficient quantities of identical units are ordered.



M.I. CABLES

consist of fully annealed copper conductors in a compressed mineral insulant within a solid-drawn copper sheath. They are designed for both power and lighting applications, and have exceptional strength and electrical stability.

M.I. cables are fireproof, waterproof, mechanically tough, non-ageing and easily installed.

*you can have
this economy with*

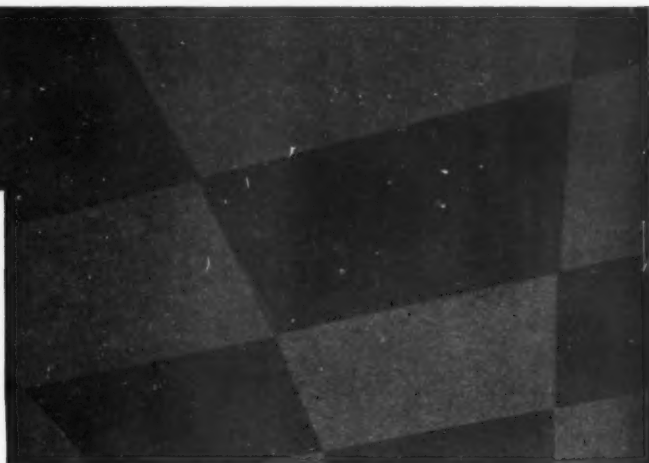
BICC

FACTORY-MADE

M.I. WIRING UNITS

Further information and details of delivery from your nearest BICC Branch Office

Another 'first' for Aerolite



This revolutionary type of roof is the first to be constructed on a new principle evolved by John Amor, A.R.I.B.A. It gives a clear span entirely free from obstruction, and is made possible by modern gluing techniques. Each section consists of a series of 4 ft square patent units of plywood, bonded with Aerolite KL radio frequency cured and Aerodux 185 cold setting resins. Features of the roof are light weight and ease of erection, a complete 50 ft section being assembled, connected, stressed and positioned by four operators in 1½ hours. The strength and durability of the structure are entirely dependent on the bonding provided by CIBA (A.R.L.) glues, which are unaffected by damp, heat or cold, and are completely resistant to bacterial attack.



Motor showrooms at Ongar, Essex

Architect and Designer: John Amor, A.R.I.B.A.
Structural Consultant: Eric Catchpole, A.M.I.Struct.E.
Constructors: Stressed Skin Structures Ltd, Edmonton, N.18.



Aerolite

Aerolite and Aerodux are registered trade names

GLUES FOR WOOD

CIBA (A.R.L.) LIMITED

Duxford, Cambridge. Telephone: Sawston 2121

AP 519

FURTHER ADVANCES IN 13 AMP. PLUG DESIGN

(BS1363)

New terminals with captive rotating washers! A tremendous advance—speeds wiring and ensures that washers are not lost or forgotten.

*Cover screw now captive with the plug body cannot be lost and saves handling time. "Shakeproof" spring washer (also captive with the screw) ensures a firm and non-loosening fixing.

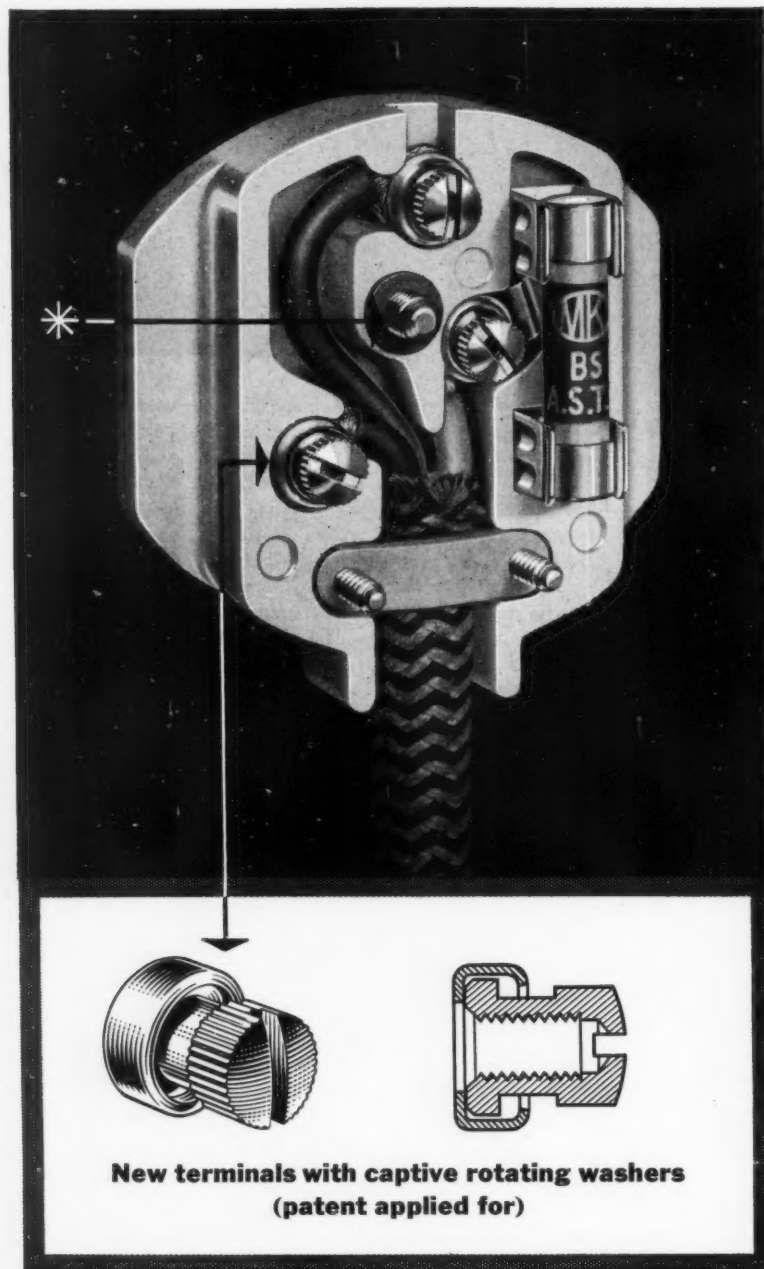
* * * *

Extended finger shields give maximum protection for the fingers whilst providing a firm and natural grip.

"One Piece" plug pins and terminals permanently secured to the plug body. Stranded conductors easily and quickly wrapped around non-rotating terminal studs. A secure and efficient connection without the danger of cutting the conductors as likely with some "Pinching Screw" type terminals.

The M.K. Cartridge Fuse-Link (ASTA certificate of rating has been obtained) is secured in integral silver-plated contact clips for minimum contact resistance and low temperature rise. Enclosed within the plug for absolute safety yet quickly replaced by a twist of the captive cover securing screw.

Plug cover and body are track-resisting mouldings.



MK 179 DHB

FOR LEADERSHIP IN 13 AMP. PLUG DESIGN



Send for leaflet 255

M.K. ELECTRIC LTD., SHRUBBERY RD., EDMONTON, LONDON N.9 EDMONTON 515/



glass roof domes are best!



Houghton Modern Secondary School, Darlington.
Architect: Borough Architect, County of Darlington.
Contractor: Edgar Lawson Ltd.



- pass ample light
- last for ever
- are fire resistant
- need no maintenance
- never lose their shape

Glass roof domes have many advantages over other forms of roof lighting... they pass ample light, last for ever and are fire resistant. Glass roof domes are leak-proof, and easy to fix on metal, wood or concrete curbs; they need no maintenance and *never lose their shape.*

Think of glass roof domes
for your next building.

specify **GLASS** roof domes
Glass Benders Association

6 MOUNT ROW, LONDON, W.1. MAYFAIR 8334

Mellor Bromley

AIR CLEANER HUMIDIFIER

*for complete saturation and efficient
air cleaning—with no free moisture*

DATA

as illustrated

WEIGHT

approx. 2 cwts.

DIMENSIONS

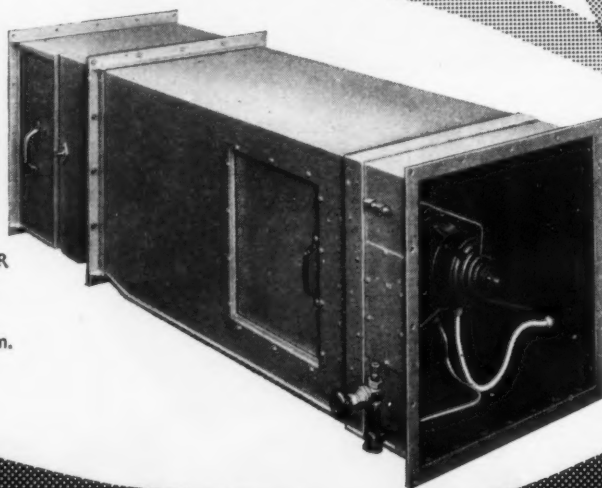
1'9" x 1'9" x 5'0"

CAPACITY

800-1200 c.f.m.

1/7th H.P. MOTOR

Made in a variety
of sizes up to:-
10,000-15,000 c.f.m.,
absorbing a total
of 1.75 H.P.



A SELF CONTAINED UNIT *easily
incorporated into existing ducting*

COMPACT · ADAPTABLE · INEXPENSIVE TO INSTALL AND OPERATE

- Does not require pumps, water strainers or similar ancillary equipment.
- Water is taken direct from the mains at normal pressure.
- No plant house, foundations or floor space required.
- Incorporated easily into existing discharge ducting.
- Lightweight, small and compact.
- Range of sizes to meet individual requirements.
- Automatic control by either dew-point or humidistat.
- Can incorporate own fan, humidifier, air cleaner humidifier.
- Low capital and running costs.
- Can be duplicated in branch mains for individual room control.
- No tank or dirty water load necessary—operates continually with fresh water, thus avoiding possible build-up of bacteria.
- Supplied to hospital authorities.
- Eliminates maintenance of spray nozzles, tanks etc.

Member of the Bentley Group

MELLOR BROMLEY (AIR CONDITIONING) LTD - St. Saviours Road, Leicester

Telephone: Leicester 38161. Telegrams: **CONDITION LEICESTER**

On Request

KIRKSTONE

WESTMORLAND GREEN SLATE

Cladding Cills Coping Flooring Treads

Illustrated
TECHNICAL
INFORMATION
on the use of
WESTMORLAND
GREEN SLATE

FOR

Wall Cladding
Window Surrounds
Cills and Coping
Flooring, Paving
etc., etc.

BY

KIRKSTONE
Green Slate
Quarries Ltd.,
Ambleside,
Westmorland.

Telephone: Ambleside 3270

Here's a better valve..



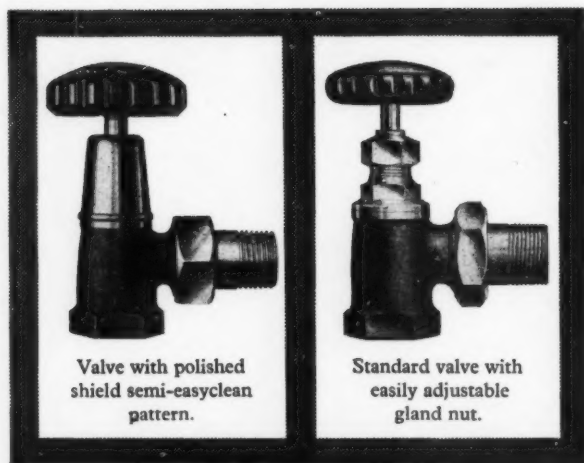
a new
design
gun-metal
angle
radiator
valve

Here's a compact valve of pleasing new design incorporating many excellent features — the deeply-recessed screw head in the heat-resisting composition wheel, to prevent burning the hand — the ball-to-cone seating and correctly pitched Acme thread which ensure easy and positive shut-off.

These valves are supplied with cast gun-metal body and tail piece, in standard, semi-easyclean and full-easyclean finish with polished shield, body and union nut. Full — and semi-easyclean patterns can be supplied in chromium plated finish.

Suitable for hot water up to 150 lb. per sq. in. and 250°F.

Please write for literature covering the new range of Hattersley angle and fullway radiator valves and unions.



Valve with polished shield semi-easyclean pattern.

Standard valve with easily adjustable gland nut.

HATTERSLEY
ESTABLISHED 1897

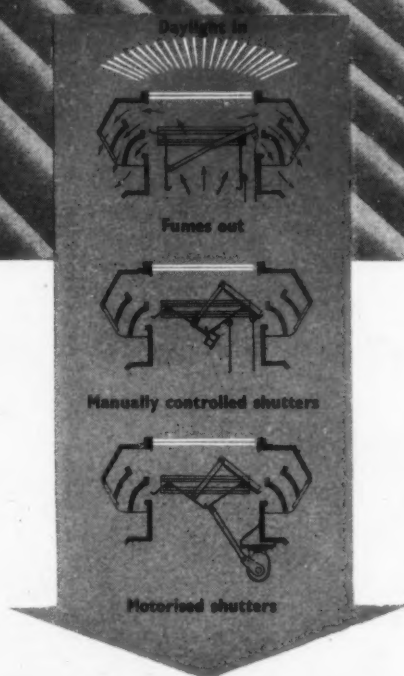
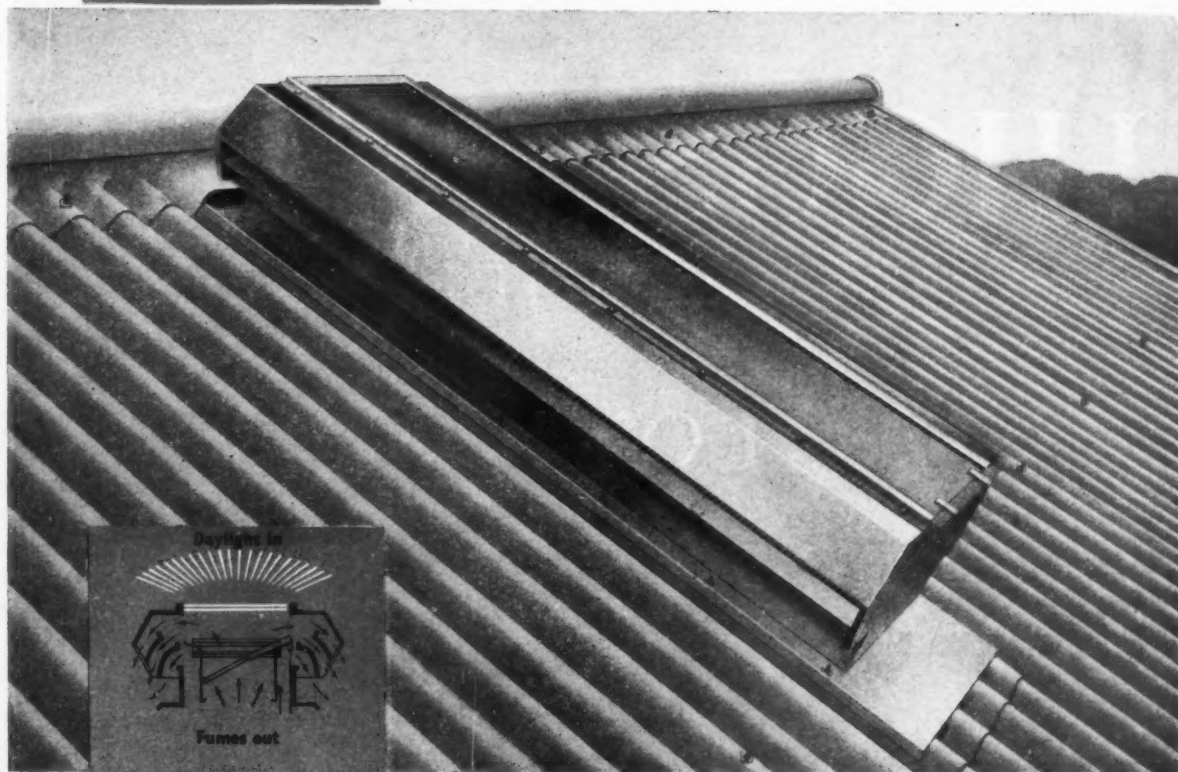


the name for good valves

HATTERSLEY (ORMSKIRK) LIMITED • ORMSKIRK • LANCASHIRE
and at HALIFAX and LONDON

NEW!
Ventilation plus *extra* daylight

WITH GREENWOOD-AIRVAC'S
GLAZED TOP
ROOFLINE EXTRACTOR



Greenwood-Airvac's new Glazed Top Roofline gives you natural lighting and natural ventilation—permanent or controllable—in one good looking unit. It is suitable for both flat and sloping roofs.

It removes fumes and vitiated air by efficient stack action through a large fully weathered free ventilation area. Well made in hardened aluminium, the Roofline is light in weight and only 14½" high. Where control shutters are fitted to conserve heat, they are made of fibreglass.

The Glazed Top Roofline is fully patented and is the latest addition to the well proved Greenwood-Airvac range.

*Write today for the new
technical leaflet RE3/1*



Greenwood-Airvac *ventilation*

GREENWOOD'S AND AIRVAC VENTILATING COMPANY LTD

ESTABLISHED 1879.

PATENTEES, DESIGNERS AND MANUFACTURERS OF
NATURAL AND MECHANICAL VENTILATING
EQUIPMENT.



BEACON HOUSE, KINGSWAY, LONDON, W.C.2.
CHANCERY B135 (4 lines). 'GRAMS: 'AIRVAC', LONDON

GV 15

HIGGS ^{AND} HILL
LIMITED

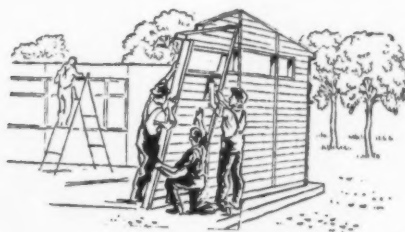
LONDON

LEEDS

COVENTRY

The Demountable Building in the Service of Industry

Where accommodation is wanted quickly, the demountable building with its almost endless permutations of length and variety of width, and with its almost unlimited variation in partitioning is finding a ready welcome in industry where it is being used for factories, offices, canteens, recreation centres and sports pavilions, with windows styled to suit each need.



The latest Hall's demountable buildings although as durable as permanent buildings get their title of "demountable" because advanced factory prefabrication makes it possible to remove them from one site to another as need arises without even disturbing wall or ceiling linings. Prefabrication also avoids many site, foundation and labour costs. Maintenance costs are also negligible because the buildings are clad in Hall's Clear Grade anti-rot Western Red Cedar which needs no painting, creosoting or preservative.

To these advantages is now added the Hall's erection service which in normal cases can offer "from foundation to occupation in six weeks".

Our advisory staff will discuss detailed modifications to fit the buildings to your particular need and can offer specifications and quotations including all foundation work or erection on foundations already prepared.

An illustrated brochure showing Hall's demountable buildings in the service of education and hospital authorities and many branches of industry is available free on request.



Reproduced by kind permission of SIMMONS AND HAWKER LIMITED

Immediately available for

**OFFICES • HOSPITALS • CLASSROOMS
SPORTS PAVILIONS • CHURCH HALLS
CANTEENS • RECREATION HALLS ETC.**

* **SEE THE COLOUR FILM.** A 16mm. 30 minute documentary colour film which shows in detail the erection sequence and the adaptability of Hall's demountable buildings for varying sites can be made available by arrangement.



HALL'S

OF PADDOCK WOOD

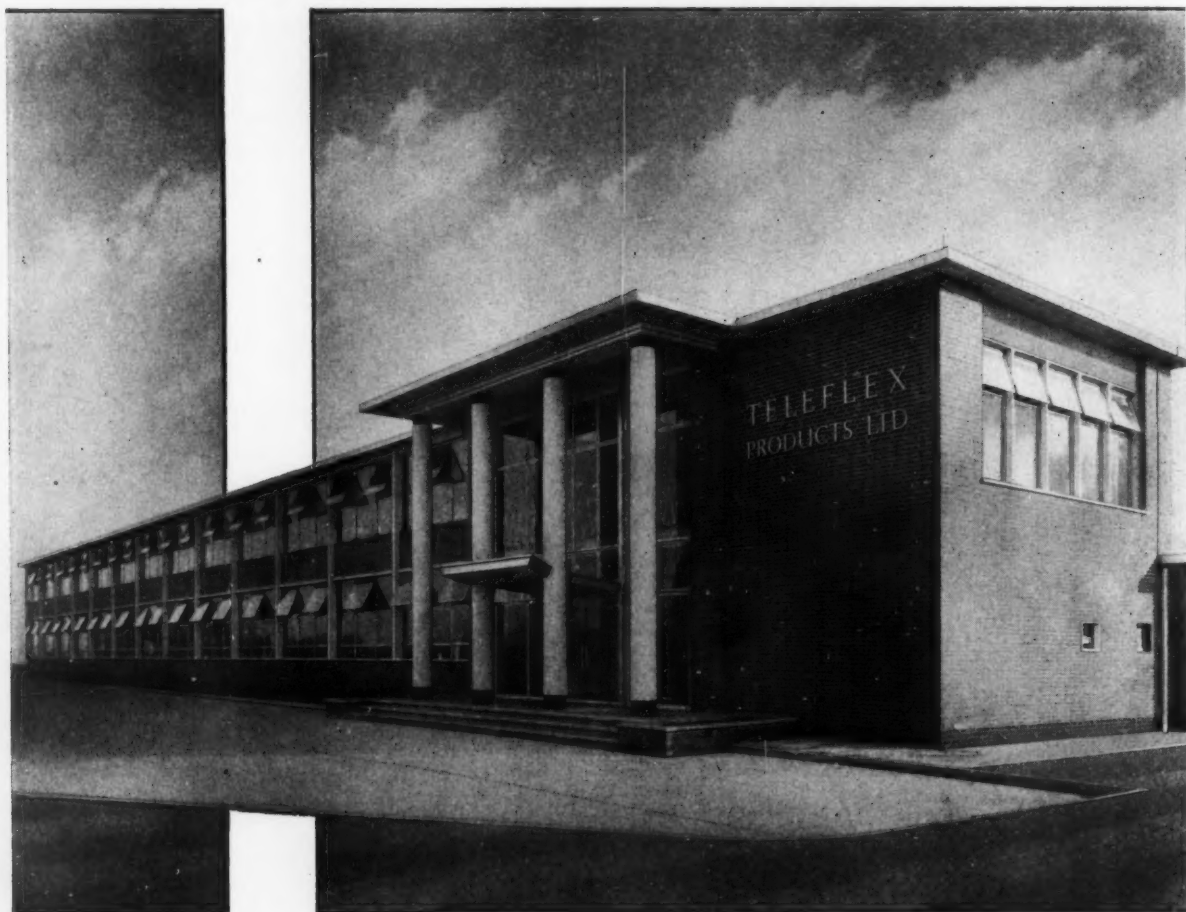
ROBERT H. HALL & CO (KENT) LTD

33 Paddock Wood Tonbridge Kent

Telephone: Paddock Wood 561

ONE OF THE AUSTIN-HALL GROUP OF COMPANIES

aluminium windows...



... and doors



for the

Teleflex Products Limited, Basildon

Architects :

Basildon Development Corporation

Consultant Architect :

Francis Smith, Esq., F.R.I.B.A., F.R.I.C.S.

by

MELLOWES & CO. LTD.

SHEFFIELD

LONDON

OLDHAM

Be right at the top!



Whether you are working on the individual project, or visualising the panorama of a housing estate, the colour and quality of the Roofing tile you choose must be right. Rosemary Tiles give you a wonderful variety of shades. The colours are guaranteed permanent, and their quality and durability are second to none. Let us send you "Colour in the Roof" which will help you on your specifications. Choose Rosemary Tiles, and the "top" will always be right.



Specify

ROSEMARY TILES

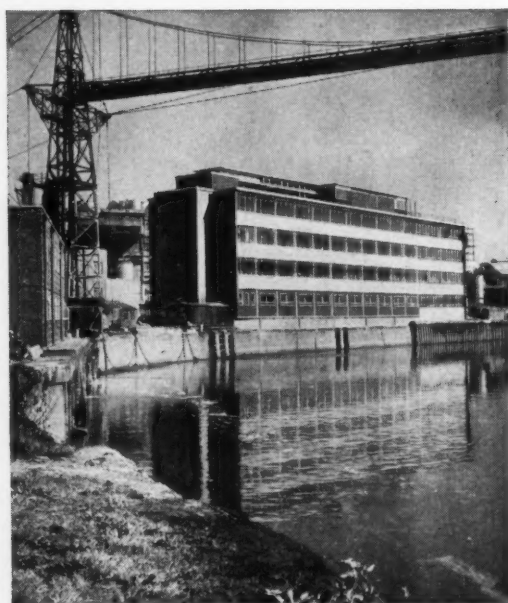
G. W. LEWIS' TILERIES LTD., STOCKINGFORD, NUNEATON

Telephone-Nuneaton 3125 : In association with Haunchwood Brick & Tile Co. Ltd

playing an
important part
in the
expansion of
the Chemical
Industry

Monk

Building,
Civil Engineering
and Reinforced
Concrete
Contractors



This new Technical Centre for Joseph Crosfield & Sons, Limited, is just a part of the major expansion programme currently being carried out at their Warrington works.

A. MONK & COMPANY LIMITED
Warrington and London
Offices at: Hull, Middlesbrough & Stamford

MORRIS FOR TEAK

Importing and handling genuine *Tectona Grandis* is essentially a specialists' field, calling for a wide range of stocks, from the smallest short scantling to the 25 ft. fitch.

We are such specialists. We have very long experience of selecting to users' specifications with careful regard to lowest price and waste factor. Our service is just as complete for one piece as for a bulk shipment.



Ravensdale Wharf, Stamford Hill

London, N.16. Tel: STAMFORD HILL 6611



reliable hardwoods:

MAHOGANY, TEAK

IROKO, AFRORMOSIA



where **SILENCE** is
taken for granted

The new library of the Honourable Society of Grays Inn
is a typical instance where low noise-level is an essential factor in basic design.

On a growing number of similar projects Sprayed 'Limpet' Asbestos
by Newalls has proved the ideal treatment for high acoustic efficiency.

Sprayed 'Limpet' Asbestos by
(regd)

Newalls

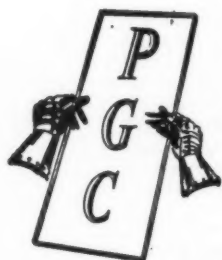
NEWALLS INSULATION COMPANY LIMITED

Head Office: Washington, Co. Durham, England. A member of the TURNER & NEWALL ORGANISATION

Offices and Depots at: LONDON, GLASGOW, MANCHESTER, NEWCASTLE UPON TYNE, BIRMINGHAM, BELFAST, DUBLIN, BRISTOL and CARDIFF.

GLASS in PATENT GLAZING

the most **efficient**, the most
durable and generally, the
most **economical** method of
natural lighting for industrial
and operational buildings



CONSULT THE PATENT GLAZING SPECIALIST

THE PATENT GLAZING CONFERENCE

BURWOOD HOUSE • CAXTON STREET • LONDON • S.W.1



The graphic features a large, stylized 'A' shape in the background. At the top of the 'A' is a circular logo with a crown and the letters 'SCA'. Below the 'A', the word 'ESCABOARD' is written in large, bold, white capital letters. At the bottom of the 'A', a group of people in mid-20th-century attire are shown in silhouette, some pointing upwards. Below the group, the text '-AN IMMEDIATE SUCCESS' is written in bold, white capital letters.

NO FILLING! NO SEALING! NO PRIMING!

Escaboard has taken a big step forward . . . out of the range of ordinary hardboards and into a class by itself. Recently introduced from Sweden, its revolutionary new features have won for Escaboard immediate and widespread favour.

SAVES TIME...SAVES PAINT

Specially made with an unusually smooth, hard surface, Escaboard needs far less paint and gives better coverage. Cuts painting, varnishing and wax polishing time in half.

CAN BE USED FOR FLOORING

The very hard and durable surface of Escaboard makes it ideal for floor tiles or panels, as carpet surrounds, etc. Clear varnish or wax polish brings out its full, natural colour and preserves its beauty.

ESCABOARD OFFERS NEW SCOPE

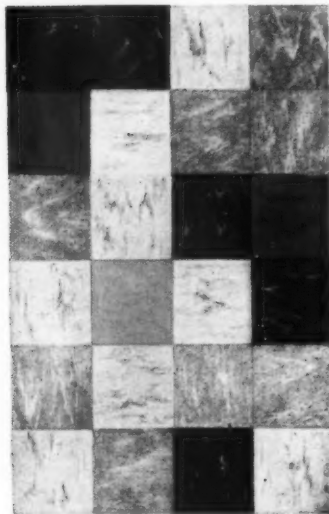
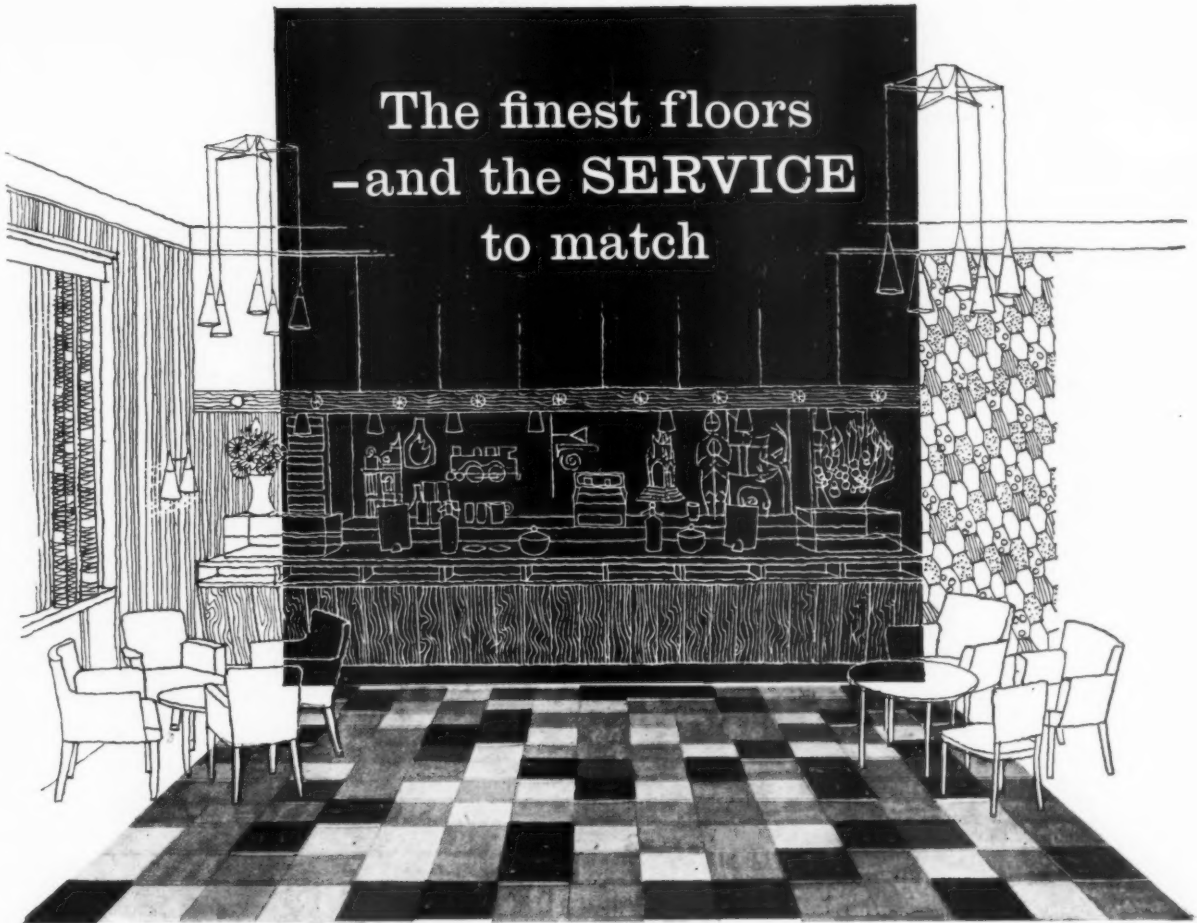
Escaboard has been found ideal for silk-screen printing and a host of other applications normally considered to be well outside the scope of ordinary hardboard.



Manufactured by:
SVENSKA CELLULOSA AB
FIBREBOARDS DIVISION
SUNDSVALL · SWEDEN



Sole selling agents for U.K. and Eire: **MARTIN OLSSON (FIBREBOARDS) LTD · MELBOURNE HOUSE · ALDWYCH · LONDON W.C.2**



*"Vinylex tiles at the
Shires Restaurant
St. Pancras Station".*

Semtex, manufacturers of a wide range of flooring materials, including Semastic Decorative Tiles, Semflex Tiles, Vinylex Tiles, Dunlop Rubber Flooring and Vertilex Decorative Wall Tiles, will employ their vast resources in taking welcome responsibility for your entire flooring operation. Twenty contracting branches throughout the country will advise readily on all flooring and pre-treatment problems and offer a highly-skilled laying service, providing, in addition, comprehensive facilities for design.

IMAGINATIVE MODERN FLOORS

Semtex Ltd

A DUNLOP COMPANY

SEMTEX LTD · SEMTEX HOUSE · 19/20 BERNERS STREET · LONDON W.1 · TEL: LANGHAM 0401

cm/sol/se/c

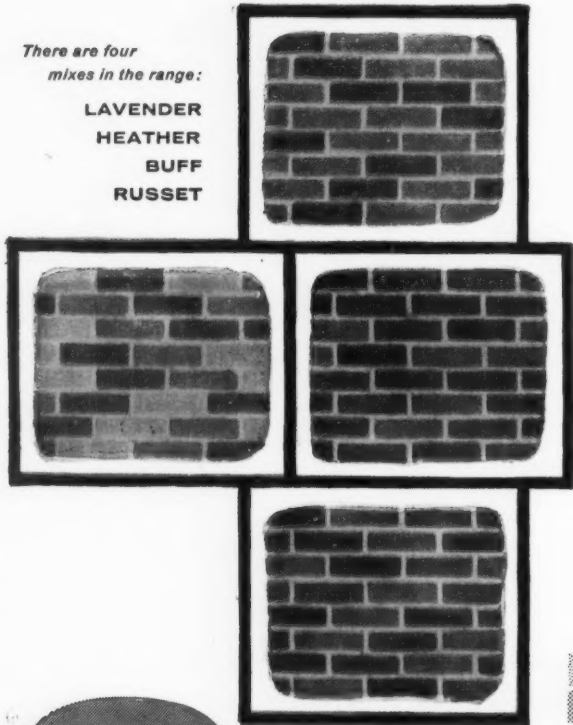
THINKING

FLINTMIX

This new range of Uxbridge Flint Bricks, created by the random mixing of selected coloured facings, presents new opportunities to the Architect in the use of blended brickwork.

*There are four
mixes in the range:*

LAVENDER
HEATHER
BUFF
RUSSET

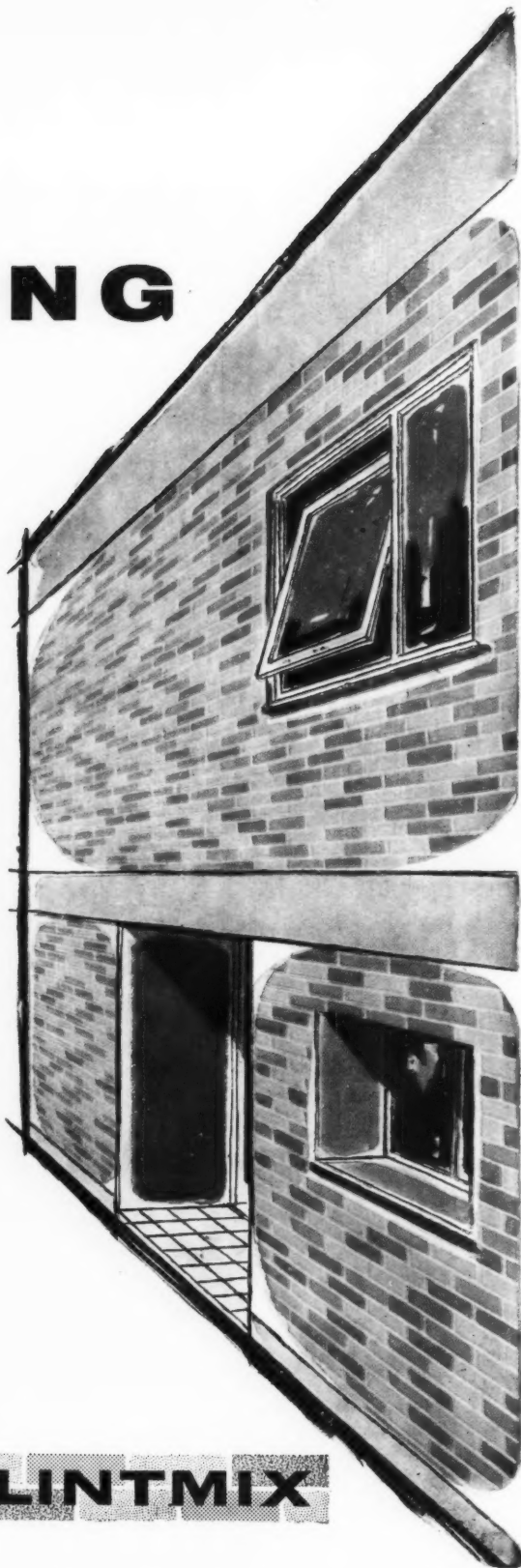


Manufactured by

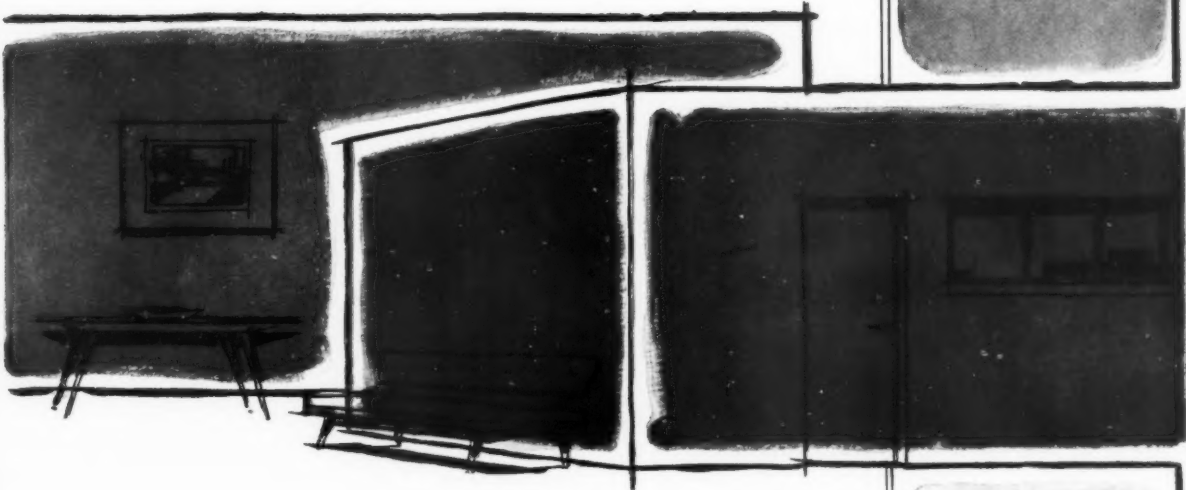
CAPE BUILDING PRODUCTS LIMITED

TELEPHONE: UXBRIDGE 4313 • TELEX: 23471/UXB

FLINTMIX



IN COLOUR



POLYESTER - COATED ASBESTOLUX

Available in both external and internal grades—this range of coatings has been specially formulated to match the performance of Asbestolux itself. The finish is notable for its density, evenness of colour, thickness and exceptional durability.

The colours have been carefully selected from British Standard 2660 to facilitate harmony between adjacent surfaces.



The non-combustible asbestos insulation board

COWLEY BRIDGE WORKS • UXBRIDGE • MIDDLESEX

Also at: MANCHESTER • BIRMINGHAM • GLASGOW • NEWCASTLE A subsidiary of The Cape Asbestos Company Limited

U.B.4

glass for depth of colour in cladding



PILKINGTONS' GLASS CLADDING MATERIALS INCLUDE "ARMOURCLAD" AND "MUROGLASS"

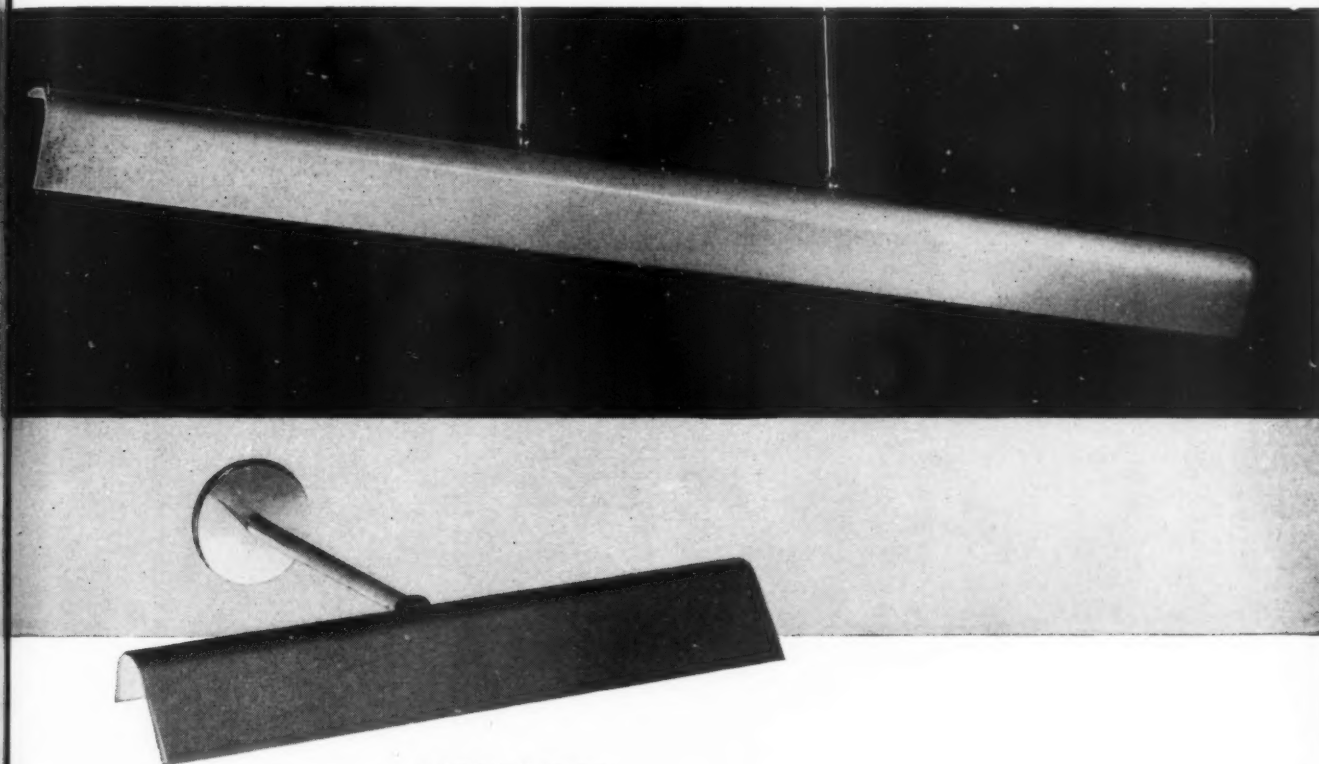
For full information write to the Technical Sales and Service Department, Pilkington Brothers Limited, St. Helens, Lancashire. Tel: St. Helens 4001;
LONDON OFFICE: Selwyn House, Cleveland Row, St. James's, S.W.1. Tel: Whitehall 5672-6.

Supplies are available through the usual trade channels. "ARMOURCLAD" is a registered trade mark of Pilkington Brothers Limited.



precision

reflectors from 16"—11' 4" in un-broken lengths of $\frac{1}{8}$ " extruded aluminium—Continuous runs with eight hairline joints per 100 feet—Alternative reflectors for use with tubular tungsten or fluorescent lamps—Pendant, wall bracket, table, bench or counter mountings, fitted with special swivel joints providing adjustment of reflectors through 180°.



Light-Lines

A series by
Merchant Adventurers Limited
provides Architects and Engineers
with an outstanding range of
150 precision extruded aluminium
reflector fittings designed
for efficient directional lighting.
Current uses range from
chalkboard illumination in schools to
choir stall lighting in Cathedrals.



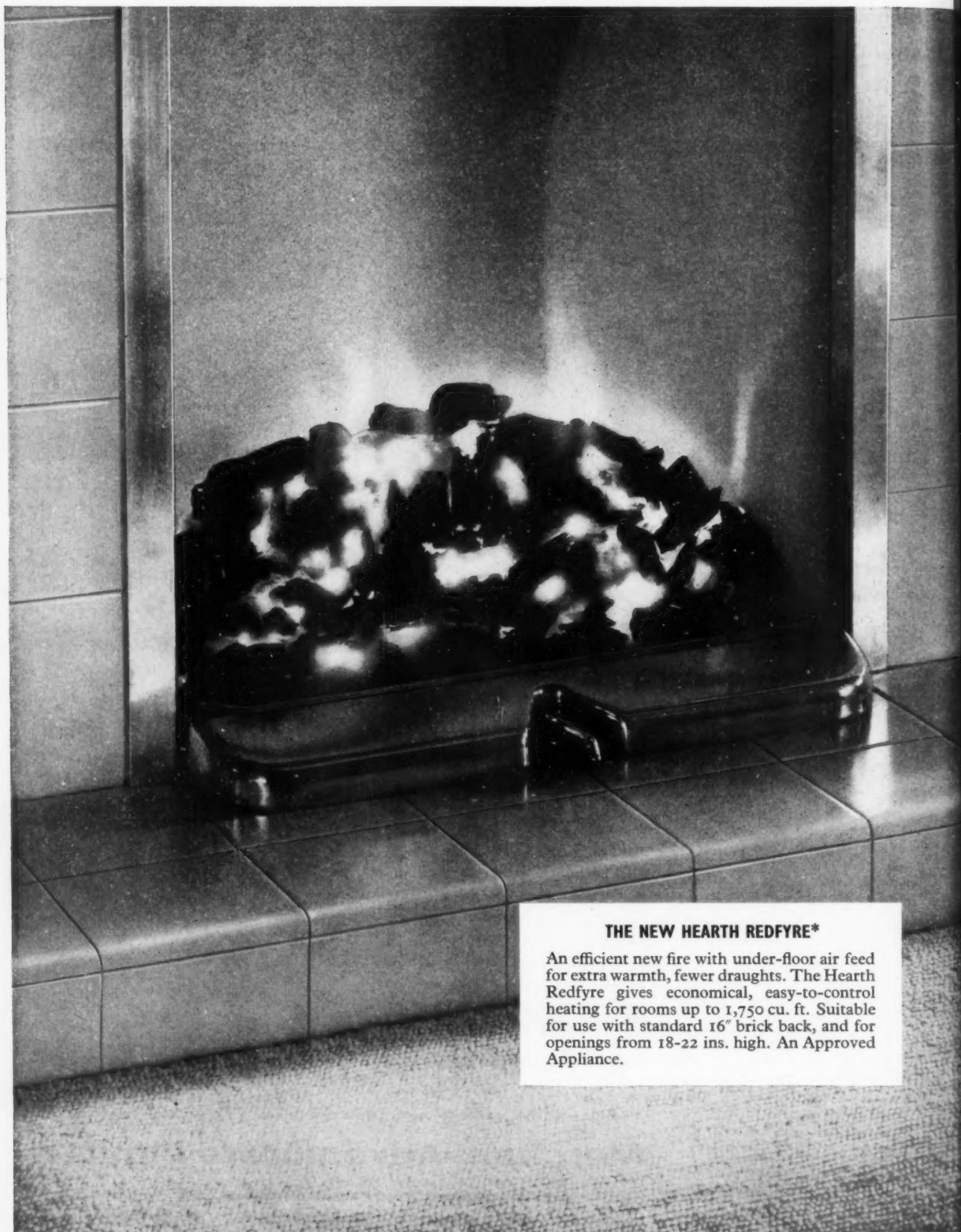
DESIGNED BY PAUL BOISSEVAIN, Dip. Arch. M.S.I.A.

A comprehensive leaflet giving full data and prices is available on request.

Merchant Adventurers Limited

Head Office: Hampton Road West, Feltham, Middlesex. FELtham 3686
London Showrooms: 43, Portland Road, London, W.11. PARK 1223

Now! Redfyre gives you



THE NEW HEARTH REDFYRE*

An efficient new fire with under-floor air feed for extra warmth, fewer draughts. The Hearth Redfyre gives economical, easy-to-control heating for rooms up to 1,750 cu. ft. Suitable for use with standard 16" brick back, and for openings from 18-22 ins. high. An Approved Appliance.

ul

lo



A sup
gives
conve
incre
more
a wid
almo
is ne
2,000

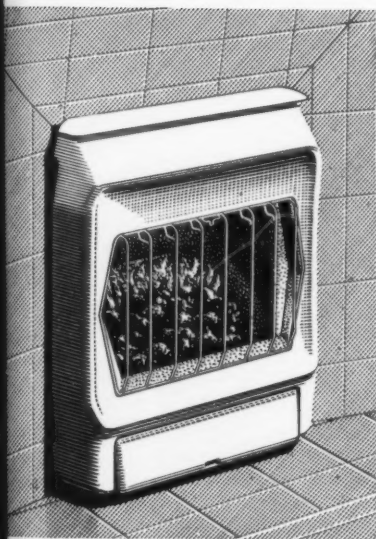
NEW

low-cost heating with *top-designer looks*

Redfyre—whose famous Bacboilers put them years ahead in low-cost heating—now take the lead in tackling a new problem: matching really low cost with the best modern design. Styled to merge successfully with any modern room scheme, these new Redfyres are equally suitable for modernising old property or for new build-

ings. And as you'd expect from Redfyre, the whole range is very practical, very economical, and remarkably low in initial cost.

Write for the REDFYRE HANDBOOK—a handy folder containing full specification sheets of all Redfyre products. The Redfyre mailing service will keep your handbook up to date automatically.



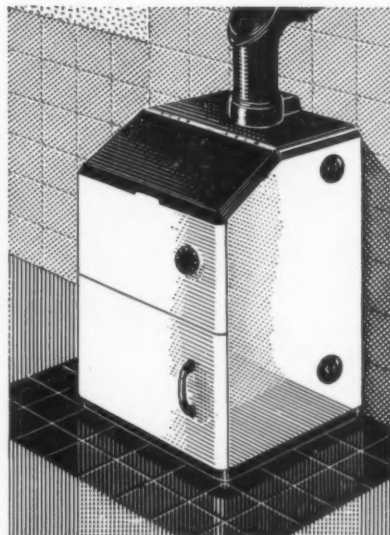
New Redfyre Convector

A superb new open convector fire which gives two-way warmth, by radiation and convection. An adjustable throat restrictor increases efficiency still further, giving far more comfort from far less fuel. It burns a wide range of fuels and is easy to install in almost any fireplace opening—no fire back is necessary. Suitable for rooms up to 2,000 cu. ft. An Approved Appliance.



New Redfyre 60*

A controlled-burning fire with exceptionally clean modern lines. It's easy to install, and burns any solid fuel, efficiently and very economically. Suitable for rooms up to 1,750 cu. ft. and for use with standard size 16" brick back. An Approved Appliance.



New Redfyre Magazine Boiler

For hot water and radiators. Magazine feed-automatic control by thermostat. Compact and very efficient, the Magazine Boiler runs on any smokeless fuel. Continuous Heating Rating: 20,000 B.Th.U's/hr. Domestic Hot Water Rating: 35,000 B.Th.U's/hr. An Approved Appliance.

**Also available with the famous Redfyre Bacboiler as a complete unit.*



NEWTON CHAMBERS & COMPANY LIMITED, REDFYRE PRODUCTS, THORNCLIFFE, SHEFFIELD



Norwich Union Insurance Societies

Norwich Union House, 8-12 South Parade, Nottingham

Architects: Evans, Cartwright & Woollatt, F/R.I.B.A.

H & C
ELECTRIC PASSENGER & GOODS
LIFTS

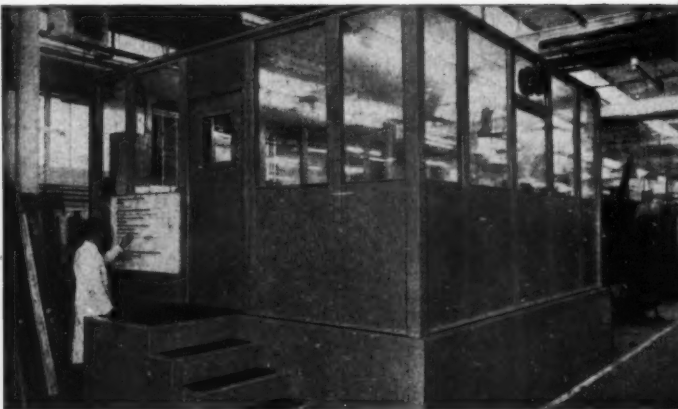


HAMMOND & CHAMPNESS LTD
Gnome House, Blackhorse Lane
Walthamstow, London E.17
Telephone: LARKSWOOD 1071

THE SOUND APPROACH TO QUIET!

... install clean, streamlined N.S.E. Partitioning,
establish a happy congenial atmosphere and
increase staff efficiency.

EASY TO ERECT · ADAPTABLE · ECONOMICAL



For Office and Factory

....it must be



STEEL PARTITIONING

*Inspect the full range of N.S.E.
Partitioning and Office Equipment at
our modern Showrooms in
BRISTOL, BIRMINGHAM, MANCHESTER
or visit our London Display Centre at
149, BOROUGH HIGH STREET, S.E.1.*



**Send
TO-DAY
for our
NEW FREE
fully illustrated
36 page Catalogue.**

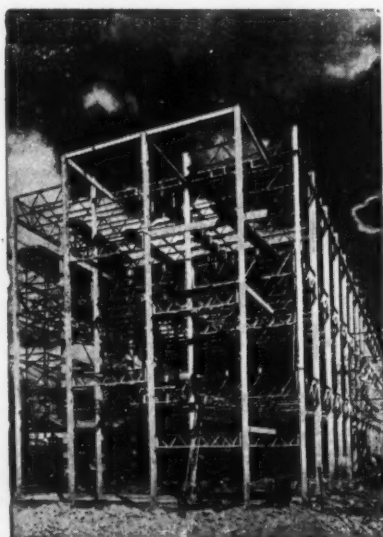
NORWOOD STEEL EQUIPMENT LTD., HARLOW, ESSEX.

Tel. Harlow 25651.

structural steelwork

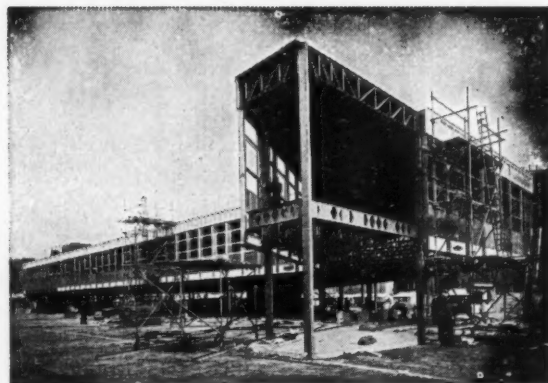
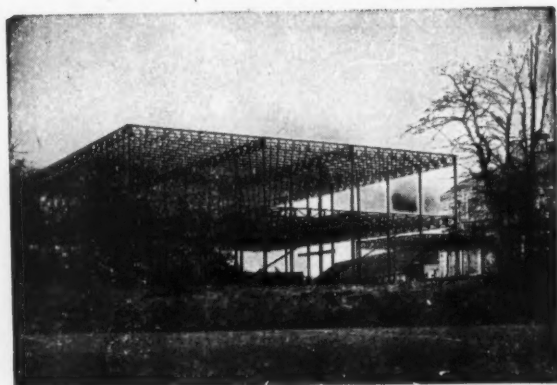
THE BOWATER PAPER CORPORATION LIMITED. The Architects for the new Office Blocks at both Mersey and Northfleet designed for Lattice Steelwork on a modular grid which allowed service lines to be run between floor and ceiling and gave complete flexibility for internal arrangements.

Architects: Messrs. Farmer & Dark.



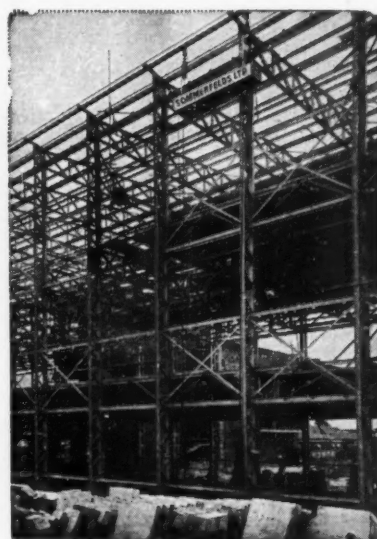
YORK. For the City of York a Grammar School. Sommerfelds designed the Steelwork on a 3 ft. 4 in. modular grid allowing complete freedom for the Architect to use curtain walling and internal arrangements.

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



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

General Contractors: Messrs. Richard Costain Limited.



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

Architects: Messrs. J. Douglass Matthews & Partners.

Sommerfelds LTD. WELLINGTON · SHROPSHIRE
London Office : 167 VICTORIA ST. SW1 TEL VIC 8843 AND 1006



Complete Flexibility in Planning
Positively No Damage to Buildings

95% Recovery Value

Exceptional Insulation

**Quality Materials in
Every Kind of Finish**

All-purpose efficiency with . . . SWIFTPLAN demountable PARTITIONS

. . . the partitioning service you've always wanted. The ultimate in flexibility—panels supplied in any width to suit your needs! But that is only one of the many reasons why the new SWIFTPLAN flush type partitioning will appeal to you as exactly what you've always wanted. Quality, for example—a quality, fit and finish such as you would expect only by having skilled craftsmen working specially for you on your premises. Site fixing, achieved by using spring loaded jacks where floors and ceilings are of solid construction, in all other cases floor and ceiling grounds are used. Quality finishes too—anything from painting to decorative veneers; suitable for any purpose, from the simplest accommodation to an executive suite. SWIFTPLAN offer you a complete partitioning service—design, construction, erection, alteration—to an entirely new standard of flexibility and efficiency. And at surprisingly reasonable cost.

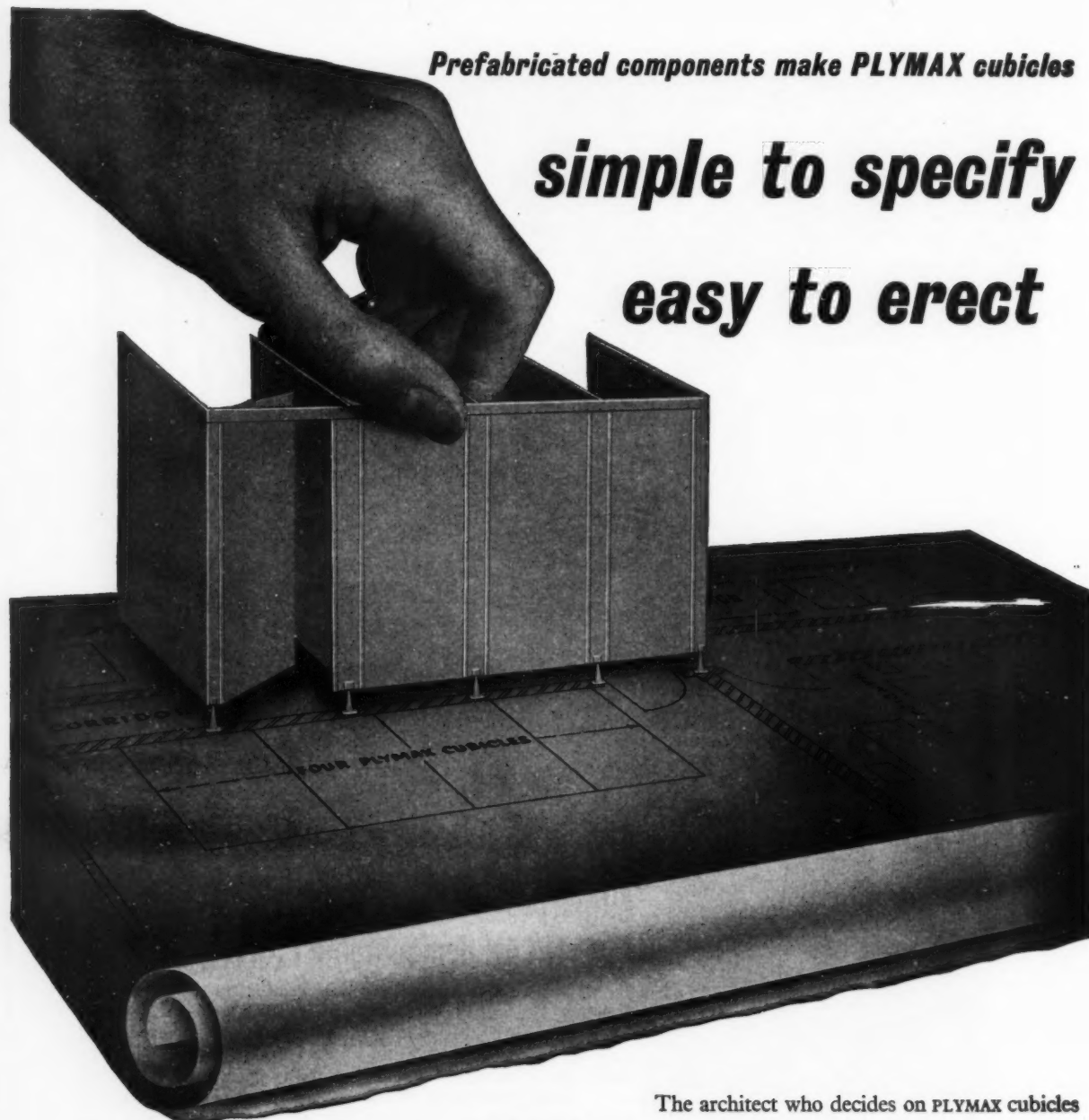


Write now for full details

SWIFTPLAN

Regd.
Trade Mark

39 VICTORIA STREET · LONDON · SW1 · TELEPHONE ABBey 4393



Prefabricated components make PLYMAX cubicles

simple to specify

easy to erect

W.C. Compartments • Showers • Cubicles in

PLYMAX



...and a specialised PLYMAX for a specialised job

LEAD PLYMAX for X-Ray protection

High quality lead sheet cemented between plywood—Lead Plymax—offers an easy method of providing X-Ray protection. This particular form of PLYMAX is fully detailed in a booklet available on request.

The architect who decides on PLYMAX cubicles does more than save himself needless work on the drawing board; he saves time and labour on the site. They arrive prefabricated, ready for immediate erection. They are rigid and light in weight and easy to handle. They are simple to clean and offer a good surface for paint or cellulose. Samples of PLYMAX, together with full details, will be sent on request.

VENESTA PLYWOOD LIMITED

Vintry House, Queen Street Place, London, EC4
Telephone: Central 3040

SO
SLEEK
YET
SO
PRACTICAL



Shires 'continental' seat

As a replacement or a new fitment, no other toilet seat in this price range has the advantages offered by Shires 'Continental'.

THE SEAT

Light, shapely, slim — but virtually unbreakable. Unique bufferless construction is allowed by the supreme strength of the exclusive black material used.

THE COVER

Stylish, elegant, beautifully designed. Completely overlaps the seat for extra

hygiene. Available in colours to tone with any bathroom scheme: green, primrose, red, turquoise, deep blue, blue, ivory, pink, white and black.

FITTING

Adjustable hinges mean the assembly can be fitted to leading makes of pan *without the use of tools*.

SHIRES ARE THE LARGEST MANUFACTURERS OF MOULDED FLUSHING CISTERNS IN THE WORLD

They also make the Uni-Lynx close-coupled suite.

Full details and trade terms from Division 5a, **SHIRES & CO. LONDON LIMITED, GUISELEY, YORKS.**

(also at LONDON, BIRMINGHAM & GLASGOW); Shires (Ireland) Limited, Dublin

made by
Shires
of Guiseley *for your convenience*
573



Outlook's
fine
for this
contract

FABLON POLYTHENE FILM IS ON-SITE

**Saves vital
man-hours,
money and
materials**

Whatever the weather conditions
Fablon Polythene film on-site
means progress as planned!

Post this coupon now for fully-informative
booklet to: **FABLON Limited**, 49 Park Lane,
London, W1. Tel: HYDe Park 2155

Name

Address

A.I.10

Fablon

- ▶ **No costly, time-consuming stoppages**
- ▶ Perfect protection for plant and materials
- ▶ **Ideal as scaffolding shelters**
- ▶ As temporary glazing
- ▶ **As damp-proof membrane**
- ▶ As a separation medium
- ▶ **For concrete curing and many other on-site purposes**
- ▶ **Tough — all-weather proof**

Transparent Fablon Polythene film is supremely tough and resistant to tearing. Non-absorbent. Unaffected by alkalis, aqueous salt solutions, most acids, corrosive sub-soils. Exceptionally lightweight and flexible. Available in 3 gauges and various widths.

FABLON LTD., 49 Park Lane, London, W.1 Tel: HYDe Park 2155

I·C·I CHOSE

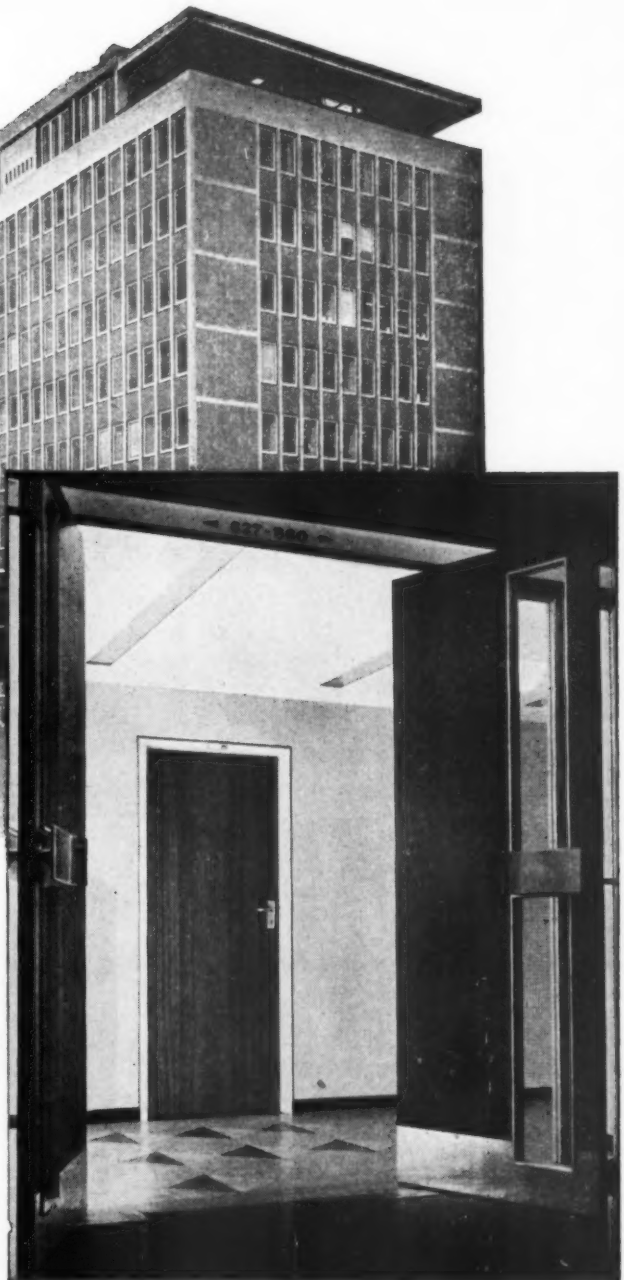
'Aristocrat' —the door of dignity and dependability

FOR THEIR NEW OFFICE BLOCK
AT BILLINGHAM, CO. DURHAM

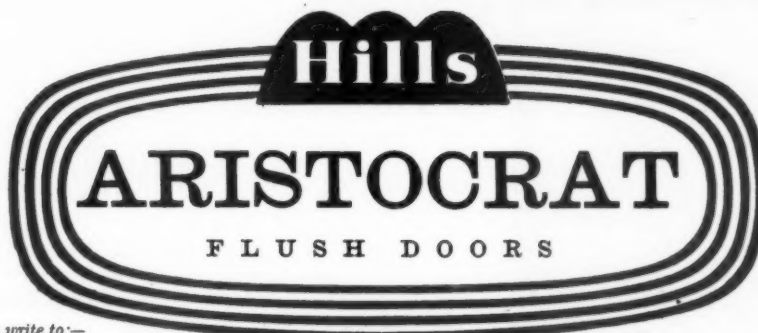
Main Contractors: John Laing & Son Ltd.

Hundreds of Hills 'Aristocrat' flush doors lend additional harmony and grace to this attractively spacious building. These fine doors in a wide range of veneers and matching edge strips, with the exclusive Hills Kreibord core, add dignity to any major project. They are manufactured in the dimensions and veneers to your specification.

Your important project deserves Hills 'Aristocrat' flush doors.



*Photographs by courtesy
of I.C.I.*

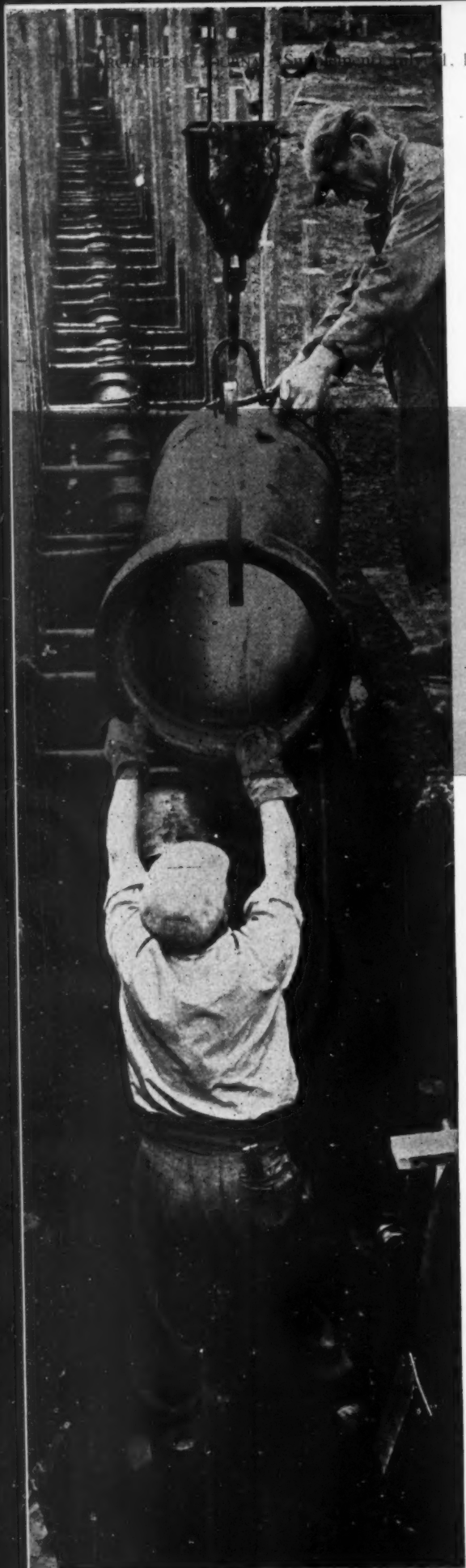


For more information write to:—

F. HILLS & SONS LIMITED NORTON ROAD STOCKTON-ON-TEES • Telephone: 67141
LONDON OFFICE: WINDSOR HOUSE KINGSWAY LONDON WC2 • Telephone: CHAncery 9251
Telex in operation at both offices

F4603

1, 1960



Glazed

Vitrified

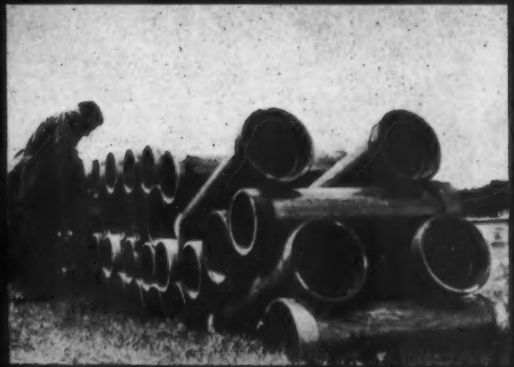
Clay Pipes

Dr. Felix Singer, Dr.Ing., Dr.Phil., M.I.Chem.E.,
an acknowledged authority, after exhaustive study wrote
"Both time and laboratory tests have proved stoneware
pipes to be the most reliable method of conveying
all waste fluids underground."

For information write to The Secretary,

THE NATIONAL SALT GLAZED PIPE

the pipe material that never wears out



Drainage Pipes must be strong and smooth. They must resist the effects of abnormal pressures and of abrasives. They must be proof against acid-forming gases inside the pipes and acidic substances in the soil. They must have a low and non-progressive rate of absorption. They must retain their shape indefinitely. They must stay down—maybe for centuries.

Nobody knows what virulent effluent future industrial development may introduce into today's drains.

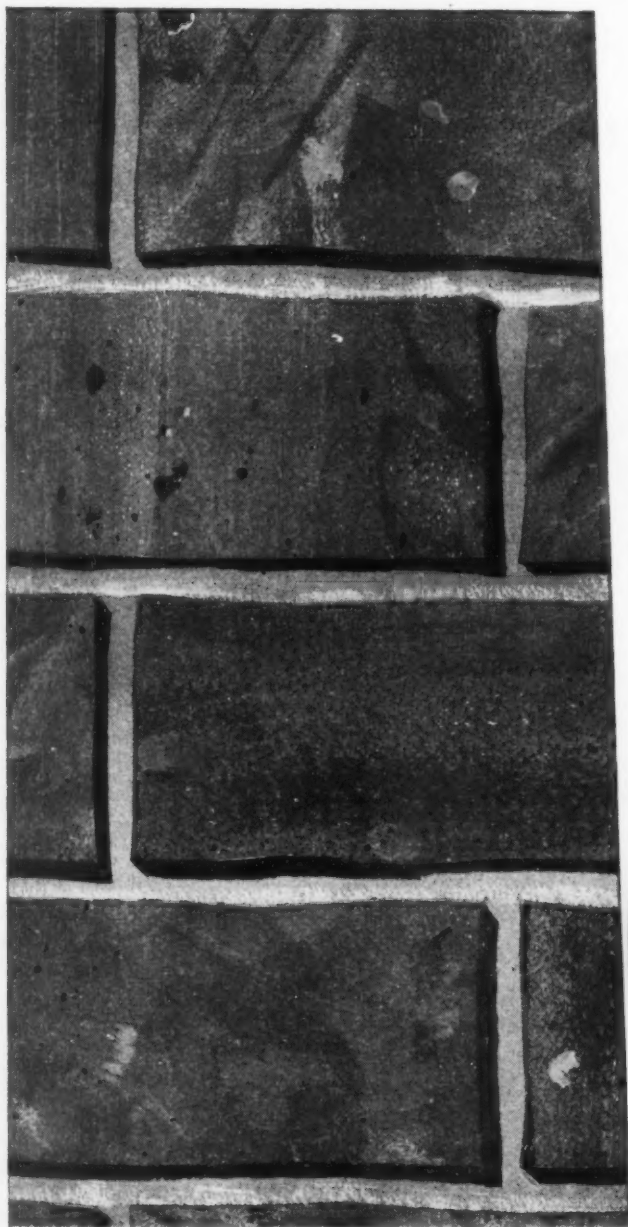
There is only one safe choice. Put down **glazed vitrified clay pipes** — there is no adequate substitute.

PIPE MANUFACTURERS' ASSOCIATION

Hanover Court, Hanover Square, LONDON W.1.

Telephone : MAYfair 0364





Walcrete makes better mortar

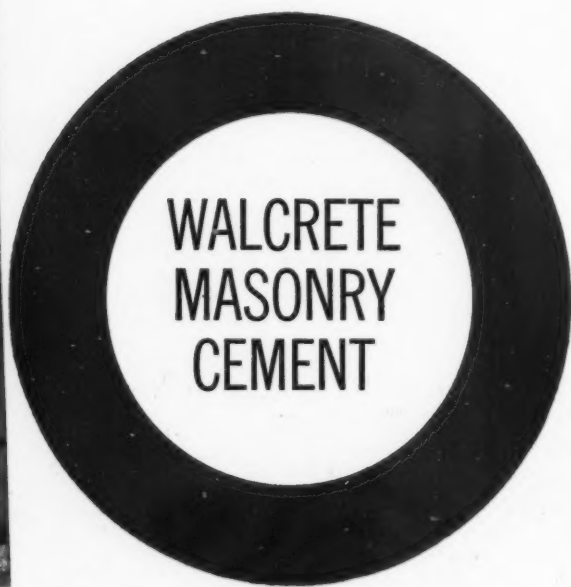
Walcrete needs no additives

Walcrete produces a good bond

Walcrete spreads like butter

**Walcrete has adequate strength
for all mortar requirements**

Walcrete is made under rigid laboratory control to Blue Circle standards. The materials used in its composition are accurately proportioned and intimately mixed-in during manufacture.



WALCRETE

MASONRY CEMENT

COSTS LESS FOR BETTER MORTAR



Write for further details to:

THE CEMENT MARKETING COMPANY, LTD · PORTLAND HOUSE, TOTHILL STREET, LONDON, SW1
G. & T. EARLE LTD, HULL · THE SOUTH WALES PORTLAND CEMENT & LIME CO LTD · PENARTH, GLAM.

A fine roofing job?

you should see ours!



Hat by Liberty's of London

INDUSTRIAL ENGINEERING LTD

The roof specialists

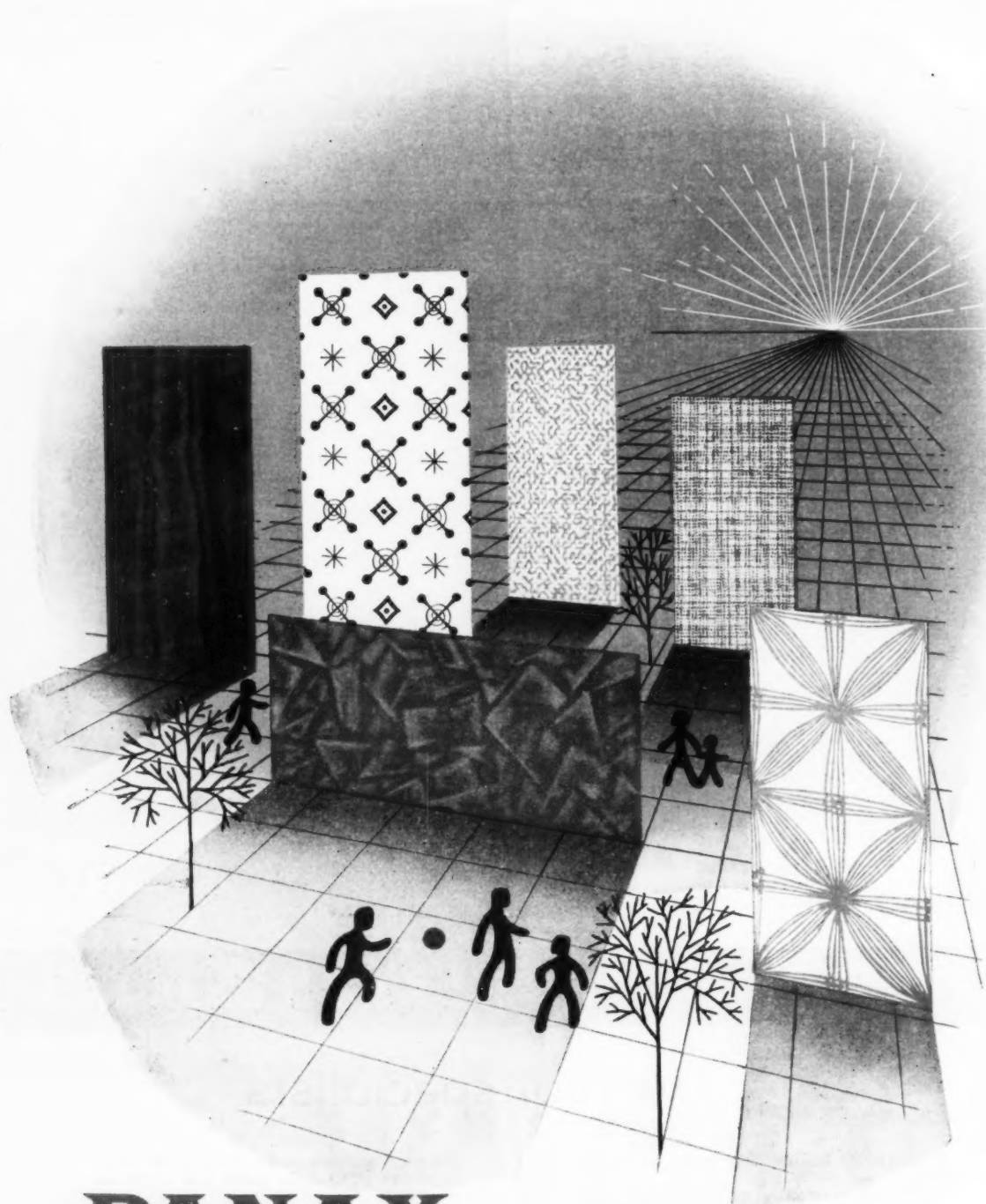
As specialists for over forty years in the construction, reconstruction, maintenance and water-proofing of industrial roofs, we are able to offer the architect a complete service designed to relieve him of every worry.

- * The complete roofing contract can be placed with us, eliminating the need for dealing with several sub-contractors.
- * A number of highly specialised technical departments are always at your disposal for consultation and advice.
- * Operational staff readily available to deal with emergencies at short notice.
- * Complete surveys can be carried out and estimates submitted without cost or obligation.

Branch offices throughout the country

INDUSTRIAL ENGINEERING LIMITED, VOGUE HOUSE, HANOVER SQUARE, LONDON W.1. HYDe PARK 1411 (7 LINES)

or consult your local telephone directory



PANAX *shapes the future of design*

Panax, exceptional melamine surface plastic, offers fascinating scope for interior design. Brilliant versatility in use . . . remarkable practical properties . . . eye-catching variety of sparkling colours and patterns . . . all combine to make Panax *the* material of today for interior design. But to add even more to its appeal, Panax costs up to 22% less than any other plastic laminate. Choose Panax, the remarkable material for modern design.

NORTH BRITISH PLASTICS LIMITED, BLAYDON, CO. DURHAM

LOW COST WAY TO HEAT TWO ROOMS *- and the water as well -* FOR NO MORE FUEL THAN AN OPEN FIRE



CHEVIN CONVECTOR Mk IIIa

The Chevin convector makes better use of heat from fuel by using it three ways—radiant heating, convection heating and water heating. This is on no more than an ordinary open fire—i.e. $1\frac{1}{2}$ -2 cwt. a week in the winter.

Warmth for another room. If the convected warm air is returned to the same room it will fully heat a room up to 20 ft. x 12 ft. x 8 ft. By a simple arrangement of closable grilles the convected warm air can be discharged to an adjoining room or hall as required, leaving the living room to be heated by the open fire.

Hot water. The back boiler provides ample domestic hot water. Maximum output is 10,000 B.t.u./hr.: output under normal operation is 7,500 B.t.u./hr. which is equal to 8 gallons of water an hour raised from 50°F. to 140°F.

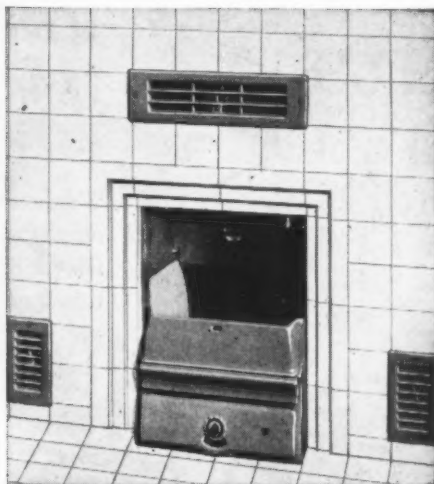
Overnight burning. The Chevin keeps in all night and has a simple economy air control to provide instantly the required rate of burning.

Installation is simple. The Chevin can be installed in a tiled surround incorporating independent convection grilles or with an interior frame incorporating concealed air inlet and outlet vents. A patented method of sealing between the surround and the convector body and between the flue adapter and the lintel speeds installation. There is easy access for flue cleaning and boiler servicing.

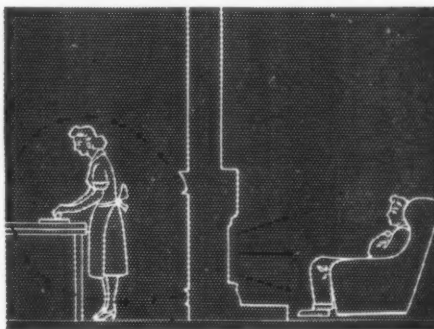
Ministry approval. The appliance is approved by the Ministry of Power and is included in the List of Recommended Appliances published by the C.U.C. and the Solid Smokeless Fuels Federation.

The Chevin is available in 5 wipe-clean colours in durable Lexos porcelain enamel. Prices from about £18 according to colour and the accessories required.

(Left). Installed with Chevin C Inset Fire and Interior Frame No. 37 (used only when convected warm air is returned to the same room).



Installed behind tiled surround with independent closable grilles and Chevin C Inset Fire with Overnight plate in position.



Radiant heat to main room, convected heat to warm adjoining room.

Radiation
CHEVIN
CONVECTOR FIRE

Full details are given in our data sheet available from

RADIATION GROUP SALES LTD., SOLID FUEL DIVISION, 255 NORTH CIRCULAR ROAD, LONDON, N.W.10


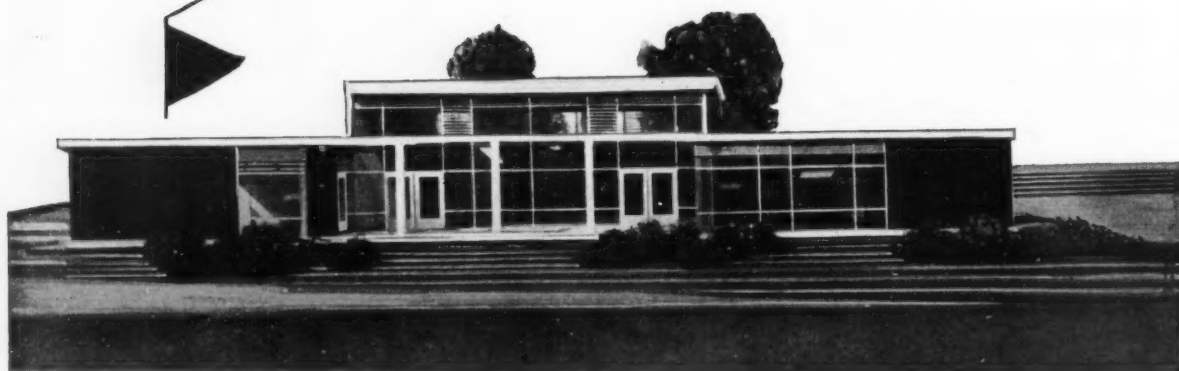


WEATHERFOIL

*supply heating for British Exhibit
at the MILAN TRIENNALE*

EXHIBITION 16th July—14th November

Weatherfoil is proud to have been chosen and pleased to donate the heating equipment for the United Kingdom Primary School which is the British exhibit at the Milan Triennale Exhibition.



*Specialists in Heating, Ventilation
and Air Conditioning*

WEATHERFOIL LTD

Head Office: 185 Bath Road, Slough, Bucks.

Telephone: Slough 25561

You can't go
anywhere—
without coming across gates
and fences by **BJB**



Anything in wrought ironwork is a job for BJB.

Have a word with them—while the iron's hot!

BAYLISS, JONES & BAYLISS LIMITED

Makers of fencing and gates for over a century

HEAD OFFICE: VICTORIA WORKS, WOLVERHAMPTON • TELEPHONE WOLVERHAMPTON 20441
LONDON OFFICE: 139 CANNON STREET, LONDON E.C.4 • TELEPHONE MANSION HOUSE 8524

NEW



SANDALITA CONSUMERS' UNIT

A new competitive range of Consumers' Electricity Control Units in attractive sheet steel cases with ample knockout holes and finished steel hammered grey stove enamel, having 60 ampere Double Pole AC Main Switch and Single Pole and Neutral fuse ways, with porcelain "Duplex" units of 30 amp, 15 amp and 5 amp 250 volt capacity, having rewirable or H.R.C. fuse carriers. The cases, which are complete with earthing bars, are so designed that any combination of these fuses may be fitted at will.

PRICES & DETAILS, SEE LEAFLET 59/59



by **SANDERS** WEDNESBURY

WM. SANDERS & CO. (WEDNESBURY) LTD., WEDNESBURY, STAFFS.

from

LEISURE

a self-contained

SHOWER CUBICLE

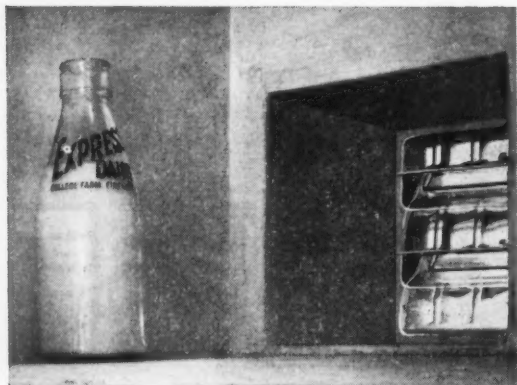


**a space-saving
private bathroom
within the reach of
all your customers!**

The Leisure Shower Cubicle has been designed to stand anywhere without structural alterations of any kind. It is particularly useful in flatlets, where space is so precious. What does the Leisure Shower Cubicle offer? An attractive shower curtain seals off the gleaming white and black enamel interior from the outside room. The spotlight glass panel, set into the roof, provides plenty of light. A twist of the anti-scald mixer tap gives instant hot or cold showers. The chrome flexible pipe can be transferred to the washbasin, which together with the mirror and glass holder is an optional accessory. The Leisure Shower Cubicle is soundly constructed in pressed steel, and is easy to install. Prices have been kept to a minimum so that all can benefit from this unique piece of home equipment. Display the Shower Cubicle prominently in your showroom—and get set for brisk sales this summer!

PRICES FROM £43.4.6 (undrilled)
TO £58.3.3 (complete with all accessories)

THE LEISURE SHOWER CUBICLE IS MADE BY LEISURE KITCHEN EQUIPMENT LTD
NOTTINGHAM ROAD · LONG EATON · N^r NOTTINGHAM · A DIVISION OF  ALLIED IRONFOUNDERS

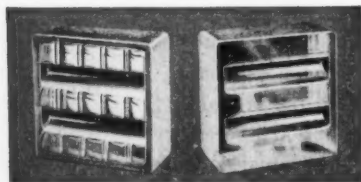


GLASS solves
several problems
with one unit

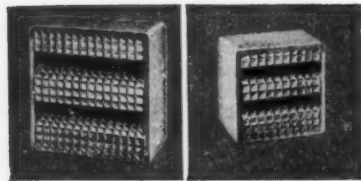


LIGHT AND AIR FOR LARDERS, TOILETS, ETC.

Designed primarily for ventilating hollow glass block installations, the 'Ventiblock' has rapidly gained acceptance for many other purposes where a combined lighting and ventilating unit is required.



'Ventiblock' Type 3—7½"×7½"×3½"



'Ventiblock' Type 32—7½"×7½"×3½" 'Ventiblock' Type 2—5½"×5½"×3½"

Available with or without
SHUTTERS and/or FLY-SCREENS

THE CLARK-EATON ALL-GLASS 'VENTIBLOCK'

(Patent Nos. 552195, 583552. Further patents pending.)
Designed by Lethieullier Gilbert, A.I.A.A., L.R.I.B.A., and L. James Hobson, A.R.I.B.A.

Can be used singly, or in groups. It is hygienic and easily cleaned, needs no painting and is simple to install. No moving parts—nothing to vibrate; excludes driving rain and will not collect water; ensures privacy and freedom from direct draughts; impassable to rodents and can be supplied with Fly Screen and/or Shutter.

An adaptable unit for every type of building.

Please ask for illustrated LEAFLET

JAMES CLARK & EATON LTD.

GLASS FOR ALL STRUCTURAL AND DECORATIVE PURPOSES
SCORESBY HOUSE, GLASSHILL ST., BLACKFRIARS,
LONDON, S.E.1 Phone: WATerloo 8010 (20 lines)
CANTERBURY • BOURNEMOUTH • EASTBOURN • READING • OXFORD
SEE OUR EXHIBIT AT THE BUILDING CENTRE



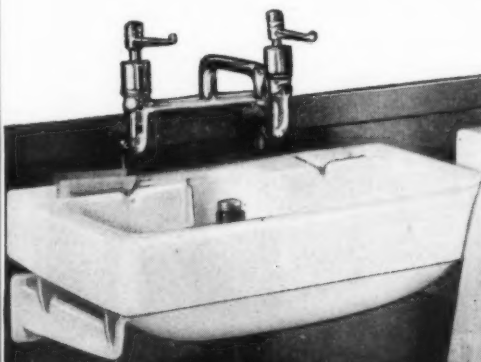
KEEP IT CLEAN



A fully illustrated booklet, published in the interest of more and better hygiene and sanitation is available on request.

fireclay

SANITARY FIRECLAY
TECHNICAL BUREAU
57, GREAT GEORGE ST.
LEEDS 1



In the modern hospital, vital considerations of hygiene render it imperative that sanitary installations of any kind should be the finest obtainable, reflecting all the qualities that are inherent in Ceramic **Glazed Fireclay**. Ceramic **Glazed Fireclay** not only **looks** clean — it **is** clean. White is the enemy of dirt. The gleaming white surface of **Glazed Fireclay** is impervious to dirt and grease, resistant to acids, alkalis, staining, scratching and abrasion. With its strength, solidity and sturdiness, its resistance to extremes of heat and cold, its capacity to stand up indefinitely to the most drastic wear and tear, the need for costly replacements is virtually eliminated. In Ceramic **Glazed Fireclay** you have quality and durability. And in the long run you have economy, too.

SPECIFY SANITARY FIRECLAY WARE FOR **PERMANENT** SATISFACTION



Keep noise in its place with

COMPACTOM

partitions and acoustic ceilings

PLANNING GUIDE

The Compactom Planning Guide contains just the sort of information you need when solving problems involving

- DRY CONSTRUCTION DEMOUNTABLE PARTITIONS
- COMPACTOM MINIWALL DWARF PARTITIONS
- ACOUSTIC CEILINGS AND TREATMENT
- FITMENT WORK • TOILET CUBICLES

Ask us today for your copy



COMPACTOM LTD

Specialists in Partitions and Acoustic Ceilings

OXGATE LANE • CRICKLEWOOD • LONDON N.W.2
GLADSTONE 6633

SPECIFY SOFONO

SOFONO 3C SURROUND

Cast Iron Enamelled Surround 40" wide x 36" high, with enamelled flush hearth and kerb. Available in six colours. Widely used by local and municipal housing authorities where maintenance must be reduced to a minimum.

SOFONO FULL-VIEW

Sizes Available—14", 16" and 18". *Materials and Finish*—Cast Iron with front vitreous enamel in choice of 8 colour finishes. *Heat Service*—Space heating capacity by radiation for rooms of up to 2,000 cu. ft. Drop-Front when lowered is only 3½" above hearth level for maximum radiant heat. *Fuel Capacity*—14"—0.40 cu. ft.: 0.52 cu. ft. with deepening plate. 16"—0.52 cu. ft.: 0.61 cu. ft. with deepening plate. 18"—0.55 cu. ft.: 0.63 cu. ft. with deepening plate. *Ignition*—Luminous flame gas ignition burner can be incorporated suitable for right or left hand ½" B.S.P. connection. *Construction*—Cast iron with fall plate. Removable front bars with integral cast iron bricks. Support brackets for bottom grate drilled to provide fixing holes positioned for fireplace recess location. Will fit most standard fireplaces with 14", 16" or 18" openings. Self-sealing model slides straight into the grate. Requires no hearth fixing whatsoever. Hole provided on base plate of self-sealing model for fixing by single screw when installed with integral gas ignition burner. *Bottom grate*—One piece cast iron with ½" bar spacing for coal burning and ⅝" spacing for coke burning. ⅝" bar spacing supplied unless otherwise ordered. Reversible chrome steel bottom grate for coke or coal burning available for use with the 14" and 16" sizes. *Combustion Control*—By top opening ashpit door and four-position ratchet. *Tools and Accessories*—The Full-View is supplied complete with multi-purpose operating tool and shovel type ashpan. Deepening plate for overnight burning is available as an optional extra. *Approval*—The Sofono Full-View is approved by the Domestic Appliances Council on behalf of the Minister of Power.

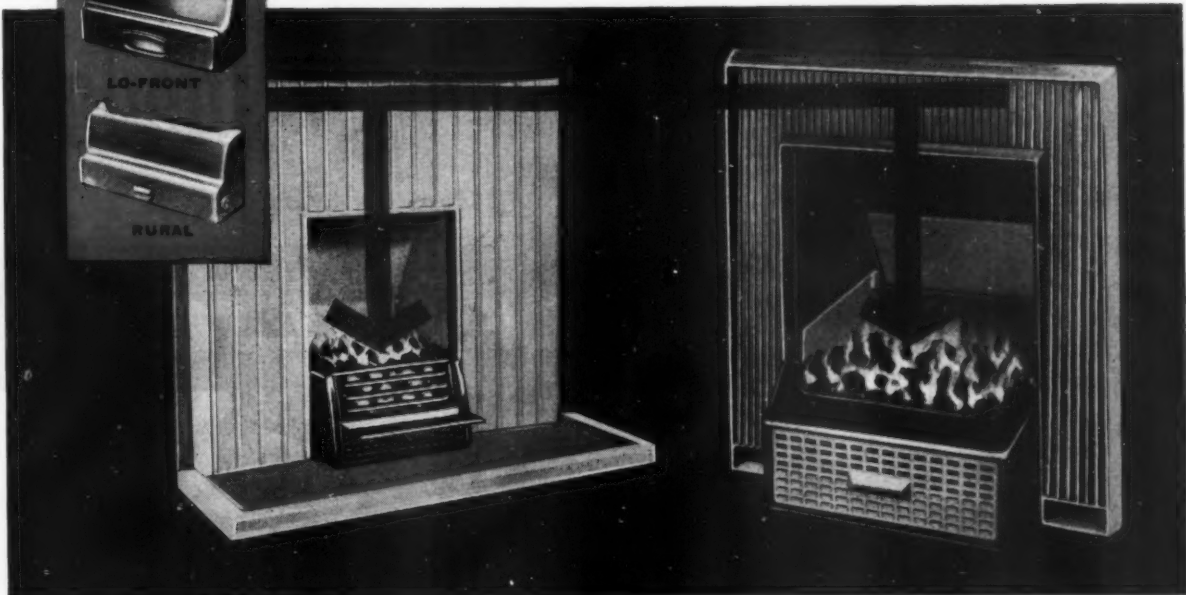
THE SOFONO CONVECTOR MK. II

with the continuous burning Sofono Grange 16" fire, is primarily designed as a single cased inset convector fire with or without boiler—for installation in a prepared brickwork opening behind a tile or other surround with the Sofono self-convecting interior frame or with inlet and outlet grilles incorporated in the surround. The Sofono 'Contemporary' self-convecting enamelled cast iron surround has also been specially designed for use with this convector. *Heat Service*—a. By radiation and convection for rooms of up to 2,600 cu. ft. capacity. b. Convected heat may be ducted away for background heating to a room above or behind of up to 1,600 cu. ft. c. With boiler for domestic hot water service or additional space heating by radiators. *Fire Fuel Capacity*—Normal 0.45 cu. ft. With Deepening Bar 0.55 cu. ft. With Deepening Plate 0.60 cu. ft. Choice of 8 colours. Deepening plate in Black v.e. *Domestic Hot Water Supply*—8 gallons of water raised from 50°F to 100°F each hour or 12½ gallons (maximum maintainable output) with damper open, 2,000 B.t.u./hr slow burning, 8,000 B.t.u./hr average, 12,500 B.t.u./hr maximum maintainable. *Boiler Dimensions*—10½" long x 6½" high x 3½" deep. Drilled and tapped 1" B.S.P. one side only. Reversible for left or right hand connection. Boiler can be removed through the fire box without disturbing the installation. *Approval*—The Sofono Convector Mk II is approved by the Domestic Appliances Council on behalf of the Minister of Power.



GRANGE CAMELON IRON CO. LTD., FALKIRK
A Federated Foundries Company

VARIOUS FIRES WHICH
CAN BE FITTED TO
THESE APPLIANCES



Please write to the Technical Director for information on all Sofono appliances.

This is a SteLrad



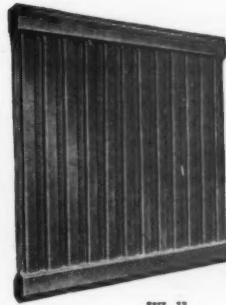
SteLrad

STEEL RADIATORS LIMITED

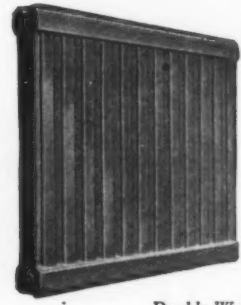
BRIDGE ROAD, SOUTHALL MIDDLESEX

Telephone: SOUThall 2603

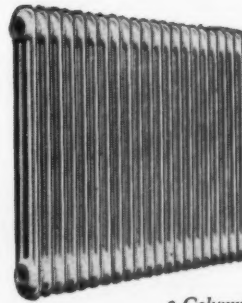
the Radiator
that's made
in the size
you want,
and in the
shape your
client likes



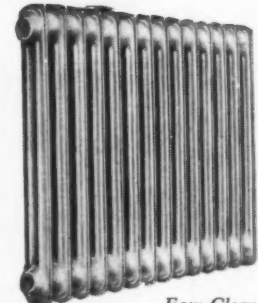
Wall



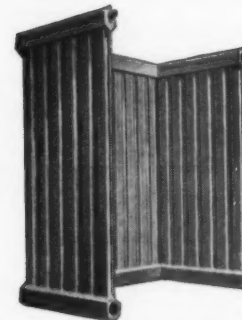
Double Wall



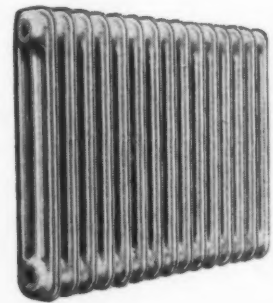
2-Column



Easy-Clean



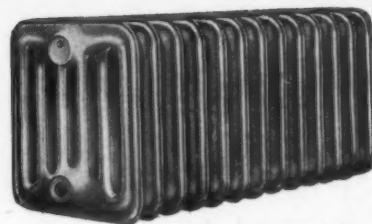
Angle-Wall



3-Column

PATENTED PROCESS RADIATORS

Now who would have thought the Stelrad Steel Radiator had been with us for nigh on twenty-five years? Why, you can probably remember people telling about it at the time. Some were doubters, holding forth about steel and how the only Radiator to use was one that was not only heavy to handle but ungainly to behold. But where is the Stelrad today? In buildings large and small throughout the length and breadth of the land, and in a range so wide there is not a single nook a Stelrad cannot heat.



Window-seat type

this sign sells houses

You can offer decay and insect proofed 'Tanalised' timber as an optional extra in your houses. Being vacuum pressure impregnated it promises your customers life-long freedom from maintenance costs due to Dry Rot, Woodworm, etc. in joists, flooring and roof timbers. 'Tanalised' timber is ideal for house building, being clean, non-oily and odourless. Join the builders who already . . .



'Tanalised' Timber
in this house will
not be attacked by
ROT or INSECTS

As an optional extra the joists, flooring and roofing timbers in these houses can be vacuum/pressure impregnated with 'Tanalised' C preservative before installation. The treatment is clean and odourless and gives full protection against fungal decay (dry and wet rot) and damage by insect grubs (woodworm, longhorn, etc.)

HICKSON'S TIMBER IMPREGNATION CO. (GB) LTD.
Castleford, Yorkshire, Tel. Castleford 380.

sell more houses with 'Tanalised' Timber

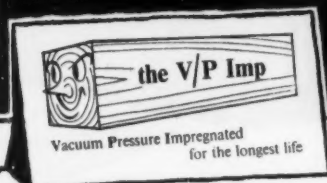
May we quote the small extra cost of using 'Tanalised' timber in your houses? Treatment plants are situated at 38 strategic points and most of them are in timber merchants' yards.

HICKSON'S TIMBER IMPREGNATION CO. (G.B.) LTD.

Castleford, Yorkshire Castleford 2607.

and at 8 Buckingham Palace Gardens, London, S.W.1.

Sloane 0636.



'Tanalised' is the registered trademark of HTI Co. (GB) Ltd.

Shower Song

*Bending and turning and gaily carolling
Loving the feel of the tropical rain
Leaving to Leonard the job of controlling
Once she gets in she just wants to remain.*

*Gone are the quirks of the old fashioned mixer
Everything else but never just warm,
Thermostat Leonard is fitted to fix her
And keep the temp. fast at divinity's norm.*

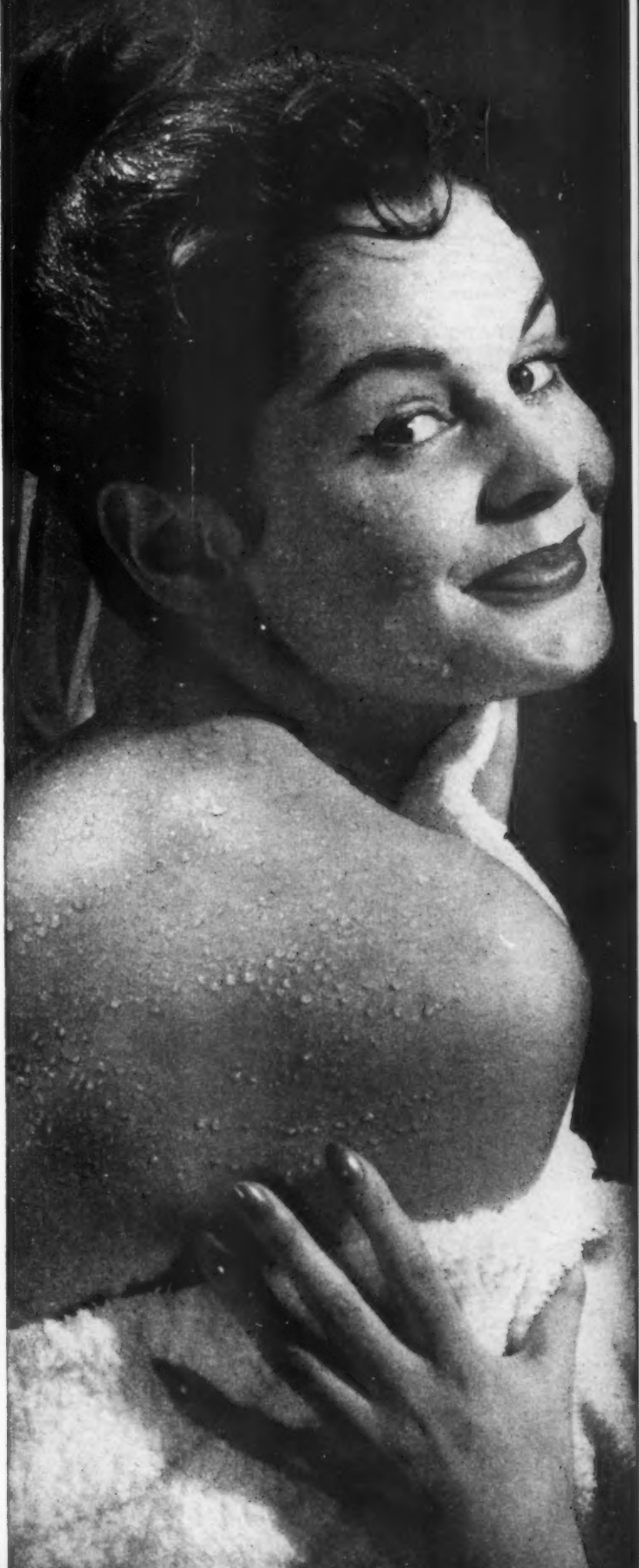
"Keeping the temp. fast" is just what Leonard control by thermostat does. It turns stone-cold and stinging-hot into steady warm—immovable until the bather moves it. It makes the shower, the Leonard shower, the best bath in the world. That's why the Leonard valve has come to be specified by architects everywhere not just for showers in hospitals and schools, but also in factories and mines and ships.

Please let us tell you more about Leonard thermostatic valves. We have composed literature to cover all applications in detail. Write for engrossing publication SB.2 to: Walker Crossweller, Cheltenham. The impetuous should 'phone us at Cheltenham 56317 or, in London, at Holborn 2986.

WALKER, CROSWELLER

& COMPANY LIMITED

CHELTEHAM. ENGLAND.

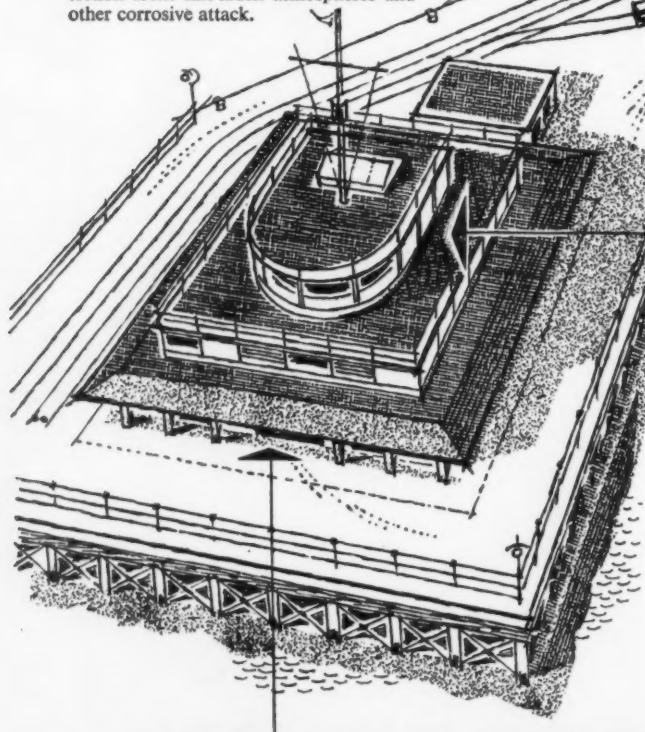


FLINTKOTE HERE

For floor surfacing—Flintkote floors are ideal for tough traffic conditions; remarkable wear resistance and durability, dustless, non-slip, self healing, applied cold.

For roof waterproofing—provides a firmly-adhered, flexible and impervious coating. Applied cold and reinforced to withstand normal movement. Simple to apply and satisfactory in any climate.

For metal protection—forms a thick, tough bitumen coating giving long-lasting protection from salt-laden atmospheres and other corrosive attack.



FLINTKOTE THERE

These are but a few of the many uses for various Flintkote Products—we should be pleased to tell you more.

Whatever the country, it is probable that Flintkote Products will be available there from stock and that "on site" technical advice can be given. The advantages of these facilities will be readily appreciated. Every building needs Flintkote—somewhere.

The Flintkote range includes products for:
Roof Waterproofing • Industrial Floor Surfacing • Metal Protection • General Waterproofing and Damp-proofing Tanking • Thermal Insulation Protection and other specialised applications.

... FLINTKOTE REGD ALMOST EVERYWHERE



Harbour warehouse, Gothenburg, subject to continuous 4-ton truck traffic. Still in good condition after 8 years, without maintenance.



THE FLINTKOTE COMPANY LIMITED
Adam House • One Fitzroy Square • London W.1
Telephone: EUSon 7224

PROMPT PIPESMEN WHO NEED NO PROMPTING

Pipesmen Grant, Maddox, Powell and Pacitti cover four of the nine areas in Britain. Their pledge (along with our five other pipesmen, too busy to pose for the photographer!) is 'delivery on the dot'. Whichever area you are in, there is someone ready to ensure that your order for Allied cast iron pipes, gutters and fittings is carried out promptly. He is your personal pipeline to the Allied Service. You will issue your order or send him drawings. He will take off the quantities required and send you any information you may need. You can depend on it—and him. For area 1 telephone Stockton 65291; for area 9, Falkirk 2441; for all other areas, Wellington (Salop) 510.



rainwater and soil goods division of **ALLIED IRONFOUNDERS**



KETLEY WELLINGTON SHROPSHIRE

COLOUR SERVICE COLOUR SERVICE

technical service in action No. 3

Varnishing of exterior and interior wood cladding and similar hardwood surfaces

The release of hardwoods for building purposes has resulted in the use of these materials for the cladding of buildings, pillars, and other features. The very real problems of the protection of hardwood immediately arise.

The purpose of varnishing such woods can be summarised as —

- (1) To prevent deterioration due to weathering,
- (2) To preserve wood in its natural colour and beauty,
- (3) To render wood washable, thus enabling removal of dirt and grime.

Experience has shown that certain varnish systems perform exceptionally well on hardwoods. It is necessary to use a varnish primer for wood, before applying varnish protective coats. An adequate varnish film thickness should be applied. Wood should be smooth, and grain should be filled in order to ensure a smooth continuous film.

Most pleasing effects can be obtained on interior woods, finish varying from Dead Matt, to Eggshell and Gloss. For exterior exposure only Gloss Varnishes are recommended.

Examples of Hardwood Varnish Finishes will be sent on application to —

Goodlass, Wall & Co. Limited, The Corn Exchange, Liverpool 2 or 179/185 Gt. Portland Street, London W.1.

SERVICE



"Titterton!
Is this really
FORMICA*?"

Yes, this is Formica plastics piping. Time was, when the name Formica made one think of surfacing materials. Nowadays the best informed people know that Formica Limited make all sorts of things: of which plastics piping is just one. Formica piping has overcome every major disadvantage of metal. It is non-toxic, resistant to corrosion and frost damage, indifferent to old age, extremely light and easy to handle.

Closely related to piping are Formica plastics containers for toothbrushes and cosmetics, and Formica extruded rod for shock-proof screwdriver handles. *So many things come from Formica today!*

FORMICA make

INDUSTRIAL LAMINATES
EXTRUDED PLASTICS
DECORATIVE LAMINATES
CHAIR SETS



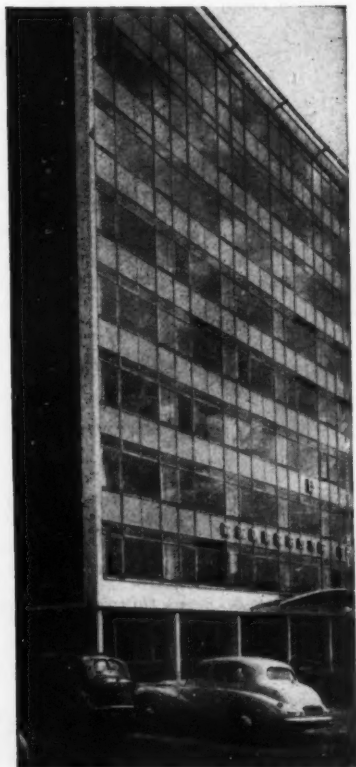
For full information on any FORMICA product please write to:

**FORMICA LIMITED, Extruded Plastics Division, Cavendish Works, Buckhold Road,
Wandsworth, S.W.18. Tel: VANdyke 7202**

*FORMICA is a registered trade mark



surface patterning



Hills Glass Curtain Walling uses only three basic types of bar with a number of standard extrusions and fittings. Yet it provides a degree of design flexibility usually obtainable only with purpose-made walling. Erected with clear, tinted, obscured or diffusing glass, in conjunction with coloured infill panels, it gives the architect limitless scope for the creation of effective surface patterning. Aiding the overall effect, bi-tapered mullions provide an improved light-to-dark graduation contrast. For full information on Hills Glass Curtain Walling System, please contact our Technical Department.

East Area Telephone Manager's Office,
Forest Gate, London.
Architect: W. S. Frost, A.R.I.B.A., A.M.T.P.I.,
Senior Architect, The Ministry of Works.

HILLS (WEST BROMWICH) **LIMITED**



ALBION ROAD, WEST BROMWICH, STAFFS.
Telephone: West Bromwich 1811 (15 lines)

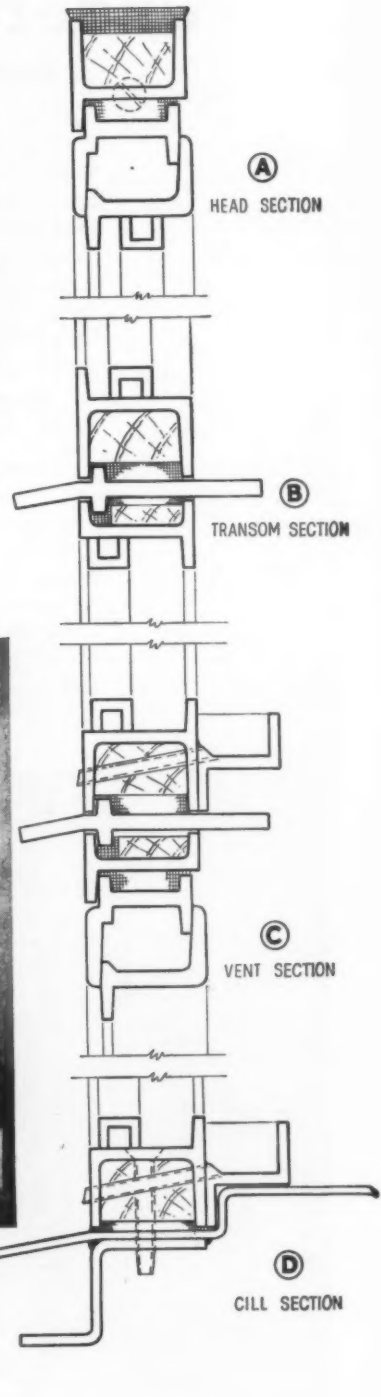
London: Chapone Place, Dean Street, W.1.
Telephone: GERrard 0526/9.
Branches at: Manchester, Bristol, Newcastle-on-Tyne, Glasgow.

BEACON WALLCLAD

Simple yet versatile, this form of curtain walling, extreme in application, easy to assemble, fulfils the rigorous conditions of exterior weatherproofing. WALLCLAD is flexible, strong and straightforward, and can be applied to any sound structure.

The main support is a cruciform section, rolled steel bar, the rigidity of which controls the uniform expansion of the structure and minimises distortion. The availability of many infill panels, which can be incorporated in a WALLCLAD scheme, allows extensive scope for first class presentation in building technique.

WE HAVE A COMPREHENSIVE CATALOGUE ON WALLCLAD — WHY NOT SEND FOR ONE?



Wolverhampton Postmen's Office,
P.D.O. and Garage, Horseley Fields,
Wolverhampton.
Contractor: A.F.R. Godfrey & Co. Ltd.



WALL CLADDING SYSTEM

JOHN THOMPSON BEACON WINDOWS LIMITED, WOLVERHAMPTON.

'PUDLO' PROVIDES PROOF... No. 3 OF A SERIES

Underground story... of Waterproofed Ready-Mixed Concrete

When, in 1958, the beer cellar of the 'Harp' public house at Parson's Mead, Croydon, was excavated for rebuilding, water was found to be present at a depth of only 3ft. 6ins. below the level of the upper surface of the old floor. To combat these inherently damp conditions 'Pudlo' CEMENT WATERPROOFING POWDER was specified for the READY-MIXED CONCRETE used in the new floor.

'Pudlo Waterproofer' was also used in the internal rendering of the outer walls and, to ensure complete protection from damp penetration, a 'Pudloed' cove was formed at the junction of the wall and floor.

TECHNICALITIES:

Floor

Area: approximately 1,250 square feet.
Composition: Waterproof Ready-Mixed concrete to 8" thick, with granolithic surface.

Mix: 4:2:1 reinforced with No. 8 B.R.C. fabric and waterproofed with 16 lbs. 'Pudlo' cement waterproofer per cubic yard of 'SURECRETE' Ready-Mixed Concrete.

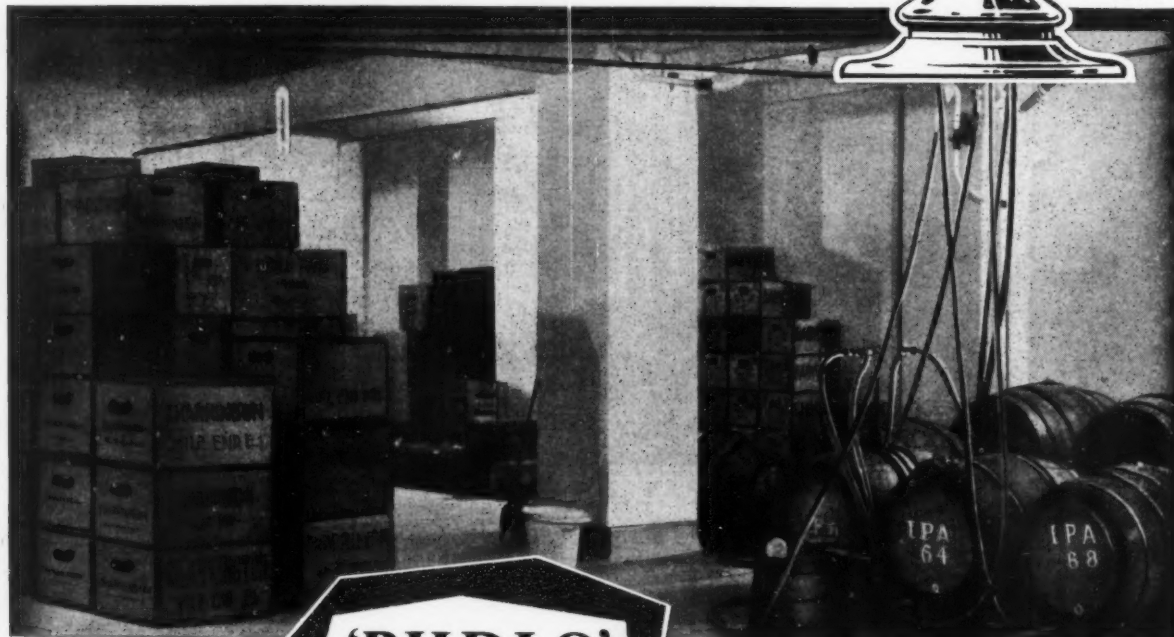
Walls

Hard semi-engineering brick, to a thickness of 13½ inches.

Internal Rendering

Two parts Westerham Sand.
One part Portland Cement.
5 lbs. 'Pudlo' to every 100 lbs. cement, applied in three coats to a minimum thickness of one inch.

Beer Cellar of the 'HARP' Parson's Mead, Croydon. By Courtesy of Page and Overton's Brewery Ltd.



'PUDLO'

Architects: Leonard Chignall & Son,
F.I.A.A., M.INST.R.A., M.R.SAN.I.
Romford.

Contractors: Galbraith Bros., Croydon

Sole Proprietors and Manufacturers

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

CEMENT WATERPROOFING POWDER

other 'PUDLO' products include: Waterproof Cement Paints, Cement Paint Primer, Cement Bonder, External Water Repellent, Plaster Bonder, Frost Protector/Rapid Hardener, Mortar Plasticiser, Cement Hardener/Dust Proofer, 'Feusol' Fire Cement.

TELEPHONE KING'S LYNN 2293



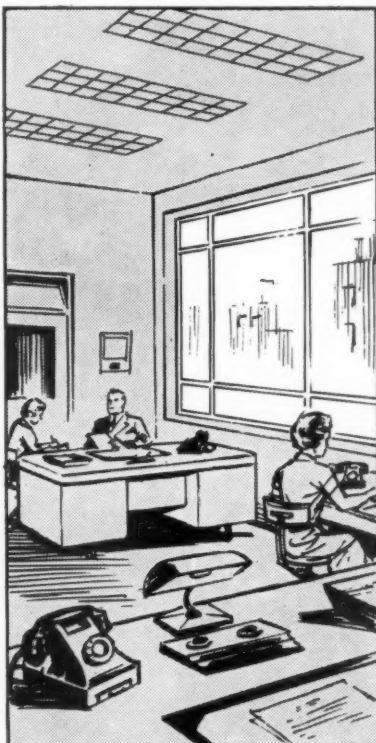
WT.18

VICE-VERSA **ACCORDING TO SEASON**

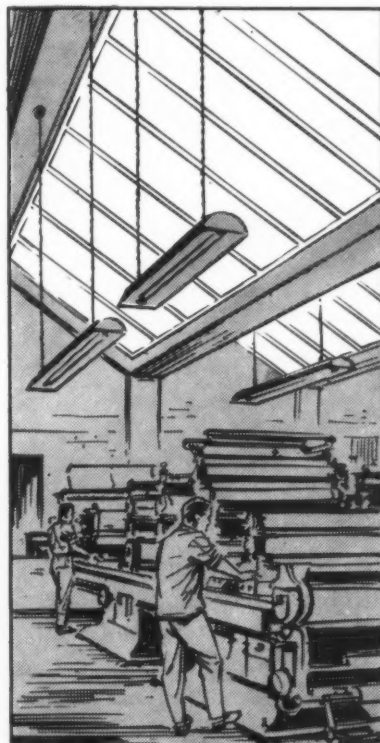
"HOLLOSEAL"



For the Home



For the Office



For the Factory

"HOLLOSEAL"

Dual and multi-glazed units for thermal insulation

During the past few years in Great Britain alone, over 1,000,000 sq. ft. of "Holloseal" units have been successfully installed providing efficient thermal insulation in Offices, Factories, Hospitals, Churches, Shops, Stores, Salons, and Domestic Dwellings of all types. We specialise in the manufacture of $\frac{1}{8}$ " cavity units for standard and universal metal casements in addition to $\frac{1}{4}$ " and $\frac{1}{2}$ " units for all purposes.



Specify
HOLLOSEAL

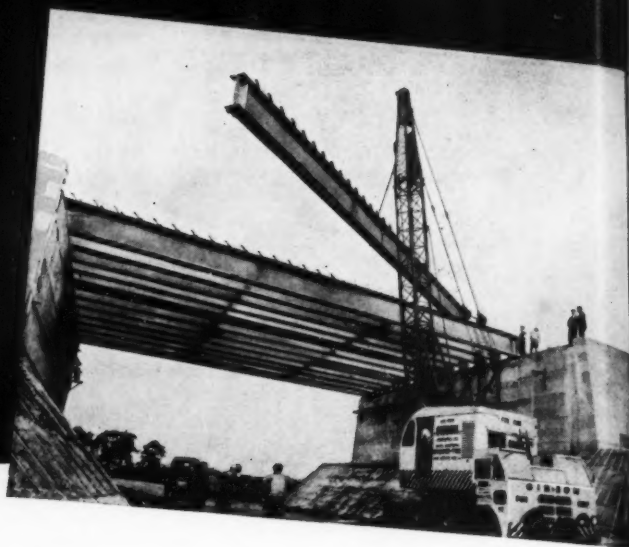
Write for fully descriptive literature.

THE HOLLOW SEAL GLASS CO. LTD.

Head Office:

GLASS WORKS, STAMFORD ROAD, LONDON, N.I.

Telephone: CLIssold 1121 (PBX)



HOW DORMAN LONG UNIVERSAL BEAMS SIMPLIFY FABRICATION

The illustration on the left shows a new extension for Whessoe Ltd. of Darlington, covering an area of 295 ft. by 90 ft. wide, with an eaves height of 57 ft.

The portal-frame roof structure (the central portion being steeper to take glazing) is formed throughout from Universal beams, the vertical members being 36" x 16½", weighing 260 lb. per foot, and the central rafters of 24" x 12" site-welded to the tapered elbows.

Universal beams, again 36" x 16½", were site-welded and support the runways for two 40-ton capacity cranes of 80 ft. span, the columns being connected by tie-beams of 12" x 12" universals.

The steelwork was carried out by Redpath Brown & Co. Ltd., Edinburgh, who saved a good deal of time and labour by using universal sections which



eliminated the need for compounding

Dorman Long Universal beams are being used to bridge wide spans hitherto needing built-up girders, thereby saving a great deal of plating, compounding and other labour, in addition to saving steel.

The illustration shows a road bridge in course of construction on the Catterick by-pass (A.1. Trunk road) built for the North Riding of Yorkshire C.C.; in this, D.L. Universal beam sections are employed practically as they left the mill, resulting in a substantial economy in fabrication.

Other sections from the Universal Mill include much-needed H sections; these are available in different weights for columns of multi-storey buildings thereby avoiding the usual plating at the lower storeys.

EARLY DELIVERY OF THE FULL RANGE OF SECTIONS

DORMAN LONG

Overhead Doors



for Commercial Buildings

The **HILLALDAM** range now includes overhead horizontal sectional doors for commercial and industrial buildings.

Please ask for details.

HILLALDAM
THE SLIDING DOOR PEOPLE

E. HILL ALDAM & COMPANY LIMITED
BRITANNIC WORKS, RED LION ROAD, TOLWORTH, SURREY

Telephone: Elmbridge 0090 (6 lines) Telegrams: "ALDAMILLO" SURBITON



Thermo-fax "Secretary" copying machines produce copies from an original the perfectly dry way! Only electric one-step copying will produce an itemised account statement or 39 addressed and gum-perforated labels in just four seconds!

The Thermo-Fax 'Secretary' copier will save you money - cut costs on office overhead. The 'Secretary' copier speeds the flow of office paperwork in numerous ways. More information? Mail the coupon below.



*for Better Business
Communications*

FREE

Show me 'Ways to Speed Paper Flow' in my company

Name _____ Position _____

Company _____

Address _____

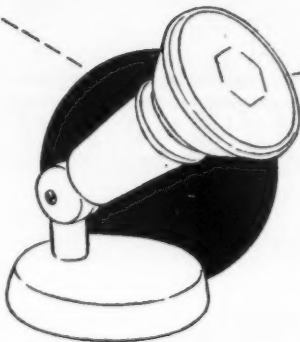
POST TO MINNESOTA MINING & MANUFACTURING CO. LTD., 3M HOUSE, WIGMORE STREET,
LONDON, W.1 A.J.3

WHATEVER YOUR BUSINESS...

PHILIPS PUT IT IN A BETTER LIGHT



H. M. Hobson Ltd., Wolverhampton



Planned lighting is more attractive, easier on the eyes, and far superior for any form of displays. And there's an added advantage offered by a lighting plan from Philips... it's free!

Philips Lighting Design Service provides you with individual advice on the exact lighting for any purpose. It puts at your disposal a team of expert lighting engineers and a fully-qualified architect—all this without charge or obligation.

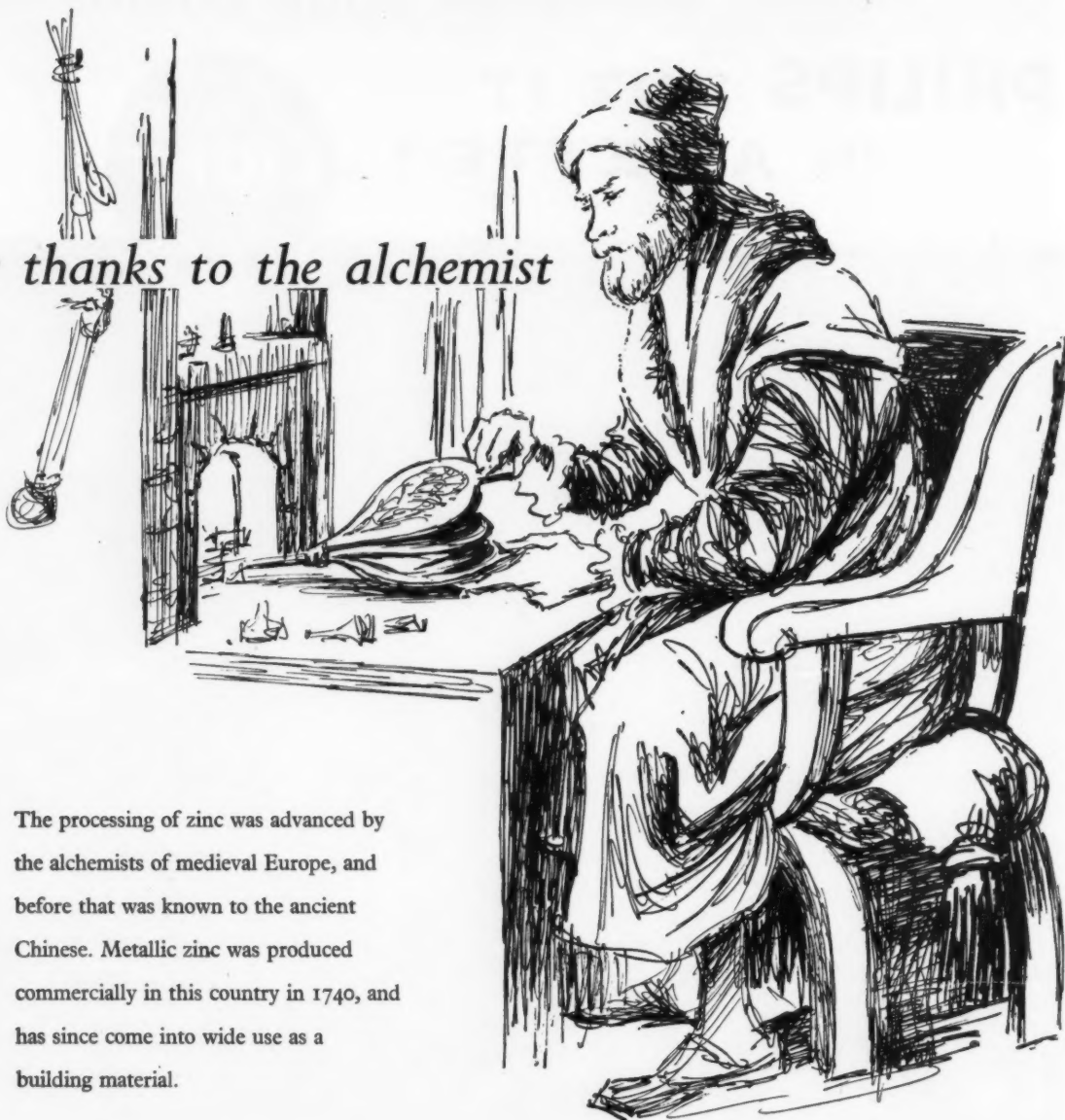
Set the wheels in motion now: post the attached coupon to Philips.

	Please send me full details of your	
	FREE LIGHTING DESIGN SERVICE	
	Philips Electrical Ltd., Lighting Division, Century House, Shaftesbury Avenue, London, W.C.2.	
	NAME	ADDRESS

A1.3

PHILIPS FREE LIGHTING DESIGN SERVICE

our thanks to the alchemist



The processing of zinc was advanced by the alchemists of medieval Europe, and before that was known to the ancient Chinese. Metallic zinc was produced commercially in this country in 1740, and has since come into wide use as a building material.

The lasting qualities which are its characteristic are imparted to Power Centre Trunking by zinc coating prior to enamelling.

POWER CENTRE

TRUNKING



THE POWER CENTRE CO. LTD., P.O. BOX 18,
LLOYD STREET, WEDNESBURY, STAFFS.
Telephone: Wednesbury 1311.



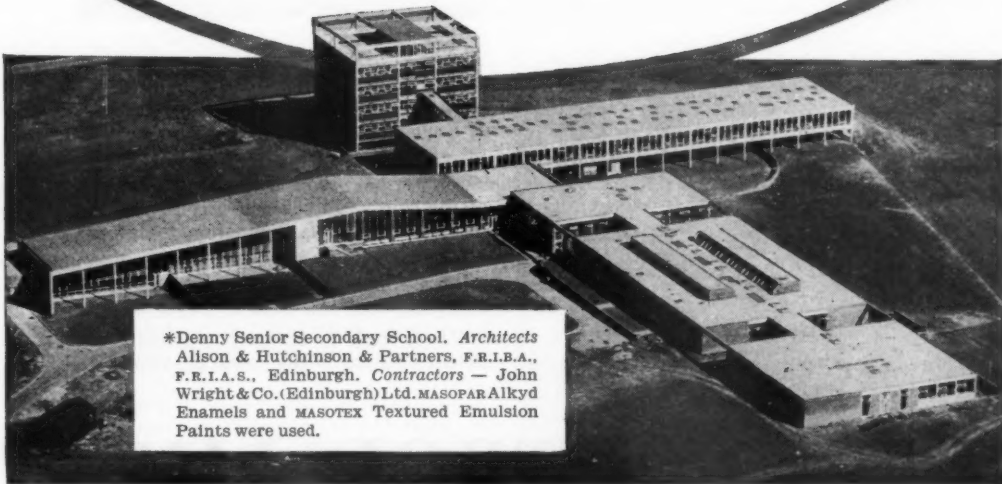
NEWCASTLE OFFICE:
30, Cloth Market, Newcastle-on-Tyne.
Telephone 24779.

LONDON OFFICE:
Wharf Estate, Ealing Road, Alperton, Middlesex.
Telephone: WEMbley 8866.

P.C.560



"Masotex Textured Emulsion gave the finishing touches to ^{}Denny Secondary Senior School"*



**Denny Senior Secondary School. Architects Alison & Hutchinson & Partners, F.R.I.B.A., F.R.I.A.S., Edinburgh. Contractors — John Wright & Co. (Edinburgh) Ltd. MASOPAR Alkyd Enamels and MASOTEX Textured Emulsion Paints were used.*

joseph mason paints

Have you had your copies of our two helpful books for architects — "Joseph Mason Painting Specifications" and "Architects' Special Colour Range?"

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

Depots: London, Preston & Kirkcaldy, Scotland

Manufacturers of very good paints since 1800

THE SILENT SHIP



S.S. Canberra, 45,000 Tons, built by Harland & Wolff, Ltd.

For the Canberra, the world's most modern liner, high standards of Acoustic Engineering were demanded—and were met.

Because the engine room is located aft, a great reduction in background noise has been achieved throughout the passenger quarters of the ship. In consequence, normal cabin to cabin noise is much more audible, and its elimination, therefore became essential.

Specially designed isolated sound resistant cabin doors and bulkheads were the answer. Their construction, with other specialist acoustic work, has been entrusted to Sound Control.

To the Architect and to Industry we offer, on land or sea, an equally efficient solution to any sound problem.

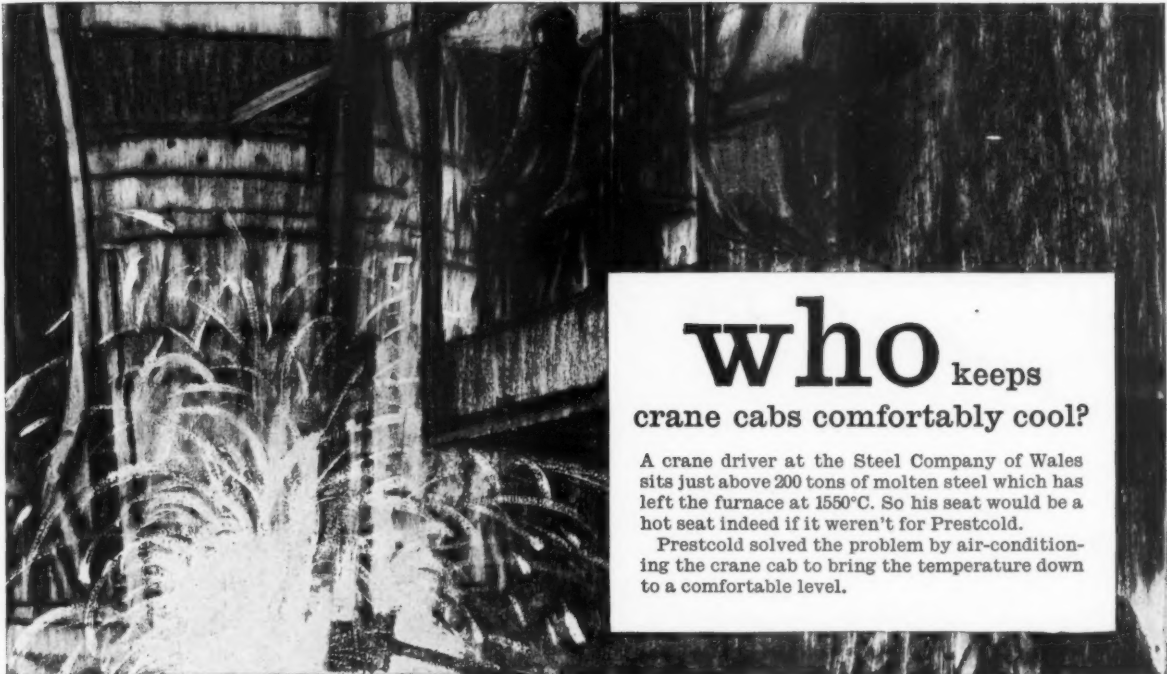
SOUND CONTROL LIMITED

ACOUSTIC ENGINEERS

A member of the Hall-Thermostatank Group

Colneside Works, West Drayton, Middlesex. West Drayton 3685 (5 lines)

Scottish Office: 10 Bathwell Street, Glasgow C.2. Central 6571/2



who keeps
crane cabs comfortably cool?

A crane driver at the Steel Company of Wales sits just above 200 tons of molten steel which has left the furnace at 1550°C. So his seat would be a hot seat indeed if it weren't for Prestcold.

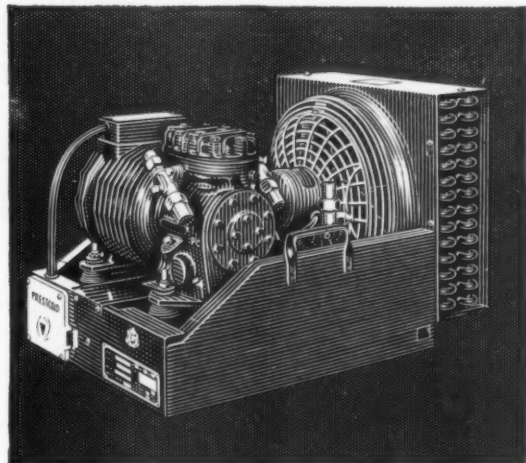
Prestcold solved the problem by air-conditioning the crane cab to bring the temperature down to a comfortable level.

How Prestcold research cares for conditions in coldrooms

The Prestcold Defrostermatic system defrosts the coldroom automatically every few hours. It ensures maximum efficiency of the refrigerating unit. And it cares for conditions in the coldroom—that means stocks are kept just as they should be.

Prestcold can supply sectional and built-in coldrooms in sizes from 50 cu. ft. upwards, with a choice of exterior finishes and interior fittings. There's unfailing reliability in the Super Presmetic Condensing Units— $\frac{1}{4}$ to 6 h.p.—featuring Prestcold's exclusive direct-drive motor-compressor. And Prestcold's Thermo-Control Panel houses all coldroom controls together in one convenient position.

CAN PRESTCOLD HELP YOU? Prestcold make the largest range of commercial refrigeration equipment in the country. If you have a refrigeration problem, they can surely help you. For more details, send off the coupon now.



FOR FRESH IDEAS...IT'S
Prestcold

To: Commercial Sales Department, Prestcold, Cowley, Oxford

NAME

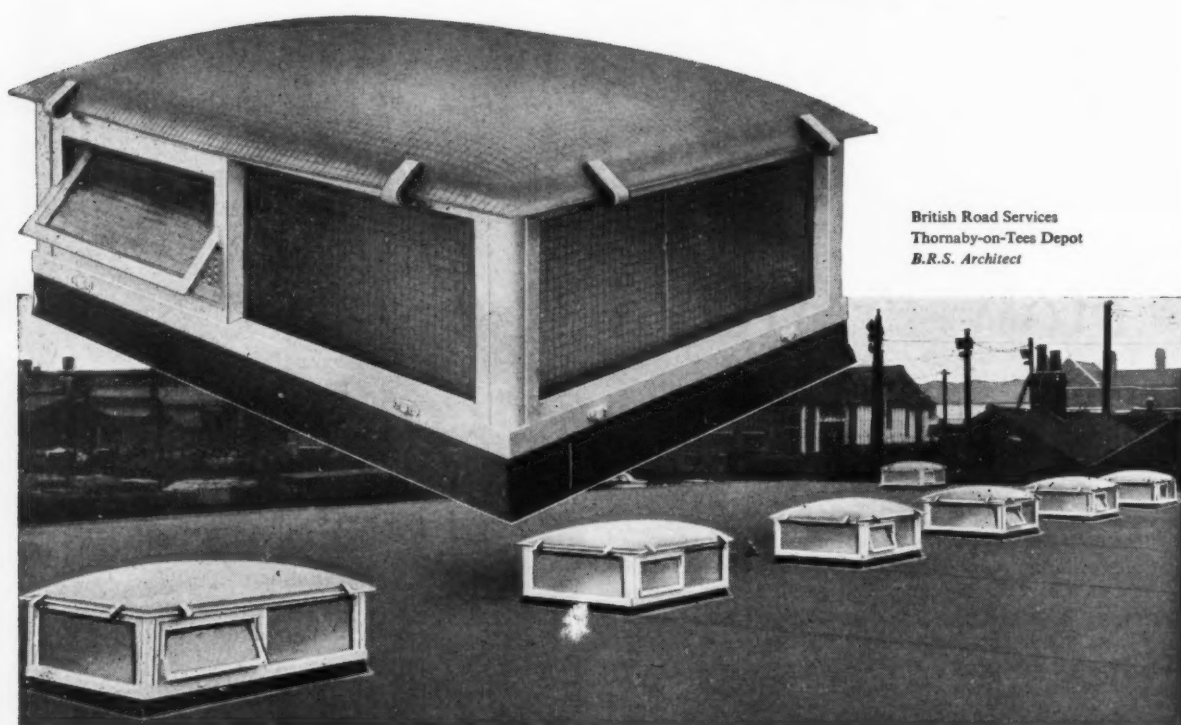
ADDRESS

A.J.3



LANTERNS

ALL THE ADVANTAGES OF A LANTERN LIGHT
+ MOST OF THE VIRTUES OF
A ONE-PIECE DOME



British Road Services
Thornaby-on-Tees Depot
B.R.S. Architect

A 'Newdome' Lantern is a hybrid designed to combine the advantages of the conventional lantern light with those of a one-piece glass dome.

Maximum light distribution is assured because of the absence of horizontal glazing bars, and the fact that the glass sides of the upstand commence at curb height.

Controllable ventilation is obtained by two of the upstanding lights being pivoted, and operated either by simple cord control or enclosed cable and gear.

'Newdome' Lanterns are available in six standard sizes, from 36" x 36" to 72" x 48", and in a choice of six types of glass.

Members of the
Glass Benders' Association

Full details will gladly be supplied on application, and our technical representatives will be pleased to advise you, without obligation, on any matters relating to Newdome roof-lights.

G. & B. GARDNER & NEWTON LTD

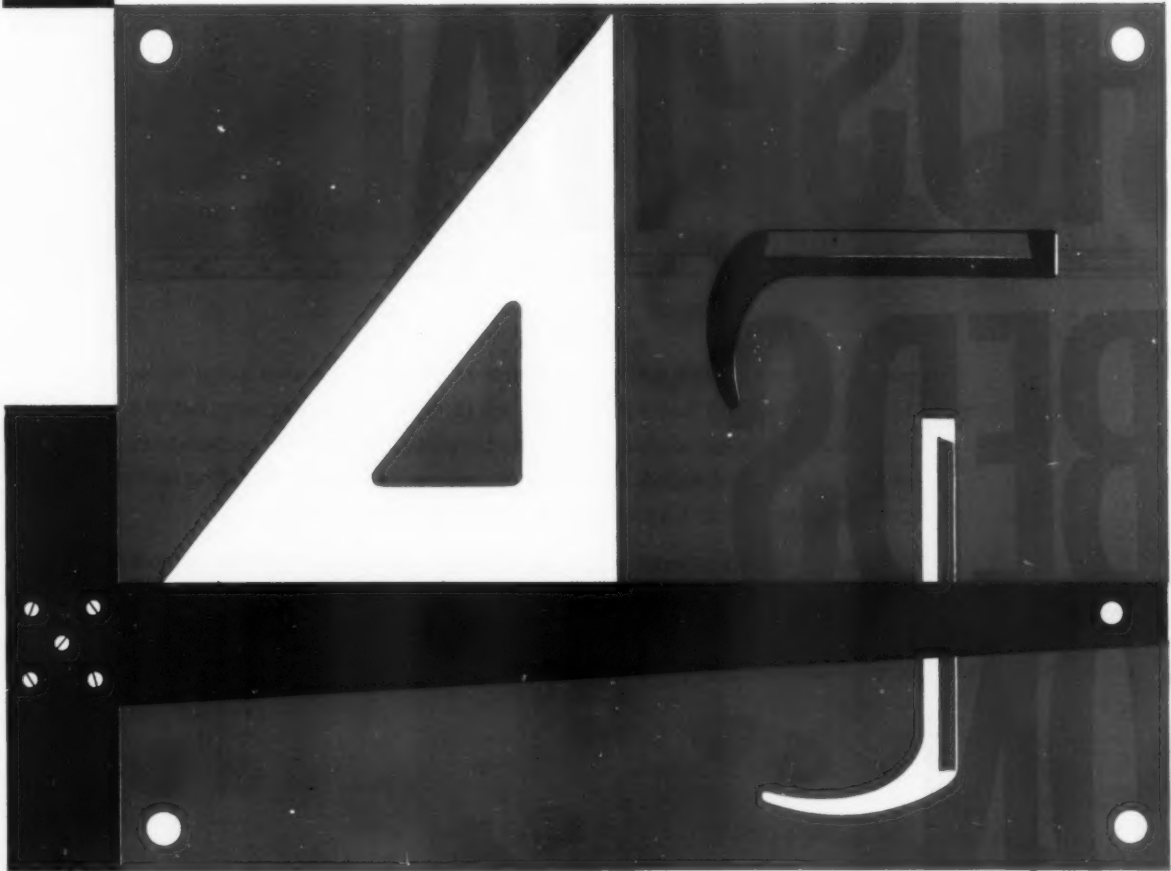
17 GEORGE STREET · ST. HELENS · LANCASHIRE

Telegrams: Bender, St. Helens

Telephone: St. Helens 3042

GLASS BENDERS FOR OVER A CENTURY

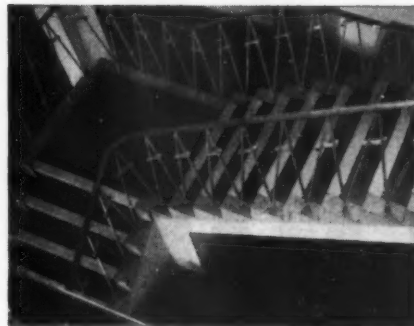
FERODO STAIRTREADS KEEP IN STEP WITH MODERN DESIGN



Ferodo non-slip stairtreads bring to these school stairs a clean line, maximum safety for the children who use them, and years of life without maintenance or renovation.

* 7 attractive colours * Comprehensive range — 32 treads with nosings, 3 flat treads, 2 steel-backed types * Aluminium, silver bronze or manganese bronze channels * Special orders can be manufactured

Write to our Stairtread Department for full illustrated literature for your file.



Ferodo stairtreads at Field Place School, Rodmell Road Worthing. Architect: A. R. Tipling, A.R.I.B.A. Contractors: S. A. Gregory Ltd., Worthing.

FERODO

non-slip stairtreads

FERODO LIMITED · CHAPEL-EN-LE-FRITH
A Member of the Turner & Newall Organisation

**450,000
HOSPITAL**

**BEDS
ON
HARDWOOD
FLOORS**

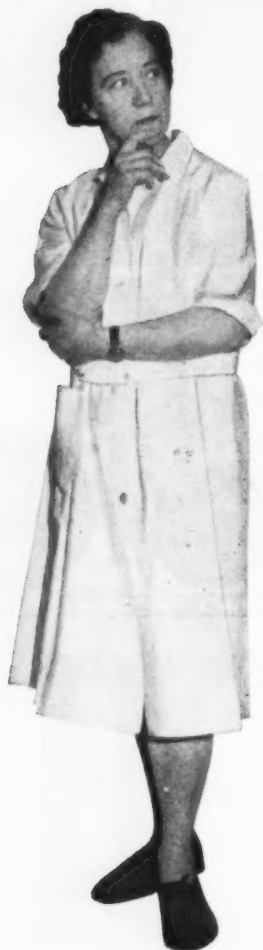


Beds—row upon row, in ward after ward. Standing foursquare, or being moved, pushed, wheeled—on durable hardwood floors. In miles of busy corridors too, floor surfaces must carry the never-ceasing traffic of hospital activity. Durable, resilient hardwood floors have proved to be the best-equipped flooring to withstand this arduous wear.

Quiet floors, comfortable floors to walk on, a pleasure to the eye, easily maintained . . . Permanent floors that repay their cost by giving years and years of faithful service. For hospitals, specify hardwood floors always. They last longer. They need the minimum of nursing through the years to come.

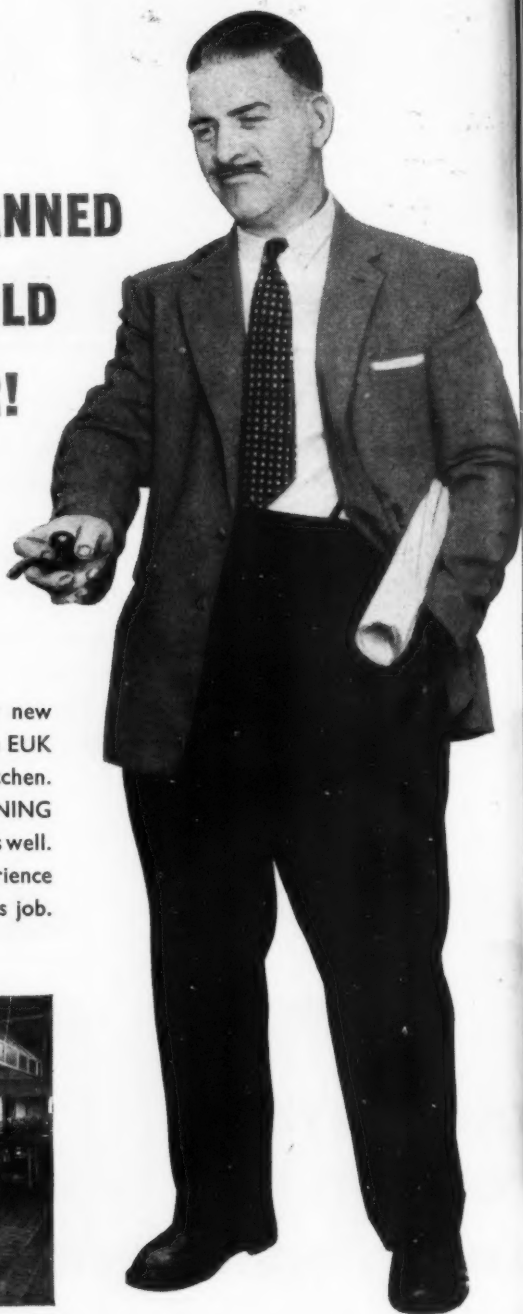
**TAKE STEPS
TO FIND OUT MORE
ABOUT HARDWOOD FLOORS
THEY'RE CHEAPER
IN THE LONG RUN**

The Hardwood Flooring Manufacturers' Association or the Timber Development Association will be glad to supply you with design data and full information on the characteristics of the many hardwood species now available for floors to meet all conditions of service. Write to The Hardwood Flooring Manufacturer's Association, 68/70 Queen Street, London, EC4



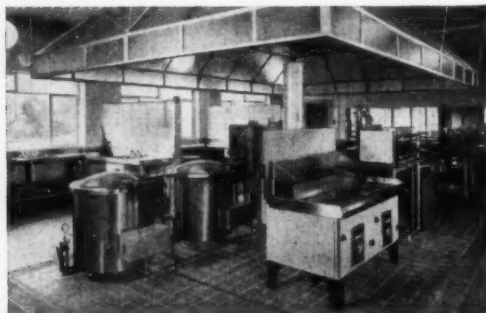
**I wonder what he's planning
for my kitchen?**

**MY EUK-PLANNED
KITCHEN SHOULD
PLEASE HER!**



This apprehensive canteen manageress need feel no qualms about her new kitchen . . . EUK were consulted. Leading architects have come to value EUK assistance when faced with the task of designing a large (or not so large) kitchen. That's why so many of them take advantage of the EUK KITCHEN PLANNING SERVICE, which covers not only new kitchens but modernisation schemes as well.

The secret of EUK success, of course, is that not only have they the experience and 'know how' but also the quality products necessary for a first-class job. LET EUK BRING A 'NEW LOOK' TO YOUR KITCHENS.

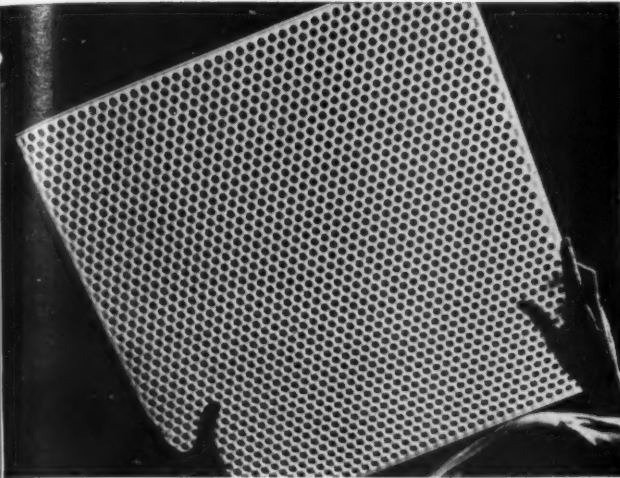


CATERING MACHINERY LIMITED

HEAD SALES OFFICE • LATYMER COURT • HAMMERSMITH ROAD • LONDON • W.6
SCOTTISH OFFICE & SHOWROOM • 4/8 LADY LAWSON STREET • EDINBURGH • 3

Design in luminous ceilings

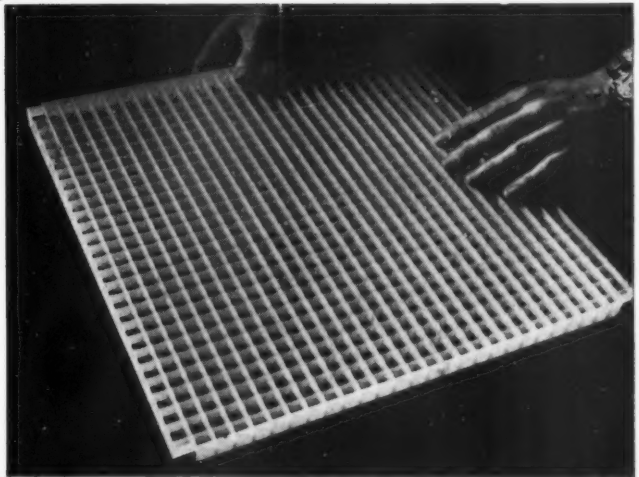
Here are three highly functional louvered ceiling tiles with a simplicity of design that ensures their harmony with modern commercial and industrial interiors.



CIRCLGRID. The only louvered tile in P.V.C. Light-weight, non-flammable and of distinctive design, the tiles are 2' square and the cells about $\frac{1}{4}$ in. diameter. Original design gives unrivalled lighting capabilities.

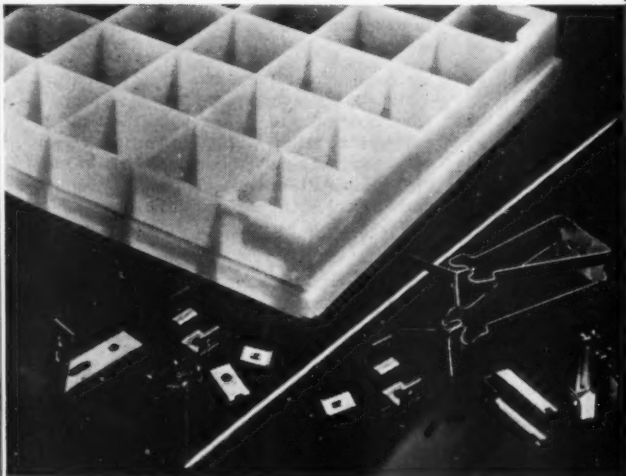
PARAGRID-TILE. The unique bi-planar construction of the $\frac{1}{2}$ in. square cells gives high efficiency with good light control and attractive appearance. Injection-moulded in Polystyrene.

LUVETILE. The pioneer plastic louvered ceiling tile. 1ft. square tiles with 2in. square louver cells injection-moulded in light-stable Polystyrene.



Each of these systems has a straightforward and essentially practical suspension system.

CIRLEGRID, PARAGRID AND LUVETILE ARE THREE OF MANY HARRIS AND SHELDON SYSTEMS WHICH ARE SOLVING EVERY TYPE OF LIGHTING PROBLEM.



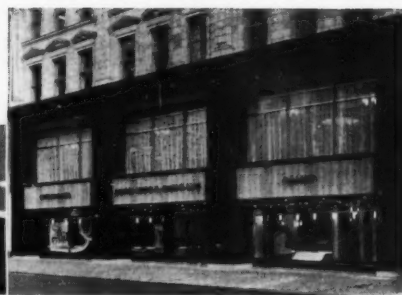
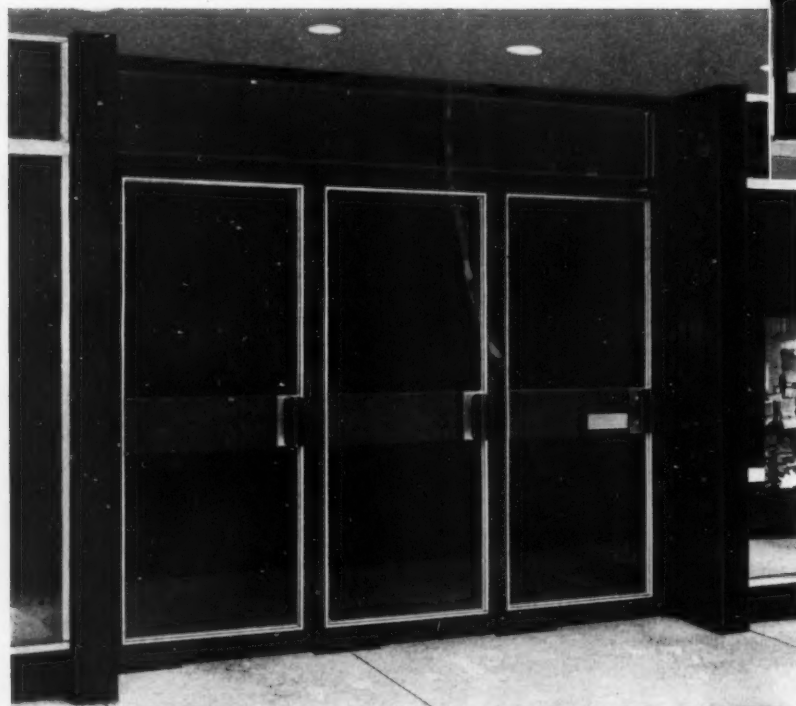
FULL DETAILS OF THESE SYSTEMS ARE READILY AVAILABLE ON REQUEST.



Harris & Sheldon ELECTRICAL Ltd

RYDER STREET BIRMINGHAM CENTRAL 6272 • 46 GT. MARLBOROUGH ST LONDON W1 GERard 0069

*New Showroom in Tottenham Court Rd., W.1.
For John Line & Sons Ltd.*



*J. E. Dalling & Partners L/A.R.I.B.A.
Chartered Architects.
Higgs & Hill Limited
Main Contractors*

Ajax Aluminium display window sections and 'Jaxita' facings in silver and black anodised finish were used extensively in this imposing modern frontage.

The colourful entrance comprises Ajax Aluminium doors in enamelled finish.

AJAX ALUMINIUM LTD.
Ajax House
Kangley Bridge Rd.
Sydenham, S.E.26

**STERDY
PORTER-**

*the sentry
of the
century*



Occupiers of flats and converted houses live in peace when the Sterdy Porter is on guard. He never deserts his post of duty, never fails to answer a caller, never lets the wrong one through.

He consists of a front door speaker and individual flat telephone with occupier-operated front door releases. He enables residents to talk with all callers without leaving their fire-side, admitting only those they wish to see. He's simple to install, foolproof in operation and dispenses entirely with the need for a hall porter. What could be simpler—or more essential?

Sterdy Porter Systems are available for purchase outright or on generous rental terms. Write for full details today.



STERDY TELEPHONES LIMITED



(Incorporating W. J. C. Lacey & Co.) Queens House, 180-182, Tottenham Court Rd., London, W.1 Tel: MUSeum 4414, 4415 and 6388



WALPAMUR PAINTS

do a wonderful job

Beautiful colours . . . lasting perfection of finish . . . for inside and outside use . . . Walpamur Quality Paints do a wonderful job. Constant laboratory testing at every stage of manufacture ensures the consistently high quality on which is based the international reputation of these famous paints.

DURADIO 5-YEAR ENAMEL PAINT is unsurpassed for interior and exterior decoration. In a range of 46 intermixable colours.

WALPAMUR WATER PAINT is ideal for walls and ceilings: a special Exterior Quality is also available in selected colours.

DARWEN SATIN FINISH for inside use only is attractive in any room and perfect for use in humid atmospheres. 27 colours available.



For further details of these and other Walpamur products write to The Walpamur Co. Ltd., Darwen, Lancs.

THE WALPAMUR CO LTD • DARWEN & LONDON
Paints, Enamels and Varnishes for every possible need





DIFFICULTIES CAN BE OVERCOME. It's all a question of know-how. The Reinforced Concrete Design Group of Expanded Metal specialise in the know-how of problem resolution in reinforced concrete. They do this on a responsible, independent, professional basis. They are at the service of Architects and Engineers at every stage of construction from the initial planning to the formal opening. If you would like to know more about RCDG and how they can help you, write today for further details.

REINFORCED CONCRETE DESIGN GROUP

An independent professional service for you

THE EXPANDED METAL CO. LTD., 16 CAXTON STREET, LONDON S.W.1. Telephone: ABBey 7766

Expamet

and now....quality plus

in

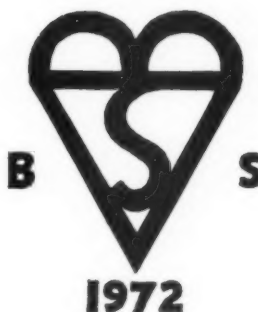
**YORKSHIRE
IMPERIAL**

"POLYORC A"

polythene tubing
always has been
first class quality,
made only from the finest
virgin raw materials. Now
that YORKSHIRE IMPERIAL are
licensed by the British Standards
Institution to use the 'Kite' mark
on all "Polyorc A" polythene tubes to
B.S. 1972, you have the added assurance
that consistent quality and workmanship
are guaranteed by continuous supervision
by the B.S.I., with unannounced visits of
inspection and by check-testing of samples
taken on the open market.

"POLYORC A"

POLYTHENE TUBING



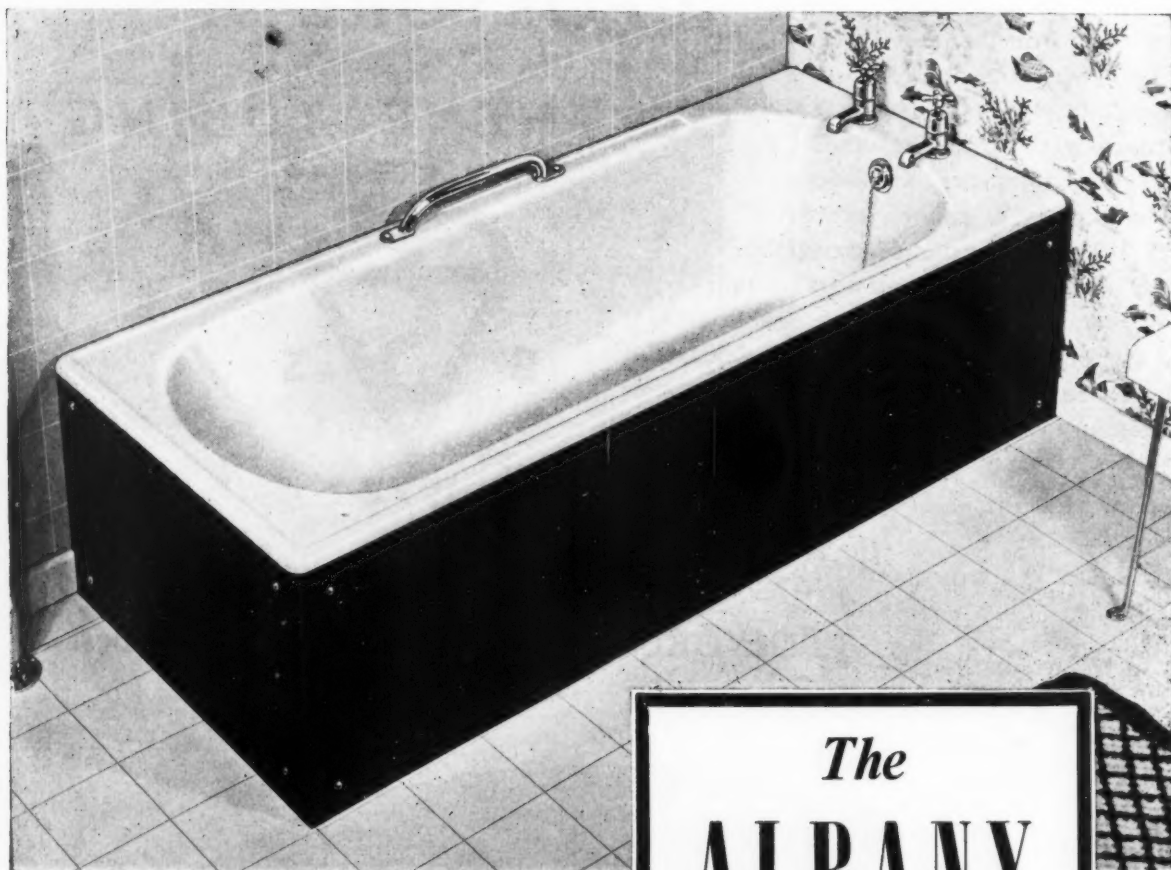
**play safe.... insist on 'Kite' marked
"POLYORC A"—polythene tubing at its best**



YORKSHIRE IMPERIAL METALS LIMITED

HEAD OFFICE — P.O. BOX 166, LEEDS

THE GLEAMING BEAUTY OF A CARRON BATH



Here's the Albany, a special Carron shallow bath—safe, compact, good looking. Tap positions are angled to give the maximum possible bath length. It's tailored for modern bathrooms and finished in a range of gleaming Carron colours (or porcelain white if you wish). To instal the best costs you no more. Insist on the Carron Albany. Write today for detailed specification sheet.

The
ALBANY
by
CARRON



CARRON COMPANY • CARRON • FALKIRK • STIRLINGSHERE

LONDON OFFICE: 15 UPPER THAMES STREET, E.C.4. CENTRAL 7581 (4 lines)
and at 22-26 Redcross Street, Liverpool, 1. 125 Buchanan Street, Glasgow, C.1. 33 Bath Lane, Newcastle Upon Tyne.



The London Electricity Board showrooms at Shepherd's Bush.
Architects: Stanley Peach & Partners.

Lino

Service Catesbys have laid lino for 60 years. Service built upon the fruits of this experience—full understanding and knowledge of the craft—is worth having. Only Catesbys can give it.

Staff Well laid lino gives longer, better service than lino laid indifferently. Catesbys send an expert and their own trained fitters to every contract. They ensure perfect lino laying.

Advice Catesbys advice is impartial. They will recommend lino only when lino is known to be the ideal floor covering. Catesbys will suggest the most suitable grade.

Stock It is always easier and quicker to choose a design, colour and grade from lino in stock. At Catesbys you see lino in the piece—and you can choose from the biggest stock in Europe.

Catesbys

Contracts (Linoleum Division)

TOTTENHAM COURT ROAD, LONDON, W.1. MUSEUM 7777

For Light Reflection



Specify

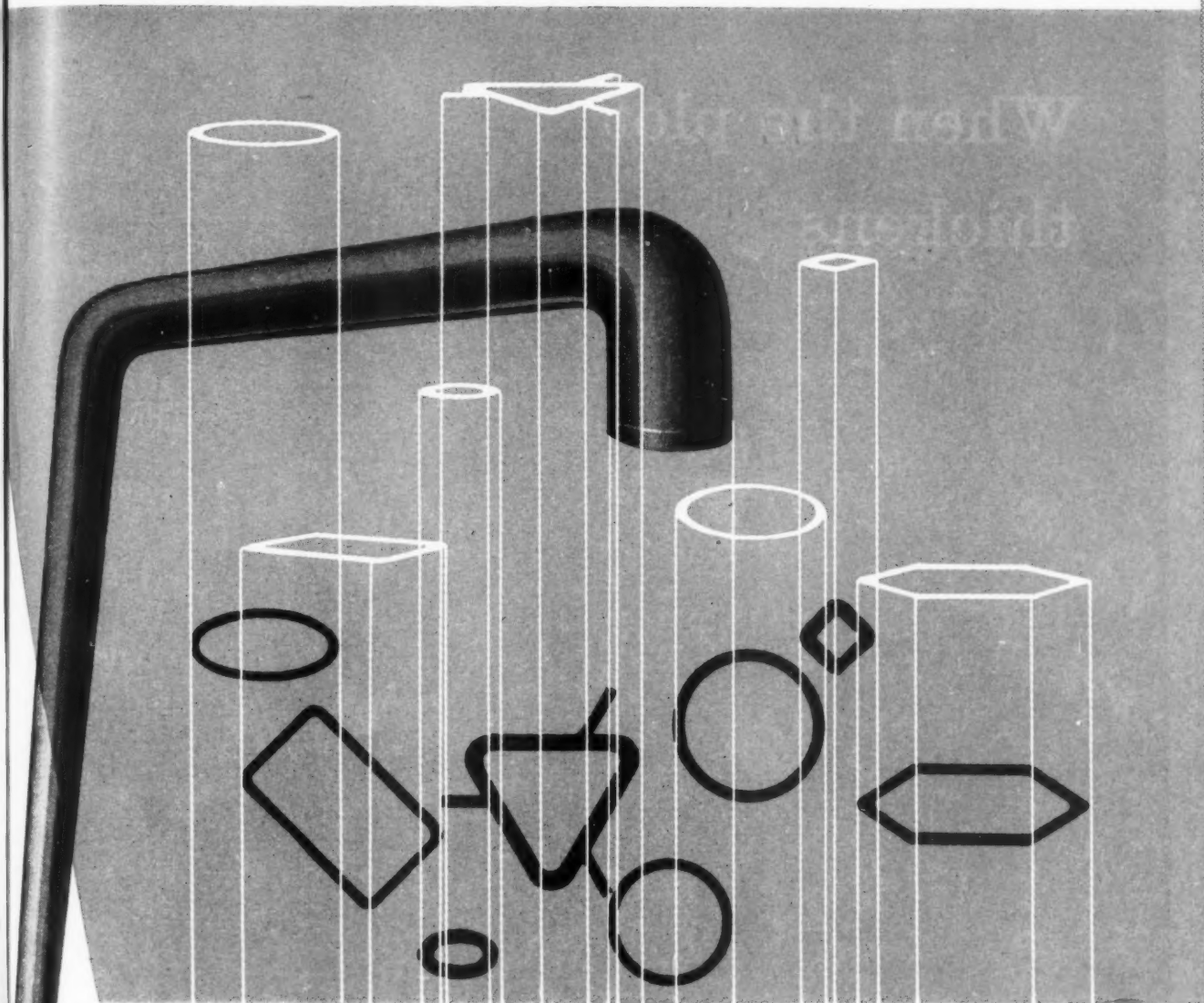
White Gault Facings and Primrose Gault Facing Bricks

Burwell Brick Company

Harvest House, Felixstowe, Suffolk
Phone: Felixstowe 1441. Grams: Fisons Felixstowe Telex

A branch of Fisons Fertilizers Limited

Is manipulation critical?



H.D.A. tubes can keep their temper...

Loss of temper in tubes, and of tempers in board-rooms, have both become rarer since H.D.A. evolved Hiduminium 1C, 14, 22, 43 and 46—alloys specially developed by them for easy manipulation. Drawn tubes and hollow extruded sections made from these alloys are not only easy to manipulate: they retain their strength

and smooth surface finish, as well as their weldability and excellent resistance to corrosion. Manipulation is only one of the problems associated with tube and hollow sections; but H.D.A. have all the technical knowledge and skill that the subject calls for—freely available on request.

Hiduminium
makes the most of
Aluminium

**HIGH
DUTY
ALLOYS**

LTD • SLOUGH • BUCKS

When the plot thickens



You'll be glad you specified

KEY

ORS

JAY
10 176
SALVADOR

RAP

A
IE

S

AY
O

E
2:30



E
FI



Dress may be optional tonight, but gum-boots were de rigueur on site this morning. *Surely the men weren't working in this rain?* But they were — laying drains, testing and backfilling them almost before you could say 'Sanitary Inspector'.

Amazing how much difference dry joints and direct-to-earth laying make. How much difference a clear site makes to progress you'll see as the scene changes in the months ahead.

ONLY KEY PITCH FIBRE PIPES GIVE YOU ALL THESE ADVANTAGES

- Cumulative savings from quicker, all-weather laying
- Free information and advice from a professionally qualified technical service
- A complete drainage system, above and below ground, in one material
- Smooth inner bore giving better flow characteristics
- Practical demonstration on request
- British Standard 'Kite' marking on every pipe
- 60 years' experience in pitch fibre
- Pioneer manufacture in Britain



Pitch Fibre Drainpipes

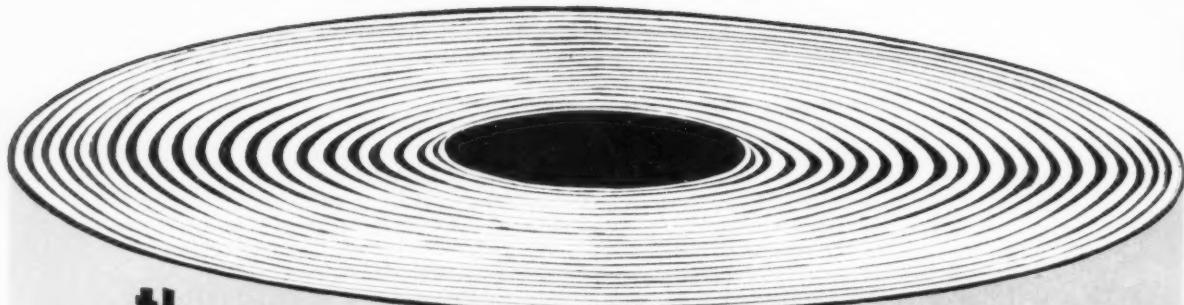
FIRST NAME & LAST WORD IN MODERN DRAINAGE

PLEASE WRITE FOR FULL DETAILS TO:









THE KEY ENGINEERING COMPANY LIMITED

Larkfield, Near Maidstone, Kent. Telephone: Maidstone 7-7777 Extension 728





the right dampcourse for.....

	PERMALUME		houses
	LEAD BITU		factories
	LEAD ASDEX		schools
	ASDEX		or any building

is a dampcourse manufactured by
PERMANITE

455 · OLD FORD ROAD · LONDON · E · 3



n

The
toil
goe
con
10
in
col
ide

*
*
*
*
*

R

We
bro
Eko

EK

modern practical



EKCO

BELVEDERE

The famous Ekco 'Belvedere' is a toilet seat of the highest quality—good looking, practical, and completely hygienic. It carries a 10 year guarantee and is available in 16 permanent and stainless colours. The 'Belvedere' is the ideal toilet fitting for new houses.

- * Lid completely encloses seat
- * Fitted with non-porous 'screw-in' rubber buffers
- * All fittings chromium plated
- * Available with straight or cranked pillar hinges
- * Easily and quickly installed

RETAILS FROM **61/6**

We shall be pleased to send you a brochure of the complete range of Ekco Quality Toilet Seats.

EKCO

**PLASTICS
TOILET WARE**

EKCO PLASTICS LTD • SOUTHEND-ON-SEA • ESSEX

WPS 481

Also available:

EKCO 'SLIMLINE'

Design Award winner in warm-to-the-touch polythene. A choice of 6 delightful colours.

EKCO 'JUBILEE'

Designed to meet popular requirements. In 16 permanent colours. 10 year guarantee.

EKCO 'CAMELOT'

A lightweight seat providing a high-quality finish at a reasonable cost. 7 colours.

Also shown in the illustration above is the EKCO linen bin/stool.



The Architects' Journal

No. 3405, Vol. 132, July 21, 1960

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

Subscription rates: post paid, inland £2 15s. 0d. per annum; abroad, £3 10s. 0d. per annum. Single copies, 1s.; post paid, 1s. 6d. Special numbers are included in subscriptions; single copies, 2s.; post paid, 2s. 6d. Back numbers more than 12 months old (when available), double price. Half-yearly volumes can be bound complete with index in cloth cases for £1 17s. 6d.; carriage 2s. extra.

NOT QUITE ARCHITECTURE

Anatomy of an Outrage

I am sitting in the office, 77 Moonlight Mews, when the telephone rings.

"Lee Thackeray, Aesthete-Squad," I say, checking that my collar button is loose.

"Lee? Ten-Four. Got it?"

"Got it."

Before ringing off I check on what he was talking about. Then I take a squad-car round to the East Side drawing office of one, Split-Level Stephen.

"What do you know about this?" I hiss.

"I don't."

"Who's the guy who does the telling?"

"State secret."

"Big guy?"

"Biggest."

"Big six per cent?"

"All-in," he whispers.

I hit him, leave him flatter than two coats matt.

*

Next time I see Stevie is in court, being withered by Judge Portland.

"What was your motive?" he asks.

"I was commissioned."

"By whom?"

"I'd rather not say."

"You may have time to consider your reply. Say six months?"

Nominal laughter in court.

"By MorKash Ltd., in association with Money, Inc."

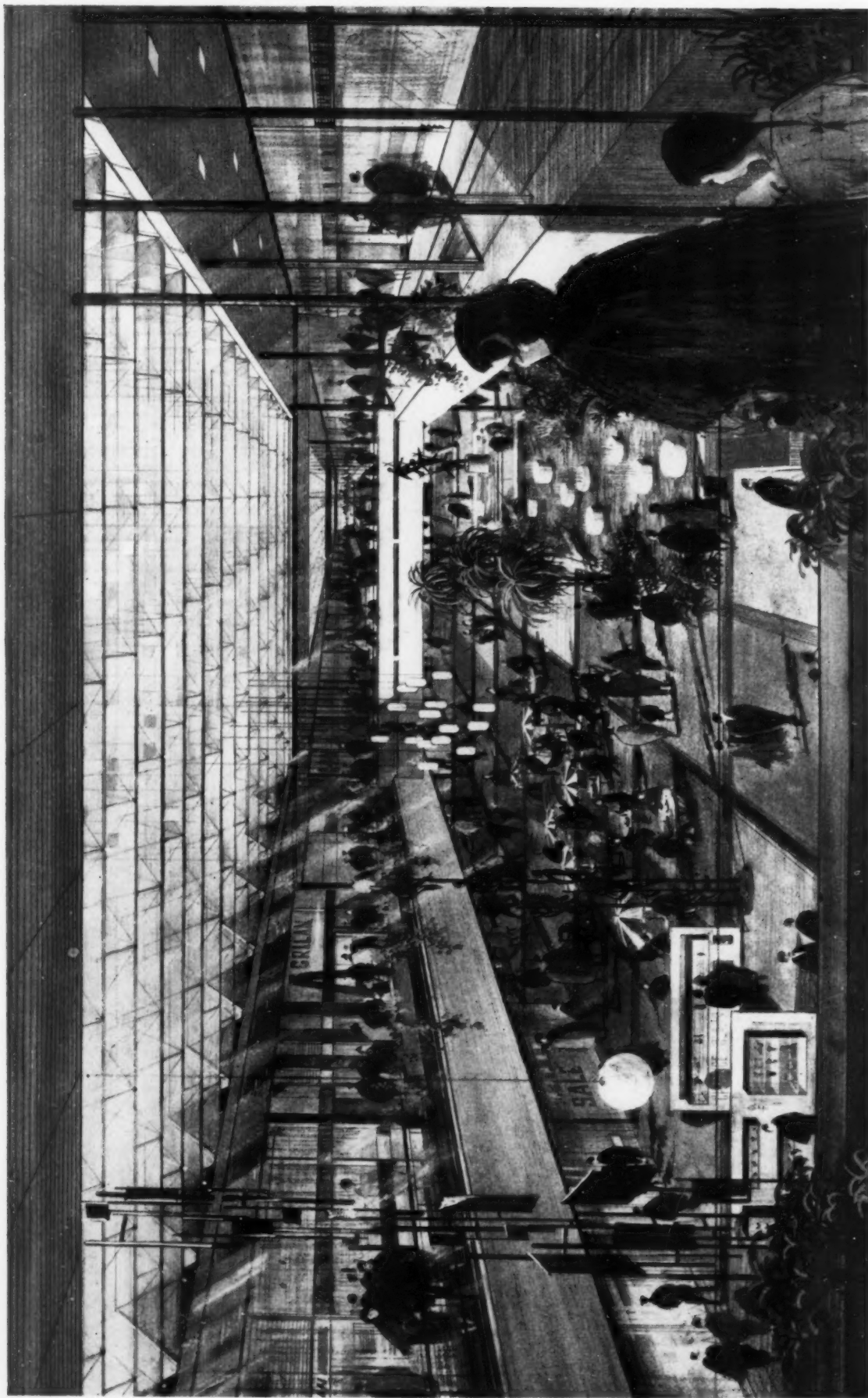
"Who are the above?"

"I refuse to answer the question on the grounds that it may tend to incriminate me."

"If I might lapse into the colloquial," opines the Judge, "you're in it well past Datum."

Stevie reacts like Method on double-time.

"You win," he gasps. "It was Ted Foster." Collapse of witness, having reached ultimate stress. But nobody takes much notice.



The Shopping Arcade returns in a big way in the winning scheme for the Elephant and Castle shopping site development, designed by Boissevain and Osmond for the Willett Group, and recommended for acceptance at this week's meeting of the LCC by the Town Planning Committee. This impression shows the central feature of the scheme, a glass-roofed arcade rising through two floors, 60 ft. wide, surrounded by shops and laid out with planting, fountains, pavement cafés and seats. In summer the glass rooflights slide open; in winter the whole area is heated to a comfortable warmth. (Full report, pages 98-105.)

Return of the Shopping Arcade

All is
Left-
what
paper
Fam
Hosp
Art
To

"Yo
"Yes
"Yo
that
"No
"Wh
"Be
dom
to d
Go
licen
"Bu
draw
dom
grass
plant
Mor
you
"On
acco
aide
dispe
it w
Prett
an a
After
gets
"
bring
noti
"Su
"W
"W
guy.
plac
see?
lous
orga
"Th
"Un
offic
Also
gott
Now
He
of t
wha
way
wor
esta
its p
After
Litt
poli
"W
view
guil
Mil
acc
"Th
We
He
Hel
be

All is buzz about Ted Foster. Lord Mayor, Left-Wing, true-blue Red. Spokesman of what-about-the-workers since childhood paper rounds. Chairman of committees for Family Welfare, Parks and Cemeteries, Hospitals and Clinics, Bandstands, the Arts Festival, Public Wash-houses and . . . Town Planning . . .

*

"You are a Town Planning Officer?"

"Yes."

"Your job is to prevent crimes such as that under examination?"

"Not necessarily."

"Why not necessarily?"

"Because one must not restrict the freedom of the individual to do what he wishes to do."

Go on, J., I say to myself, freedom and licence.

"But surely," says the Judge, "one must draw a line of demarcation between freedom and licence. One may walk upon the grass but one may not take a spade and plant rhubarb. *Rex v. Greenslade, 1923.*" More laughter in court, though it's easy if you mention rhubarb.

"One can," says the T.P.O., "only act according to the dictates of one's integrity, aided by such technical data as is at one's disposal. One has to preserve a balance, as it were. . . ."

Pretty soon J. gets tired of one and moves an adjournment.

After we have a smoke it's yours truly gets the limelight. J. plays it real cool.

"You, I believe, were instrumental in bringing the alleged crime to the public notice?"

"Sure."

"Why did you feel obliged to do so?"

"Well, see, it's like this way. I'm a simple guy. My book says the world's a simple place. Some bits are nice, other bits stink, see? Likewise the occupants. So I see this lousy thing which is imminent. I get the organisation to work."

"The organisation?"

"Undercover. Office boy in architect's office. Good boy. Best since young Chan. Also typist in Town Hall. Some doll. Then I gotten it all figured. That's why we're here. Now it's with you J. Take it."

He seems to dig the informal angle. Some of the other white-hairs shuffle a mite, but what-the-Hell. This is Art at stake. Anyway, the Judge sums up with a lot of words like saying that the jury got to establish (a) the existence of guilt and (b) its precise whereabouts.

After another cigarette, they come back. Little shmoe called a Foreman with boot-polish hair and scrubbed face gets up.

"We have agreed upon our verdict. In our view it is impossible to establish individual guilt."

Mild consternation in court. F. carries on, accusingly.

"The community is guilty. Society is guilty. We are all guilty."

He sits down, looking rather self-conscious. Hell, I think, this is so symbolical it must be true. This is The Message!

ALAN PLATER

The Editors

HOW HEALTHY IS THE MINISTRY?

THE disquieting fact about the Hospitals Building Programme is, of course, that we have reached the point of being able to build hospitals without knowing what we want. The fault for this must rest with the Ministry of Health. A speaker from the Ministry at the RIBA's Hospitals Course excused this unpreparedness by saying that their staff have been fully occupied during these last 12 years in essential alterations to existing hospitals. This may well be: but it is no real excuse for their neglect to carry out the basic studies necessary to formulate a new hospital pattern to match the new medical situation created by the Health Service.

Fortunately there was in this country a voluntary organisation able and willing to do some of this basic research, notably on the number of beds required, on ward design, on the X-ray Department and on the Accident Service. This basic research has shown that, on each of the items studied, the kind of solution necessary is almost totally different from the kind of solution which everyone had thought to be necessary.

If this is so with regard to those aspects so far studied, is there not reason to believe that it will prove the same with those aspects which have not yet been studied?

The Ministry gives the impression of trying desperately to recoup an impossible situation. Two initiatives were spoken of at the Course. One is the publication of "Notes" for architects: 27 of them, it was said, were "in the pipeline." Notes can be no more useful than the research on which they are based. Though any information is a little better than none, the fact that the amount of Ministerial research during the past few years is negligible leads us to suspect that the Notes themselves will be of questionable value.

The second initiative to be announced is the probable formation, in concert with the King Edward VII Fund, of a training school for work study in the hospital field. The idea being that this school should train personnel who will then carry out work study exercises for the Regional Boards. Work study is, indeed, of key importance. Unfortunately its value as a tool depends very much on the perspicacity of those directing it. It can be superficial, leading to minor improvements in a basically inefficient process; or it can be fundamental, leading to a substitution of a new and efficient method for an old and ineffectual one. It takes men of very high intellectual calibre and great independence of mind to direct fundamental work study. The question arises whether this sort of man is always to be found among the busy practitioners who rule the roost in the Regional Boards and who are so convinced that what they have done for years is so, so right.

Our hearts go out to W. E. Tatton Brown and his colleagues in the newly formed development group in the Ministry. We hope that he will insist that work study is done nationally and that hospital publications are based on it.

wide, surrounded by shops and laid out with planting, fountains, pavement cafés and seats. In summer the glass rooftops slide open; in winter the whole area is heated to a comfortable warmth. (Full report, pages 98-105.)

Shopping Arcade

PLANNING WITH A BITE IN IT

Step by step the Government has drawn the teeth of the planners. The compensation and betterment clause of the '47 Act was first revoked, and since then the effective planning powers have slowly diminished.

Last week the Civic Trust showed how far it has developed from being a mere preservationist and face-lifting body (valuable though such interests are) by holding a conference to discuss the rebuilding of city centres. It issued at the same time an excellent report (see page 96-7) which listed several methods by which, for major schemes of urban redevelopment, *unified ownership* of land could be obtained. With a cabinet minister as president of the Trust there may now be a faint hope that the Government will realise the need for some effective teeth for planning authorities.

The problem which remains unsolved, however, was that of finance. How is the money for the sites and the redevelopment to be allocated? Private enterprise will always tackle the easy and highly remunerative parts, but no one has suggested what proportion that is of the whole expenditure on roads, pavements, open spaces, museums, theatres, and the myriads of structures necessary to make a city a place to live in and not escape from. Certainly a sales tax on land would be one way by which the community would recover some of the value it creates by undertaking planned development. An even simpler and more effective answer to planning problems would be the nationalisation of the land. England profited first from the industrial revolution. The prosperity then created is the industrial slum of today. We should again lead the way in showing how to create a civilised environment from these outworn towns.



SWEET BRIBERY

You'll find a report elsewhere on the Civic Trust's timely conference on urban renewal. All I want to say is, how thick should the sugar be on the pill? One speaker after another suggested different ways of "pill sugaring"—of inducing some private building owners to be bought out compulsorily and others to join in a comprehensive building scheme.

*

What worries me is that most land-owners—unless they are very eccentric—care nothing about what is built on their land; they just want as much profit as possible. So how much sugar will make the pill palatable for them? Presumably they will want as much as they would have if there was no pill. But can you coat a pill as thickly as that? If so, I hope the pill itself will be strong. If owners are to be heavily compensated for collaborating in schemes designed for the public good,

the schemes themselves need to be very good indeed.

SOMETHING ROTTEN IN DENMARK HILL

An agreeable grove of trees on the railway embankments near Denmark Hill station in south London has been reduced to a collection of decapitated and limbless trunks. The Chairman of the Southern Area Board of the British Transport Commission has written that "although the ideal would be to perform the work of lopping and trimming annually, the shortage of labour and the cost involved necessitates the work being carried out at longer intervals and consequently more severely than would otherwise be the case."

*

"So far as Denmark Hill station is concerned, the trees had become overgrown and in fact some were found to be decayed and therefore constituted a potential danger which, of course, had to be removed. I hope that with the new growth and summer leaf the trees will soon present just as pleasing an aspect as before."

*

What a hope! Obviously the chairman knows very little about the way trees grow. Those at Denmark Hill will never be shapely again. Couldn't someone appoint a sylvicultural adviser to British Railways, Southern Region?

THE LATE H. B. CRESSWELL

I suppose H. B. Cresswell will be remembered less as an architect than as the author of the *Honeywood File* and its successor, the *Honeywood Settlement*. Although both books deal with a period when clients were building large country houses, they are still read today by students because they are not only entertaining but also reveal the disasters and minor irritations that can come from a bit of bad luck or from a moment's forgetfulness. The last published work of Cresswell—who wrote with an understanding of builders and craftsmen and a sympathy for clients—was, I believe, an article in the *Architectural Review* for December, 1958. In this he reminisced on the late 19th century and the joys of living in reasonable comfort on an allowance of £2 a week, while working as a junior in the office of Aston Webb.

RED LETTER

Nicolette Gray (and who is in a better position to judge?) takes the view that



Mutilated trees at Denmark Hill Station. (See ASTRAGAL's note opposite, SOMETHING ROTTEN.)

English people express themselves more readily through their lettering than through any other medium. Their buildings may be tightlipped and unemotional, but it all comes out in the way they write "No Smoking" or "Exit."

*

As this is so (ASTRAGAL corroborates), it is surprising that the literature on the architectural letter in English is almost non-existent. Instruction on lettering for architects is also sketchy: ASTRAGAL recalls having received a rather stuffy grounding on the Trajan letter, but that is all.

*

It is a good thing, therefore, that those articles which Nicolette Gray wrote in the *Architectural Review* have now been amplified and published in book form.* Nicolette Gray is altogether too wise to put forward a complete grammar of lettering, but she does describe with great accuracy the emotional impact of the rich crop of letters we possess and this is an exceedingly useful beginning.

JACK AND THE BAUHAUS

This has been a week when everyone

has been behaving well: Conservative leaders sympathising with the idea of the unified ownership of sites ripe for development; the LCC ignoring high rentals for good design; and Jack Cotton accepting the advice freely offered him recently and discussing his development proposals—for Piccadilly, presumably—with Walter Gropius as announced in this column last week. Gropius appeared on television last week and expressed himself with disappointing superficiality, condemning flat façades and preferring more sculptured effects and being content to be associated with speculative development provided the sites were large enough and ignoring the question of the types of building required and the effects on traffic.

*

Jack Cotton and others likely to be impressed by the appearance of such a great name should bear in mind that a great piece of architecture in Piccadilly is only half the battle. The other half is the comprehensive development of the whole area.

ASTRAGAL

ARCHITECTS

AND

APARTHEID

SIR: We the undersigned Southern African architects, engineers, and students would like to express gratitude for your appeal on behalf of the dependants of architects jailed without trial in South Africa. Although there have been reports of their release, these remain unconfirmed. They will, in any case, find it difficult to obtain employment on their release.

We appeal mainly to South Africans with roots in Africa and who hope to return one day and to those with business interests there. The cardinal fact remains; that whatever the pros and cons of the situation are, the longer the present government continues its repressive measures against the non-white peoples the less welcome we Europeans (in all our capacities) will be in Africa generally.

It is up to us to give whatever financial support we can to those of our co-architects and engineers who have demonstrated by the loss of their freedom that there is no need for a black versus white conflict in Africa, but that the conflict is democracy versus bigotry.

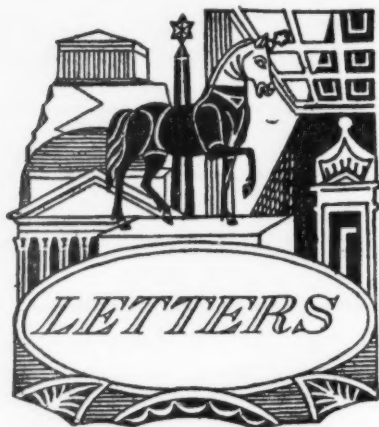
Please accept our cheque towards your fund. We earnestly hope that all like-minded South African architects in England will, in the coming week, contribute and/or request their employers to make a contribution.

Anyone wishing further information please contact J. K. Dixon, 47 Templars Avenue, London, N.W.11.

B. ARENSTEIN
J. K. DIXON
E. T. LEVY
M. SHOUL
J. SHOUL
N. SLIER
S. ZUKAS

FIVE ANONYMOUS CONTRIBUTORS

* *Lettering on Buildings*. Architectural Press, 25s.



T. W. Marriott

Graham Dawbarn, F.R.I.B.A.

V. Franco

Insuring Against Loss of Support

SIR: With reference to the article under the above title, which appeared in your issue for June 2 last, in addition to the provision of insurance clauses in the bills of quantities, and possible amendment of clauses 14 or 15 of the RIBA form of contract, so as to pass all liability for subsidence or collapse on to the contractor, there is one other step which the Principal can take to make absolutely sure, and that is to take out his own insurance. As can easily be confirmed, be the contract clauses never so carefully worded in order to obtain a complete indemnity from the contractor, there may always be something go wrong, leaving the Principal with either no redress against anyone or else a valueless right against a contractor whose insurers do not accept the claim and who cannot provide an indemnity from his own means. The Principal can effect an insurance to cover this last residual risk, and in his own name, thus making completely sure.

T. W. MARRIOTT

Norwich

BBC TV Centre

SIR: I have read your fair and lucid article on the BBC Television Centre (23.6.60) and hope that I may be permitted to make two explanatory comments. First, I agree that, whilst the outer curve is fully appreciated from the open space on the west and south-west, it makes little impact from Wood Lane from which the building is most frequently seen. This is partly due to the curve of the Ring above the colonnade being recessed and of different material instead of continuing in brickwork at its full diameter as was shown in the first two models of the scheme. I hope that this loss will be turned into a gain when the spur has been added.

Secondly, it is correct that requirements did, as was inevitable in such a project, change over the ten years of development. To mention two associated instances, the colonnade is rather more restricted than originally envisaged and Studio No. 1 is some 10 ft. higher. This may have the effect of "straining at the corners."

I mentioned earlier that your article was fair; but I think that there is one exception. I like Helios; I like the two lower figures by the same sculptor, T. B. Huxley-Jones, very much indeed. May I also express regret that M. T. Tudsbery has been omitted from the list of people at the start of your article; his name should have headed the list as in association with the architect.

London

GRAHAM DAWBARN

Training for Architects

SIR: The present training of architects should be abolished.

In its place should be substituted the training of architectural technicians. Up to Inter as at present, then two or three years in a specialist technical field: Structural Engineering, Sanitary Eng., etc.

A new type of training for architects should be instituted: to Inter as at present then, in conjunction with planning/design, at least one year in each of five or six specialist branches. This should include part time occupation (at least 2 days per week) in the specialist offices concerned. The incentive not to be a "Junior" in the profession is at present much too great and the criterion is—qualification at all cost by passing examinations and not necessarily becoming good architects.

London

V. FRANCO

DIARY

Association of Official Architects AGM.
At the RIBA.

JULY 23

New Hospitals Buildings Exhibition. At the RIBA.

UNTIL JULY 23

Informal AA meeting for overseas architects and students only. Cecil Elsom on Eastbourne Terrace, Stefan Buzas and Leonard Manasseh on their own houses. 6.15 p.m.

JULY 27

Exhibition of Students' Work at AA.

UNTIL JULY 28

Exhibition of Students' Work at Regent St. Polytechnic, Little Titchfield Street.

UNTIL JULY 29

Exhibition of Paintings by Picasso. Organised by the Arts Council at the Tate Gallery.

UNTIL SEPTEMBER

Milan Triennale.

UNTIL NOVEMBER 4



RIBA

Hospitals Course

Those who organised the RIBA's Hospitals Course, held from July 11 to 15, were expecting a small roomful of people, but, in fact, there were some 400 attending. This massive response seems to have impressed non-architect speakers at the Course who, perhaps, did not realise how important the Hospitals Programme will be to the bread-and-butter of the medium-sized provincial practice. The Course was an unquestioned success. A certain meagreness in some of the contributions from the platform was skilfully concealed by superb organisation, by accurate time-keeping on the part of the chairman and by the fact that no paper was billed to last longer than half an hour.

The sub-title to the Course was "Sources of Information for the New Hospitals Architect." In reality this title was hardly fulfilled: instead, those attending received a general picture of medical thinking and of the administrative framework. Nearly half of the speakers were members of the Ministry of Health or of the Department of Health for Scotland. This bias lent an air of authority, but also led to an excessive circumspection and to the building up of a falsely reassuring picture.

The Course was opened by Lord Craigton, Minister of State for Scotland. Sir William Holford, thanking Lord Craigton, begged the Government to let the Hospitals Programme go through smoothly, without sudden fluctuations in budgeting.

Much of the ground covered was the same as that covered by the JOURNAL's special issue, some of the speakers (Brigadier Welch, John Weeks, P. C. Rendle, M. J. Blanco White and J. K. Johnston) contributing to both. For this reason it seems reasonable to limit our report to those papers which brought additional information to light.

The Accident Service

On the second day Mr. L. W. Plewes, a surgeon from Toronto and a member of the Nuffield Trust team working on the casualty department, suggested that the casualty department, as we know it, is destined to disappear. At present there is

a casualty department attached to every general hospital and almost all are understaffed and ill-equipped. The fact that road accidents are increasing by 10 per cent every year will compel us sooner or later to rationalise our treatment of casualties and this, he thought, should take the form of the provision of an "Accident Service." The change of name implies a specialisation in accidents and a diversion elsewhere of the load of "casual" patients with coughs and colds, etc., and who today can take up nearly 60 per cent of the casualty department's time.

Where today there are four casualty departments there would be one accident service, attached to a General Hospital, serving a population of 250,000 people. In addition there would be about 20 accident centres in the country where research, teaching and post graduate training would be carried out.

The Accident Service would be able to command greatly improved equipment, among which Mr. Plewes named an automatic X-ray processing unit which can supply processed films in 7 minutes and thus get rid of the intolerable waiting time unavoidable with dark room technique. Mr. Plewes showed in diagrammatic form the type of layout which would be required. This is circular, with the doctor and nurse in the centre. There are two entrances, one for ambulant and the other for stretcher cases with the registration between them. Ambulant cases pass straight to the waiting area, stretcher cases to the resuscitation area where there is blood transfusion equipment. Other elements in the inner circle are the theatre, the treatment rooms, the X-ray room and, immediately next to the entrance, the office. Within the office is a soundproofed room for patients who are screaming.

Enclosing this inner ring is a corridor and on the far side of the corridor are the changing and supply rooms.

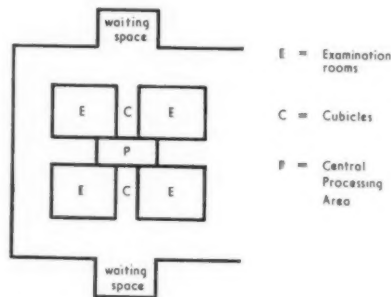
The X-ray Department

Brigadier Welch, head of the operation research team of the Nuffield Provincial Hospitals Trust, speaking on "Work Study" on the third day, described the kind of investigation carried out by a large indus-

trial organisation before embarking on a factory building project and asked why the same course should not be followed before designing a hospital project.

As an example of what can be done, he described an investigation which his team has nearly completed on the design of X-ray departments. Four university graduates and a radiographer have made detailed studies of six X-ray departments in six different hospitals. Their investigations are not yet complete and the report will not be available until early next year, but Brigadier Welch was able to state their results in general terms.

The investigation showed that those who work in X-ray departments spend only about 30 per cent of their time on their proper work. The chief cause of this is bad planning and, in particular, the long narrow corridor. Work study has established that the department should be centred round a central processing area (see diagram). Immediately next to this are the examination rooms with changing cubicles sited between them, and running round it is a corridor with waiting spaces beyond.



Plan of X-ray department.

The Hospital provision

Dr. J. O. F. Davies, the Senior Administrative Medical Officer of the Oxford Regional Board, remarked on the great influence on the hospital requirement of the way in which people regard the hospital service. Not only does the incidence of disease change (e.g., the decline in tuberculosis, the decline in the need for children's beds due to better nutrition, etc.), but there is also a change in what people learn to expect from their hospitals. Up to now people have not realised that they have a National Health Service: they still assume that their hospitals have the straitened, haphazard resources of former times. The increase in road accidents, however, has served to draw attention to inadequacy in this particular respect and it is only a matter of time before demands for reform in this speciality will be followed by others. One of the effects of providing a needed service is that it will be more used. In the Oxford area, the provision of more facilities for out-patients has led to a 16 per cent. increase in the number of out-patients treated. Another factor which greatly influences the pattern of demand is whether or not there is co-ordination between general practitioners, the Public Health Authority and the Hospital Boards. When this occurs (as at Bolton) the number of hospital beds can be much reduced.

Information for the architect

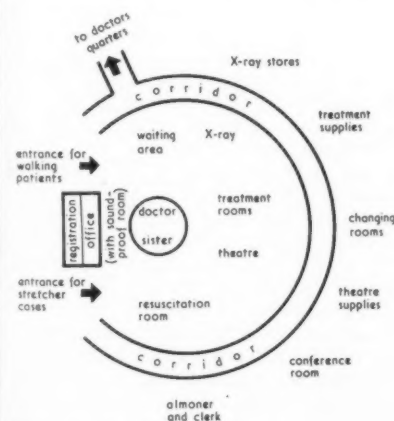
Three speakers discussed the problem of information. Two architects from W. Tatton Brown's development team, P. D. Cowan and R. H. Goodman, put forward a system for obtaining and recording information. This consists essentially of a check list and a pro forma for each room in the hospital. Both of these have the same headings (there are 26 of them). The object of the check list is to give a shape to meetings with the hospital authorities and the object of the form is to take the place of memoranda and to provide a permanent consistent record of conclusions reached. The other speaker on information was Mr. C. Tebbitt, Superintending Architect, Ministry of Health, who described, among other matters, the Ministry's own publication policy. During the next few weeks notes are to appear on the assessment of medical needs, target costs of hospital buildings, and the Area General Hospital, and these are to be followed by others (at present 27 are in some stage of preparation). These notes are to be issued only to the Regional Boards. Later they may be published by HMSO as Building Bulletins.

Planning

Richard Llewelyn Davies, speaking on the fourth day of the conference on general planning issues, pointed out that the basic English contribution to hospital planning is the idea of designing round the human working group. To this we must now add the basic American contribution which is that of the centralised services. This has given rise to the "race track" plan in which these services are fed up through the central core of the building with the wards placed round them. The fundamental problem seems to be how to reconcile this kind of planning with the need to plan for growth. From one point of view, the transformation of the services into something analogous to a piped water supply eases the planning of the separate parts of the hospital, but the need to reduce service runs to a minimum leads to a vertical plan with a central service core. This makes growth difficult.

The Ministry's contribution

Throughout the Course there were signs of uncertainty among those present of the part the Ministry was intending to play. There were criticisms of delays in giving consents, but these, critics were assured, would be shortened in the future. W. E. Tatton Brown, head of the Ministry's Development Group, spoke of a plan whereby the Ministry will join with the King Edward VII Hospital Fund in running a school for work study with the object of providing trained personnel to carry out work study for the Regional Boards. W. J. Jobson, the architect to the Oxford Regional Hospital Board, suggested that the Ministry should set up a design team to build pilot schemes, but there was no response from the Ministerial side to this idea. In general, there is little doubt that architects would like the Ministry to give a much stronger lead, not only in research and development, but in promoting consortiums among the Regional Boards on the model of CLASP.



Plan of casualty department.

URBAN RENEWAL: CIVIC TRUST CONFERENCE

"Rebuilding City Centres" was the subject of an exceedingly important, interesting and well-supported conference organised by the Civic Trust at Middlesex Guildhall last Friday, when the key problems of reconciling public need with private profit, public control with private initiative, and the financing of comprehensive development schemes, were discussed with remarkable freedom from prejudice by a number of key people. Opposite we publish, very slightly abbreviated, the central proposals of the Civic Trust's Report, three proposed methods of achieving and financing comprehensive development. Below we give, highly abbreviated, some of the major points raised at the Conference.

Under the chairmanship of **Duncan Sandys**, the Conference was opened by the Minister of Housing, **Henry Brooke**, who expressed keen anxiety to study all ideas on comprehensive development, which had come to the fore as a result of the Piccadilly Inquiry, and pointed out three main problems now making comprehensive development necessary: the worn-out centres of many cities going down hill; the flourishing areas which are going to be developed anyhow because enterprise is so active there, and the tremendous growth of traffic. He urged the conference not to concentrate too exclusively on the boom areas and to realise how much a new centre might help a decaying town to "begin to move into prosperity."

Peter Chamberlin, after wittily teasing the "practical" men for their piecemeal solutions, brilliantly summarised what real comprehensive development involves: genuine three-dimensional planning, only possible in large areas. He added, "My impractical attitude to enterprise stems from the view that where there is potential wealth in a site or in a situation, this should not be creamed off but should be ploughed back into some other part of the town where development is needed but held up for lack of finance. Private enterprise when applied to central area development should mean much more than commercial exploitation: local authority enterprise should imply the duty to consider how the potential wealth in a city centre may best be deployed to support the development of the whole."

Concentrating on the difficulties of present procedure, **Mr. W. G. Fiske** (LCC) said the law as it was at present seemed to load the

dice in favour of piecemeal development. The need to deal with planning applications in two months, the third schedule rights, tending to perpetuate the present ownership pattern, and above all the need for capital, all made the acquirement and development of large sites as a whole difficult for local authorities. The Town and Country Planning Act "was firmly supported like most modern buildings on piloti—Compensation and Betterment," said Mr. Fiske, but these supports had gone and the structure was now unsafe. He pointed out that the demolition of the London Pavilion in Piccadilly would transfer about £1 million assets from the public pocket into the balance sheets of neighbouring property owners. Public authorities must be given the financial tools to do the job, and this was "basically a matter of what the country is prepared to invest in the future of its cities."

A very cautious contribution from **B. J. Collins**, Middlesex County Planning Officer, suggested that local authorities already have the powers to produce a "master plan" for their areas, but had hardly produced any largely through the volume of work involved and lack of vision. He urged that compulsory purchase should not be made too easy but only used as a last resort.

Henry Wells, architect of Hemel Hempstead New Town, pointed out that for "a local authority to purchase a central area solely for the purpose of redeveloping it along modern lines requires political courage and financial resources" far beyond the capacity of any but the largest local authorities. To do it would face the electorate with a sharp increase in the rates, unless the Government would bridge the gap, or the local authority ran a "suspense account," which would be a breach of the present principle that financial commitments of local councils must not be deferred for future ratepayers to meet. He therefore proposed "the establishment of a government corporation through whose hands all land compulsorily acquired passed"—a Land Accounting Corporation which would buy the land at negotiated prices, hold it until the local authority was ready to develop it when it would buy it at its market value—how and when determined was not quite clear. Out of the profit resulting, the LAC could finance more general but necessary urban renewal.

T. S. Dulake, F.R.I.C.S., put his hopes of early action on using the third method suggested in the Civic Trust Report as being the best way to "sugar the pill of compulsory purchase" and "avoid political contention." He suggested the setting up of land purchase and disposal trust companies—one for each large scheme, which would acquire all the sites necessary for development at pre-scheme value, commission a three-dimensional redevelopment plan for the area, and then sell the reconstituted sites to the highest bidders. Mr. Dulake cheerfully believes that "any large-scale scheme of redevelopment in a central commercial area would be bound to yield a substantial surplus: otherwise it would not be undertaken." One wondered, in that case, quite what all the fuss was about.

The growing traffic problem was rather cautiously considered by **Mr. R. Nicholas**, Manchester's Traffic Engineer, who suggested driving freeways and a freeway ring road through London's more dilapidated areas, which "would be able to cope with the continuing growth of traffic for at least some few years to come." But Mr. Nicholas too, urged that underground car parks could not respect the boundaries of the sites under which they were made, urged the need for buildings on stilts and raised pedestrian ways, and suggested that new blocks might be designed so that lower floors could be turned into car parks "when the need to use them for vehicular purposes could no longer be resisted."

DISCUSSION

Colin Buchanan, after pointing out that our problems are of finance and management and not of building or planning technique, concentrated on the problems raised by increased traffic. "My hunch", he remarked, "is that people have taken the car to their hearts—I certainly have. It's been a smashing success in every way, and I can't see anything to challenge this endearing though murderously destructive machine." But the car had killed the old established concept of a city street and our streets were now "simply traffic drains." This could be changed only by "bold use of various levels with exciting architectural possibilities." In fact, the traffic problem was an architectural problem in the widest sense, and the only places which had begun to solve it were those where architects were in charge.

Richard Edmonds, chairman of the Town Planning Committee of the London County Council, looked further afield by emphasising what could be done to towns such as Newport and Pontypool, and other relics of the industrial revolution, if the centres had a little beauty and good development. He described the LCC's successful development at Notting Hill Gate and the Elephant and Castle, and the less successful Piccadilly venture and pointed out that the overriding problem was money to buy the land. The Ministry of Transport's road allowance was not enough for the proper rebuilding of sites around road installations.

T. Meffan, chairman of the Coventry Planning Committee, thought Coventry at 400,000 population was a size which could be managed. London was too large. In Coventry long-term car parking was outside the inner ring road, short-term parking was to an increasing extent being provided on roof tops around the centre.

T. D. Smith, chairman of the Newcastle Town Planning Committee, said that comprehensive development areas were a must in order to solve problems. City centres should be designed for use 24 hours of the day. It was a luxury for the private developer to build what he liked in central areas. He wondered whether urban functions could be carried out without travelling. He considered regional planning authorities essential, and also the criticism of architects by architects.

P. Ker
40 year
get bac
sugges
ship a
to rec
Harm
bridg
accu
schen
He for
for de
select
possib
have
rent.

The f
Confe
headle

1. De
The I
within
itself.
subject
Havin
prepa
event
Minis
the a
metho
(a) th
privat
forme
(b) th
quent
Altho
larges
the ta
cial c
(a) th
(b) th
heavy
rates
(c) th
years
loan.
to thi

2. De
Parlia
Devel
urban
Town
The
appro
with
dimer
be re
the B
(a) le
condi
(b) re
comp
The
lines
advan
to a
woul
exper
the e
veyin
ties.
Alter

P. Kerrigan (?) pointed out that after 30 or 40 years of planning it was impossible to get back to an open market in land as some suggested. He advocated unified land ownership and said the Government was afraid to recognise this.

Harman Hunt (?) stressed the need for bridging funds as local authorities could not accumulate funds. He thought profitable schemes should pay for unprofitable ones. He foresaw the end of mass public tenders for development. Local authorities should select developers, and get the best price possible; the building team granted should have the ground rent geared to the rent.

Dr. Barnett Stross, M.P., agreed with Para. 19 of the Trust's report, and suggested Development Boards for Scotland, Wales, and North, Midland and South England; which could also do research and the massive operations on cities which are necessary.

Grenfell Baines, architect, wanted the Trust to put across that planning pays, he wanted the better employment of the technical and advisory resources available and pointed out that motorists resent paying parking fees.

S. G. Wardley, City Engineer, Bradford, said they were rebuilding the centre of Bradford "to some tune" because the city had had the foresight early on to get powers from

the Government to buy up large areas of the centre.

Lionel Brett, architect, warned of the damage of saying that redevelopment merely paid and was an improvement, and instanced the Lion Yard, Cambridge, development as the exploitation, not the improvement, in some peoples' opinion, of the city. He pleaded for lower densities in centres, and local high densities further out. "London, once a collection of villages, should become a collection of new cities and new towns."

E. H. Doubleday, Herts County Planning Officer, asked that the MOHG and the MOT should form a team to study the technical details of development.

The following are the three methods of ensuring comprehensive development by which the Report to the Civic Trust Conference on Rebuilding City Centres proposed to surmount the problem of divided ownership without coming into headlong collision with private property rights:

1. Development by Local Authority

The Local Authority to purchase compulsorily all the land within the designated area and to plan the development itself. Local Authorities already have the powers required, subject to the Minister's approval.

Having acquired the land the Local Authority would prepare and publish a three-dimensional scheme. In the event of objections there should be a right of appeal to the Minister, who could hold a public inquiry. Once approved, the actual rebuilding could be effected by one of two methods:

- (a) the Authority could lease or sell suitable sized sites to private developers, subject to the condition that they conformed to the scheme,
- (b) the Authority could itself rebuild the area and subsequently lease or sell the completed buildings.

Although powers of compulsory acquisition exist, even the largest Local Authorities have hesitated to apply them to the task of modernising and redesigning valuable commercial centres, because

- (a) the procedure is elaborate and cumbersome,
- (b) the acquisition of the property would usually entail very heavy capital expenditure and an unacceptable rise in the rates to meet interest charges,
- (c) the capital invested may be locked up for a number of years before sufficient income is received to service the loan. Local Government accounting procedure is not geared to this form of enterprise.

2. Development by Public Board

Parliament to authorise the setting up of a number of Development Boards to acquire and redevelop designated urban areas, adopting procedure similar to that in the New Towns.

The land, having been compulsorily purchased with the approval of the Minister, the Board would, in consultation with the Local Authority, draw up and publish a three-dimensional scheme. In the event of objections, this would be referred to the Minister. Once the scheme was approved, the Board would either:

- (a) lease or sell sites to private developers, subject to the condition that they conformed to the scheme; or
- (b) rebuild the area itself and subsequently lease or sell the completed buildings.

The proposal to set up public Development Boards on the lines of the New Town Corporations, offers three main advantages: the financing arrangements would be geared to a long-term operation; the membership of the Board would be chosen with an eye to the qualifications and experience needed for this particular task; it would ensure the employment of expert architectural planning and surveying staff, not available to the majority of Local Authorities.

Alternatively, the function of the Development Board

should be confined to that of purchasing the land and financing the loans during the unremunerative period, leaving to the Local Authority the responsibility for making the development plan and deciding who should carry it out.

In that case, only a small number of Boards would be needed to cover the whole country and their responsibilities might be extended to include the purchase not only of land needed for the redevelopment of city centres, but also of land needed for other forms of development. This would enable a surplus resulting from the redevelopment of a profitable area to be used for offsetting a deficit on an unprofitable one.

3. Development by Private Enterprise

A private company cannot usually acquire an area sufficiently large for a satisfactory scheme of comprehensive redevelopment. There are three reasons for this:

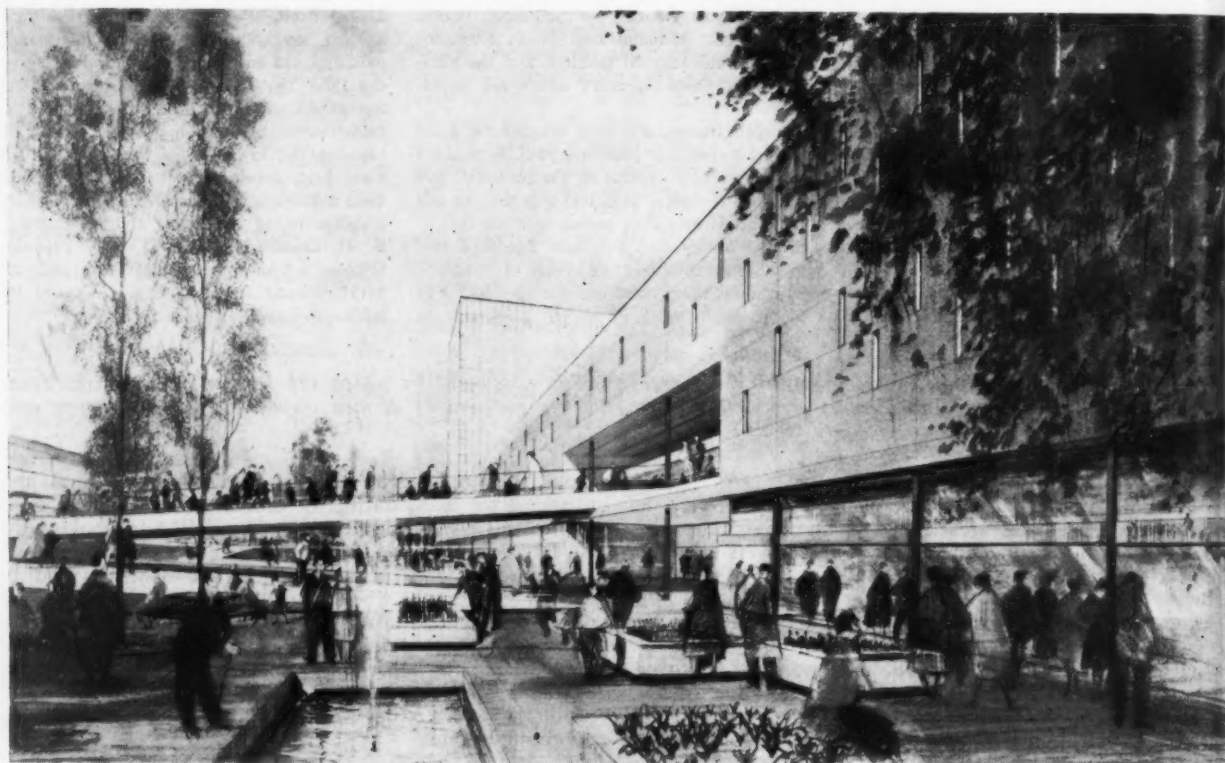
- (a) It takes a long time to negotiate the purchase of large areas with the various property owners concerned,
- (b) there will almost always be individual owners who refuse to sell, except at an unreasonable price,
- (c) Very few companies have the credit facilities to raise the large sum of money needed to purchase a central urban area of the required size.

To overcome these difficulties, the Local Authority might purchase the area compulsorily and sell it to a suitable private development company (or companies). Before the resale was effected, the company would have to submit its development proposals, which would have to incorporate any road improvements or public amenities required by the Local Authority. The design of the buildings would be subject to normal planning controls.

Owners of sites compulsorily purchased could be given the option of being paid in cash or of being allotted an appropriate shareholding in the company, thus participating in any profit or loss which accrued from it. In addition it would be fair to give them a prior claim to accommodation in the new buildings.

Some assistance in financing the scheme might also be required. To provide this, the Local Authority might participate in the enterprise, by buying a proportion of the company's shares, or alternatively credit facilities for the required loan could be arranged with public backing. This third method, like the other two, involves interference with the rights of property. But it offers to the owners who are displaced an interest in the financial results of the development, and ensures that a primarily business district will be planned by people with knowledge of business requirements. It is not necessary to choose one system for universal application. What is suitable in one place may not be in another. The right course may be to provide the powers necessary to enable any of these various methods to be adopted, leaving the choice to be made in the light of local circumstances.

ELEPHANT AND CASTLE REDEVELOPMENT: WINNING SC



Perspective of winning scheme showing the ramp leading to upper ground floor shopping arcade.



Model of winning scheme in relation to the whole Elephant and Castle site.

The LCC Town Planning Committee recommended to this week's meeting of the Council that the scheme for developing the main shopping site at Elephant & Castle designed by Boissevain and Osmond for the Willett Group of Companies should be selected as being the most appropriate and original of the 36 schemes submitted. And the Committee deserves warm commendation for having chosen a scheme which is outstanding in many ways—not least in its imaginative return to the covered arcade as a comfortable and convenient arrangement.

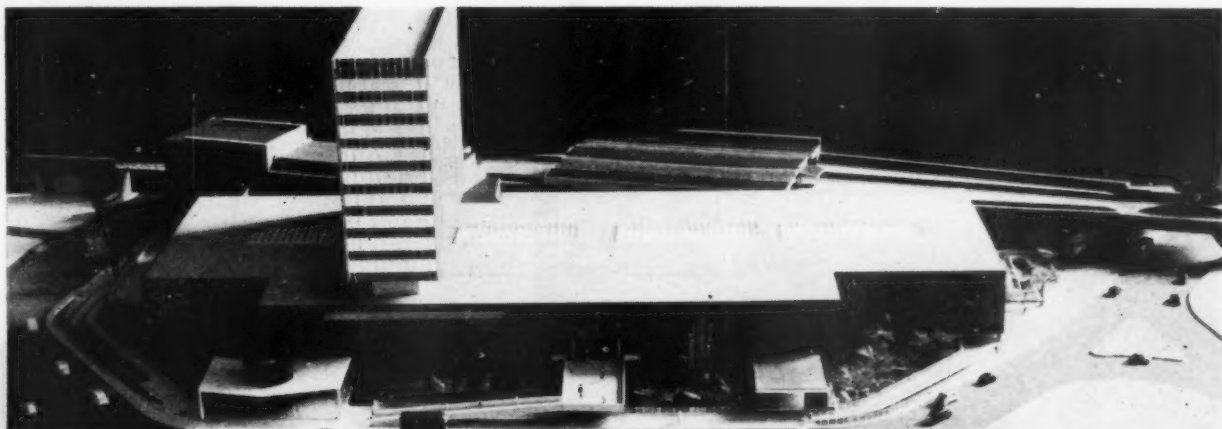
When this limited approach to development companies was first mooted there were naturally fears that the Council might be tempted to go for the scheme which seemed financially most attractive: that temptation has been withstood, and the Town Planning Committee's report explains that, in selecting the Boissevain and Osmond scheme, out of the five which they considered to have the greatest architectural and planning merit, "in so doing we fully recognised that we were passing over preliminary offers which were financially more attractive . . .

but we considered that we must ensure in the Elephant & Castle, buildings of the highest architectural quality." The scheme selected provides 201,900 sq. ft. of shop space and 87,900 sq. ft. of office space—a higher proportion of shopping space than any of the other selected schemes, and this was considered a point in its favour. The office space is confined to a single office block rising 170 ft. above the shopping area and at right-angles to its main axis. Car parking space is provided in the basement.

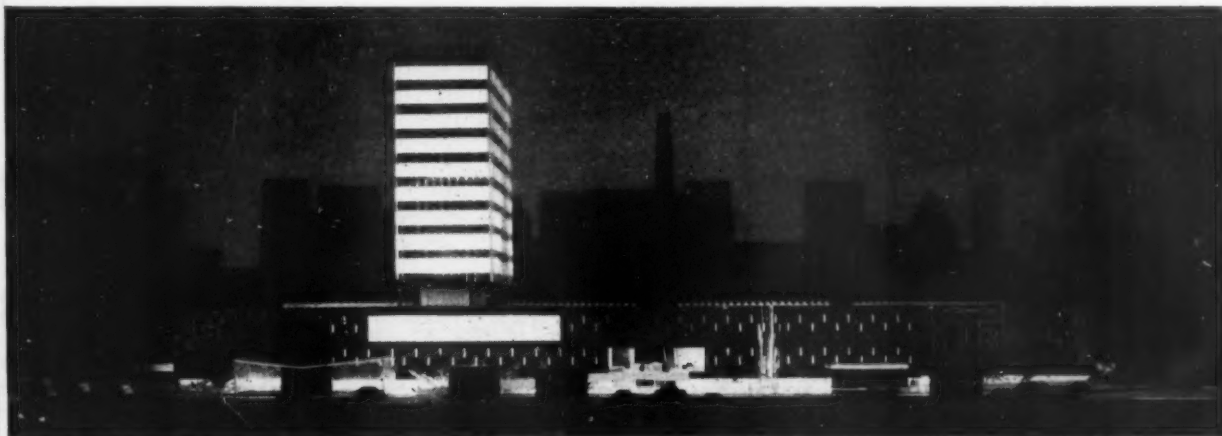
NG SCHEME BY BOISSEVAIN AND OSMOND



Perspective by night.

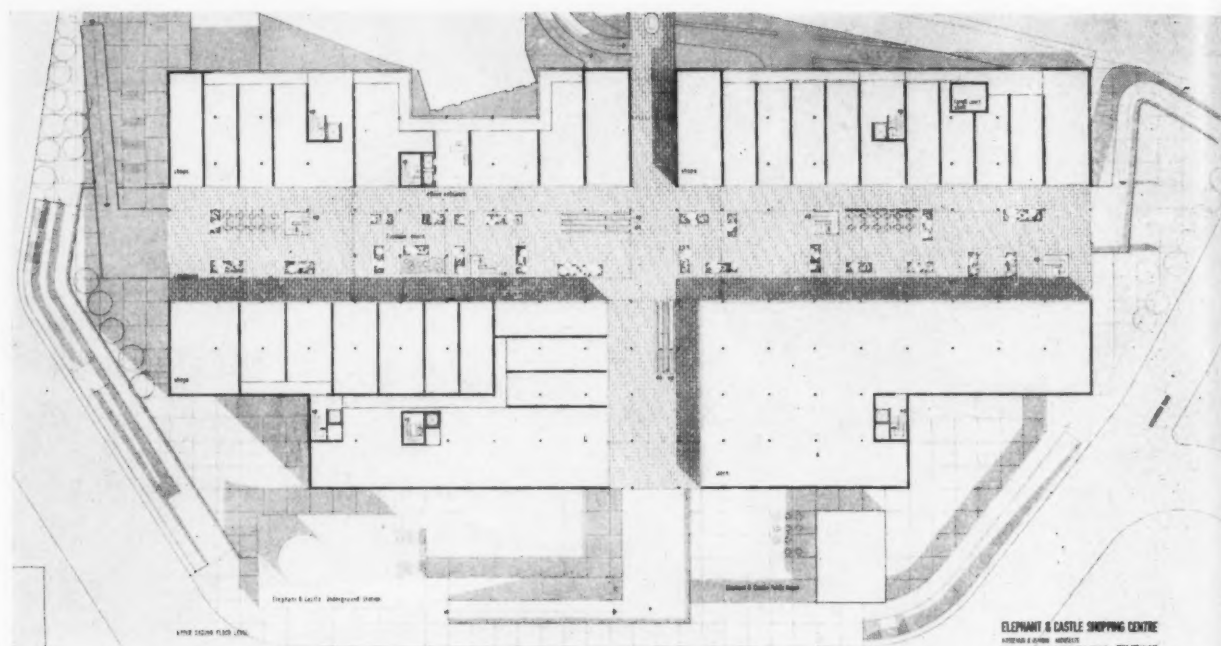


The model.

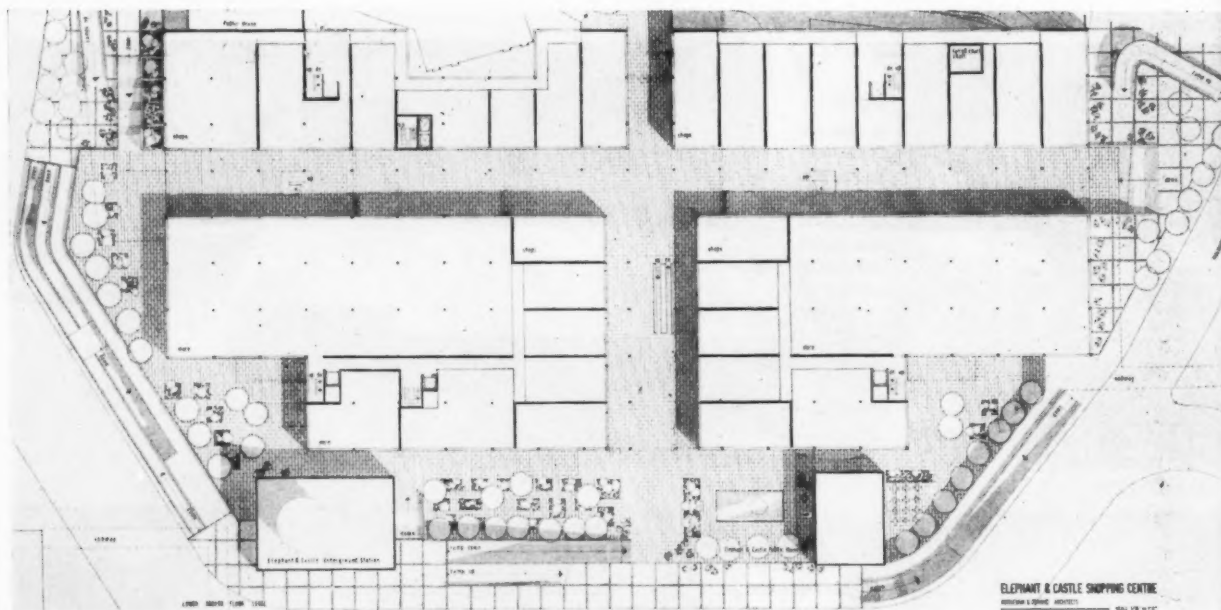


The model by night.

ELEPHANT AND CASTLE REDEVELOPMENT: WINNING SC



Upper ground floor plan.



Lower ground floor plan.

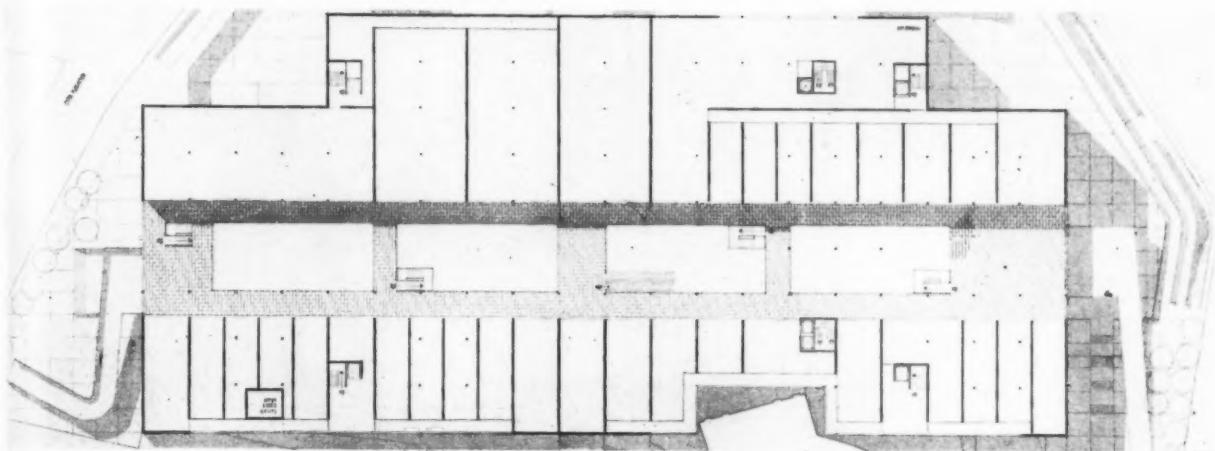
Central to the scheme is the covered shopping area on three levels. The arcade is cruciform in plan, the main arm, 60 ft. wide, running the whole length of the site, while the shorter arms give access to the bus stops and main-line railway station. The

floor of the main arcade is 9 ft. above pavement level and connected with it by easy ramps, and this area rises through two floors with a second storey of shops above the first. Below this is a lower arcade, 7 ft. below pavement level, which connects the

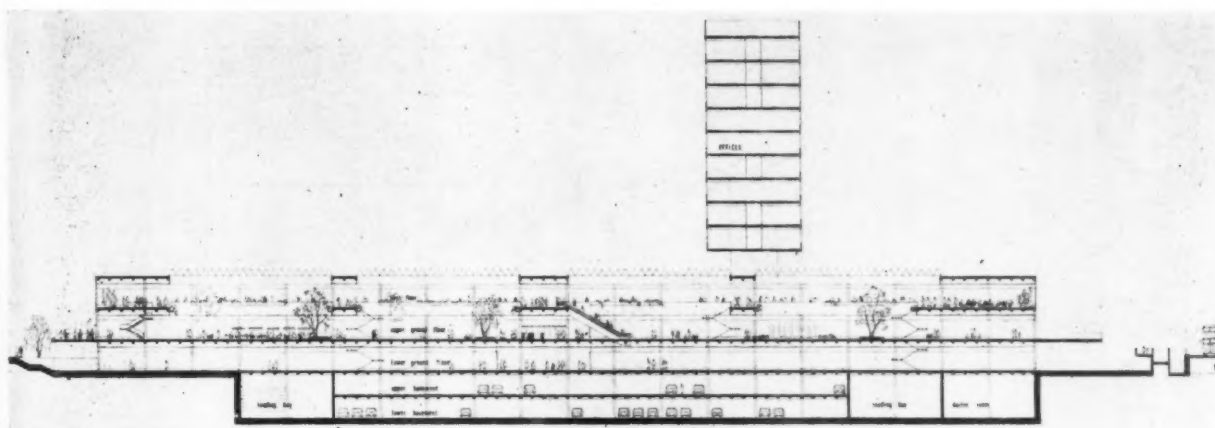
subway systems and gives on to a pedestrian concourse in front of the building. Below this again are two basement car parks with space for 154 cars—to be supplemented by a further open car park behind the building—and a sub-basement

road prov load of g floor As mak

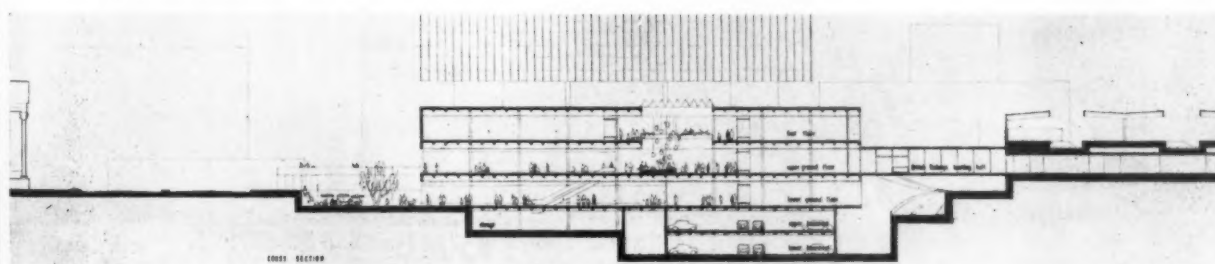
SCHEME BY BOISSEVAIN AND OSMOND



First floor plan.



Longitudinal section.



Cross section.

road which runs the length of the building, providing service access and linking four loading bays for the delivery and despatch of goods, which are connected by lifts to all floors.

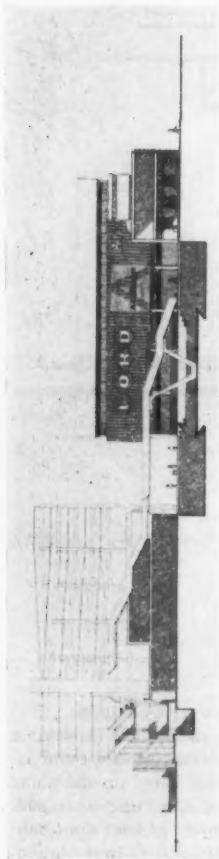
As a photograph of the model at night makes clear, illuminated skysigns will be

grouped at the corners of the block facing the two traffic roundabouts, and illuminated signs may also be mounted round the top of the office block. But the main lighting of the building façade is by symmetrically placed slit windows, through the wide entrance to the arcade, and from the pedestrian

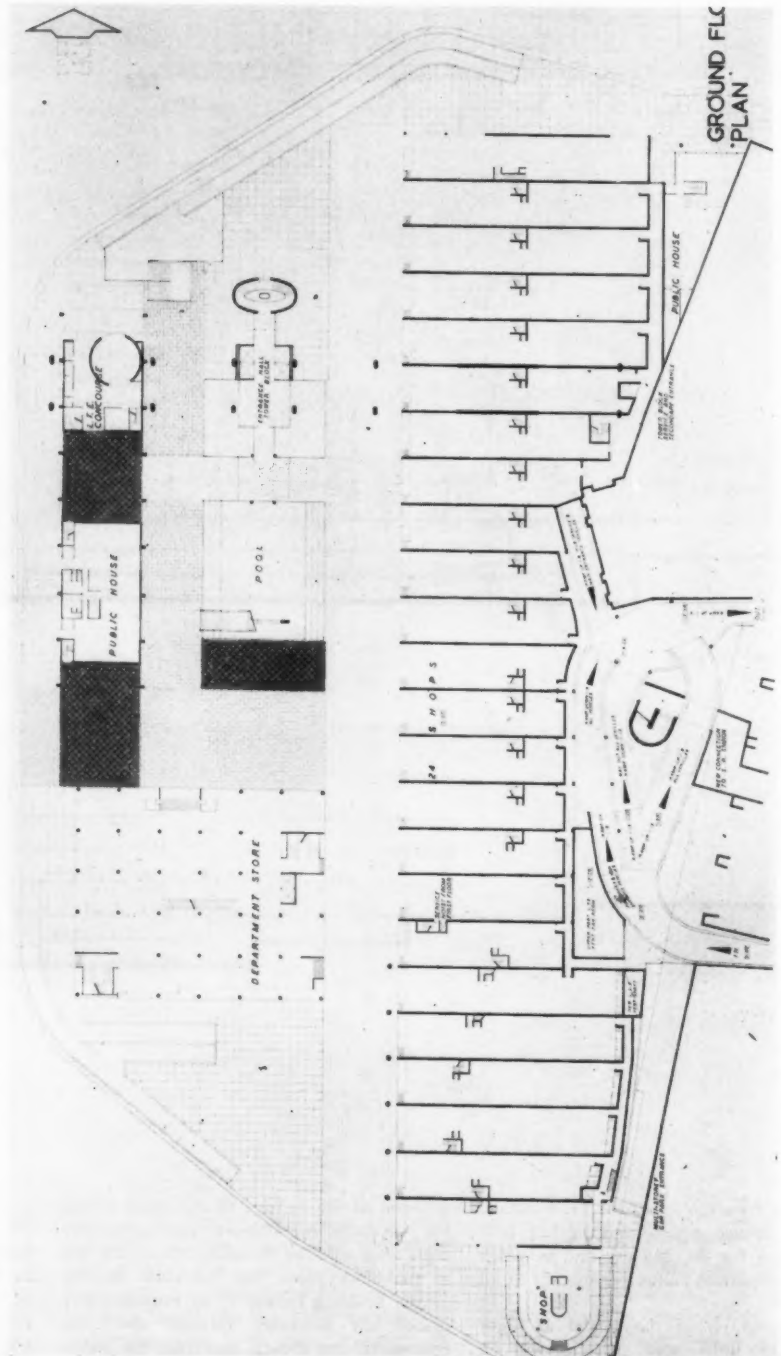
concourse below ground level.

The block includes two public houses, a free-standing one in front of the building, to the right, which will carry on the name of the Elephant & Castle, and a second, linked through the lower ground floor subway with the Underground railway station.

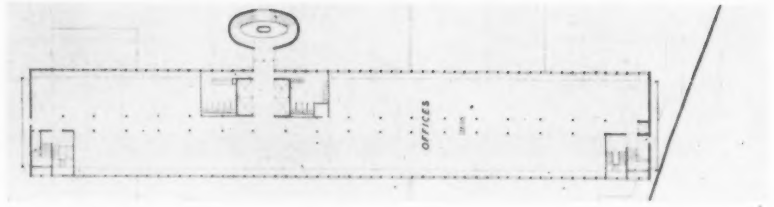
ELEPHANT AND CASTLE REDEVELOPMENT:
THE RUNNERS-UP
SCHEME BY C. H. ELSOM & PARTNERS



Elevation.



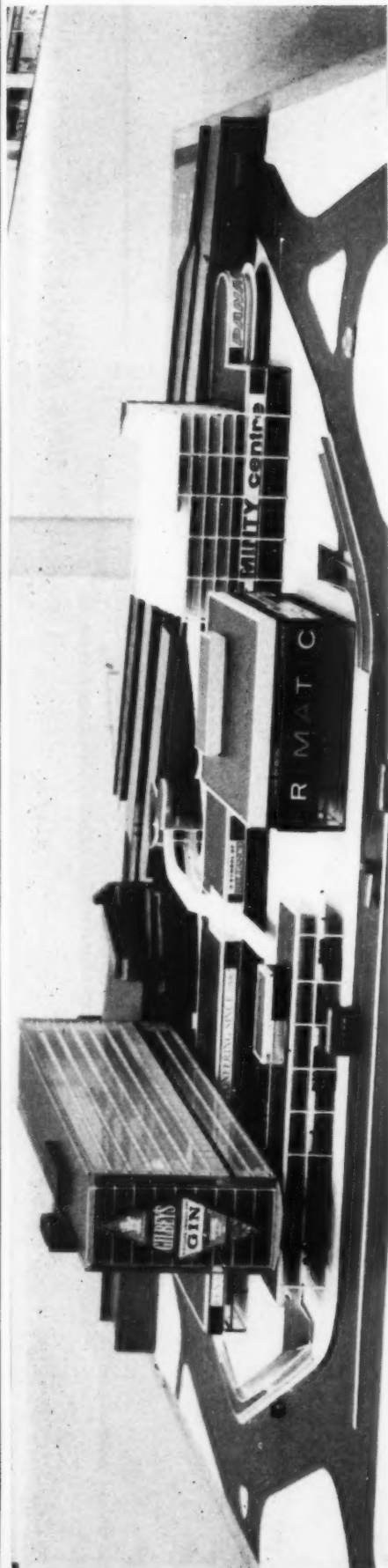
Ground floor plan.



Second floor of office block.

Ground floor plan.

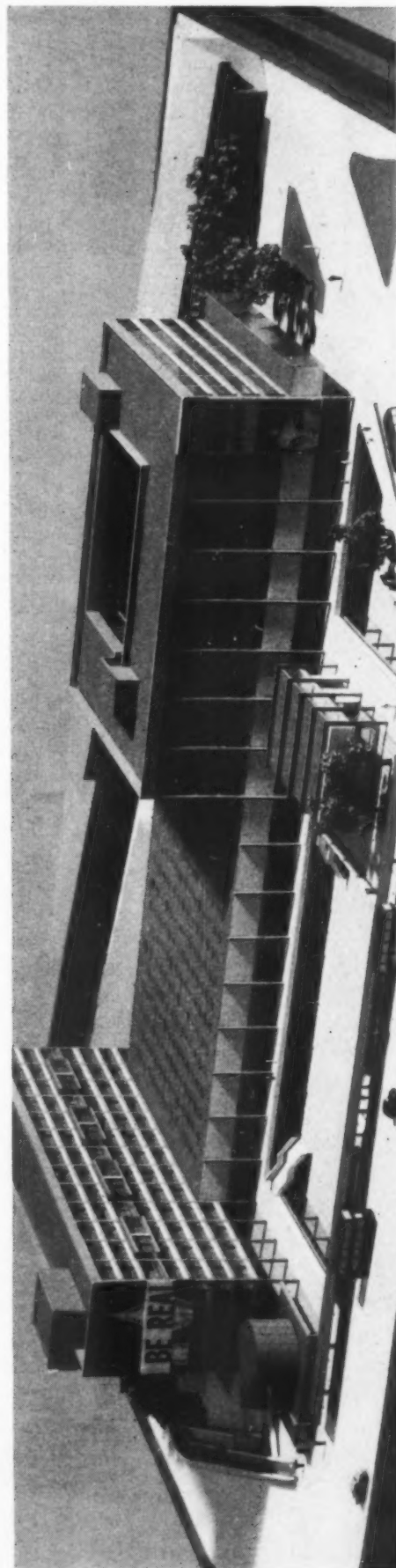
Second floor of office block.



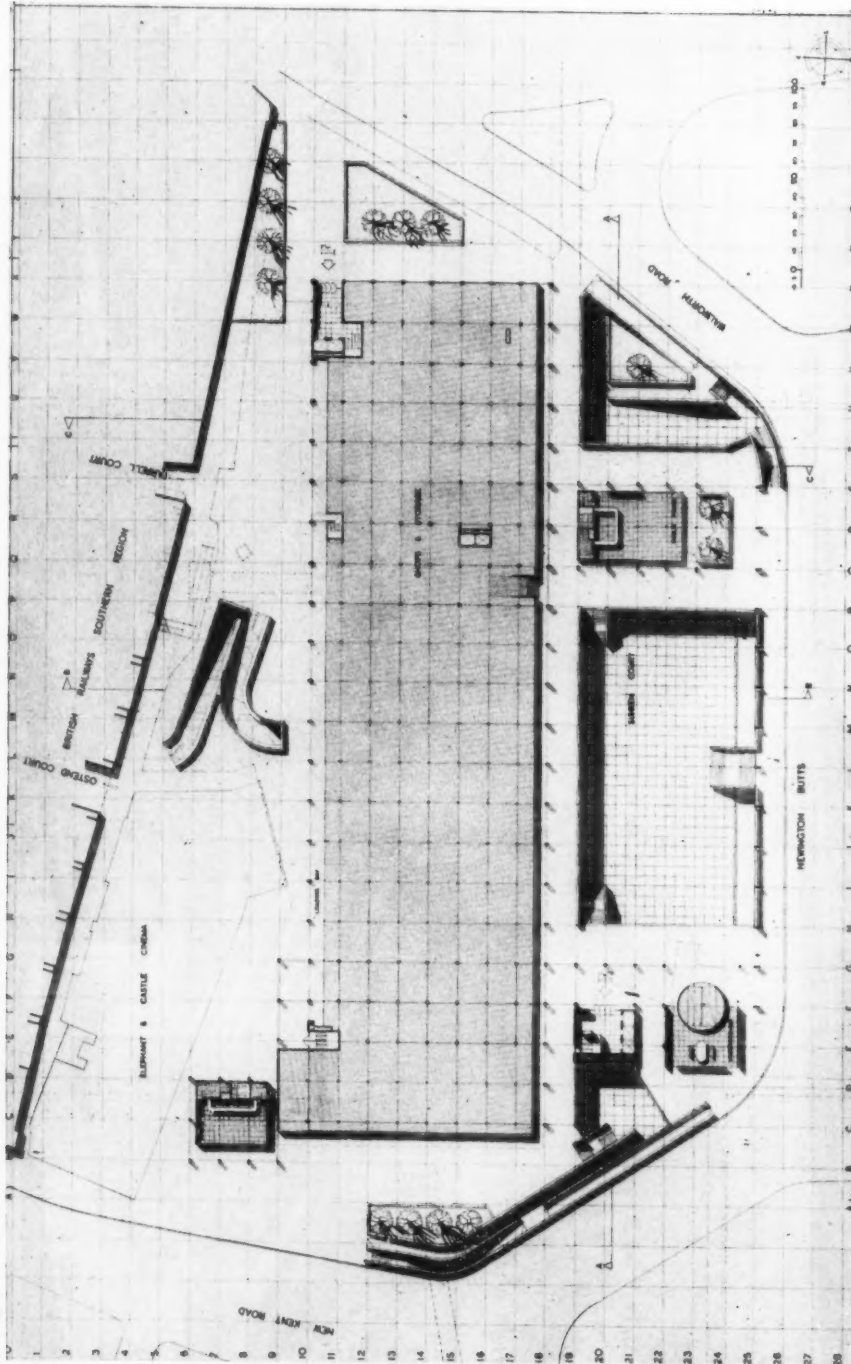
Model of scheme by C. H. Elsom & Partners.

SCHEME BY ERNO GOLDFINGER

Model of scheme by Erno Goldfinger.

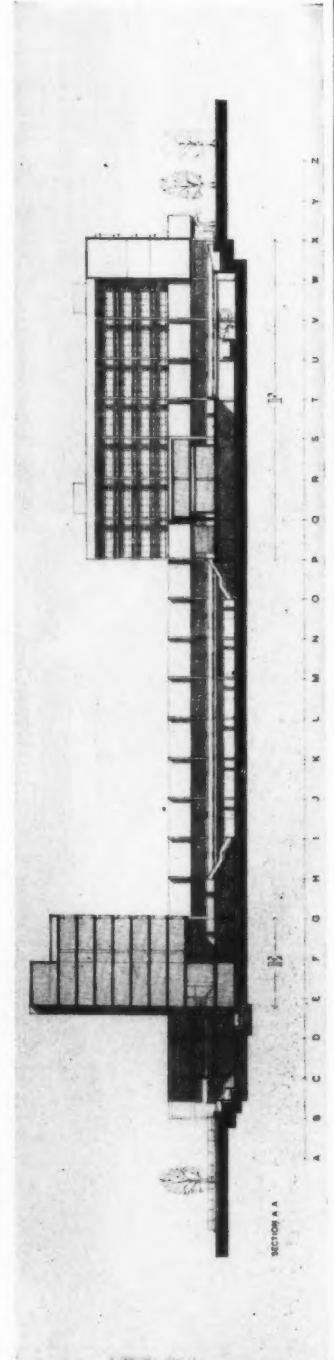


ELEPHANT AND
CASTLE
REDEVELOPMENT:
SCHEME BY ERNO
GOLDFINGER
(continued)

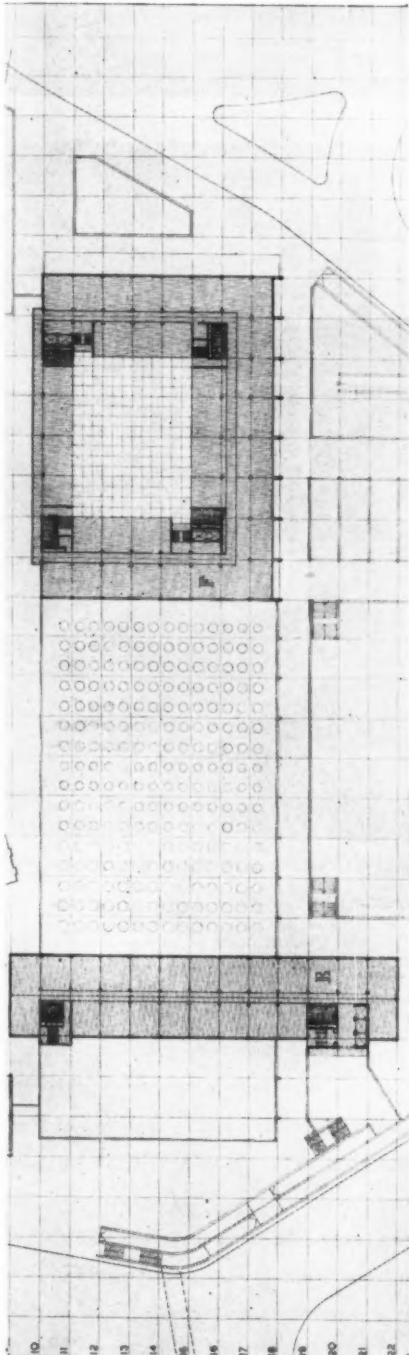


Ground floor plan.

Elevation.



Upper floor plan.



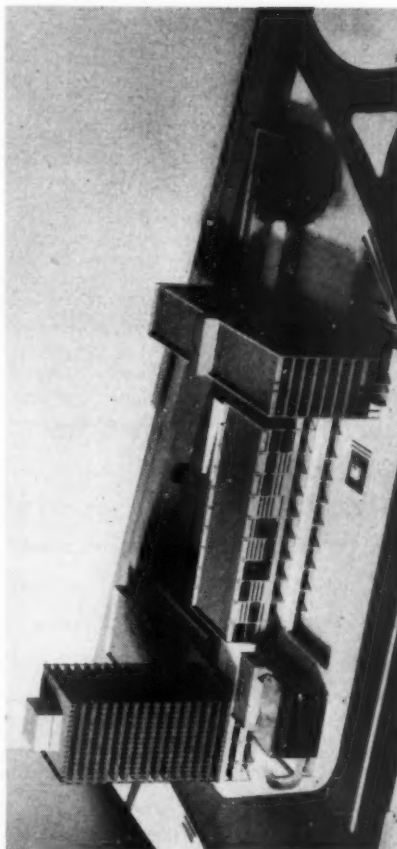
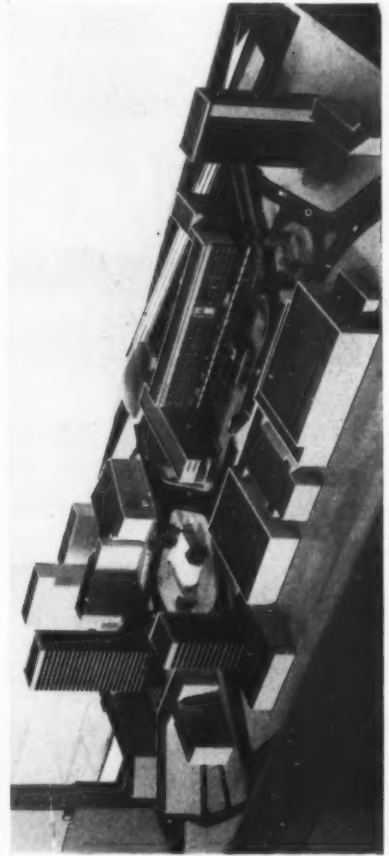
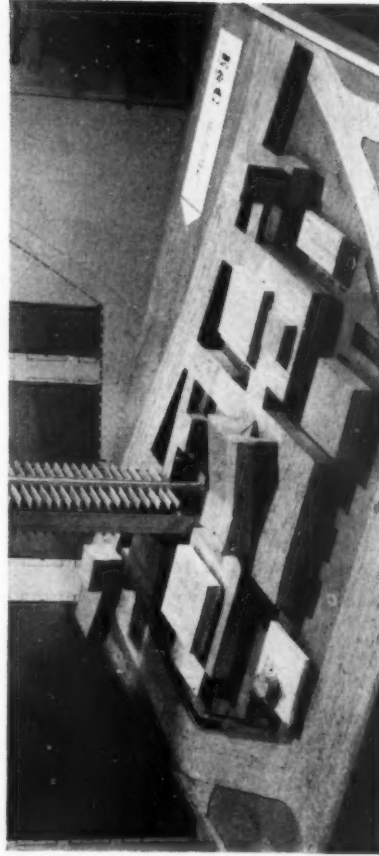
OTHER RUNNERS-UP

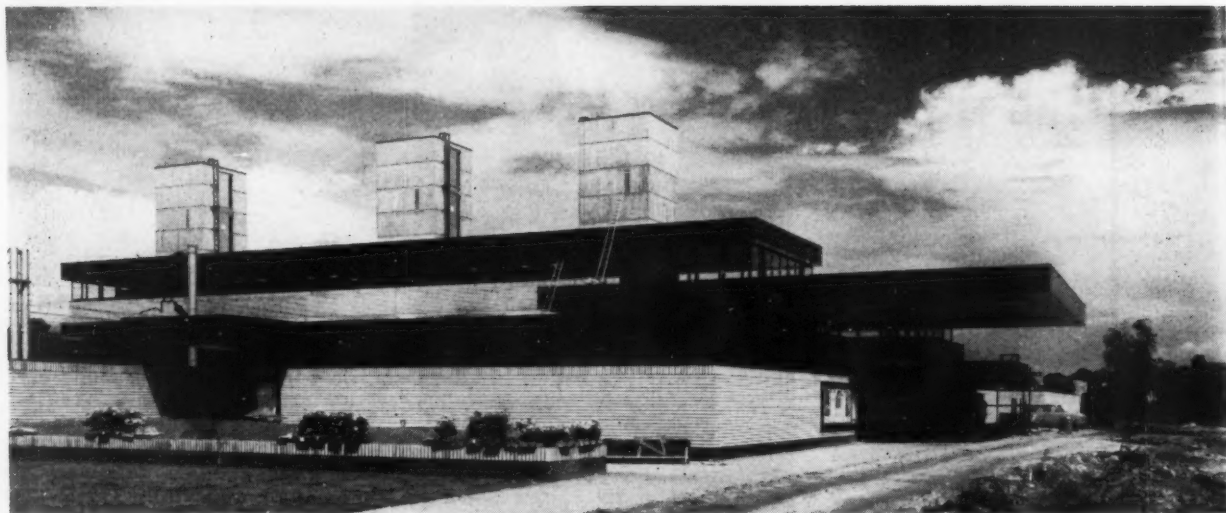
Below left: Arthur Swift & Partners

Below right: Owen Luder

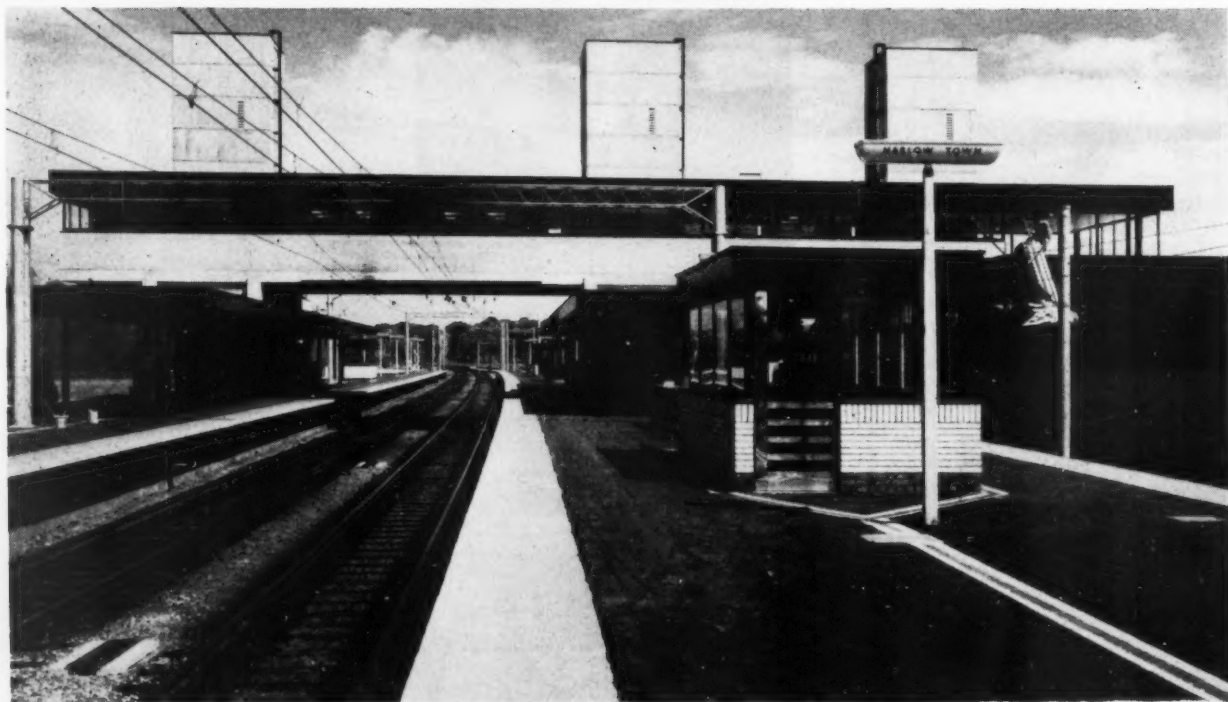
Bottom left: Sir John Burnet Tait & Partners

Bottom right: Ardin & Brookes





HARLOW STATION



The new railway station at Harlow, which was officially opened last week, is a landmark in the development of English railway architecture, being a complete breakaway from the traditional conception. Its dominant features are its triple 50-ft. lift towers, the spacious, well-lit, glass-walled booking hall with fully mechanised ticket office, and the passengers' waiting room placed on the enclosed bridge which spans the station. In addition there are five glass-walled shelters on the platforms, and the station buildings are heated throughout by hot water pipes embedded in the floor surfaces. The station forecourt will form the nucleus of a small commercial centre, and parking space for 400 cars is to be provided. As the four-acre site is in low, marshy ground, the land had to be completely drained before building could begin and pumps worked round the clock for nearly a month before the 280 piles could be driven to carry the new station. The overbridge deck is constructed of prestressed concrete units resting on reinforced-concrete bearings cantilevered from the lift shafts, a method which enabled the bridge to be built with the minimum interference with services. The building displays an almost classical preoccupation with detail: structural elements such as padstones are deliberately over-expressed and beams turn up to contain the roof they support, and the form of the building with its strong emphasis on the roof shapes, the use of horizontally decorated brickwork as a base to the whole building complex also shows traces of the new classicism. Good building should be strong and look right, and in this the new station satisfies; it is to be hoped that proposed cuts in railway expenditure will not rob us of further progress along this line.

TERRACED FACTORIES

at
designed by
partner-in-charge
assistant
quantity surveyor

BASILDON NEW TOWN
J. M. AUSTIN-SMITH AND
PARTNERS
P. J. LORD
B. A. FORD
E. C. HARRIS AND PARTNERS

STB No. (93)

UDC No. 725-4

This nine-bay terrace of small factories was built for letting by the Basildon Development Corporation, and is a highly successful exercise in low-cost building and yet another example of good cost planning. It may be compared with two previously published municipal enterprises of the same kind, the Flatted Factories at Birmingham (AJ., February 20, 1958) and Unit Workshops in Stepney (AJ., April 23, 1959), although as these were multistorey buildings the costs are not comparable.

View along the front of the terrace.



building illustrated

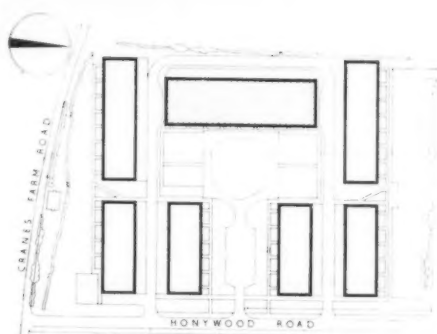


General view of the units from the approach road, showing how the nursery factories are sited on the skyline, making the massing of the scheme and its silhouette an important element in the design.

Each unit is provided with an office on the left of the entrance and lavatories on the right. Care has been taken to provide simple but effective detailing on this side of the building, including the external works and planting. The handrail to the steps, which is painted black, doubles as a signboard for the tenants. There is a similar signboard under the office window sill.



APPR.
Basild
and g
their
relativ
being
or for
Tradit
areas
quart
being
indus
struct
units,
be en
tial t
Two
first,
as po
tenan
fittin
made
as po
ticula
the m
ceme
bigge
undo
the s
sider
as fin
fittin
The
tect
units
of te
area
open
toget
is ad
has a
can
park
of th
the
It h



Site plan

APPRAISAL: As in other new towns, it is the policy of the Basildon Development Corporation to encourage the birth and growth of new and small-scale manufacturing firms in their industrial areas. Initially such firms usually require a relatively small floor area, two or three thousand square feet being typical, although some flexibility to allow for expansion or for bigger initial units is essential.

Traditionally such firms have tended to start in decaying areas of large towns, the East End of London or the Jewelry quarter of Birmingham being typical, the attraction being that of low rentals. It is obviously desirable that in the industrial areas of the new towns there should be a healthy structure in terms of the variety of size of manufacturing units, and therefore that this particular type of firm should be encouraged. For such a policy to be successful it is essential that the accommodation be available at low rentals. Two main ways are currently adopted to achieve this end: first, the provision made is kept as simple and minimal as possible, particularly with regard to services. In this case, tenants are left to provide their own heating and light fittings. Second, and more fundamentally, the attempt is made to keep the cost per square foot of the carcass as low as possible. This latter policy has too often, with this particular type of building, become a counsel of desperation and the result has been a miscellaneous collection of asbestos-cement structures, all straight out of the catalogues. The biggest success of these nursery factories at Basildon is undoubtedly that for a net outlay of about 33s. a square foot the architects have succeeded in carrying out a well-considered budget, with adequate funds available for such things as finishes in the offices and presentable ironmongery and fittings.

The basic type of plan is one already adopted by the architects to the Development Corporation and applied to other units previously constructed in the industrial area. The form of terracing adopted has two advantages: that it reduces the area of external walling to a minimum, and that by punching openings in the party walls two or more units can be thrown together. Inherent, however, in the planning of this terrace, is additional rear access in the form of a service road. This has a number of advantages: that a relatively narrow frontage can be adopted for each unit; that the problems of car parking are considerably eased; and that the main frontage of the terrace can much more easily be kept tidy, free of the external clutter usually encircling this type of building. It has also meant that no large entrance doors are required

on the main frontage and it has thus been possible to develop a consistent scale on this side of the units of a friendly, domestic type.

The general impression internally is of good quality finishes, more particularly in the entrance and office. A slight lapse in detailing is that the boarding forming the floor to the store is not tongued and grooved but merely butt jointed. The level of daylighting inside the unit is excellent, being provided by the continuous central rooflight. It is something of a surprise, however, particularly bearing in mind that this fairly large area of glass results in an appreciable amount of sun penetration in fine weather, that no provision is made in the roof for ventilation, the architects having relied upon the rear access doors being left open, and on the row of airbricks patterning the front elevation.

CLIENT'S REQUIREMENTS

Nine unit factories which are to be let in multiples of one bay. As the site is at the top of a slight rise and the building would be on the skyline, the client asked that special attention should be given to the front elevation and the massing of the buildings. Basic services were to be supplied but the tenants were to be responsible for their own heating and special requirements.

PLANNING AIMS

The use of a precast concrete frame over the whole site was to allow for a complete roof covering at an early stage. This was adopted in preference to a single-storey office and lavatory block which would have projected in front of the main building. The intention was to keep costs to the minimum and had the further advantage of providing extra storage space above the offices off the factory floor. Any saving that might have been achieved was in this instance largely lost through the flooding of the site during the early stages of construction.

SUMMARY

Ground floor area: 27,131 sq. ft.
Total floor area: 30,990 sq. ft. (includes store area, not used in calculating price per foot super).
Type of contract: Fixed price RIBA (local authority adaptation) with quantities.
Tender date: May, 1958.
Work began: June, 1958.
Work finished: March, 1959.

Preliminaries and insurances

Includes foreman, scaffolding, site offices and clearing away.

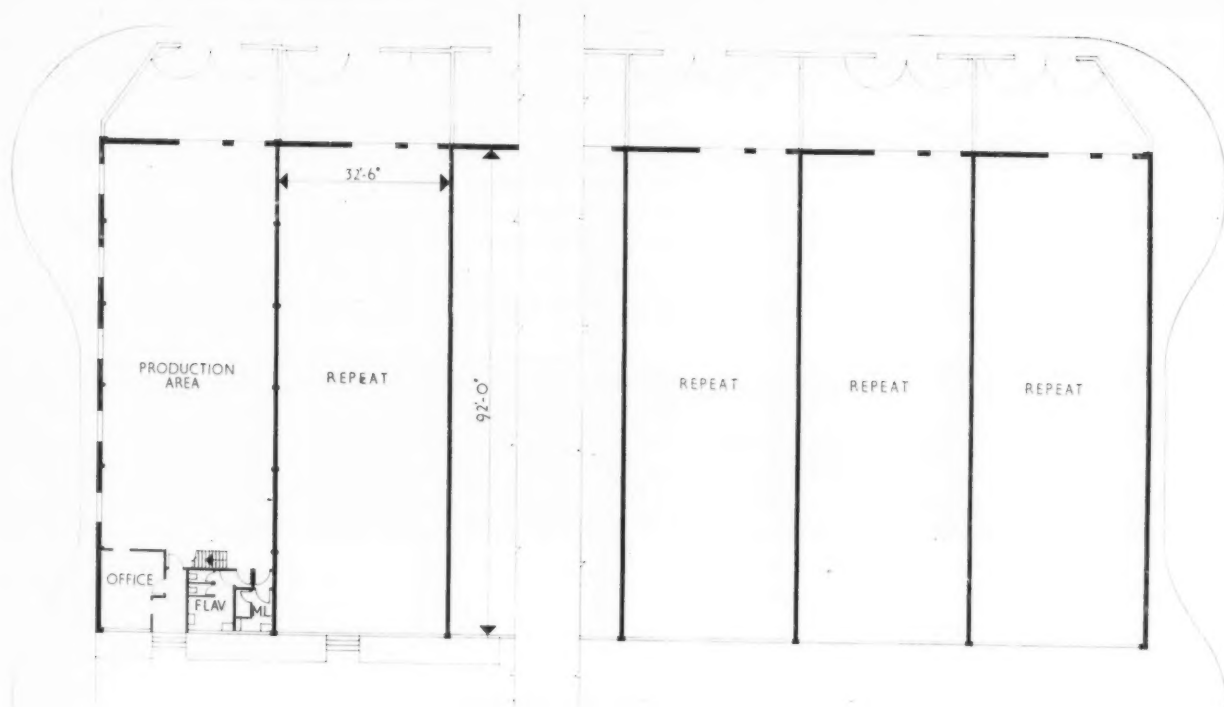
Work below ground floor level

Stanchion bases and ground beams (not reinforced).
R.c. ground floor slab on hardcore.
Brickwork below ground floor level.

cost per sq. ft.	s	d
	1	2

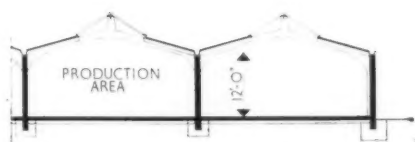
5	1 1/2
---	-------

building illustrated



Oppo

The
centr
inter
Step
office
water
space
but
whic

Long section [Scale: $\frac{1}{32}'' = 1' 0''$]Cross section [Scale: $\frac{1}{32}'' = 1' 0''$]Opposite, top: floor plan [Scale: $\frac{1}{32}'' = 1' 0''$]

The interior of each unit is well lit by a large central rooflight running the full length of the interior, seen here from the back of the building. Steps lead up to the storage space over the office and lavatories. As an economy the cold water storage tank has been left exposed in this space. Tenants provide their own light fittings, but there are power points on each column, which were included in the contract.

STRUCTURAL ELEMENTS

s d

Frame or load-bearing element

3 2½

Precast concrete frame structure of purlins and ridge, on roof beams, 15 deg. pitch spanning 33 ft. 6 in. and supported at 15-ft. 6-in. centres on columns.

External walls

2 4½

11-in. hollow walls, outer skin of facings, inner skin of fair-faced flettons in production area. Front elevation: outer skin of Kent Grey Black wire-cuts.

$$\text{Ratio: } \frac{\text{solid wall}}{\text{floor area}} = \frac{0.283}{1}$$

Windows

11½

Front elevation; softwood framed fixed lights, opening metal casements with infill units of plywood and 2-in. wood wool. Remainder: metal casements.

$$\text{Ratio: } \frac{\text{windows}}{\text{floor area}} = \frac{0.047}{1}$$

External doors

9½

2-in. hardwood, glazed front and rear entrance doors in softwood frames. Softwood sliding access door to production area.

$$\text{Ratio: } \frac{\text{doors}}{\text{floor area}} = \frac{0.046}{1}$$

Upper floors

6

9-in. \times 2-in. softwood joists at 16-in. centres and not exceeding 11 ft. span. Area: 3,810 sq. ft.

Staircases

4

Number of staircases: 9 (softwood open strings with 8-in. handrail on steel standards). Width: 2 ft. 7 in. between strings. Total rise: 7 ft. 5 in.

Roof construction

4½

Softwood beams bolted to concrete purlins and ridge to receive patent glazing (concrete beams and purlins included under frame and load-bearing element).

Rooflights

3 4½

Number of lights: 9. Total area: 15,428 sq. ft.

Glazing

2

24-oz. and 32-oz. sheet to windows, Georgian wired polished plate to external doors.

Total of structural elements: 12s 0½d

PARTITIONS AND FITTINGS

Internal partitions

2 4½

9-in. party wall (9,000 sq. ft.). 4½-in. walls (5,293 sq. ft.). Patent w.c. partitions and doors (1,346 sq. ft.).

Internal doors

5½

54 single, 1½-in. ply faced, solid core flush doors, 2 ft. 9 in. \times 6 ft. 6 in. (50 per cent with observation panels).

building illustrated

Ironmongery

Anodized aluminium mortice locks and lever handles to internal doors, door closers, hooks, letter, kicking and finger plates, dead locks to external doors and floor springs.

Fittings

Nine enquiry hatches (4 ft. 3 in. × 3 ft. 6 in.) with softwood linings, plywood panels and glass sliding doors.

Total of partitions and fittings: 3s 4½d

FINISHES**Floor finishes**

These include skirtings.

Type of finish	Area in sq. ft.	Price per sq. yd.
Monolithic grano	23,454	7s 2d
Coloured grano	1,458	10s 3d
Plastic tile	1,908	18s 6d

1-in. softwood boarding to stores (not included in total floor area) 3,810 sq. ft. at 16s per sq. yd.

Wall finishes

Acid resisting plaster on office and entrance hall walls, rendering and cement glaze in lavatories.

Ceiling finishes

Asbestos insulation board panels to underside of ceiling joists in office area, hardboard and timber supports in production area.

Roof finishes

Asbestos cement tiles, 15,707 sq. ft.

Decorations

Oil-bound water paint to plastered surfaces, ceilings and fair faced brickwork, two coats internally and three externally on metal windows and woodwork plywood panels and hardwood sealed.

Total of finishes: 5s 1½d

SERVICES**External plumbing**

Lead outlets to 4-in. and 6-in. r.w.p.s. (front and rear of party and end walls).

Hot and cold water installations

Copper rising main and down services with "Yorkshire" fittings.

Hot and cold supply; ½-in. branch off rising main to rear yard of each factory. Immersion heater (cost included under electrical installation) in hot water cylinder.

Sanitary fittings

Type of fitting	No. of each type
Sink	9
Lavatory basins	18
W.c.'s	27
Urinals	9

Also includes towel rails, mirrors and toilet roll holders.

Heating and ventilation

This price includes for the incinerator flue.

Electrical installation

Type of point	No. of each type
Lighting	207
2 amp.	9
5 amp.	36
15 amp.	90
Immersion heater	9

Also includes immersion heaters and work in connection with telephones.

Total of services: 3s 11½d

Drainage

Soil drains. Cast iron under buildings, main drains in stoneware with manholes in front of building.

Rainwater drains, pitch fibre under buildings and cast iron under yards.

Total per sq. ft. of floor area:

£45,085 (net cost excluding external works)

30,990 (floor area measured inside external walls)

This figure does not include work to rear yards which are of concrete on hardcore with 9-in.

enclosing walls in facing bricks, 7 ft. high with tubular welded mesh entrance gates. This work

represents an additional lump sum cost of £2,855.

COST COMMENTS

This scheme is an example of how cheaply a straightforward building can be designed within a tight budget. The cost analysis shows an even spread of money over the structure and finishings, and it would be difficult to find any other solution to cut costs further in the structure without losing the inherently simple design.

In the low structure cost of 12s. per sq. ft., rooflights have dominated at 3s. 4½d., although usually this is a fairly low cost element. This clearly reflects the importance of natural lighting requirements in this type of building, especially as the plan shape dictated a minimum window area at each unit end. The roof construction, together with roof finish and ceiling lining, is simple and economical. Perhaps heat loss was not considered an important factor in this case as individual tenants supply their own heating requirements. A complete lack of space heating commitments and minimal electrical installation is reflected in this low cost, and also the simple, repetitive design, which can influence an astute builder's tender.

CONTRACTORS

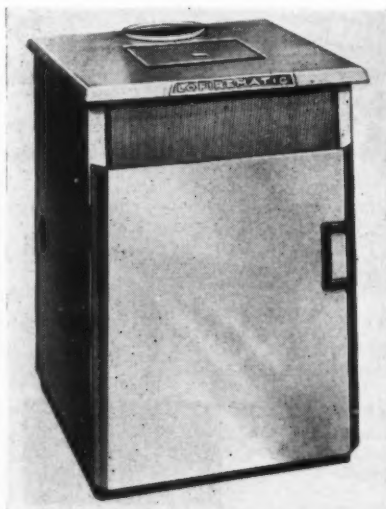
General contractors: David Chaston Ltd. Sub-contractors—Flooring: Rubolin Flooring Ltd. Fibreboard: Tentest Fibreboard Co. Ltd. Cement enamel finishes: Robb's Cement Enamel Finishes Ltd. Bricks: Henry J. Greenham Ltd. W.c. compartments: Venesta Ltd. Wrought steel windows and patent roof glazing: W. James & Co. Sliding door gear: Henderson Ltd. Gas services: North Thames Gas Board. Sanitary ware: T. A. Harris Ltd. Electrical installation: Artisans Ltd. Ironmongery: H. & C. Davis & Co. Ltd.

THE INDUSTRY

Brian Grant describes this week a new boiler, a floor heating system, asbestos casing for steel, smoke pellets, decorative laminates, plaster board, plastic sheet and asbestos sheet, and a car-parking system.

Small Solid Fuel Boiler

The illustration below shows the Lofirematic 15 domestic boiler, which has an output of 15,000 B.Th.U. per hour, and has a large capacity firebox holding enough fuel to last for 10 hours at the low burning rate. Temperature control is by thermostat and there is a simple device for shaking the grate, the boiler being completely sealed so that dust and ashes cannot escape. Boiler top is cast iron, with a sheet steel casing and door. Price, finished in white, cream, or three pastel colours, is approximately £29. (Richard Haighton Ltd., Canning St., Burnley, Lancs.)



Lofirematic solid fuel boiler.

Electric Floor Heating

The Elfido system of low temperature floor heating makes use of electric cables laid in timber floors, the cables being placed in the tongued and grooved joints, which are cut with a comparatively deep groove and a slightly shortened tongue. The floors themselves can be either kiln dried hardwood, sanded and polished, or softwood to take a finish such as cork or P.V.C. Insulation is provided in ground and solid floors with aluminium foil and glass fibre, or insulating boards and glass fibre in joisted floors. Floor temperatures are between 75 and 95° F. so that thermal movement of the floorboards is very small. The manufacturers carry out the whole job themselves, from the insulation to the finished floor. (Wm. Thornton & Sons Ltd., Wellington Rd., Liverpool 8.)

Casing Structural Steel

A new method of cladding steel columns and beams has been developed by Cape Building Products, using a special grade of Asbestolux asbestos insulating board. The board is used in a thickness of $\frac{1}{4}$ or 1 in. and is cut on site to fit the steel section, allowing an extra $\frac{1}{4}$ in. for internal fillets at the cross joints. The casing is fitted together and edge screwed, the fillets being inserted to prevent flame penetration at cross joints. Tests carried out last autumn at Boreham Wood on an 8 by 6 steel stanchion cased with $\frac{1}{4}$ in. Asbestolux gave protection from collapse for 2 hours, and the manufacturers have evolved a series of specifications to give specific degrees of fire protection from $\frac{1}{4}$ to 4 hours. Particular attention has been paid to the detailing of beam and column protection, using a limited number of casing widths for application to universal beam sections. This method of cladding is claimed to have many advantages, including ease and speed of erection and low cost. Services can be run in the hollow of the casing, with removable panels for access to junction boxes. (Cape Building Products Ltd., Cowley Bridge Works, Uxbridge, Middlesex.)

Testing with Smoke

P.H. Thermal Products are now marketing smoke pellets which are burnt to produce a considerable volume of dense smoke.

They can be used for testing chimneys for brickwork leaks or downdraught, extract fans, gas fire flues, direction and throws of unit heaters, and a number of other purposes. The smoke is a cool vapour, and for this reason will pass sideways through brickwork and the mid-feathers of chimney flues instead of rising straight up the flue. Large canisters are also produced to give a large volume of smoke for testing ventilating and air conditioning plants. The method is to remove any filters and light a canister in the main trunking, when the rate at which the various parts of the building fill with smoke should enable the dampers on the branch ducts to be properly adjusted. (P.H. Thermal Products Ltd., Browgate Baildon, Yorks.)

Prints for Decorative Laminates

Harrisons, who print the AJ, are now producing printed base papers for the production of decorative laminates. The problem is apparently not quite as simple as it might seem, as special inks are needed and the paper has to have a plastic base, while allowance also has to be made for the colour change produced by the transparent outer leaf of the lamination. The present range of papers has been designed by Jacqueline Groag, Enid Marx and Edward Hughes, and most of them are available in several colours. Samples are available, and there is also a temporary exhibition of the designs, showing many of them made into laminates, which remains open from 10 to 5 (not Saturdays) until July 15. (Harrison & Sons Ltd., 44, St. Martin's Lane, London, W.C.2.)

Plastics faced Plaster Board

Paramount have just introduced a new plastics faced gypsum plaster board for use in offices, schools, shops, or wherever panels with a ready-made decorated finish may be needed. It is made in standard thicknesses of $\frac{1}{2}$ and $\frac{3}{4}$ inch., and in three different forms, with a plastic film on both surfaces, with plastic on one face and insulating aluminium foil on the other, or plastic one side and a cream or grey finish on the other. The standard plastic facing is white, but it is also available in a range of colours and patterns which can be kept clean with a damp cloth and detergent. The reflectivity

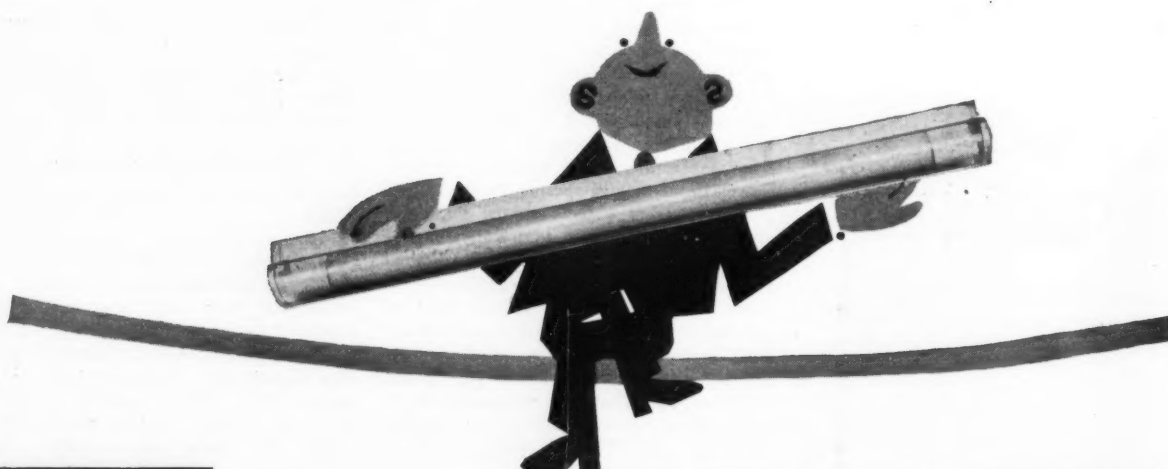
SIELECT the low cost fluorescent lighting



Low cost fluorescent lighting fittings are those that give you most of what you want for your money. See what you get with SIELECT; easy installation and maintenance; special corrosion resistant epoxy resin finish, adaptability and reliability. Now ask about prices and you'll see what we mean by *low cost fluorescent lighting*.

Send for the Sielect folder describing the whole range: single and twin fittings, reflectors and reeded Perspex diffusers.

If you want help in planning or estimating for a new installation let us know and we will send along one of our staff of experienced lighting engineers without fee or obligation.



Associated Electrical Industries Ltd
Radio and Electronic Components Division
Lamps and Lighting Department
38/39 Upper Thames St., London, E.C.4. CEN 2332



CRC11/82

of the
existing
cludes
with or
wide ta
exposed
and can
the tap
proof s
as a lin
Standar
lengths
board
House,
W.1.)

Heat-re
British
and al
known
being
8 ft.,
0-18 in
colour,
A limi
velope
a rece
be stro
finish.
showed
courses
sink u
material

WO
We p
notic
We c
H. S
conso

Name

S. F.
B. D.
R. C.
M. C.
G. M.
Alice
M. R.
H. S.
A. J.
P. Sin
G. U
S. E.
S. Os
D. Ch

* now w

technical section

of the board increases the efficiency of existing lighting, and the plastic film excludes moisture. Cutting and fixing is as with ordinary plasterboard, and a 2½ in. wide tape has been produced to cover the exposed parts of any metal fixing system, and can match or contrast with the board, the tape providing a moisture and dust proof seal. The board is also recommended as a lining for livestock buildings in farms. Standard widths are 2, 3 and 4 ft., and lengths from 6 to 12 ft. (*The British Plasterboard (Manufacturing) Ltd., Ferguson House, 15-17, Marylebone Road, London, W.1.*)

Heat-resistant plastics sheeting

British Celanese are now producing a heat and abrasion resistant plastics sheeting known as Propylex. At the moment it is being extruded in sheets up to 4 ft. by 8 ft., and in thicknesses from 0.010 to 0.18 in. in black, white, and in its natural colour, which is a translucent milky white. A limited colour range is also being developed, and from the examples shown at a recent exhibition it seems that they will be strong and uniform, with a high gloss finish. At the exhibition the producers also showed various applications such as damp-courses, ducting, water tanks and a moulded sink unit, for which latter purpose the material's high abrasion resistance should

be a considerable advantage. Welding of the sheet is comparatively easy, and it is also resistant to sterilising temperatures, and is already used for some hospital equipment. Developments are in hand for the extrusion of tubes, and the good temperature resistance and high softening point should make it suitable for both hot and cold water supplies. (*British Celanese Ltd., Celanese House, Hanover Square, London, W.1.*)

Asbestos cement sheeting

The fifth catalogue in the new U.A.M. Group series has recently been published, and deals with Magnum sheet, a type having a bold profile suitable for the roof and walls of large scale industrial buildings. The sheets are designed for roof pitches between 5 and 15 degrees, and for a purlin spacing of 9 ft. 6 in.: they have a net cover width of 36 in. and are made in lengths from 4 to 10 ft. in 6 in. increments. Weight as laid, and including fixings, is 47½ lb. per sq. yd. Rough prices, supplied with all accessories and fixing bolts, are 165s. per sq. single yd. skin, 319s. for double skin with glass fibre insulation. The catalogue follows the pattern of the previous publications and is to A4 size and classified on the SFB system. (*The U.A.M. Group Advisory Service, Tolpits, Watford, Herts.*)

Mechanised car parking

Almost everyone nowadays has a private solution to the problem of traffic and car parking, most of them based on purely personal needs. Readers may, however, be interested in an automatic system known as the Simcarpark—not, as you might think, intended for the exclusive storage of Simcas, but designed by Simon-Carves. The system involves a multi-storey building with lifts and no ramps. Cars are driven on to a conveyor until the front wheels come up against a stop, and the car is then left with the doors locked and the brake on. Thereafter all is automatic, the car being traversed until it is opposite the lift, moved forward into the cage and hoisted to the appropriate floor, where it is moved out on to a traverser and run sideways to the parking point. Time taken is about 40 seconds, and the same for getting the car out again. Among the advantages quoted by the makers is . . . "cuts out the risk of damage to vehicles by careless staff," a point which will be heartily welcomed by many an embittered garage patron. Simon-Carves will conduct site investigations and erect the building, which can be an open structure or faced with cladding. (*Simon-Carves Ltd., Cheadle Heath, Stockport.*)

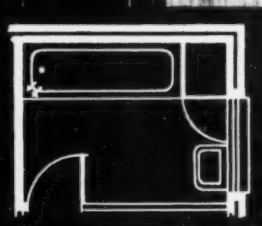
WORKING DETAIL COMPETITION: THE WINNERS' NAMES

We print below the list of this year's winners of the Working Detail Competition. The only point to notice is that Greece has been added (with some apprehension) to the list of countries to be visited. We offer our congratulations to all winners and especially to Alice Mylo, Martin Reynolds, and H. S. Sami, who received awards last year also and have earned a place on this year's list by the conscientious way in which they carried out their duties last year.

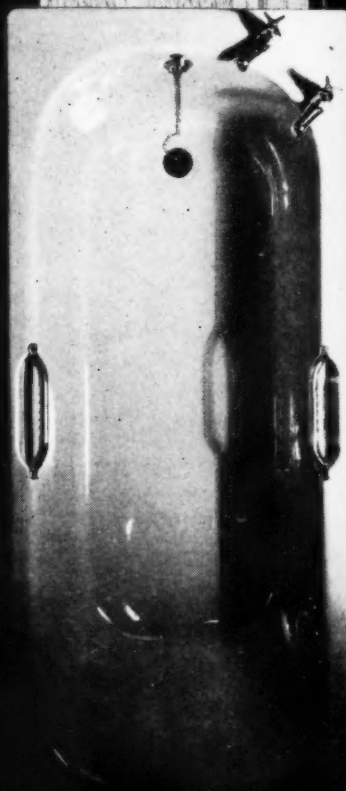
Name	School	Amount	Country
S. F. Bone	A.A.	£30	France
B. D. Clayton	Regent Street Polytechnic	£40	Finland
R. C. Cross	Birmingham	£20	Italy
M. Cummings	Manchester	£20	Italy
G. M. Forbes	Regent Street Polytechnic	£25	Holland
Alice Mylo	Bartlett	£30	Denmark
M. Reynolds	Dublin	£30	Italy
H. S. Sami	Kingston*	£30	Finland
A. J. Sherwin	Kingston	£30	Sweden
P. Sims	R.W.A., Bristol	£20	Italy
G. Uregian	Birmingham	£20	Greece
S. E. Ward	Birmingham†	£30	Switzerland
S. Osgood	Regent Street Polytechnic	£20	Greece
D. Chapman			

* now with Singler and Risden. † now with Coventry City Architect's Department.

For design,
finish...
choice of sizes
and colours,
Architects
need look
no further than
Bilston, the
Bath Specialists



ATLANTA
MAGNA
CRESTA
MARINA
MERMAID
BERMUDA
PRINCESS



BILSTON

Illustrated literature sent on request

Bilston Foundries Ltd. Bilston · Staffordshire

ON

on reques

fordshi

17 CONSTRUCTION: GENERAL

light cladding, 10: erection

Having completed his review of materials* R. Michael Rostron turns to the practical problems relating to the erection of light cladding. He discusses in turn factors bearing on the limitation of the size of components, the degree of shop fabrication, clearances and tolerances (giving suggested values for the latter), the criteria to be met by fixing gear, the varieties now in use and the special problems of fixing to steel and to concrete. He ends by considering site storage, handling and supervision.

The first practical test that any cladding system has to undergo is in erection, and it is in erection that weaknesses in basic and detail designing will begin to be felt. Conversely, good design and attention to detailing can do much to minimise the problems which so frequently arise during erection. Speaking at a conference organised by the American Building Research Institute in September 1955†, Norman Collyer, of a large American contracting firm, said, "I have seen many erection details on approved erection drawings which were physically impossible of fulfilment. There are details shown which, although possible of fulfilment, are so difficult as to make it impossible for the mechanic in the field to do a good job. On the other hand, some of the potentially difficult jobs which we have performed

have turned out to be very simple and without problems in the field—primarily because proper consideration was given to the details." This view is borne out by the majority of British sheath wall manufacturers, especially regarding the provision of adequate tolerances.

The factor which exerts the greatest influence on design is the size and weight of elements which can be properly and conveniently handled. This in turn is related to the size of job, the skill and experience of available manpower, the degree of site management and the availability of cranes and hoists. It is difficult to make any general observations on the maximum size or weight of individual elements. The presence of scaffolding or adverse wind conditions may make the handling of large, light panels difficult, whilst the handling of heavy items on a small job may be impossible in the absence of a crane. A good general guide for most jobs is to have no items heavier or larger than can be conveniently lifted on the hoist or crane available and which cannot be handled easily by four men. When components are faced with finished surfaces or when they are easily damaged, it is probably advisable, if they are to be positioned by hand, to restrict their size and weight to that which can be manoeuvred by two men, say 80-90 lb.

The size and weight of components which can properly be handled are probably the most important factors in determining the manner and extent in which the cladding is broken down into individual units. It will influence such considerations as whether the cladding will be composed of assembled wall units, or of a subframe into which panels and windows are fitted. It will also affect the proportion of shop and site work and, ultimately, the number of site joints. All of these points are important basic design considerations and all will exert their influence on cost and performance.

The two extremes of the ratio of shop to site work and its effect on the design of the wall are shown in Figs. 1 and 2. In Fig. 1 the wall is composed of structurally and functionally self-contained panels completely shop fabricated which are simply attached to the structure. Site work, including joints, is reduced to a minimum. Such panels must be easy to attach to the structure and strong enough not only to support themselves and resist wind loads when in position, but also to withstand strains imposed in transport and handling. The other extreme is shown in Fig. 2. A light secondary framing system is attached to the structure and into this grid are fitted opaque panels, fixed glazing and opening windows as required. Panels and windows are made to

* Previous articles in the series were as follows: Heat Transmission, February 25, 1960; Stability, March 3; Condensation, March 10; Fire Resistance, March 17; Sound Insulation, March 31; The Joint, April 28; Materials and Finishes, Metals, May 12; Materials and Finishes, Timber and Glass, May 19; Materials and Finishes, concluded, June 23.

† "Metal Curtain Walls": report of a conference held in the Chamber of Commerce of the United States, Washington, D.C., on September 28 and 29, 1955. National Academy of Sciences publication 378. December 1955, page 140.

Note: Reinforced Polyester Resins. In the last article of this series published on June 23 there was a reference to reinforced polyester resins which has been shown to be in some respects out of date. This reference occurs on page 968 and the points needing correction are as follows: These resins are no longer reinforced with glass cloth: the correct description of the reinforcement now used is "chopped strand mat." "Filon" is a glass fibre and nylon reinforced polyester resin. The quality of the resins used has improved greatly of late and the makers of "Filon" claim that theirs will not darken on exposure to sunlight. Reinforced polyester resin sheets can be bent but cannot "be pressed at room temperatures." Although sheets are not "fireproof," they hold a classification under B.S. 476 Part 3: 1958 of EXT.S.A.D, while "self-extinguishing sheet" is classified as EXT.S.A.A. Lastly, sheets are sold in two thicknesses for building purposes, 6 oz. and 8 oz., and are available not only translucent but also opaque and semi-opaque.



Ruber vent

Patent applied for

Trade Mark Registered

ISOLATED & VENTILATED BUILT-UP ROOF

stops roof blisters

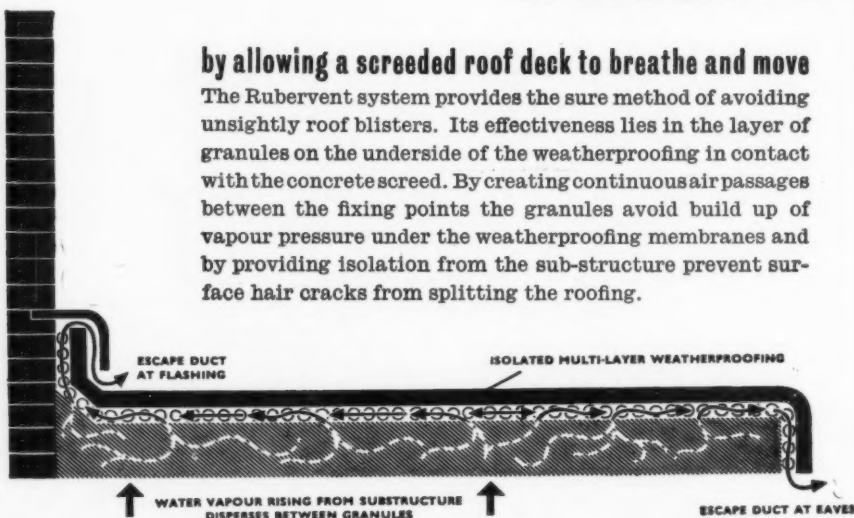


Fixing and workmanship

Ruber vent is available only when supplied and fixed by the Contract Division of The Ruberoid Company. A range of specifications is available for flat, sloping and concrete shell roofs.

by allowing a screeded roof deck to breathe and move

The Ruber vent system provides the sure method of avoiding unsightly roof blisters. Its effectiveness lies in the layer of granules on the underside of the weatherproofing in contact with the concrete screed. By creating continuous air passages between the fixing points the granules avoid build up of vapour pressure under the weatherproofing membranes and by providing isolation from the sub-structure prevent surface hair cracks from splitting the roofing.



For full details and model, write or telephone:

THE RUBEROID COMPANY LIMITED, 696 COMMONWEALTH HOUSE, 1-19, NEW OXFORD STREET, LONDON, W.C.1. TEL: HOLBORN 9501 (5 LINES)
RV6137

technical section

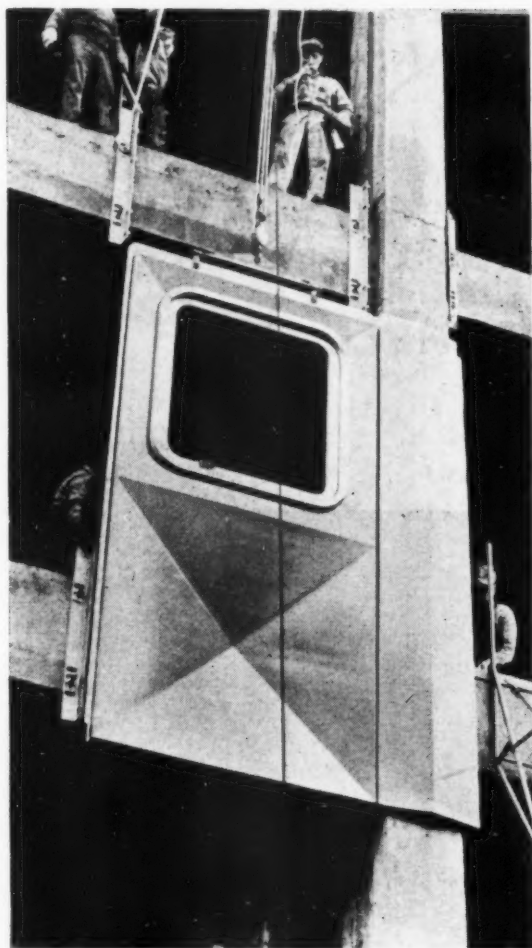


Fig. 1. Erection by units.

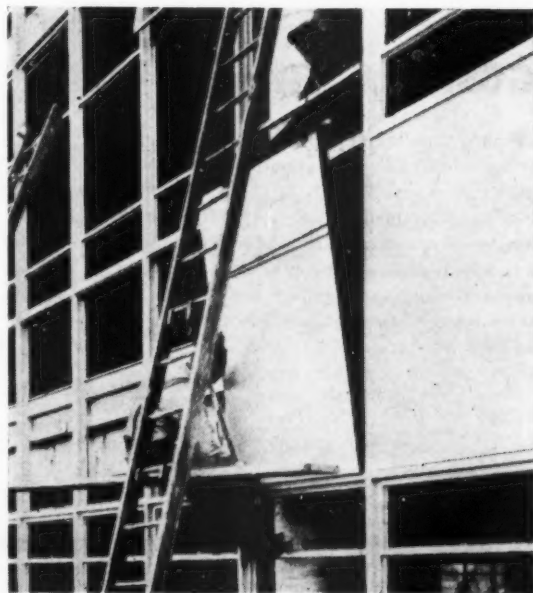


Fig. 2. Erection by parts.

size in the shop, but the wall is assembled on site. The cost of the finished wall will be materially affected by the simplicity and ease of assembly either on the ground or in position.

Although the choice of cladding system will depend to a great extent on ease of handling, the balance of cost between shop and site work is perhaps of equal importance. The factors affecting the relative advantages of shop and site fabrication are many and vary with the building type, locality and the economic requirements of the programme, but for every building a point will be reached at which the cost of shop fabrication will increase more steeply than the cost of the same work on site.

In Britain this point is at present reached more quickly than in America, where the differential between material and labour costs is greater. Consequently American practice tends to favour the view that because labour costs are less, working conditions better and supervision more complete in the shop than on the site, all work which can be carried out in the shop should not be left to be done on the site. As a result of this policy, the use of prefabricated wall units, incorporating spandrel panel and glazing is far commoner in America than in this country. In Britain cheaper labour costs and the consequent reduced emphasis on site mechanisation have confined cladding technique to an assembly of parts rather than an assembly of built-up units.

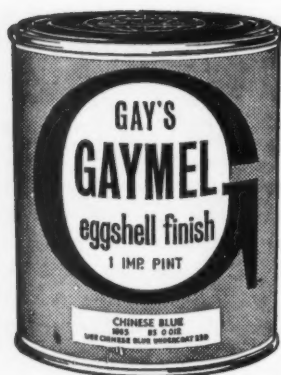
There are signs, however, that this is not a completely profitable line for future development. An assembly of parts automatically requires a large number of site joints—notoriously the weakest part of the wall—and the increasing differential between labour and material costs, together with steadily increasing wages (see Fig. 3), is bringing us closer to the American economic climate. It would appear that future developments in cladding technique in this country should be guided by the possibility of increasing shop fabrication and reducing site assembly; limited use is already being made of complete walling units, often including structure, cladding panels and windows (Fig. 4), and should be encouraged.

Before any system which requires speed and accuracy on site is able to function efficiently and economically, it is essential to form clear solutions to those problems which can upset the most carefully planned schedules; problems such as the provision of clearances and tolerances and the attachment of cladding to the structure.

Clearances and Tolerances

The provision of adequate clearances and tolerances is necessary in every structure, and if provision is not made at the design stage, it will be made during erection, with consequent delays and deficiencies in workmanship. Although the terms clearance and tolerance are often regarded as synonymous, their meanings and functions are quite distinct. Clearances have been defined* as designed allowances to permit proper working conditions

* Report of the Architectural Metal Curtain Wall Workshop Conference, published by the Building Research Institute, Washington, D.C. November 1956, page 28.



GAYMEL EGGSHELL FINISH

First came Gaymel Gloss Finish, then the new Gaymel Flat Finish and now GAY's introduce a further addition to their superb range of finishes—GAYMEL EGGSHELL FINISH.

This is an exceptionally high quality finish for interior use. It gives a true 'eggshell' sheen with a toughness and durability that withstands frequent washing. Gaymel Eggshell Finish has a semi-paste consistency and can be applied coat on coat—without a separate undercoat—by brush, roller or spray. It is available from stock in 36 intermixable colours selected from Gay's Architect's Range. For really top class results, with less time and labour, specify GAYMEL EGGSHELL FINISH, another sound paint by Gay's.



Write for full information and shade cards to:—

R. GAY & CO. 93/97 New Cavendish Street, London, W1

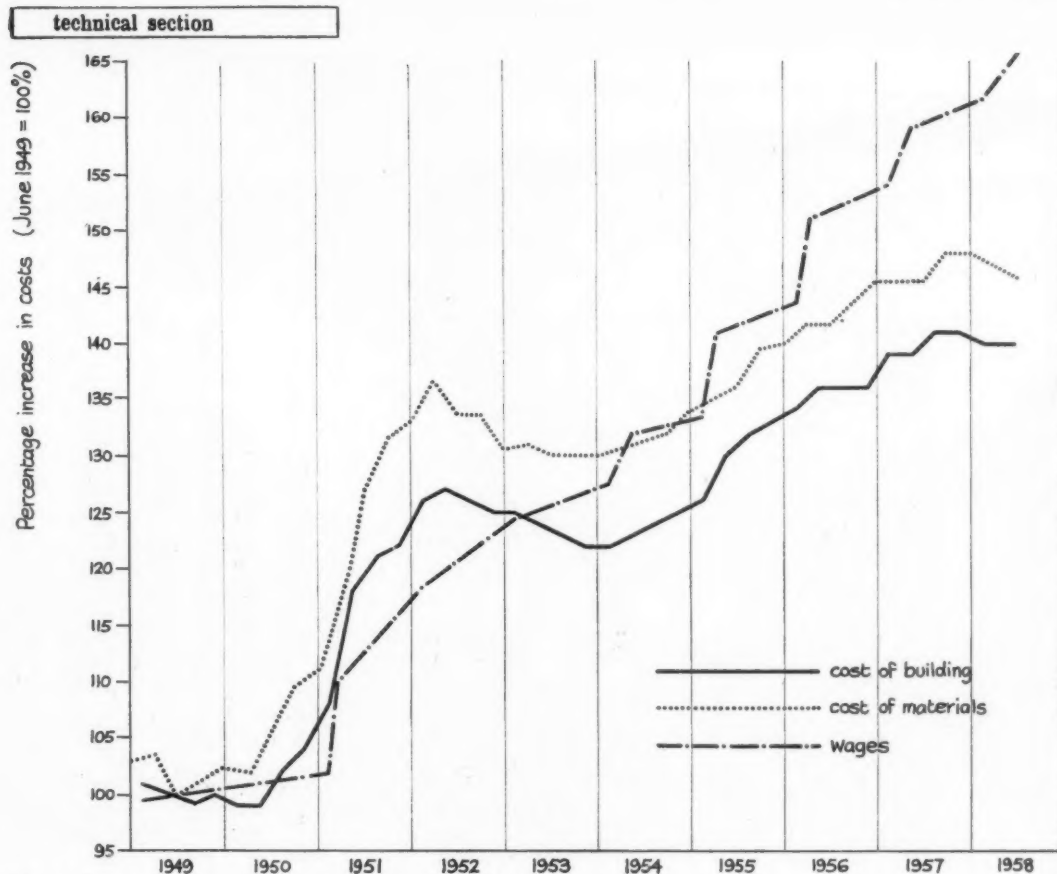


Fig. 3. Comparative costs of materials, wages and building since 1949.

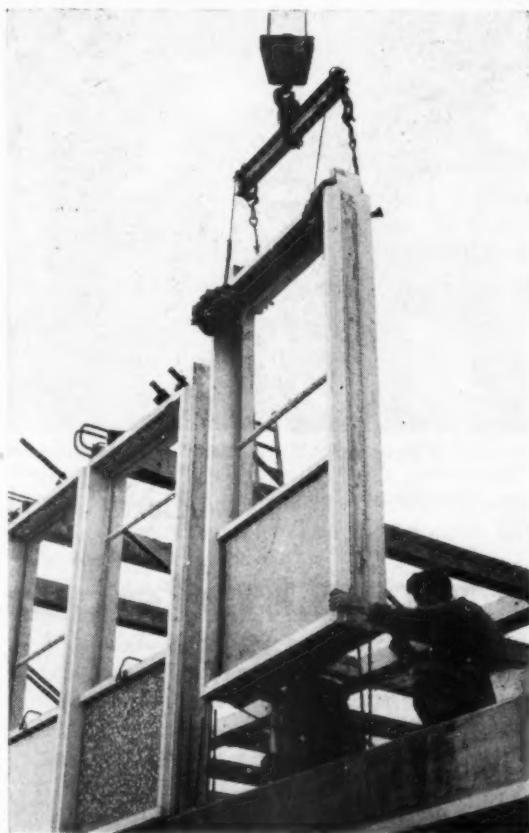


Fig. 4. Site assembly of "Laingwall" wall units.

and to accommodate thermal and structural movement, whilst tolerances are designed provisions for errors or variations from standard in workmanship.

Clearances which are most important in erection are working clearances, that is the allowance of sufficient space to erect the wall without undue difficulty. Such clearances are necessary to provide access to fastenings and joints both during erection and for subsequent maintenance and also to allow space for subsequent work in connection with services. The actual size of working clearances becomes critical when the cladding and the structure are in close proximity, such as in a sheath wall, and when erection is carried out from inside the building. Although attachments and fastenings should be avoided in the space between the interior face of the panel and the edge beam or column, contractors claim that it is always necessary to have access to this space. Under normal conditions, a two inch minimum working clearance will be satisfactory.

The size of clearances to accommodate thermal and structural movement and to allow for sealing joints has already been dealt with.* There seems to be fairly general agreement that architects are aware of the need to detail and specify adequate clearances, but the same cannot be said about tolerances. The majority of metal cladding systems, whether erected in complete units, or from parts, are manufactured to fine limits with tolerances of the order of $\pm 1/32$ in. It is too much to hope that even the most accurately erected steel structure

* Dimensional Stability, AJ, March 3, 1960.



New Police Headquarters & Court House · Exeter

The City Architect ensured a perfect result by specifying our:

Architectural Veneered Panels in English Walnut.

"Mallite" Standard Oak Panels.

Selected Yugoslavian Oak for solid joinery and specially made table-tops veneered in Figured Australian Walnut.



H. B. Rowe, F.R.I.B.A., A.M.I.Struct.E.—City Architect, Exeter. F. Mould, A.R.I.B.A.—Deputy City Architect. Contractors for Joinery, Tables, etc.—Messrs. T. B. Keats & Co. Exeter.

William Mallinson and Sons Ltd.

TIMBER AND VENEER MERCHANTS
130 HACKNEY ROAD · LONDON · E.2
Telephone: Shoreditch 7654 Telegrams: Almoner, London

MANUFACTURERS OF PLYWOOD · ARMOURPLY · PANELS AND COMPOSITE PARTITIONING

technical section

will approach this precision, and the problem is more severe when the structure is of concrete.

British manufacturers and contractors are unanimous in their claims that architects have not yet faced up to the problem of the dimensional incompatibility of cladding and structure. Cases have been related to the author where an entire erection gang has been idle for many days whilst adjustments were made to the structure, sometimes as much as 1½ in. of concrete being hacked away. Apart from lost time and extra cost (important enough, surely), such improvised site adjustments can only have an adverse effect on the finished appearance. If delays are to be avoided, it is impracticable to measure the erected structure and manufacture the cladding system to fit. Allowance for adjustment and the provision of sufficient tolerances must be made at the design stage, and these must be combined with a zealous insistence on accurate structure. The following are among the most common variations:

- (a) non-vertical and non-horizontal structure producing deformed openings,
- (b) deformed structural members caused by bowed or buckled shuttering,
- (c) structure out of alignment,
- (d) dimensional inaccuracy in structure,
- (e) dimensional variations caused during erection by temperature changes.

The best cladding erector can only be as accurate as the structure and it is with greater structural accuracy that part of the solution lies. This can be produced to some degree by better supervision by architect, clerk of works, and general contractor over structure sub-contractors, and by closer co-operation and understanding of the problem by general contractor and structure sub-contractor. That this accuracy can be obtained is illustrated by the erection problems overcome at Bousfield School, London (Architects Chamberlin, Powell and Bon). The steelwork here is treated as "joinery" rather than "carpentry" and all elements, steelwork, windows, cills, trim, etc. had to fit well. Structural accuracy was essential, and this was effected in four ways:

- 1. Structural tolerances were specified: $\pm \frac{1}{8}$ in. in 6 ft. 8 in. (bay width) and $\pm \frac{1}{4}$ in. in every 100 ft. overall.
- 2. Clerk of works was supplied with a new 100 ft. steel tape and instructed to keep strictly to specified tolerances.
- 3. Architect was on site during erection of steelwork.
- 4. Steel erectors were informed that tolerances had to be kept to specified limits.

The combination of specified tolerances, good supervision by architect and clerk of works and the co-operation of the steelwork contractors resulted in these tolerances being kept, and every part fitted.

This example is quoted to illustrate that greater structural accuracy can be obtained if a real effort is made. To this end the following recommendations are suggested:

- 1. *Numerical values of structural tolerances should be included in the specification and enforced.* The actual values of these tolerances should be ascertained in discussion with the contractors on the basis of accepted

tolerances in use in the particular trade. At the same time it is as well to remember that some buildings (such as the one quoted above) call for structural accuracy greater than average and it is not unreasonable to insist on this standard when necessary. In such cases the following tolerances are possible:

STEEL: $\pm \frac{3}{32}$ in. in 10 ft. 0 in. and $\pm \frac{1}{4}$ in. in every 100 ft. 0 in. overall.

REINFORCED CONCRETE: $\pm \frac{1}{4}$ in. in 10 ft. 0 in. and $\pm \frac{5}{8}$ in. in every 100 ft. 0 in. overall.

PLUMBING TOLERANCES: 0 to 5 storeys $\pm \frac{3}{4}$ in. maximum, over 5 storeys ± 1 in.

- 2. Shuttering to reinforced concrete must be strong enough to avoid bowing, warping, buckling and straining. This is the sub-contractor's responsibility but its importance should be very strongly pointed out.

- 3. The highest degree of site supervision during structural work is of the utmost importance. Time spent in supervision at this stage may be saved many times over later in the contract.

The thermal expansion and contraction of structure can be a very severe erection problem on buildings which are horizontally or vertically large. The roof may expand and contract enough to push exterior walls out of plumb and back, and as the sun moves round a building during the day, the structure may go with it to a great enough extent to upset working lines. Unfortunately there is no complete answer to this problem. The provision of expansion joints in the structure only partly solves it, the real difficulty being that the structure may be "accurate" and "inaccurate" absolutely at different times during the day. It is a problem which is connected with the accommodation of thermal changes in the joint, and the only solution seems to be to assume an accuracy relative to the structural members and to take up inequalities in the joints.

It will be noticed that the insistence on structural exactness by specifying and enforcing tolerances is only a part solution to the problem of fitting the cladding to the structure. Structural tolerances are not of the same precision as cladding system tolerances and these differences must be taken up in the detailing of the cladding system. This is a matter for joint consultation between architects and cladding manufacturers, and it has not yet been thoroughly examined. The filling of all gaps and open joints with mastic has been deplored elsewhere, and more thoughtfully calculated solutions in the form of cover beads and plates, sliding joints and double members are necessary.

It should be mentioned that clearances and tolerances are additive and not interchangeable: for example a $\frac{1}{4}$ in. tolerance should be added to and not replaced by a 2 in. clearance.

Attachment to Structure

It has been shown that even when the structural frame of a building has been erected within fine limits to specified tolerances it is impossible to obtain an exact correspondence between structure and cladding. Their relationship is such that adjustments in relative position will always be necessary during erection, and these



a bidet to complete the Kingston trio

This 'Standard' Bidet completes the trio of products with the name Kingston. The others are a lavatory basin and a closet. All three are characterised by design that is both elegant and sensible. And these fine shapes are made in 'Standard' vitreous china. This material is non-porous so that hygiene is not solely dependent on the glaze. And its strength makes it highly resistant to accidental damage. When you want fine design in the right material, specify 'Standard' vitreous china.

Kingston bidet by Standard



477

MANUFACTURED BY IDEAL BOILERS & RADIATORS LTD • IDEAL WORKS • HULL

technical section

adjustments are usually made at the point where the cladding is attached to the structure. The system of attachment may be regarded as a flexible intermediary between cladding and structure and must conform to a number of requirements varying in severity with the type of cladding employed.

1. *Adjustment.* The most obvious and important requirement of the attachment device is that it must be capable of providing a small degree of adjustment to the entire cladding in any direction (Fig. 5). From both technical and visual aspects, the success of the complete wall will depend to a great extent upon correct positioning and alignment of cladding units.

2. *Corrosion Resistance.* All attachment devices must be able to retain their properties without maintenance, and must therefore possess a high degree of resistance to corrosion. Stainless steel is accepted as top quality, but expensive. Plated and galvanised fittings may be satisfactory if erected with care, but, with all steel components which depend for protection on a corrosion resistant

skin, care must be taken to avoid breaking the skin. L.C.C. byelaws, however, do not permit fastenings of ferrous metal except stainless steel (Cl. 3. 21, (2)), and fire resistance requirements (q.v.) rule out the use of most alloys for attachment devices.

3. *Strength.* The attachment device must have sufficient strength to support the cladding units not only after erection, but during erection. It is a common practice during erection to attach each component provisionally with one fastening and to complete the attachment after alignment. For this reason it is recommended that one attachment device should be capable of safely supporting at normal temperatures the component to which it is connected. In addition, two-thirds of the fasteners should be capable of withstanding the entire wind load of the cladding.

4. *Security.* Attachment devices must permit some relative movement to take place between structure and cladding to compensate for thermal and moisture changes but they must also be firm enough to avoid vibration and slipping. This is usually effected by means of flexible clips or gaskets, and BRS are carrying out experiments with plastic and fibrous washers.* Although some frictional movement is necessary, the rigidity of the connection should not depend solely on friction and slotted holes should be used to ensure safety and security.

5. *Fire resistance.* Attachment devices should be made from materials which will not lose their strength quickly in a fire. Although fire protection is not possible unless the device is encased in concrete, the requirements of public safety demand that when attachments to structure are made internally (and this excludes beads holding panels externally) the attachment device should be able to support the wall at an internal temperature of 1,500 deg. F. This means that aluminium and tin and zinc based alloys are unsuitable for fastenings.

6. *Simplicity.* Simplicity of design of the attachment device will not only make for cheapness in production, but will also ensure a quickly erected and more economical wall.

Consideration of attachment devices may conveniently be divided into two parts: the device itself and the method of attachment to the structure.

The simplest attachment device consists of two slotted metal angles spaced with metal shims (Fig. 6, a). Because of its extreme simplicity, this device, or numerous variations upon it, is by far the most common in use. It may be used with equal ease and with satisfactory results for the attachment of framing systems, panels or units, and is, basically, possibly the best device available. Attachment to metal framing elements are often made with a hook-bolt and lock-nuts (Fig. 6, b). This has the advantage of attaching the cladding to the structure with one component, but adjustment is usually only possible in two directions unless the unit being attached is provided with slotted holes. The greatest use of the hook-bolt is probably in the attachment of sheet cladding, when lateral adjustment is unimportant. Extra rigidity

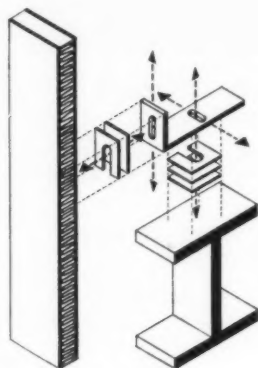
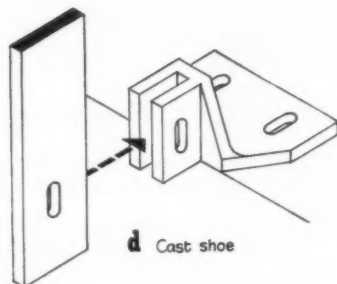
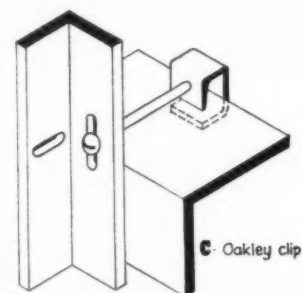
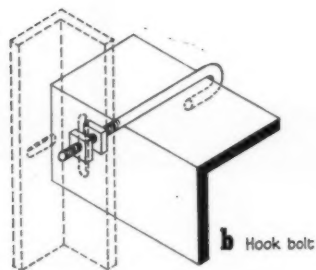
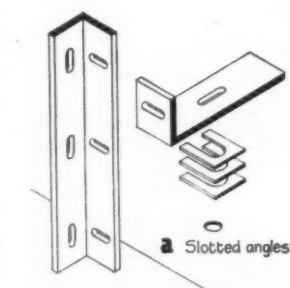


Fig. 5 (left). Attachment allowing 4-direction movement (from Princeton University study "Curtain Walls of Stainless Steel").

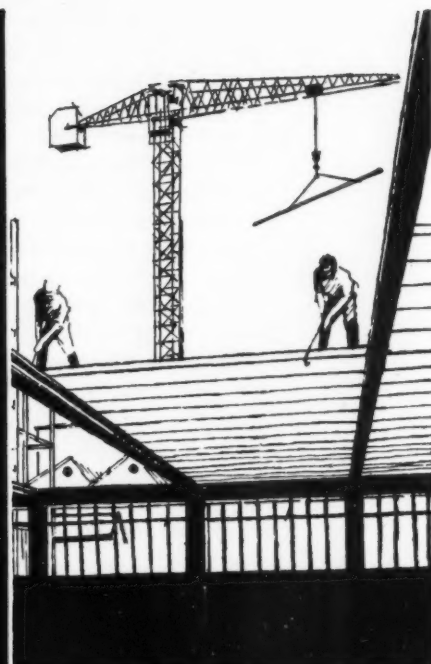


*BRS Digest No. 112. HMSO July 1958.

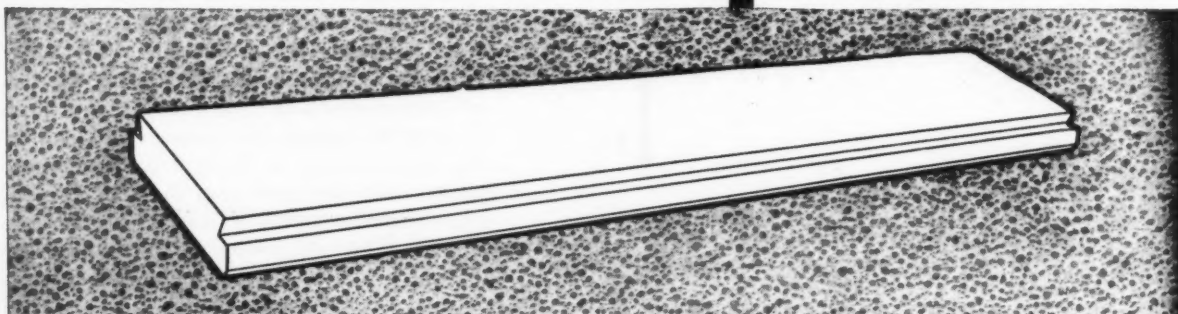
INDUSTRIAL ROOFING WELCOMES THE **SIPOREX** AGE

For over 25 years in widespread use in Northern Europe and many other parts of the world, SIPOREX, the lightweight cellular structural material *is now being manufactured here.*

Siporex revolutionises building techniques and offers architects and structural engineers many outstanding advantages.



- ★ 25 years successful experience all over the world are behind Siporex.
- ★ Over 30 million sq. yds. of Siporex roofing have already been laid, from the equator to the arctic.
- ★ Siporex is simple and rapid to erect—reducing site labour costs.
- ★ Siporex has a thermal insulation ten times that of concrete and is completely incombustible.
- ★ Siporex is only a quarter the weight of an equivalent volume of concrete, reducing the cost of structural framework and foundations.
- ★ Siporex compares favourably in price with other building materials.

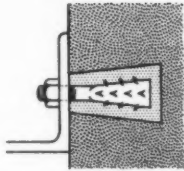


SIPOREX THE MODERN LIGHTWEIGHT CONSTRUCTION MATERIAL

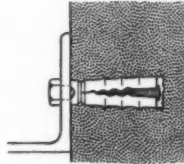
Manufactured in Great Britain by: COSTAIN CONCRETE COMPANY LIMITED (A member of the Costain Group)
DUNCAN HOUSE, DOLPHIN SQUARE, LONDON, S.W.1. SIPOREX FACTORY, NEWARTHILL, LANARKSHIRE, SCOTLAND

technical section

a Lewis or rag bolt
Grouted into undercut holes
Diameter $\frac{5}{8}$ " to $1\frac{1}{2}$ "
Length 5" to 12"



b Expansion bolts
Expanded in drilled hole
Bolt diameter $\frac{3}{4}$ " to 1"



is achieved by welding the bolt to the frame after fixing, but if this is done, alternative provision for panel or sheet movement must be made.

A rather more refined version of the hook-bolt is the Oakley clip (Fig. 6, c). In principle it is similar to the hook-bolt, but the substitution of a simple screw head for a bolt externally is an advantage when this is exposed. In addition the threaded part of the shank, where the galvanising is thinnest, is protected from the weather.

Metal shoes, either cast or of welded sheet, are a common feature of many standard sheath walls (Fig. 6, d). Similar in principle to the slotted angles in Fig. 6, a, they are braced to provide a more rigid attachment.

Attachment devices must be capable of being fixed to timber, steel or reinforced concrete structure. Site drilling and screwing to timber are straightforward and present no problems, but attachment to steel and concrete is not so easy. Direct bolting or screwing to structural steelwork is satisfactory provided site drilling or punching of the steelwork is avoided. In practice, however, the co-ordination of cladding fixing details and steelwork drilling before delivery to the site is an extremely tedious procedure, and demands extraordinary accuracy in erection of structure. The correction on site of drillings which are out of alignment is a most difficult and time-wasting operation.

With these difficulties in mind, the Northamptonshire County Architect, in a group of schools erected in 1951-3, introduced to this country the Nelson Stud Welding method which had previously been used in the United Nations Secretariat. In this technique the stud fixing bolt is gripped by the welding apparatus, positioned and welded to the steelwork in one operation. It is extremely speedy and accurate and obviates both shop and site drilling, and its efficacy is confirmed by the County Architect, Mr. A. N. Harris: "I can say that the technique of stud welding fulfilled all our expectations . . . and is still sponsored by this department in connection with the fixing of sheath walls."

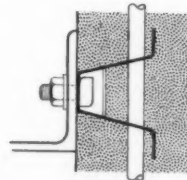
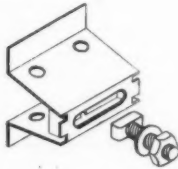
The simplest method of fixing to concrete is the fibre or white bronze plug. Timber plugs or inserts are not recommended because of the danger of rot. Where greater strength is required, Lewis bolts (Fig. 7, a) may be used, but their installation is tedious. The holes in which they are inserted must be well undercut, and they are unable to accept loading for at least forty-eight hours after grouting in position. Expansion bolts (Fig. 7, b) overcome these drawbacks; holes may be drilled and no grouting is necessary.

There are a number of disadvantages to these fixing methods. Site drilling of in situ concrete is necessary and if bolts are shop-inserted in precast work, experience has shown that they become damaged and rusted before attachment can be made. But perhaps the greatest disadvantage is their lack of adjustability. With the exception of the Lewis bolt, the bolts are positioned centrally in the holes and this demands great accuracy in drilling.

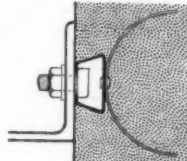
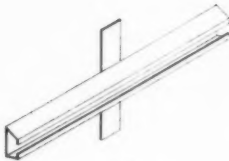
The most flexible and satisfactory method of fixing to concrete is to use some form of insert which is attached

Fig. 7. Non-adjustable attachments to concrete.

a Ankortite box insert
3" long in 16g and 10g mild steel
Bolt dia. $\frac{3}{4}$ " and $\frac{5}{8}$ "
 $1\frac{1}{2}$ " lateral adjustment



b Ankortite channel insert
18g galvanised mild steel
Maximum length 10'0"
Bolt dia. $\frac{3}{4}$ "



c Rigidix channel insert
Maximum length 4'0"
Bolt dia. $\frac{3}{4}$ "

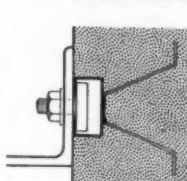
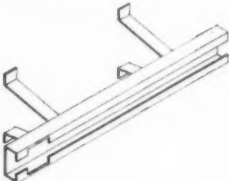


Fig. 8. Adjustable attachments to concrete.

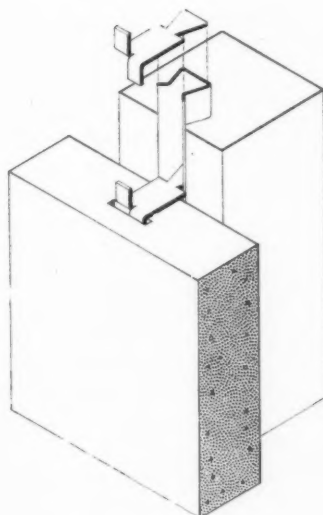
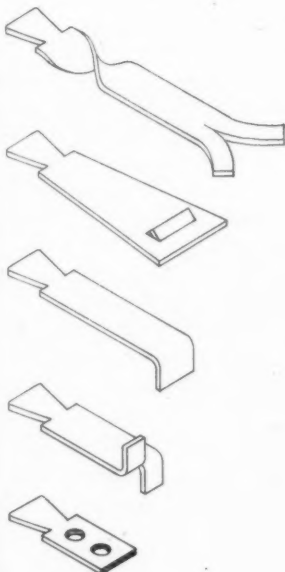


Fig. 9. Dovetail slots.

technical section

to the shuttering. Inserts (Fig. 8) may be of individual or continuous form and are provided with anchor legs or with holes to accommodate reinforcement. Both types give a degree of lateral movement to the bolt and the continuous channel type also ensures alignment of bolt rows.

Dovetail slots and anchors (Fig. 9) use a similar principle, but they are used more for anchoring blocks or slabs than for attaching frames or panels, as rigidity is attained only in two directions.

Site procedure

Although the packing and delivery to the site of cladding components is primarily the responsibility of the cladding sub-contractor, these items will influence to a certain extent the cost of the job and are not without interest to the architect.

Generally items which are to receive a site painted finish are delivered without any special protection and are liable to receive slight damage, particularly scratches, during transport. Unless damage is such that the components are unable satisfactorily to perform their function, it is not serious and can be remedied during site finishing. It is not reasonable to expect the contractor to handle part-finished products without blemishing the surface unless this is due to carelessness or abuse in handling.

Components which are delivered to the site with finished surfaces are usually boxed or crated. Unless the product is easily shattered, layers of tough cardboard are sufficient provided they are properly secured. Where a number of components are crated together they should be packed or bundled in sizes and weights which are suitable for handling on site so that unpacking can be delayed until fixing. All crates should be clearly marked externally with the type, finish and position of the component for the same reason. Return or disposal of packing is the sub-contractors' responsibility and untended and unauthorised burning on site should not be permitted.

In both storing and handling, the type and finish of material have a particular bearing on cost. Material which has a rough finish, which is unexposed or which is to be painted, will not require as careful storage or handling as a material which has to be protected against scratching, abrasion and staining. Such materials will require extra care at all times and will cost more and take more time to handle.

Protection of the edges of panels is as important as surface protection. Nicks and edge damage of glass may lead to delayed thermal breakage and may break the seal of double glazed and other hermetically sealed units. Edge damage to precast units, although it may not affect performance, is visually unsatisfactory, and should be avoided by extreme care in handling.

The protection of surfaces is slightly easier. Some manufacturers provide a removable plastic film free of charge on all anodised units and this cocoon is available as an extra on standard finish aluminium. There appears to be no reason why this protection should not be used with equal success with stainless steel and other easily

damaged components and also on panels.

Exposed fixing screws should always be non-ferrous. This applies not only to screws which are visible externally, but especially to screws exposed to air and water in the rebate of metal window frames. Many buildings visited by the author were disfigured by rusting of screws in such places. Chromium or cadmium plating, galvanising or sherardising are not sufficient. It is too much to expect the best craftsmen to drive home screws without damaging such thin protective coatings, and alloy screws should always be used. They are, in fact, becoming standard with many manufacturers.

Erection of cladding from inside the building is not of great importance when the building is of three storeys or less. In such cases simple, light scaffolding is easily erected and convenient to use. For four or more storeys, however, the advantages are great. The heavier scaffolding required for such heights is expensive to install and maintain and in many cases, such as on restricted sites, inconvenient to use.

Erection from the interior requires a hoist at roof level and accessibility to all attachment devices at floor levels. Glazing and panel fixing from inside are not difficult to accommodate except when a back-up wall is necessary. The erection of the back-up wall after the panel has been fixed from inside is unsatisfactory unless the panel can subsequently be removed from outside for maintenance or replacement. This may be done by using double beads to fix the panel and appears to be the only method of erecting the cladding from inside when a back-up wall is required.

The provision of a back-up wall required by fire legislation remains, however, the biggest stumbling block to erection from inside in this country. Of the buildings examined by the author, 70 per cent. used external scaffolding for erection of the cladding and 21 per cent. were erected without scaffolding from inside. 33 per cent. of the buildings were of four or more storeys and for these the figures (significantly) are almost the same, 74 per cent. using scaffolding and 26 per cent. erected from inside. The unexpected similarity of figures for high and low buildings is attributable mainly to the necessity for back-up walls. In schools, where fire resistance regulations are less severe, installation and replacement of panels from inside are more usual.

Glazing from inside offers distinct advantages: maintenance is easier and installation cheaper, as glazing contractors increase labour charges by 50 to 75 per cent. for glazing at height from cradles or ladders. All types of window can be obtained suitable for internal glazing, but extra precautions must be taken in glazing. Glaziers tend to push the glass into the rebate so far that the exterior bedding is too thin and it dries out quickly. To avoid this the use of hollow p.v.c. tube spacers* is recommended when glazing is from inside. If glazing is to reversible centre hung windows which are reversed after glazing the position is less serious, as the thin bed is now inside.

* The Joint. AJ, April 28, page 655, Fig. 6.

errous.
rnally,
in the
visited
ews in
nising
expect
without
screws
coming

not of
reys or
easily
toreys,
caffold-
all and
d sites.

of level
levels.
difficult
essary.
nel has
e panel
ainten-
double
method
ack-up

e legis-
block
uildings
external
er cent.
er cent.
and for
e same,
erected
ares for
to the
e resist-
on and
al.

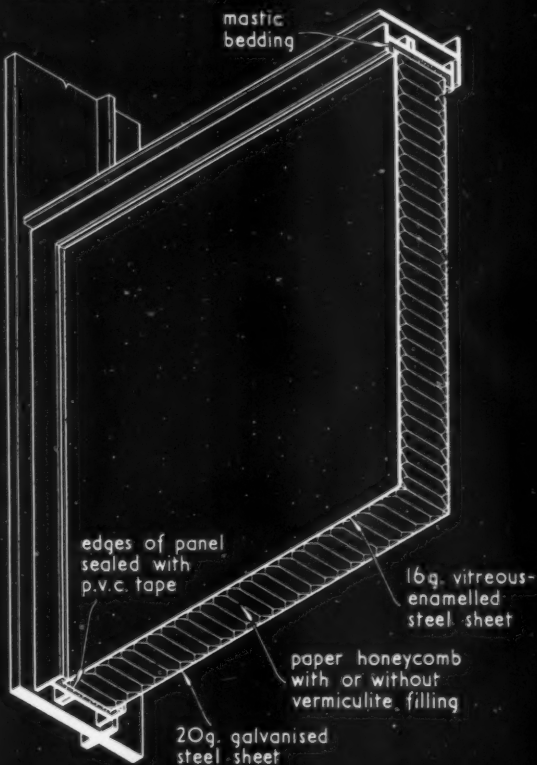
main-
glazing
75 per
ers. All
internal
glazing.
far that
quickly.
spacers*
glazing
reversed
the thin

WALL FINISHES | METAL

The Architects' Journal Library of Information Sheets 775. Editor: Cotterell Butler, A.R.I.B.A.

thickness of panel (in.)	weight per sq. ft. (lb. and oz.)		U value	
	with filling*	without filling	with filling*	without filling
1 1/8	4-13	4-6 1/2	·181	·306
1 5/8	5-1 1/2	4-7 3/4	·152	·304
2 1/8	5-6	4-9	·130	·302

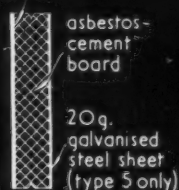
*with vermiculite filling



TYPICAL APPLICATION SHOWING TYPE 3 PANEL

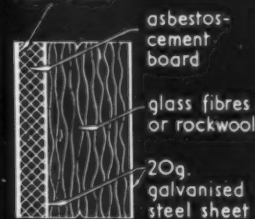
type no.	thickness of panel (in.)	weight per sq. ft. (lb. and oz.)	U value
5	1/2	5-9	·550
	5/8	6-0	·500
	7/8	6-14	·422
7	7/16	3-11 3/4	·619
	9/16	4-1	·503
	13/16	4-11 1/2	·422

16g. vitreous-enamelled steel sheet



TYPES 5 AND 7

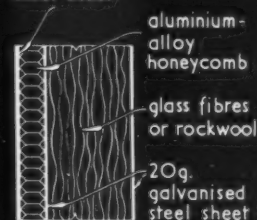
16g. vitreous-enamelled steel sheet



TYPE 1.

thickness of panel (in.)	weight per sq. ft. (lb. and oz.)	U value
1 3/8	7-2	·174
1 7/8	7-6	·128
2 3/8	7-10	·100

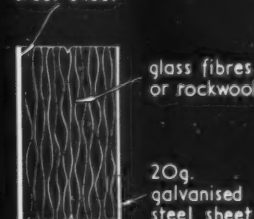
16g. vitreous-enamelled steel sheet



TYPE 2.

thickness of panel (in.)	weight per sq. ft. (lb. and oz.)	U value
1 3/8	6-4 3/4	·156
1 7/8	6-8 3/4	·118
2 3/8	6-12 3/4	·094

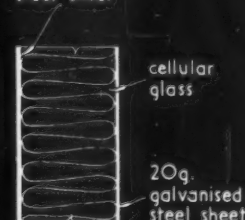
16g. vitreous-enamelled steel sheet



TYPE 4.

thickness of panel (in.)	weight per sq. ft. (lb. and oz.)	U value
1 1/8	4-12	·185
1 5/8	5-0	·133
2 1/8	5-4	·104

16g. vitreous-enamelled steel sheet



TYPE 6.

thickness of panel (in.)	weight per sq. ft. (lb. and oz.)	U value
1 5/8	5-6	·209
2 1/8	5-12	·164

SEAPORCLAD VITREOUS-ENAMELLED INFILLING PANELS FOR CURTAIN WALLS.

Manufacturer: Edward Curran Engineering Limited.

19.H1. SEAPORCLAD VITREOUS-ENAMELLED INFILLING PANELS FOR CURTAIN WALLS

This Sheet describes Seaporclad panels which are manufactured from vitreous-enamelled steel backed with various insulating materials and can be used for the infilling of curtain walls or for facing.

Material and Construction

The panels are of 16 gauge steel with a true glass surface fired at 860° C. The finish is scratch-resistant, will not fade, is highly resistant to chemical attack and cannot chip unless the base metal is buckled. A wide range of colours is available and several finishes (see *Finishes* and *Colours*). All panels comply with the specifications and standards laid down by the Vitreous Enamel Development Council. The panels can be backed with any type of insulating material specified by the architect, or a choice may be made from the range shown on the face of the Sheet which have already been tested to determine their U values. The inner face of the insulation is normally covered with 20 gauge galvanised steel sheet, but where the panels are for facing only this can be omitted.

Types

The seven types of insulated panel shown on the face of the Sheet can be readily made available to the architect's requirements, or any other core materials, e.g. cork, strawboard, etc., can be specified. The facing and insulating materials are bonded with neoprene-based adhesive. Edges can be square or rebated and are finished by sealing with p.v.c. tape.

Sizes

The panels can be manufactured in any size up to 8 ft. 0 in. by 4 ft. 0 in., but the recommended maximum is 6 ft. 0 in. by 4 ft. 0 in. and, where any size over this

is desired, the manufacturer should be consulted. The thickness of the core can be varied to suit requirements, normally from $\frac{1}{2}$ in. to 4 in. in $\frac{1}{8}$ -in. increments.

Fixing

As the insulated panels are completely prefabricated, they can be installed in any type of curtain walling system. They may be bedded in mastic compound and any of the proprietary sealing strips may be used.

Finishes

The vitreous-enamelled panels can be obtained in three finishes, full gloss, matt, and semi-matt, and may also be textured if required.

Colours

The panels can be supplied in almost all the colours in the British Standard range listed in B.S. 2660 (101 range).

Further Information

The manufacturer maintains a technical advisory department available to answer all questions dealing with the installation of Seaporclad panels.

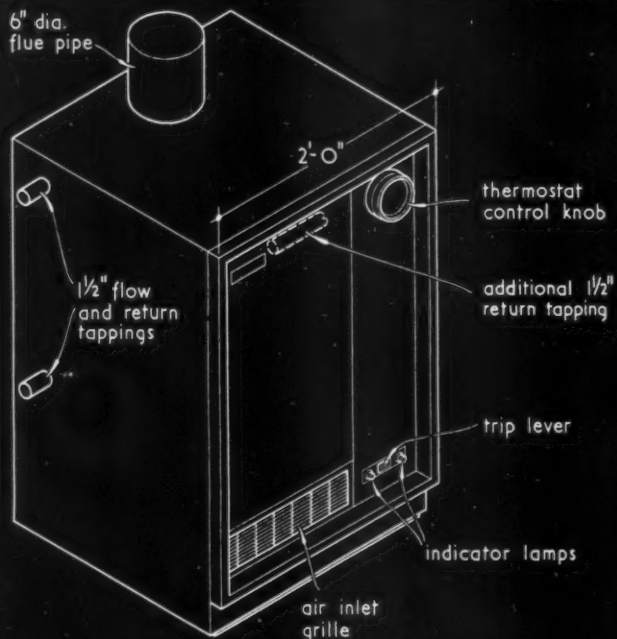
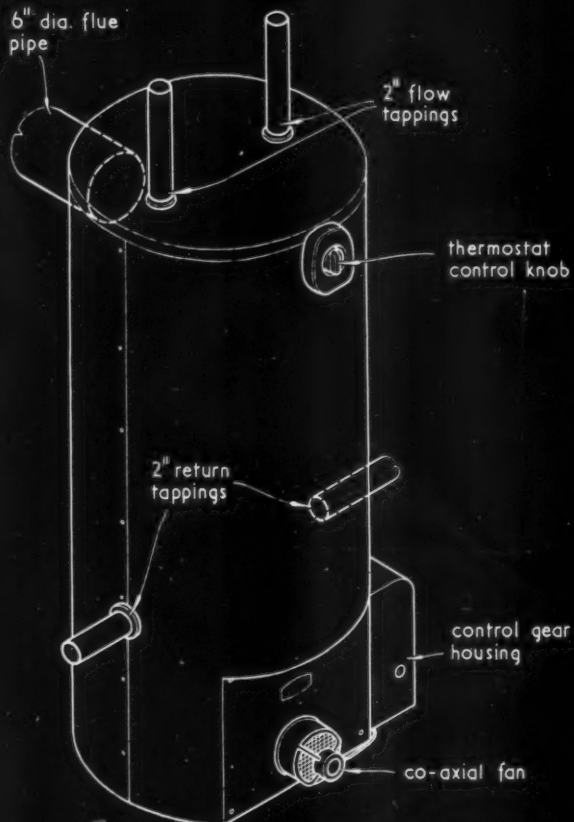
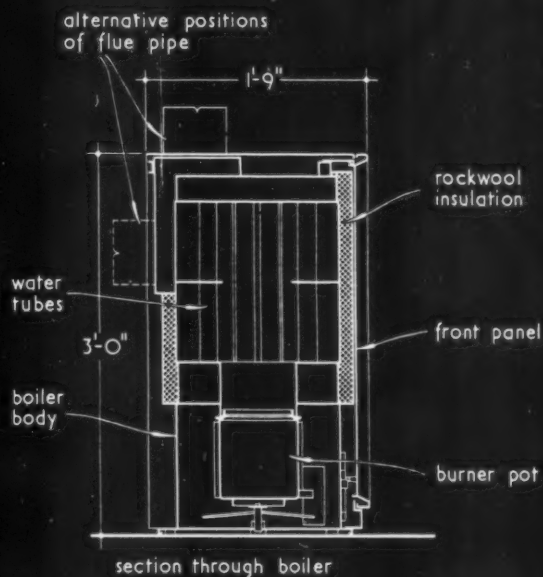
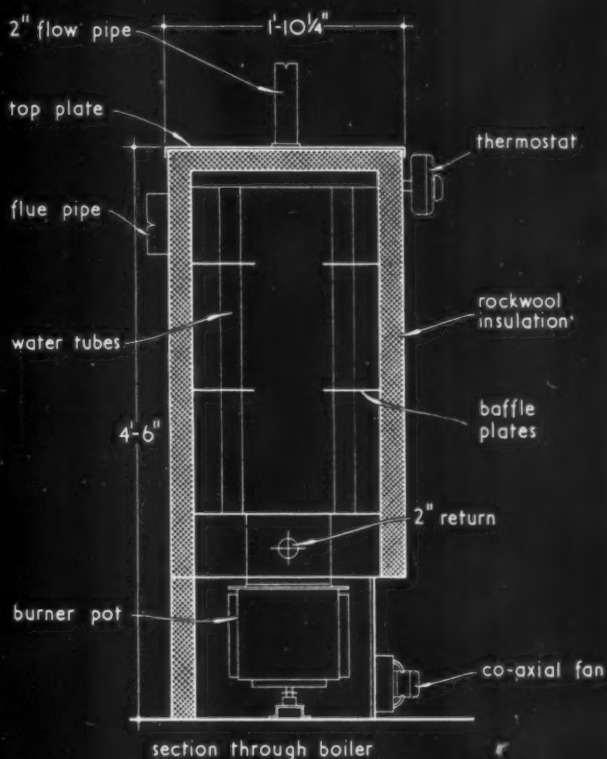
Compiled from information supplied by:

Edward Curran Engineering Limited.

Address : Architectural Division, Cardiff.
Telephone : Cardiff 33644.

WATER HEATING UNITS | OIL**32.EI**

The Architects' Journal Library of Information Sheets 776. Editor: Cotterell Butler, A.R.I.B.A.

isometric view of boiler
MODEL NO. 50.isometric view of boiler
MODEL NO. 80.

32.E1 · REDFYRE CENTRAMATIC · OIL-FIRED BOILERS

This Sheet describes Redfyre Centramatic oil-fired boilers for central heating and domestic hot-water supply. These boilers are thermostatically controlled to cease operating automatically when the temperature of the water reaches a predetermined level and to be re-ignited when the temperature falls.

Design and Construction

Outer casing: The outer casing is of stove-enamelled mild steel. The model 50 has a stainless steel frame at the front.

Boiler: The vertical cylindrical water tube boiler is constructed of heavy gauge mild steel with large-diameter flow and return tappings for gravity or small bore systems.

Burner unit: The patent burner has electric ignition and air for combustion is supplied by a coaxial fan. The burner only operates at "high fire": at "off" it consumes no oil or electricity.

Controls: The operation of the boiler is fully automatic. The controls consist of boiler and flue thermostats, fan relay time switch and float valve for the control of the oil.

Flue connection: Model 50 has a 6-in. diameter top or back outlet. A flue balance chamber fitted with a burner pressure regulator is incorporated in the design of this appliance. Model 80 has a 6-in. diameter back outlet.

Water connections: Model 50 has two 1½-in. B.S.P. tappings on the left and one 1½-in. B.S.P. tapping on the right. Model 80 has two 2-in. B.S.P. tappings in the top and two 2-in. B.S.P. tappings, one at each side, 1 ft. 5 in. from the bottom.

Sizes

The overall sizes of the two models are as given on the face of the Sheet.

Operation

The main control is the boiler thermostat which has an adjustable temperature scale. When the temperature of the water in the boiler drops below that set on the scale, the thermostat closes, passing an electric current to the float valve, the ignition device and the relay time switch. Within a few seconds the relay actuates, closing a circuit direct from the mains supply to the fan which supplies air to the burner. In approximately 30 seconds oil enters the burner and is ignited and 2 to 3 minutes later the temperature in the combustion zone rises sufficiently to operate the flue thermostat and the ignition device is switched off. The boiler then operates on its maximum output until the water in the boiler is raised to the desired temperature. The electricity supply to the float valve and relay time switch is then cut off and after approximately 4 minutes the flame in the burner is extinguished. The fan continues to run for a short time in order to remove all combustible gases from the boiler. The boiler then remains off until the water temperature drops again, when the sequence is repeated.

Electrical Supply

The electrical supply should be A.C., 200-250 volts, 50 cycles. The consumption is 35 watts while in operation (150 watts during ignition).

Rating

Model 50 has a rating of 50,000 B.t.u./hr. and will

supply a 30- to 40-gallon indirect domestic hot-water cylinder and 200 sq. ft. of radiator surface (including service pipes). Where used for central heating only, it will supply 275 sq. ft. of radiator surface. Model 80 has a rating of 80,000 B.t.u./hr. and will supply a 50-gallon cylinder plus 350 sq. ft. of radiator surface, or for central heating only, 450 sq. ft. of radiator surface.

Fuel

The boilers burn light domestic fuel oil as supplied by all major oil companies, e.g., B.P. Domesticol, Esso Domestic Oil, Fina Kleenheat, Mobilheat V.B., Regent Burning Oil.

Installation

The boilers must be mounted on a horizontal floor with suitable insulation if it is combustible. With the model 80 sufficient clearance must be allowed at the side for the removal of the control box cover and for access to the controls: a clearance is also required for the removal of the flue thermostat if necessary. All access to the model 50 is from the front or top. It is fully insulated and the side panels remain cool while it is working, therefore other items of kitchen equipment can be fitted on either side of the boiler with safety. The boilers are designed to work independently of flue draught, a flue being required only to exhaust the products of combustion. The flue balance provided (see *Design and Construction; Flue Connection*) must always be used to ensure that the flue does not exert a pull on the combustion chamber. Any existing chimney is satisfactory provided there is no down-draught which will hinder combustion and could, in certain circumstances, cause damage to the boiler. Any down-draught can be overcome in most cases by the provision of a suitable cowl. Where a new flue is required, 6-in. diameter asbestos-cement or mild steel piping is suitable.

Water connections: These should be made in accordance with British Standard recommendations, making suitable provision for venting the circuit and for a safety valve. The model 50 can be connected through the sides or rear of the casing. The maximum working pressure of the boilers is 30 lb./sq. in., equivalent to a head of 70 ft. The electric supply cable should enter through the back of the boiler and in the case of the model 50 should be clamped to the control gear bracket with the clip provided.

Finish

The outer casings of the boilers are stove enamelled. Model 50 is available in cream or white with the control panel in eggshell black and the remaining front panel in a choice of pastel colours. Model 80 is in hammer grey and maroon.

Further Information

The manufacturer maintains a technical advisory department available to answer questions dealing with the installation of these boilers.

Compiled from information supplied by:

Newton, Chambers and Co. Ltd.

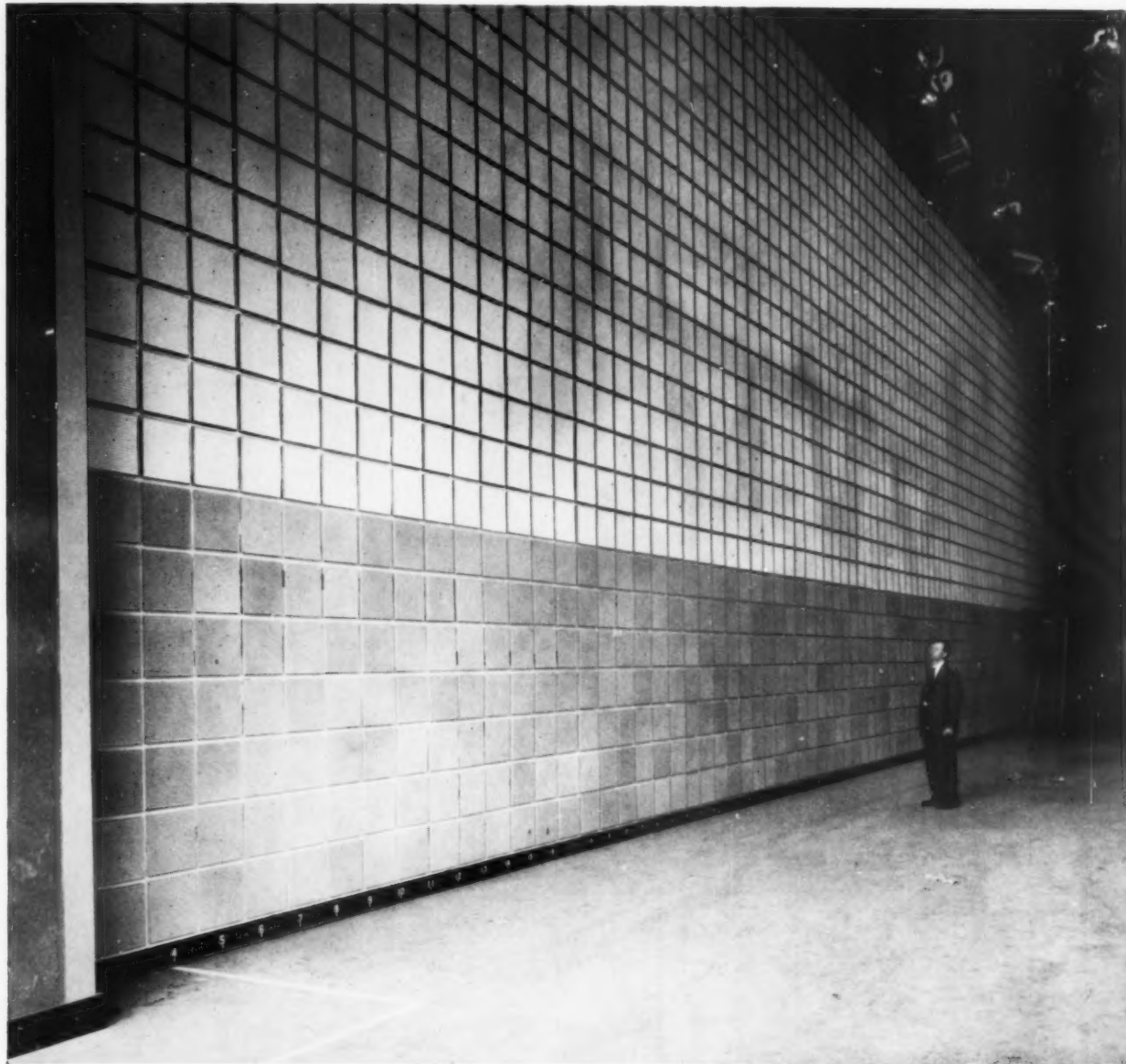
Address: Thorncliffe, Sheffield.

Telephone: Ecclesfield 3171.

working detail

WALLS AND PARTITIONS: 98

SOUNDPROOF PARTITION: TELEVISION STUDIO IN WEMBLEY, MIDDLESEX

Farms and Partners, architects

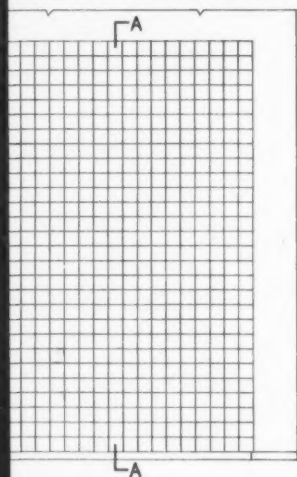
This moving partition was required to provide a sound reduction of 58 dB. To achieve this would require a partition of some 200 tons weight following the usual mass law. In fact, this partition weighs 23 tons, of which only 5 tons are "acoustic weight" and it gives a reduction of 68 dB. This high figure was achieved primarily by enclosing each of the two leaves which form the partition in steel sheets, one rigidly fixed to the framework, the other supported only at intervals on soft steel springs (marked "free sheet" on the drawings). For the sake of clarity the grooved timber seals are shown clear of the rubber seals (their position when the partition is being moved) and not in close contact (the position when closed). This partition is to be the subject of a technical article in THE ARCHITECTS' JOURNAL.

working detail

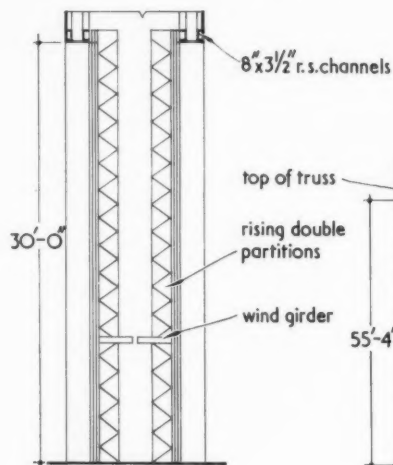
WALLS AND PARTITIONS: 98

SOUNDPROOF PARTITION: TELEVISION STUDIO IN WEMBLEY, MIDDLESEX

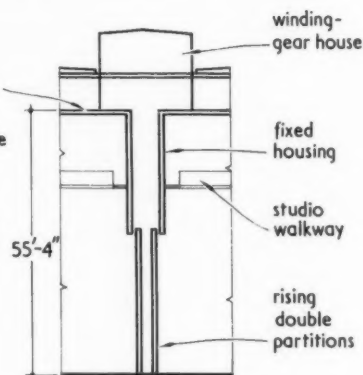
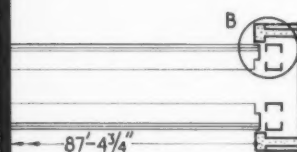
Farms and Partners, architects



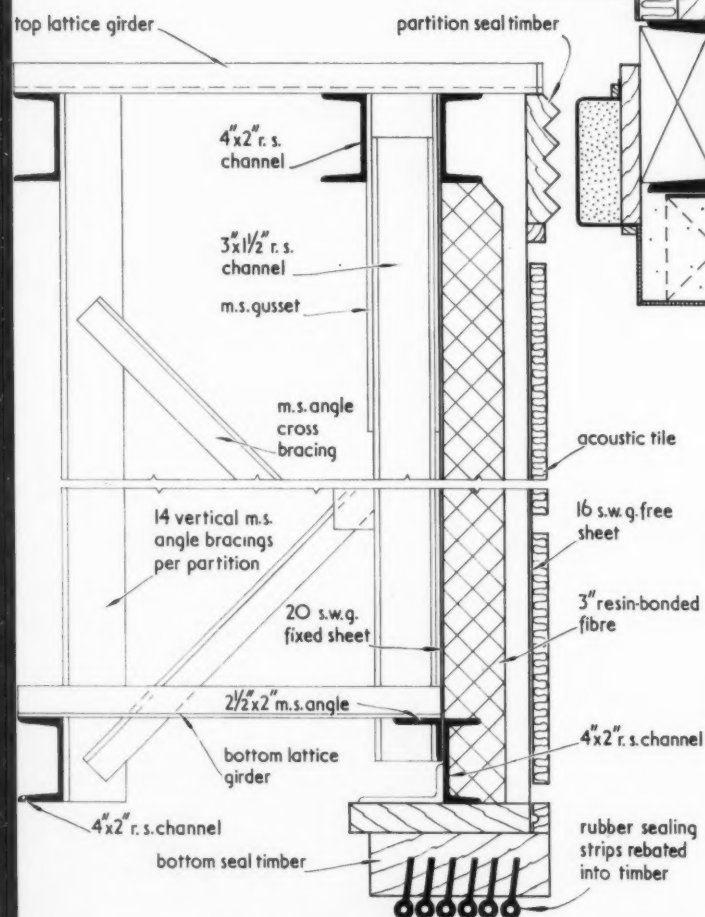
ELEVATION, scale 1"=12'-0"



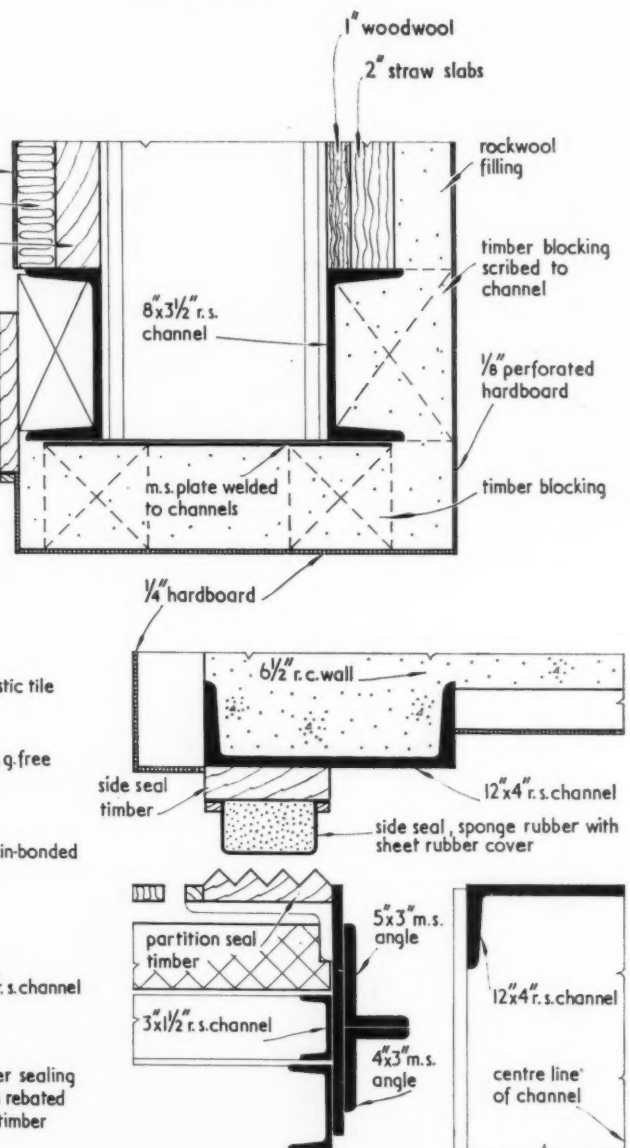
SECTION.

DIAGRAMMATIC SECTION.
scale 1"=36'-0"

PLAN, scale 1"=12'-0"



SECTION A-A, scale 1/8 full size



DETAIL AT B, scale 1/8 full size

Creating original surfaces...



Marleymura in Lomans Bakers, Southampton

Architects : W. H. Saunders & Son, Southampton

...in public buildings, shops and offices

MARLEYmura

THE 12" x 6" VINYL WALL TILES

... new design potential to the concept of permanent, practical wall decoration.

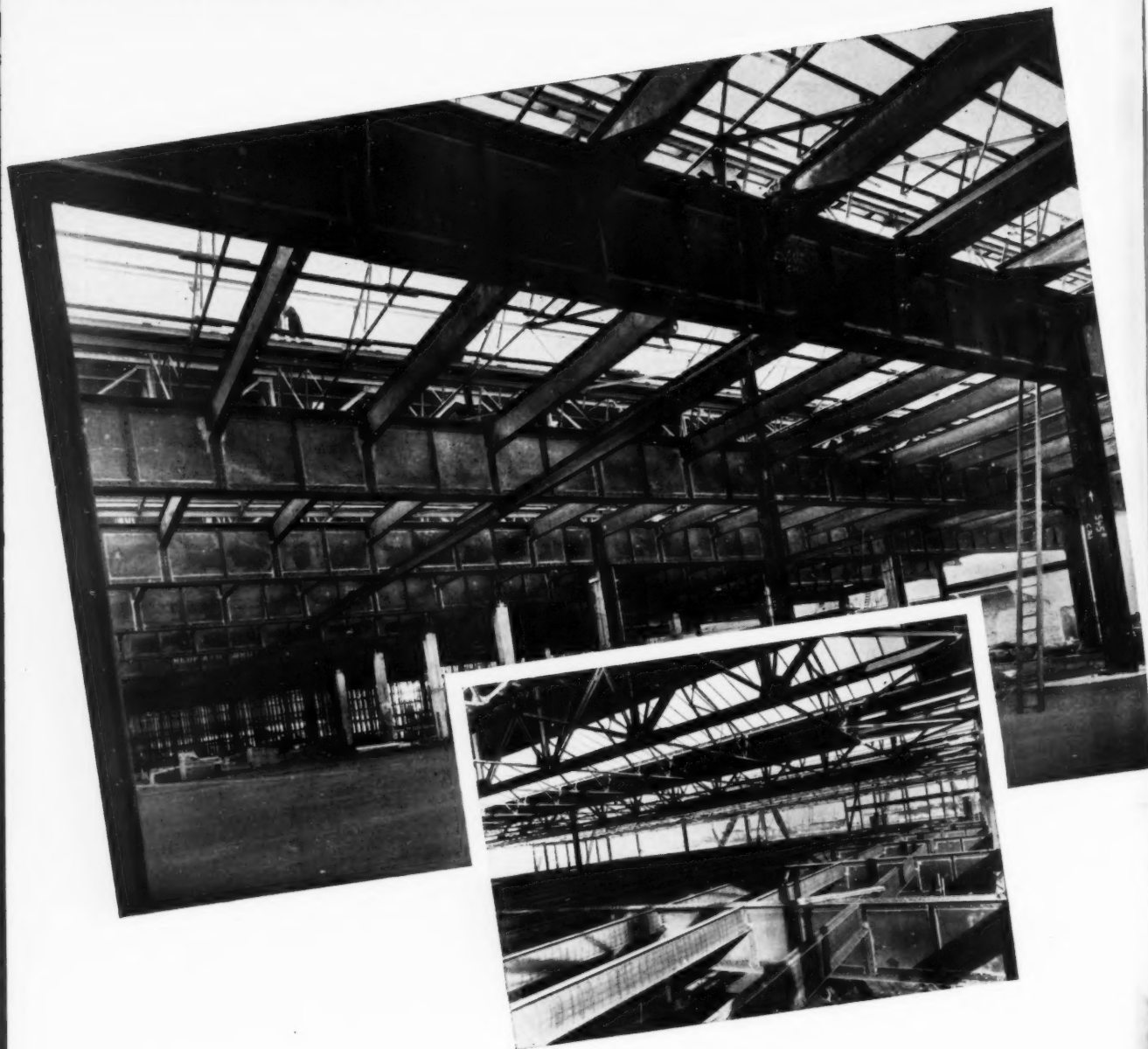
FIVE PASTEL COLOURS AND BLACK

The actual dimensions of each tile are 12" x 5½" which permit any design to be used, while still maintaining an equal ½" framed spacing between tiles.

MARLEY

SEVENOAKS · KENT · Sevenoaks 55255
London Showrooms · 251 Tottenham Court Road · W1





STEELWORK AT A SUPPLY & RESERVE DEPOT, KLONDYKE WHARE, DEPTFORD

This building is designed for heavy floor loading
on long-span girders, as illustrated.

Architects: Messrs. Grace & Farmer, F.R.I.B.A.

Consulting Engineer: A. E. Highfield Esq., B.Sc. (Eng.) Hons., A.M.I.C.E.

Contractors: John Mowlem & Co. Ltd.

STEELWORK BY
REDPATH BROWN

Branches: Edinburgh, Glasgow, London and Manchester



BOWLING GREEN IN CARDIFF



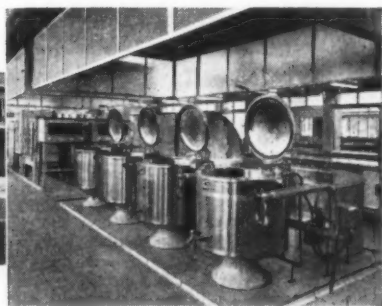
Cardiff's indoor bowling green, by Howard Williams and Partners, has an hyperbolic paraboloid roof, supported by one concrete column at each side. Four shells, formed of three layers of $\frac{3}{8}$ in. nominal tongued and grooved European redwood boards glued together, are joined to cover an uninterrupted floor area of over 16,000 sq. ft. It is a pity that the up-to-date roof design is not matched by the front building.

Gallahers of Northern Ireland—another Stott installation



Exterior and interior views of the new Gallahers Limited building at Lisnafillan, Northern Ireland, where Stotts supplied and installed the canteen equipment.

Architect: Sir Alexander Gibb & Partners.



Other recent orders by Stotts include:

English Electric Co.
Ltd., Stafford.
Albion Motors Ltd.,
Glasgow.
Fisher & Ludlow Ltd.,
Tipton.

I.C.I. Ltd., Blackpool.
Rowntree & Co. Ltd.,
York.
Granada T.V. Centre,
Manchester.

Strand Hotel, Liverpool.
St. Anne's College,
Oxford.
Purdysburn Hospital,
Belfast.

Please send full information of your Kitchen Planning Service

NAME

ADDRESS

"Stotts of Oldham"

VERNON WORKS
OLDHAM
LANCASHIRE

Announcements

PROFESSIONAL

Hammett & Norton (R. Derek Hammett, F.R.I.B.A., and C. A. Roger Norton, F.R.I.B.A.) have taken into partnership Thomas G. L. Hamilton, A.R.I.B.A. The firm will continue to practise under the style of Hammett & Norton at 29 Sackville Street, W1 (Regent 1058).

R. T. J. Chambers, A.R.I.B.A., R. McKinstry, A.R.I.B.A., and J. Tomlinson, A.R.I.B.A., have formed an associated partnership under the style of Architects Associated (Northern Ireland). They have appointed S. B. Belford, A.R.I.B.A., as assistant in charge of the offices of the practice which will be at 54 Elmwood Avenue, Belfast 9 (tel. 21539), where they will be pleased to receive trade catalogues. They will each continue to practise on their own account at their respective offices.

R. T. J. Chambers, A.R.I.B.A., has moved his practice to 54 Elmwood Avenue, Belfast 9 (tel. 25516).

J. Tomlinson, A.R.I.B.A., has moved his practice to 54 Elmwood Avenue, Belfast 9 (tel. 30449).

Covell & Matthews have appointed Mesud Cagdas as Architect-in-charge of their Kuwait office. His address is P.O. Box 8072, Kuwait, Arabia, where he will be pleased to receive trade literature.

Trehearne & Norman, Preston & Partners, of Windsor House, 83 Kingsway, WC2, announce that A. F. A. Trehearne, F.R.I.B.A. and E. W. Preston, F.R.I.C.S. have retired from the partnership, though the latter will continue to act as a consultant. G. H. Hammond, L.R.I.B.A. and A. J. Mole, A.R.I.B.A. have been made Partners, and P. A. E. Bryant, A.R.I.B.A., E. T. Roberts, A.R.I.B.A. and F. A. Hobart, A.R.I.B.A. have been made Associates.

London Transport announces that T. R. Bilbow, F.R.I.B.A., Architect, London Transport Executive, has retired.

Donald A. Goldfinch, F.R.I.B.A. of Donald A. Goldfinch & Partners, 101 Hagley Road, Edgbaston, Birmingham 16, who is Deputy Chairman of the Royal Society of Health, has been elected a Vice-President of the Society; he is also honorary consultant architect to the Society.

W. Braxton Sinclair, Partners, chartered architects announce that their partnership with R. Foster Elliott, A.R.I.B.A., has been dissolved by mutual consent. D. C. Simmonds, A.R.I.B.A., has entered into partnership with W. Braxton Sinclair, F.R.I.B.A., and the practice will continue at 45, Whitehall, London, S.W.1 (telephone Whitehall 2742) under the style of W. Braxton Sinclair, Simmonds & Partners.

Frederick Adkins, DIP.ARCH., A.R.I.B.A., has been elected President of the Institute of Registered Architects.

Lesslie K. Watson, F.R.I.B.A., and Harold J. Coates, F.R.I.B.A., have taken into partnership Denis S. Knight, A.R.I.B.A. The firm will continue to be known as Watson & Coates.

TRADE

Philips Electrical Ltd. have made the following appointments in the South-East Region: R. C. Mercer is to be manager of the Regional Street Lighting Department; R. Pitteway will be area manager and D. O. Campbell, B.Sc.(ECON.), will be lamp and lighting representative for Bedfordshire, Cambridgeshire and Huntingdonshire.

L. T. Kerrin has joined the staff of J. A. Hewetson & Co. Ltd., of Marfleet, Hull

Chrysler International S.A. have appointed four new technical specialists for its Special Products Division at Bowater House, Knightsbridge, London: Peter R. Dyas—Design and Development Engineer; Sidney F. Harrison—United Kingdom Field Engineer; John H. Shearer—Applications Engineer, and Patrick O'Farrell—Draughtsman/Application Engineer.

Rhodes, Brydon & Youatt Ltd. have moved to Reddish Engineering Works, Stockport, Cheshire (telephone Heaton Moor 6211).

Harry Vincent, F.I.O.B., managing director of Bovis Holdings Ltd., has been elected chairman and managing director. He remains chairman of Leslie & Co. Ltd., a member of the Bovis Holdings Group.

Ensure perfect flue operation...

with the

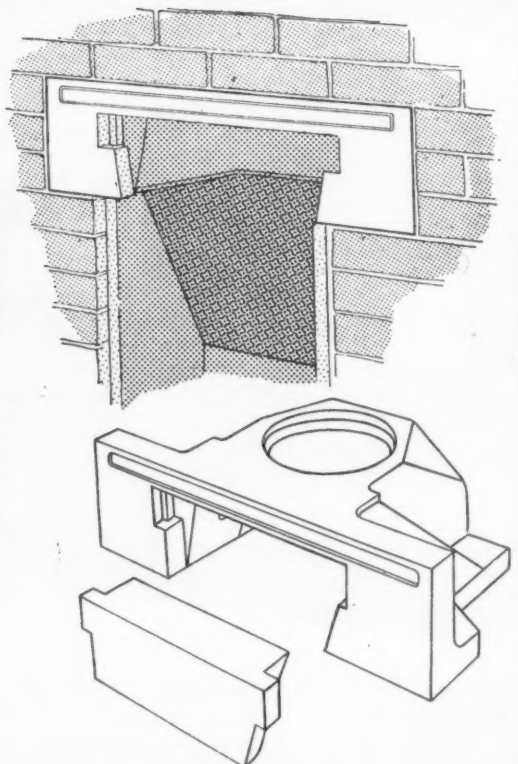
TRUE FLUE Triple Unit

This refractory concrete membrane attachment obviates the difficulty experienced in the past in adequately throating the "gather-over" above a back boiler appliance owing to provision having to be made for the back flue. The True Flue Triple Unit Type "U" has been designed so that the Membrane Unit can be bedded in the correct position spanning the flue opening, providing adequate space for the back flue and correctly throating the fire. The cost of a rough lintol, if used, together with expensive labour involved in building up the gather-over more than offsets the cost of a Triple Unit, which is simply placed in position and the job is done.

Triple units with Back Attachments where required, are suitable for all open fire appliances with or without back boilers, and for free-standing stoves.

TRUE FLUE

LIMITED



CONVECTOR HOUSE, ACACIA ROAD, ST. JOHN'S WOOD, LONDON, N.W.8.

TELEPHONE: PRIMROSE 7161/2/3

FLEXPIPE'S EXTRA 2ft LENGTH



CUTS COSTS!

Longer lengths cut laying time

Flexpipe—the latest development in pitch-fibre piping—comes in 10 ft. lengths instead of 8 ft. This means that any length of piping can be laid as much as 20% faster with Flexpipe than with any other pitch-fibre pipe—an important saving in labour costs.

Less jointing cuts material costs

This extra length also reduces the number of joints needed on any job—a valuable saving in time and labour costs.

*Flexpipe is available NOW in both 4" and 6" internal diameters—
and costs no more than other pitch-fibre pipes.*

AND REMEMBER FLEXPIPE HAS THESE OTHER ADVANTAGES

- (a) Much easier to transport, stack, and handle—one man can carry three or four Flexpipes at a time without any sense of strain. If he drops them — they're unbreakable! (b) No jointing compound required: Flexpipes are joined together with a coupling that can be simply knocked on with a hammer and a block of wood. The joint is then completely sealed.
- (c) Flexpipe cannot crack under earth movements and is corrosion-proof.
- (d) It can be sawn to any length as easily as wood.

LIKE TO KNOW MORE? Send for Flexpipe literature
or let us put our representative in touch with you. Or both.



Flexpipe

PITCH-FIBRE PIPES

FLEXPIPE LIMITED, Bowater House, Knightsbridge, London, S.W.1. Tel: KNightsbridge 7070. Now a member of the Bowater Organisation

C&G1

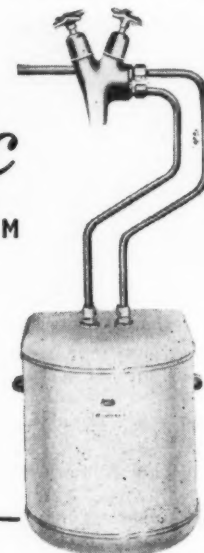
The year's most outstanding
item of domestic equipment! *



★ The Heatrae Lidomatic Automatic Hot Water System won the first award at the 1960 A.S.E.E. Exhibition and was judged the year's most outstanding item of domestic equipment. This distinction carries with it this silver plaque to commemorate the award.

Heatrae
Lidomatic
ELECTRIC HOT WATER SYSTEM

The Heatrae Lidomatic system is designed for kitchen, bathroom or bedroom washbasins. The Lidomat Water Heater, which is the basic unit for the whole range of Lidomatic systems is available in white, cream or grey, and is rated at 3,000 watts. Voltages are 200/220 or 230/250 A.C. only.

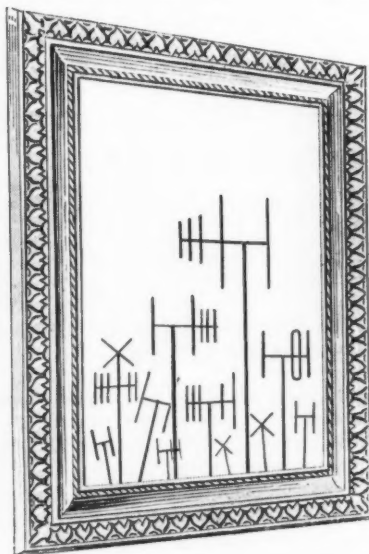


Please write for
LEAFLET No 99

HEATRAE LTD • NORWICH • NOR 29A

Telegrams: HEATRAE, NORWICH Telephone: Norwich 25131 (Private Exch.)

Roofscape

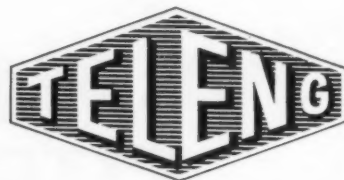


...not for exhibition

No architect wishes to see his efforts, however modest, disfigured by an outcrop of aerials against the skyline. This future menace can easily be forestalled by providing for the installation of a Teleng Radio/TV Communal Aerial System in the specifications.

Why Teleng? Because Teleng covers any area or number of outlets, is unobtrusive throughout the entire layout, and what pleases the user—serves any branded receiver. To preserve the picture of a nice line in rooftops, specify Teleng.

COMMUNAL AERIAL SYSTEMS BY



For details on planning TV/FM RELAY SYSTEMS for concise estates of Flats or Houses and Public Buildings, write for 'U' Series Catalogue to:—

TELENG LIMITED Teleng Works, Harold Wood, Romford, Essex. Ingrebourne 4290



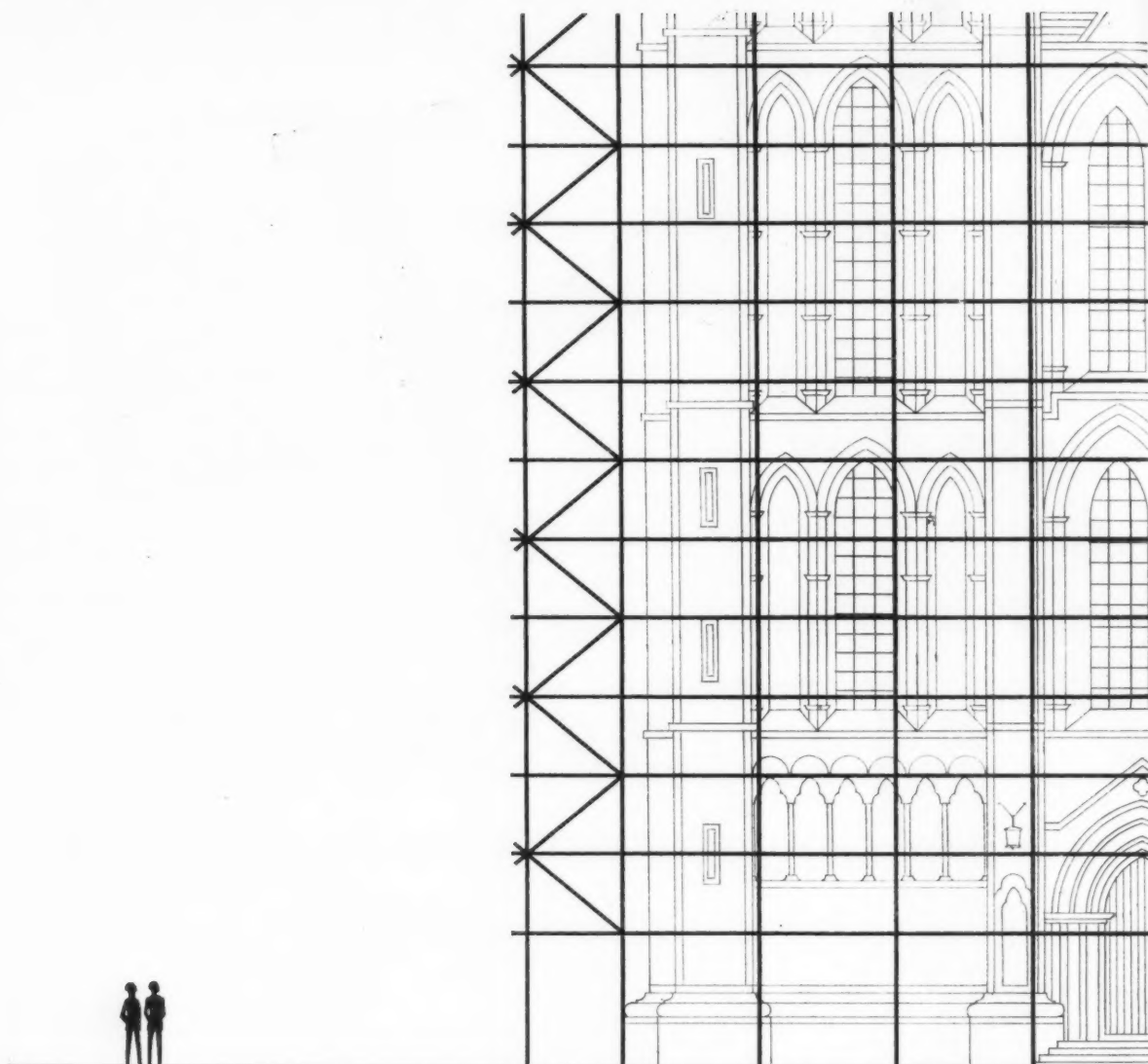
SADIA gives you more time to play with!

From whatever angle you look at it, hot water by Sadia is the simplest, most economical system. To the *architect*, it means far easier planning and installation. No provision has to be made for flues, or boilers, or fuel stores. Pipe work is reduced to a minimum. And there's a standard Sadia model to suit almost every hot water need — from the smallest 2-2-gallon sink units to giant 120-gallon industrial models. To the *client*, hot water by Sadia means no dirt, no work, no maintenance, greater reliability and greater economy. Sadia water heaters are completely automatic and built to the most exacting specifications — many installed over 25 years ago still give perfect service.



AIDAS ELECTRIC LTD.
SADIA WORKS • ROWDELL ROAD
NORTHOLT • MIDDLESEX

Specialists in hot water by Electricity since 1923



Face Lift

It's wonderful to see that magnificent old stonework coming out under the grime.

Yes, isn't it? And when they've finished cleaning they're going to treat the walls with I.C.I. Silicones to help keep the grime out and make them water-repellent.

Can silicones do that?

Yes — you simply brush or spray on a silicone solution, let it dry, and the job's done.

But won't silicones stain the stone?

No — that's one great advantage: silicones are colourless, and they give all-weather protection without changing the natural appearance of the stonework.

My house could do with silicones, then — but I don't much like the natural appearance of its stonework!

That's easy — paint it! If you're using emulsion paint, put silicones on first. If you use cement-based paint, use silicones as a top-coat.

What good will that do?

Silicones will improve the paint's resistance to rain, dirt and weathering.

I must try these silicones some time.

Well, why not now? Summer's the best time to get ready for winter.



N.S. 86

The firms listed opposite supply treatments based on I.C.I. Silicones.

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

The following water-repellents are based on I.C.I. silicones

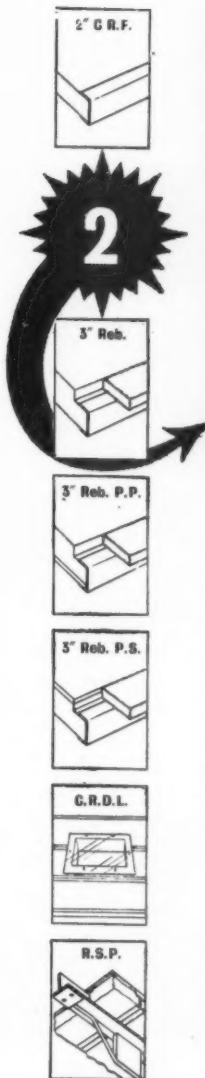
- 'HYDRALEX'** Associated Building Products Ltd., North Mills, Frog Island, Leicester.
- 'COLORSHIELD' No. 5** C. R. Averill Ltd., Alyn Mills, Caergwrie, Wrexham, Denbighshire.
- 'ANCOSIL'** James Beard Ltd., 16 Great Ancoats Street, Manchester, 4.
- 'SILBEKONE'** James A. Beck & Sons Ltd., Dalton Street, Belfast.
- 'AQUASEAL' No. 66** Berry Wiggins & Co. Ltd., Field House, Breams Buildings, Fetter Lane, London, E.C.4.
- 'PELMOIST'** Cadulac Chemicals Ltd., The Bridge, Radcliffe, Lancs.
- 'ENPRUFE'** Enfield Chemicals Ltd., Clayton-le-Moors, Nr. Accrington, Lancs.
- 'HYDROCID' SX** Floorlife & Chemicals Ltd., The Hives, Mosley Road, Trafford Park, Manchester, 17.
- 'FULPRUFE'** D. H. Fulton, 30 Templehill, Troon, Ayrshire.
- 'GEMSEAL'** Joseph Gilman & Sons, Ltd., Stafford Street, Birmingham, 4.
- 'MOONRAKER' BRICKSTONE SEAL** John Hall (Warminster) Ltd., Weymouth Street, Warminster, Wilts.
- 'PUDLO'** Kerner-Greenwood Ltd., St. Anne's Street, King's Lynn, Norfolk.
- 'ROMANITE' W. R.** Liverpool Borax Co. Ltd., Maxwell House, St. Paul's Square, Liverpool, 3.
- 'MAC'** J. Manger & Sons Ltd., Crown Works, Stafford.
- 'RESILCO'** Thomas Moscrop & Co. Ltd., 1 & 3 Folds Road, Bolton, Lancs.
- 'PALLASIL'** Pallas Chemicals Ltd., 37 Lovaine Place, Newcastle-upon-Tyne.
- 'SETCRETE No. 19** Quickset Water Sealers Ltd., 20 Albert Embankment, London, S.E.11.
- 'WYKAMIT'** Richardson & Starling Ltd., 21 Hyde Street, Winchester, Hants.
- MASONRY WATER REPELLENT** Smith & Walton Ltd., Haltwhistle, Northumberland.
- 'IMPERVION'** Solignum Ltd., Dagenham Dock, Essex.
- 'STANDARD' SILICONE WATER REPELLENT** Standard Paint & Varnish Co., 15 Redcross Way, London, S.E.1.
- 'DAMPOL'** Stephenson & Co., Robins Lane, Carleton, Blackpool, Lancs.
- 'SZERELMEY' SILICONE LIQUID 103** Szerelmey Ltd., Rotherhithe New Road, London, S.E.16.
- 'ENDAMP'** Torbay Paint Co. Ltd., New Road, Brixham, Devon.
- 'TRETOL' SILICONE WATER REPELLENT** Tretol Ltd., The Hyde, London, N.W.9.
- 'KELPIE' SILICONE WATER REPELLENT** John C. Walker & Co. Ltd., 71/77 Tobago Street, Glasgow, S.E.
- 'PENETREX'** 53 F. A. Winterburn Ltd., Holborn Street, Woodhouse, Leeds, 6, Yorks.



Imperial Chemical Industries Ltd
London, S.W.1

NS.81a

Seven symbols of progress



2" C.P.P.

This symbol is applied to our 2" Channel Reinforced Pre-plastered Wood Wool Roofing Slab, which has all the virtues of our 2" C.R.F. Slab with the addition of pre-plastered soffit which is incorporated during manufacture.

The steel channel reinforcement makes it completely self-supporting over spans up to 7 ft., and in conditions of low to normal humidity it provides a most satisfactory roofing with excellent light reflecting and heat insulating properties—the calculated overall U value is 0.26 B.T.U. with $\frac{1}{2}$ " screed and felt finish.

The smooth, clean finish gives not only excellent decorative properties, but also provides good sound reflection, making it particularly suitable for buildings where this is required.

Like all Thermacoust slabs, 2" C.P.P. has excellent fire resistance: the rate of flame spread is Grade 1.

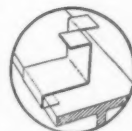
Please write for full particulars.

THERMACOUST LTD

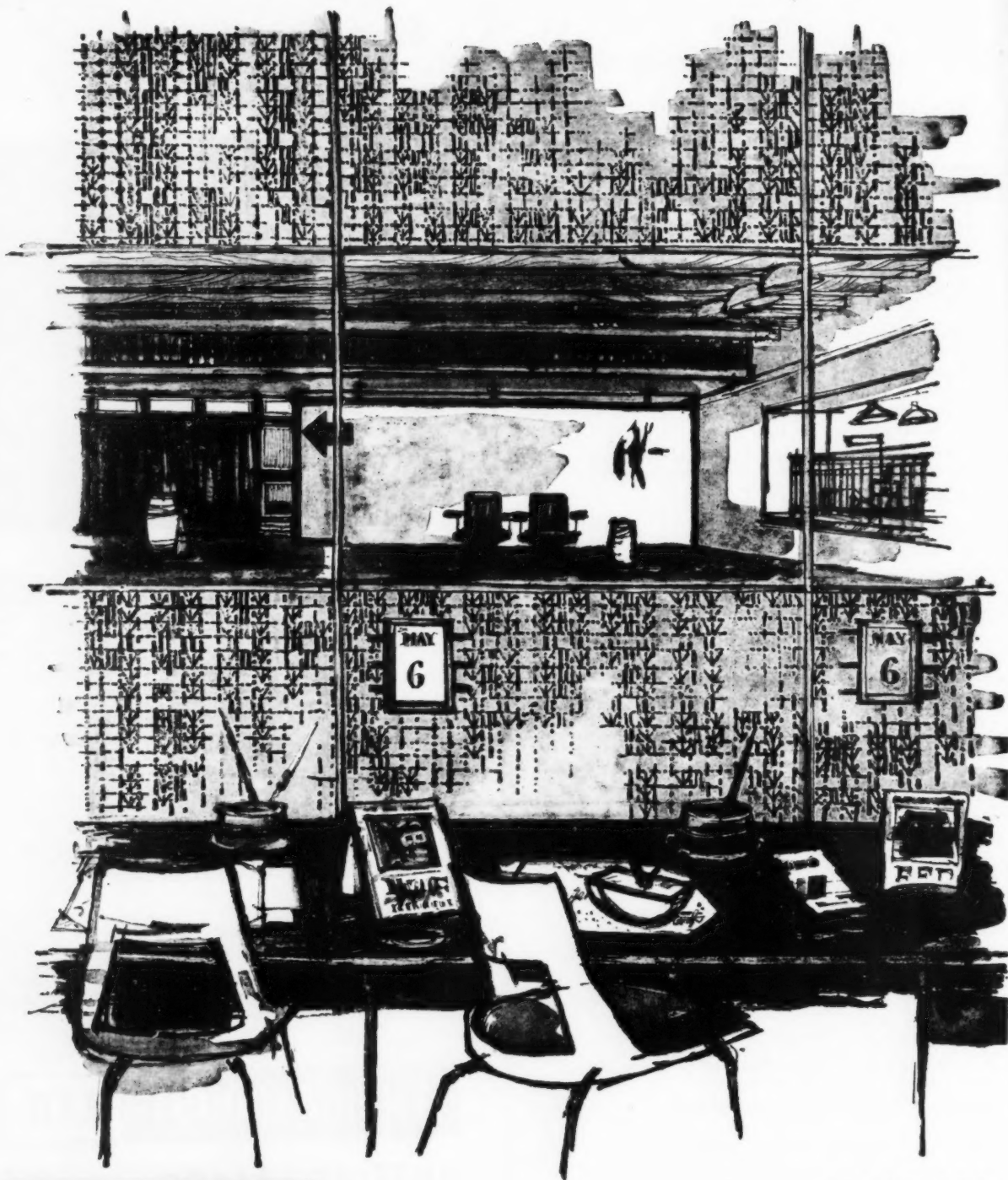
ROOFING SLABS

20 ALBERT EMBANKMENT LONDON SE14
Telephone Enquiries (Southern)—London: RELiance 7281
Telephone Enquiries (Northern)—Doncaster 54138 Ex. 25

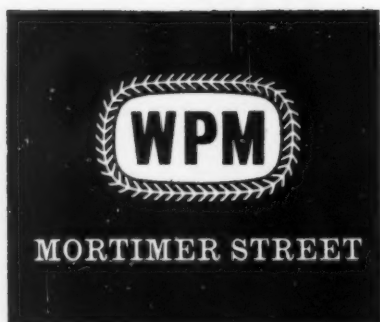
When supported on inverted "T" or Thermacoust purlins no special fixing arrangements are required.
Flat-top purlins or R.S.J.'s call for Type 1 site fixing clips.
Slabs may also be provided with any of the exclusive range of Thermacoust Pre-Clips for fixing copper, SNAPRIB aluminium, slates or tiles.



A member of the Cementation Group of Companies



Drawing by Pamela Guille



A place for Wallpaper

THE FOLLOWING COLLECTIONS
ARE AVAILABLE FOR ARCHITECTS CONCERNED
WITH THE SPECIFICATION OR DIRECTION
OF DECORATIVE SCHEMES

PALLADIO, HAYWARD, THE ARCHITECTS BOOK

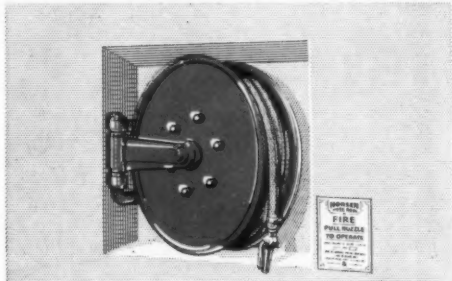
AND MAY BE SEEN AT

The Architects' Department The Wall Paper Manufacturers Limited
19/21 Mortimer Street London W 1
or King's House King Street West Manchester 3

"The most advanced and efficient fire-fighting equipment it is possible to instal"

NORSEN *Automatic*

FIRE HOSE REELS



THE NORSEN RECESS SWINGING AUTOMATIC HOSE REEL
Frequently referred to within the profession as "The Architects' Dream," this reel can be housed flush with the wall face. It can be swung out of the recess through a full 180°. When the reel is recessed there is no obstruction whatsoever.

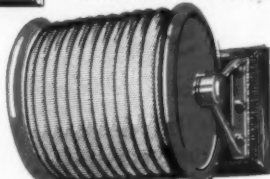


THE NORSEN (WALL TYPE "B") AUTOMATIC HOSE REEL
The standard Norsen Reel for general purpose use. Water entry pipe from top, bottom or side as required. Specially-designed hose guide ensures instantaneous unreeling in any direction.



THE NORSEN SWINGING AUTOMATIC HOSE REEL

This reel is designed to swing through a full 180° and is thus ideal for siting at corridor junctions. The water supply from the inlet pipe is carried through the hollow arm of the reel.



THE NORSEN (WALL TYPE "A") AUTOMATIC HOSE REEL
Normally positioned at the ends of corridors, this Norsen Reel can be mounted either standing on its base or hanging from soffits. A reel carrying up to 120 feet of hose can be accommodated on a baseboard measuring only 27 inches wide.

In future, all the fire protection activities of

JOHN TAYLOR, DUNFORD AND COMPANY LIMITED

will be handled by

DUNFORD
FIRE PROTECTION
SERVICES LIMITED

a subsidiary company formed to give more specialised attention to problems of fire prevention.

Many thousands of our NORSEN automatic fire hose reels have been installed in public and private buildings throughout the country, and for a number of years the company has specialised in the provision of automatically operated pumping equipment for buildings where water pressure is inadequate, or where only a static supply is available.

A complementary range of other types of fire equipment can also be supplied, including 'Dunford' portable extinguishers, hoses, couplings, asbestos blankets, nozzles, escapes, fireproof doors, etc.

If you have a fire protection problem please consult us.

DEMONSTRATIONS ON REQUEST

JOHN TAYLOR, DUNFORD & CO. LTD.
DUNFORD HOUSE, BARRACK ROAD, NEWCASTLE UPON TYNE, 4.
Telephone: Newcastle 2-5324 (4 lines)

ALSO AT GLASGOW, MIDDLESBROUGH, SHEFFIELD, BELFAST & LONDON
SEE THE NORSEN RECESS REEL AT THE BUILDING CENTRE, LONDON

By Appointment Suppliers of
Fire-Fighting Equipment



To The Late King George VI



the doors are no problem when you

Specify

Leaderflush

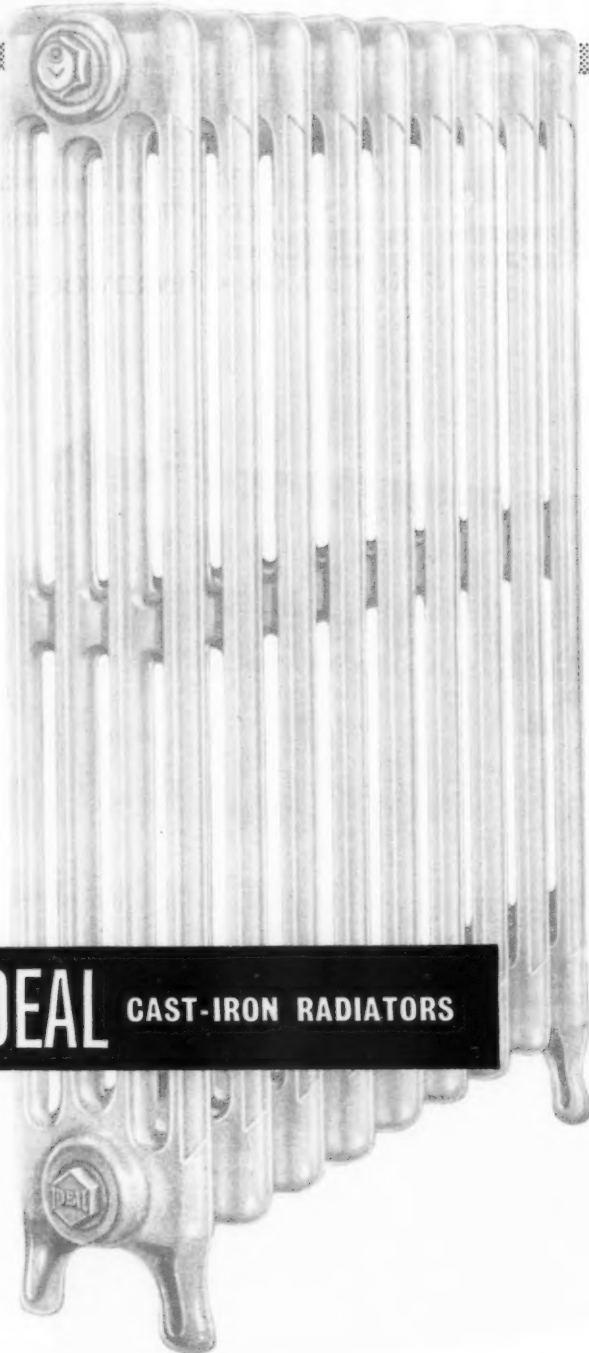
Architects encounter many problems in building projects, but the doors need not be numbered among them. LEADERFLUSH

FLUSH DOORS

can be specified with complete confidence. Having pioneered and manufactured quality flush doors for over a quarter of a century LEADERFLUSH know just what a Flush Door should be, and make it.

LEADERFLUSH (Doors) LTD., TROWELL, NOTTINGHAM. Tel. Ilkeston 623 (5 lines)
LONDON OFFICE: BUSH HOUSE, ALDWYCH, W.C.2. Telephone COVent Garden 2243

Cast-iron for long life!



IDEAL CAST-IRON RADIATORS

Because
they resist corrosion,
Ideal cast-iron radiators have
an exceptionally long life.
This is further ensured by their
strength and accuracy of construction.
Then there is the advantage of
high heat transmission.
And when adaptability is considered,
Ideal column radiators offer the
advantages of sectional construction
not only at the planning stage
but at all times.
After installation it is quite simple
to 'make and break' the radiators
to add or remove sections.

*Pictured is the Ideal No. 4 Neo-Classic Radiator.
The Neo-Classic is available with two, four or
six columns per section and in four heights.*



Manufactured by

IDEAL BOILERS & RADIATORS LIMITED • IDEAL WORKS • HULL



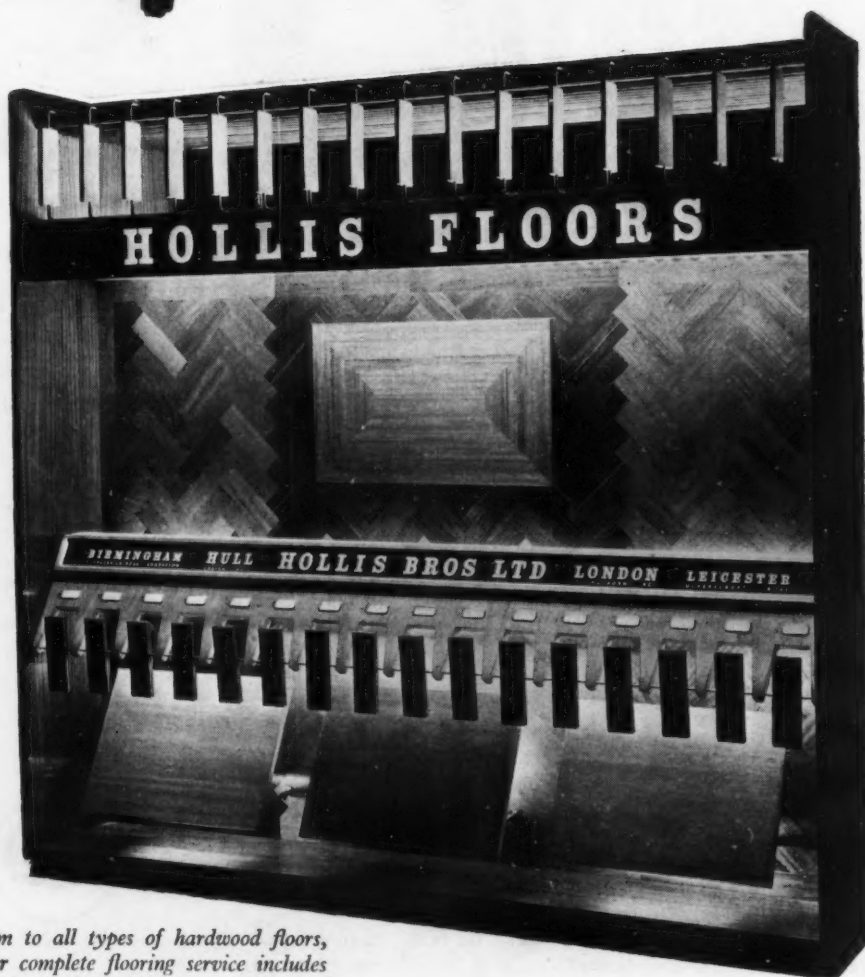
*Descriptive and
informative literature,
as available at the
Centre, sent on request*



This is our BUILDING CENTRE EXHIBIT

A permanent display of flooring
hardwoods from all parts of the world

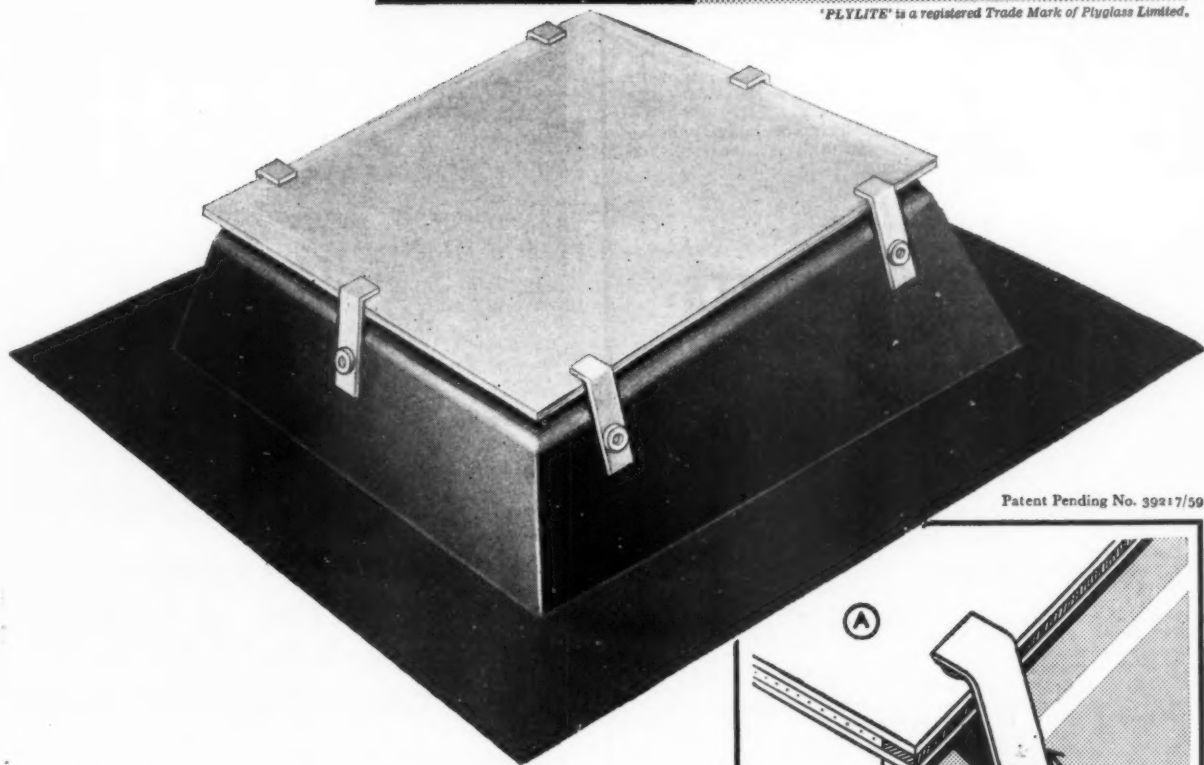
AT YOUR SERVICE - in conjunction
with our NATION-WIDE coverage
for the installation of
**WOOD BLOCK • HARDWOOD STRIP
PARQUET**



*In addition to all types of hardwood floors,
our complete flooring service includes
tiles of Thermoplastic, Cork, P.V.C. and Linoleum*

FOR EXTRA LIGHT DIFFUSION WITH HIGH INSULATION SPECIFY **PLYLITE**

'PLYLITE' is a registered Trade Mark of Plyglass Limited.



Patent Pending No. 39217/59

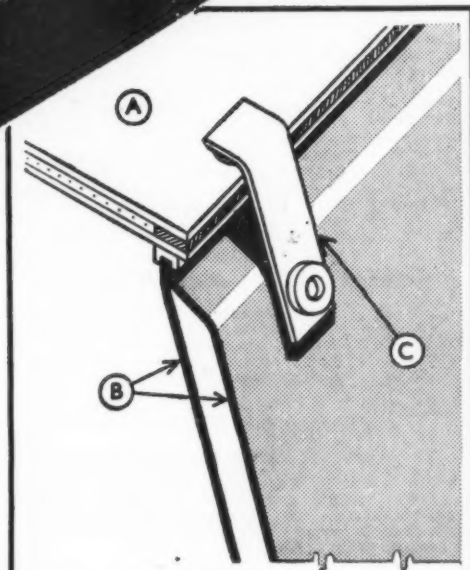
'PLYLITE' roof lights are completely shatterproof and need no maintenance. Kerb made from self-coloured reinforced plastics, no painting or finishing required. By the use of diffusing 'PLYGLASS' efficient light diffusion is achieved whatever the position of the sun together with a high insulation factor in both kerb and glazing. Designed for modern roof construction, the 'PLYLITE' range of standard sizes has been evolved to cater for most modular requirements at a reasonable price.

Technical information is available on request from

PLYGLASS LIMITED, Edinburgh Way, Harlow, Essex

Telephone: Harlow 24271

Cables: PLYLUX Harlow



(A) 'PLYGLASS' Diffusing Double-Glazing Unit.

(B) Chemical resistant, self-coloured, double-skin, glass-fibre reinforced plastics kerb and flange.

(C) Stainless-steel glass-retaining clip.



WHEN YOU'VE LOOKED AROUND

You'll put in...

Pullin precision thermostats—a brand new range of controls for heating and cooling, specially designed by the makers of the now famous 'PULLIN PLUG-STAT' in co-operation with an internationally established designer.

Precision

PULLIN THERMOSTATS

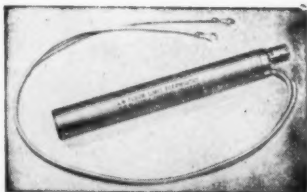
Most Recent Addition

to this impressive range is the L4 Floor Limit Thermostat, specially developed as an accurate temperature limiting device for under-floor heating installations. It is specifically designed to control the surface temperature of the floor to within an accuracy of plus or minus one degree.

Floor Limit Thermostat

(L4)—It is cylindrically shaped so that it can be easily positioned in a conduit on a plane with under-floor heating elements. It is provided with two leads with a choice of length and accurately controls the flow of current to the heating elements when connected in series in conjunction with the Pullin A2 Room Thermostat. The L4 is sealed against dust and moisture, and once set and installed, it requires no further attention.

Already widely acclaimed are the A2 Room Thermostats, for heating or cooling control, attractively styled in tough grey plastic finish with a temperature range of from 30° to 90° F. (or Centigrade equivalents). Available with or without an intermittent Neon Indicator Light, Control Lock or "OFF/AUTO" Switch. Rated at 0-250 volts, 20 amps A.C., non-inductive, 5 amps, A.C. at 0.7 P.F., or 0.5 amps. D.C.



ROOM THERMOSTATS.

Two models available, the A2/W and A2/WNL. Precision built to critical specifications and designed to control electric underfloor heating, storage heaters, tubular heaters, warm air systems, etc.



REVERSE ACTION THERMOSTATS

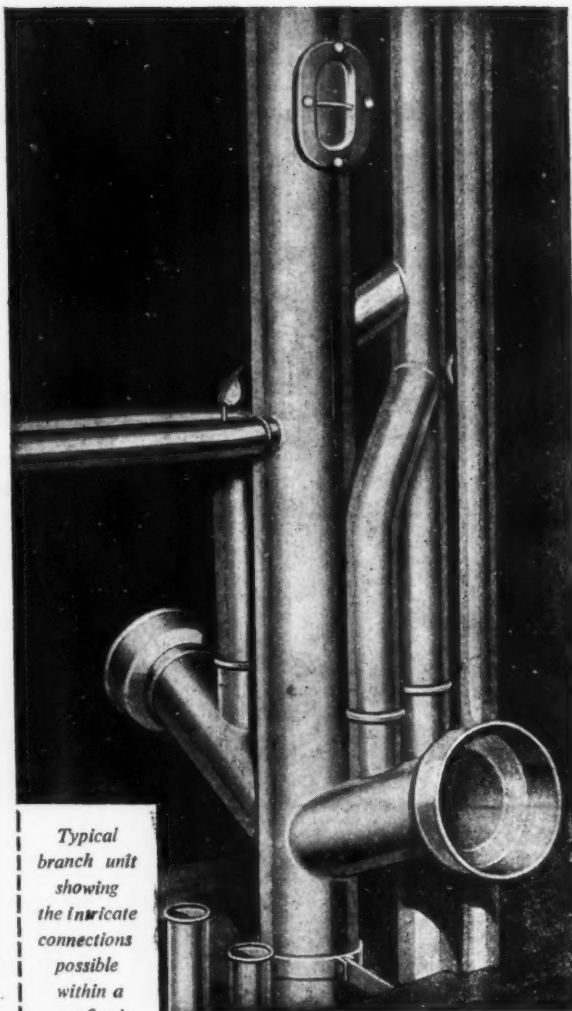
The two models A2/RA and A2/RANL have a proven record after extensive testing. Designed to meet the demand for cooling applications in industry and agriculture, they are accurate to the finest limits.



Think of Precision Thermostats—Think of R. B. Pullin

Write for technical leaflets to:

R. B. PULLIN & COMPANY LIMITED, THERMOSTAT DIVISION,
PHOENIX WORKS, GT. WEST ROAD, BRENTFORD, MIDDLESEX
Tel.: ISLworth 1212 Cables: Pullinco Wapphone London



*Typical
branch unit
showing
the intricate
connections
possible
within a
confined
space.*

MULTI-STOREY STACK SYSTEMS IN COPPER

USING THE 'TRAPEZE' JOINT

(REGD.)

Individually planned and designed soil and waste units for all types of multi-storey buildings—hotels, schools, hospitals, factories, flats—ALL IN COPPER, at an installed cost comparable with other traditional materials.

Tailor-made for the minimum of duct space and designed to conform with the latest Codes of Practice for single stack and simplified one-pipe systems.

Trouble-free and long-lasting; manufactured from solid drawn copper tube to BSS.659.



'TRAPEZE' (patent)
Joints on all units permit
simple and rapid
assembly to cut installation
costs. Ideal for
connecting up in
restricted and inaccessible
positions. Never leak.
Tested to pressure of
600 lbs. per sq. inch



LISTER STREET,
BIRMINGHAM 7 ENGLAND

Telephone:
ASTON Cross 3771-2
Telegrams:
TRAPPED, Birmingham 7

strength with economy

'BONDENN'

BRICKWORK REINFORCEMENT

— makes strong walls with fewer bricks



'Bondenn' Reinforcement ends the need for thick, expensive brick walls. $4\frac{1}{2}$ " brickwork strengthened with 'Bondenn' in many cases replaces ordinary 9" walls. Result—substantial savings in bricks, cement, labour and time.

'Bondenn' in brickwork increases the resistance to load by 68%—an invaluable advantage when foundations stand in made-up ground or doubtful subsoil and in structures where heavy and intermittent loads are applied.

'Bondenn' consists of rolls of straight longitudinal steel wires of 25/30 tons tensile secured with mild steel spacing wires. Hot spelter galvanising after fabrication ensures high resistance to deterioration.

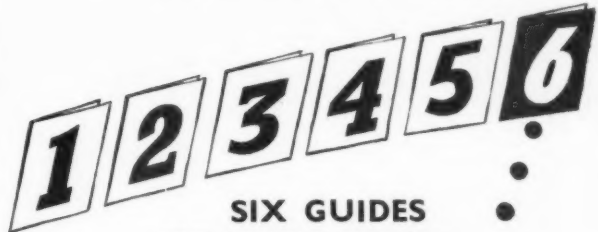


Write now for full technical information to

Boulton & Paul Ltd.

NORWICH P.O. Box 5, Riverside Works, Norwich. NOR 72A
LONDON Telephone: Norwich 25251. Telegrams: Boulpaul, Norwich
 84-86 Baker Street, London, W.1. Telephone: HUNter 3287
TIPTON Telegrams: Boulpaul, Wesdo, London
 P.O. 11, Midland Works, Tipton, Staffs
 Telephone: Tipton 1191/2 Telegrams: Boulpaul, Tipton

B.20



SIX GUIDES
TO THE USE OF
BETONAC



Economical Specification

Betonac surfacing specifications (see Guide No. 4) are designed to withstand the varying degrees of abrasion associated with industrial floors.

To overcome these different conditions successfully, a combination of two or more of the Betonac specifications can be used—even on the same floor area.

This adaptability of use retains all the advantages of the Betonac surface and, at the same time, enables the architect to specify the best possible industrial flooring surface on the most economic basis.

Betonac adds the durability of steel to the adaptability of concrete and is one of the most widely applicable surfacing materials in the building, civil and structural engineering fields.

BETONAC DEFIES ABRASION



Full particulars obtainable from

QUICKSET WATER SEALERS LTD.

MANUFACTURING AND SALES DIVISION

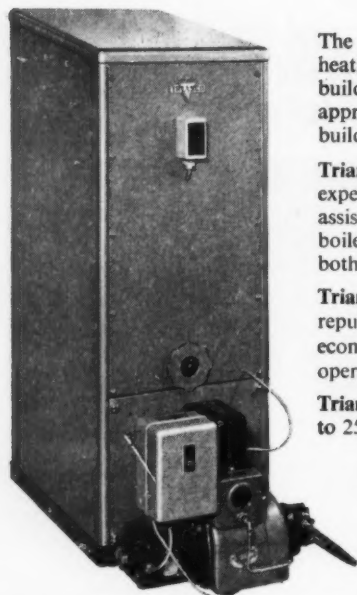
20 Albert Embankment, London S.E.11

Telephone: Reliance 6731-2-3

A MEMBER OF THE CEMENTATION GROUP OF COMPANIES



Right from the start . .



The trianco 0.250—oil fired boiler of 250,000 B.t.u. capacity

The importance of planning the heating installation of any building right from the start is appreciated by architects and builders more than ever today.

Trianco provide at this stage, expert advice and practical assistance backed by a range of boilers catering for every need, both oil and solid fuel fired.

Trianco boilers enjoy an unrivalled reputation not only for their efficiency and economy, but for their ease of installation and operation, and years of trouble-free heating

Trianco solid fuel boilers range from 50,000 B.t.u. to 250,000 B.t.u. in the domestic class, and from 250,000 B.t.u. to 2 million B.t.u. in the Industrial range employing automatic fuel feed and ash disposal.

Trianco oil fired boilers range from 100,000 B.t.u. to 2,000,000 B.t.u. burning 35 sec. gas oil and 200 sec. fuel oil in the larger capacities.

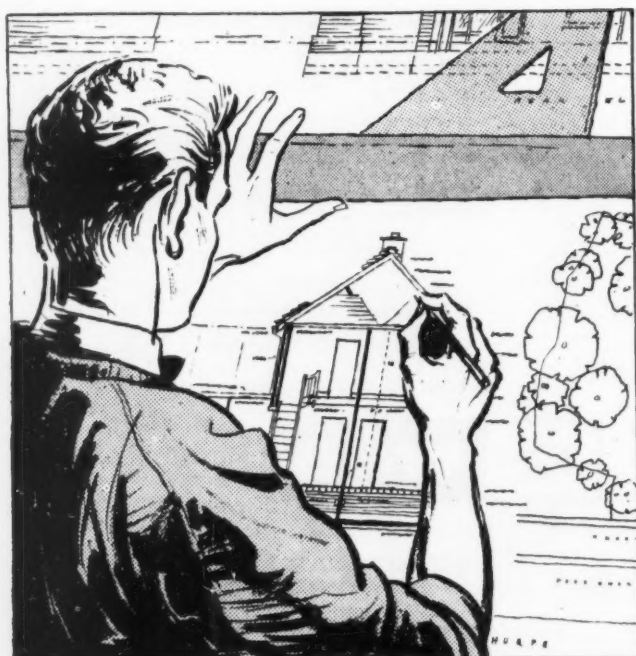


TRIANCO
automatic boilers

Write now for current brochures of the complete TRIANCO Range.

TRIANCO LTD. • IMBER COURT • EAST MOLESEY • SURREY • Tel: Emberbrook 3300

**but
whose tiles
will you
use?**



If you want a job both you and your client can be proud of, specify Tuckers tiles. When quality and appearances are important they can't be bettered, because Tuckers tiles are hand-made with skill and care to give perfect results time after time. There is a wide range of colours to choose from and special colours or effects can be made to order.

15% greater covering capacity with Tuckers tiles. Tuckers tiles measure approximately 11" x 7" compared with the normal 10½" x 6½". With a 2½" lap and 4½" gauge, only about 476 are needed to cover one square.

Specify

Tuckers

HAND-MADE SANDFACED ROOFING TILES

Our free illustrated brochure will gladly be sent on request, and also details of ornamental tiles for cladding vertical surfaces.



G. Tucker & Son Ltd. Loughborough, Leicestershire
Telephone: Loughborough 2446-7 Telegrams: "Tuckers", Loughborough

See our Permanent Exhibit at the Building Centre, Store Street, Tottenham Court Road, London, W.C.1. and The Scottish Building Centre, 425-427 Sauchiehall Street, Glasgow, C.2.

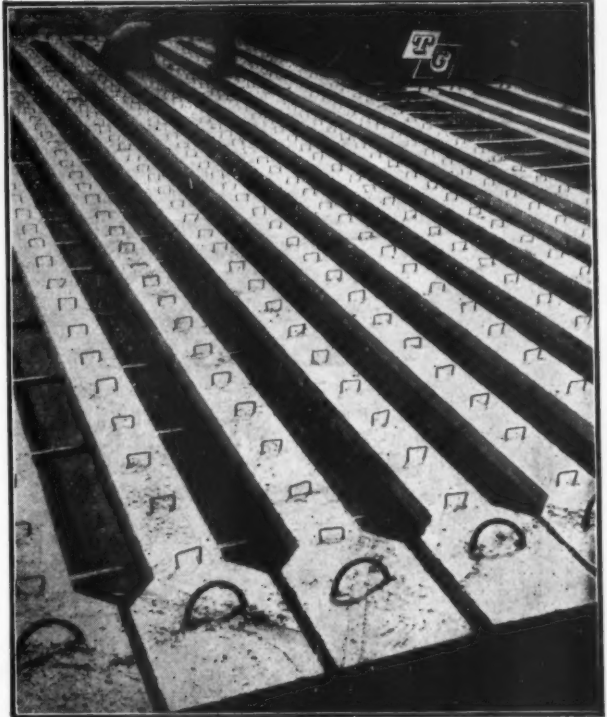
PRESTRESSED PRECAST UNITS FOR THE ENGINEER

UNITS FOR INDUSTRIAL PLANTS
ARCHITECTURAL PROJECTS, CIVIL
ENGINEERING & PUBLIC WORKS

Photograph reproduced by courtesy of
S. Mehew, Esq., O.B.E., B.Sc., A.M.Inst.C.E.,
A.M.T.P.I., County Surveyor of Derbyshire,
showing 40'0" beams prestressed, pretensioned,
laid for the new bridge on the A.50 at Fostons,
Derbyshire.

Main Contractors: D. T. Bullock & Co. Ltd.,
Civil Engineers, Aldridge, Staffs.

*Seven Works cover the country offering a complete service for the
production of precast units and prefabricated structures. We can
arrange for our representatives in your area to call and discuss your
projects.*



TARMAC VINCULUM LIMITED

Ettingshall Wolverhampton. Telephone Bilston 41101 (fourteen lines)

**SAFETY
FIRST**

BARRYWALD

REGD.

ELECTRICAL

AUTOMATIC INCINERATOR

THE ONLY INCINERATOR INCORPORATING OUR PATENTED SAFETY DEVICES

- ★ Manufactured by the first and leading Sanitary Incinerator Specialists in the World.
- ★ Guaranteed for one year and backed by a full service organization.
- ★ Simple and cheap to install.
- ★ Approved by the Royal Institute of Public Health and Hygiene.
- ★ Regularly supplied to and approved by all H.M. Government Departments, Local Administrations and Educational Authorities, Hospital Management Committees, General Industry.
- ★ Patents 555062-621085 and Foreign Parts.

**ECONOMICAL
EFFICIENT
FOOLPROOF
INDISPENSABLE**



By the simple depression
of a lever the **Barrywald
Sanitary Incinerator** auto-
matically destroys sanitary
towels, surgical dressings,
documents, etc.

It solves major and vital
welfare and security pro-
blems in factories, offices,
institutions, blocks of flats,
etc.

Write or 'phone
today for illustrated
leaflet or
demonstration.

SANIGUARD APPLIANCES LIMITED

62, LONDON WALL, LONDON, E.C.2

Telephone: NATIONAL 8881 8882 DIVISION OF ALLIED METALS LTD.

planning small bore heating?

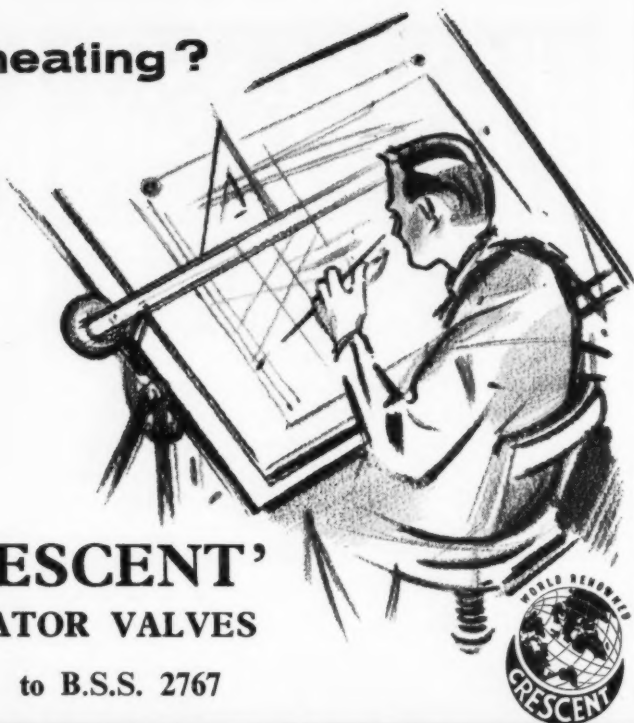
The "Crescent" range of $\frac{1}{2}$ in. and $\frac{3}{4}$ in. angle and straight radiator valves and unions is available with compression joints, for use in small bore copper tube heating systems. Please write for leaflets to keep by you as you plan.



... sound plan
to specify

'CRESCENT'
RADIATOR VALVES

to B.S.S. 2767



JOHN WEBB & CO. LTD.

CRESCENT WORKS, HOCKLEY, BIRMINGHAM, 19
Telegrams: "Cobweb" Birmingham Telephone: Northern 3904 (5 lines)
Telex No.: 33-468 Starline, Birmingham

LONDON DEPOT & WAREHOUSE:
13 Gt. Guildford Street, London, S.E.1
Tel.: WATERLOO 7470
BRANCH WORKS: Monusk Works, Brynmawr, Brecks.



Moorwoods

**MAKERS OF
COMPLETE KITCHEN
AND CATERING
SERVICE
INSTALLATIONS**

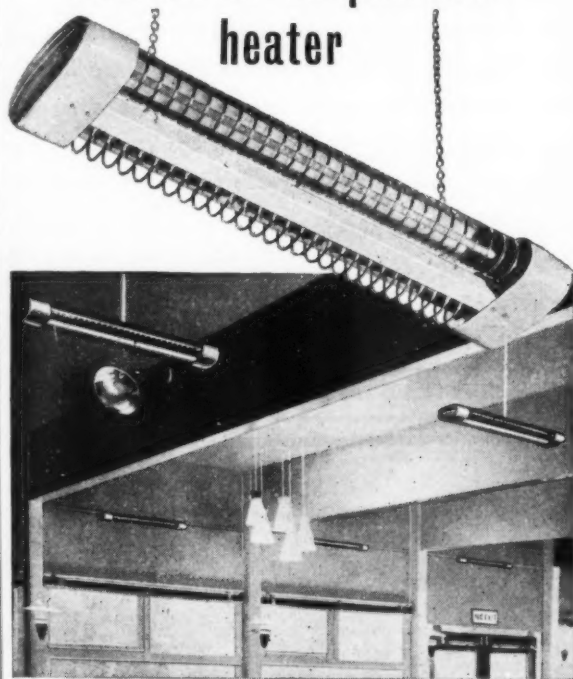
Moorwoods Ltd Large scale cooking equipment
For people who are satisfied with the best

HARLESTON IRON WORKS SHEFFIELD 4 Phone SHEFFIELD 23063 (4 lines)
London Office VINCENT HOUSE, VINCENT SQUARE, LONDON S.W.1. Phone Tate Gallery 2591

EKCO

'TWINSTREAK'

two bar infra-red
industrial suspension
heater



(Reproduction by courtesy of Laconite Ltd.)

Ekco 'Twinstreak' is the ideal heater for factory, workshop or office. The two silica glass-sheathed infra-red elements give a cheerful glow and the chromium-plated reflectors are adjustable for angle and direct a steady glow of warmth over a wide area. 27½" long x 2½" high x 6½" deep. 1½ kW £7.0.0d. Tax free

Also shown in this installation is the Ekco 'Firebreak'—single element version of 'Twinstreak' for wall mounting. It is also ideal for use in bathroom, kitchen or nursery. Fitted with built-in on/off pull switch. 750 watts. £4.14.6d. (including tax) Non-switch type £4.2.8d.

EKCO Heating

For further information and advice you are invited to consult the Ekco Technical Advisory Service:-

EKCO HEATING • E. K. COLE LTD • 5 VIGO STREET • LONDON W.1

WPS 315



**PICK THIS UP
TO STOP
CORROSION!**

To solve your corrosion problems, get in touch with Plus-Gas the Anti-Corrosion Specialists: their Technical Advisory Service covers the whole country. Plus-Gas Formula 'A' Dismantling Fluid, (Rust Remover). Plus-Gas Formula 'B' Protective Fluid. Used and approved by all industries for many years.

Have you heard of Plus-Gas Formula 'E' External Metal Treatment (Tannating Pre-treatment)?

COMPANY LTD

1/11 Hay Hill,
London, W.1.
Tel: HYDe Park
9566/9



VISTOSI

ITALIAN

LIGHT FITTINGS

IN COLOUR



MUST be seen at

J. Wuldart & Co. Ltd., 15 Rathbone Place, London, W.1

The eighth, thoroughly revised edition now on sale, still 5s.

LONDON NIGHT AND DAY, 1960-61 edition

a guide to where the other books don't take you

illustrated by Osbert Lancaster, edited by Sam Lambert.

'This is the seventh edition of this "guide to where the other books don't take you". There is now no excuse for visitors to London not having heard of it; a copy should be in every traveller's briefcase or handbag.

It is a guide to night clubs, pubs, theatres, shopping, and trips out of London; it is also

an urbane and witty companion to a thousand and-one off-beat places in the metropolis.

So much praise has been heaped upon it that one can only endorse the statement that it is really the only guide book to London that matters.'

YORKSHIRE GAZETTE

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

G.E.C. SANFIRE

BRINGS YOUR TOILETS UP TO DATE

This G.E.C. incinerator offers the best possible means of sanitary disposal, for with it toilets acquire a high standard of hygiene and are always pleasant to use. Every woman will appreciate this very necessary extra service.



- Very simple to use • Absolutely safe
- Long reliable life • Guaranteed twelve months

SANFIRE MINOR

Wall mounting unit distinctively finished in gleaming white with black fittings. For premises used by up to 50 women. Cat. No. HO 6740. ~~£27~~. Send for informative publication HO 4283.

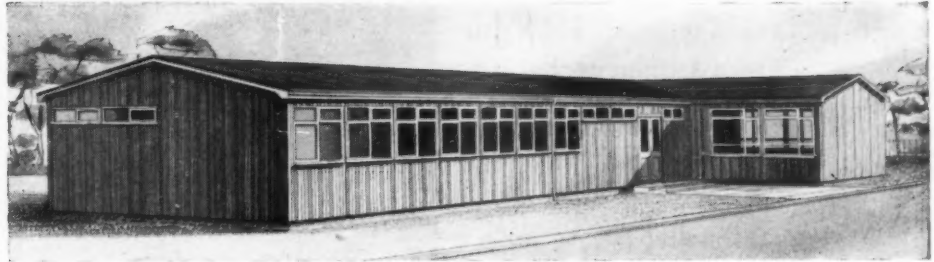
SANFIRE MAJOR

Neat and durable pedestal version with foot control for larger premises. Cat. No. HO 6681. £49.10. Write for publication HO 1952.



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

PLANNED EXPANSION



The special requirements of Local Authorities are the subject of careful study by Panel-Lastic Construction Co. Ltd., who have a large range of prefabricated buildings which incorporate very many variations in modern interior planning, so that any special need is almost certain to be met without delay. There is a special section dealing with the Education Programme, now nationally stepped up. The buildings illustrated could be erected with phenomenal speed and have a high thermostatic rating and a very high daylight factor.

★ Designs are available for the following :—

Canteens	Fruit Packing Stations	Laboratories	Recreation Rooms
Dormitories	Gymnasiums	Pavilions and Dressing Rooms	Schools
Drawing Offices	Industrial Offices	Public Halls	Tropical Buildings

For full details of buildings available for immediate assembly, with architects drawings and specifications write to:

PANEL-LASTIC Construction Co. Ltd.

Belvedere Works • Railway Terrace • Feltham • Middlesex • Telephone : Feltham 5761

ROYSTON

artificial stone fascia

and GUTTER

(Patent No. 828462)

SPECIFICATION

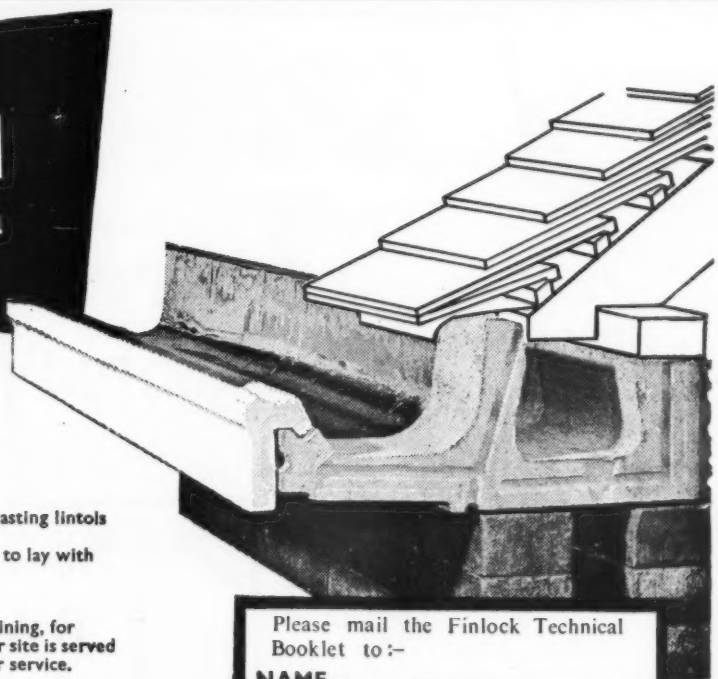
The Royston is basically two units—
1. A 9in. rear gutter block, with provision for casting lintols in rear trough, and shaped to receive Fascia.
2. A 2ft. Artificial Stone fascia, precision made, to lay with almost invisible joints.

LINING

Finlock supply and fix an aluminium/bitumen lining, for which a guarantee for 20 years is available. Your site is served by a nation-wide organisation, giving a 48 hour service.

SAVINGS

Write now for booklet giving full information showing how to reduce building costs.



Please mail the Finlock Technical Booklet to:—

NAME
ADDRESS

A.J.

FINLOCK GUTTERS LIMITED

FINLOCK HOUSE, FRANT ROAD, TUNBRIDGE WELLS, KENT.

Telephone: Tunbridge Wells 3396 (4 lines)

★
Specify
KORODUR ~

A few advantages of Korodur
Floor Surfaces

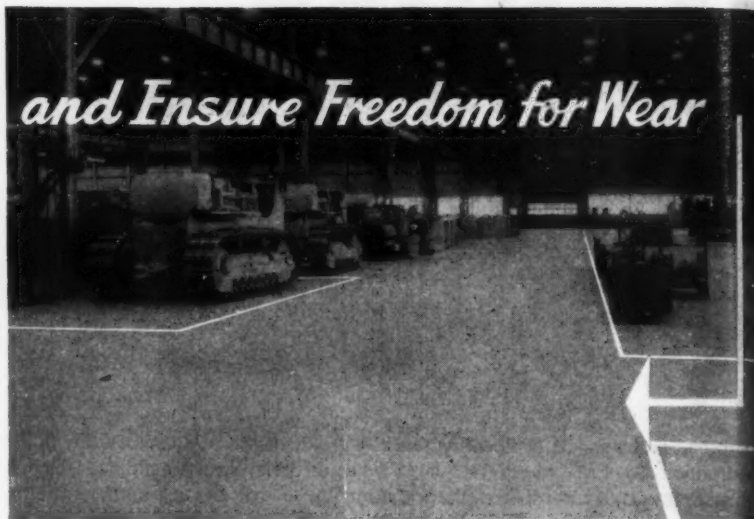
•
**KORODUR RESISTS WEAR FROM
THE HEAVIEST TRAFFIC**

•
**RESISTANT TO IMPACT
AND SHOCK**

•
**NON-RUSTING AND
DUSTLESS**

•
**IMPERVIOUS TO PETROL
AND MINERAL OILS**

•
**CAN BE LAID AS TILES
OR IN-SITU**



*To ensure freedom from wear The Caterpillar Tractor Co. Ltd.
Glasgow specified KORODUR*

WRITE NOW FOR FULL INFORMATION ON KORODUR EXTRA HEAVY DUTY FLOORING

— HEAD OFFICE —

EAGLE WORKS • WEDNESBURY

Telephone : WED 1821 (10 lines)

— LONDON OFFICE —

ARTILLERY HOUSE • ARTILLERY ROW • LONDON • S.W.1

Telephone : ABBey 7601 (6 lines)

SOLE DISTRIBUTORS FOR THE U.K.



**BUILDING & ELECTRICAL
CONTRACTORS IN KENSINGTON
SINCE 1887**

**whom shall
we ask
to tender?**

**FOR A
SATISFACTORY JOB
remember**

**RAWLINGS BROS
LIMITED**

85 GLOUCESTER RD., LONDON, S.W.7

Telephone FREmantle 8161 (10 lines)

Leaders in the Field of Protective Fencing



**Flextella Chain Link Fencing *Plus*
the NEW PLASTIC COATING**

J. B. Corrie (Flextella) Ltd Petersfield Hants Telephone: Petersfield 1255/9



**There's a
Janitor boiler
to suit any
requirement**

For constant hot water and reliable central heating at the lowest cost, you can confidently recommend a Janitor Solid Fuel or Oil-Fired Boiler. The design, workmanship and operating efficiency of Janitor Boilers appeal to the most discriminating buyers, and all models are available in Light Cream, Summer Blue, Poppy Red and White, to suit particular decorative schemes. Attractive hire purchase terms, including all installation charges, can be arranged.

OIL-FIRED

JUNIOR	40,000 B.t.u/h
O.1.	90,000 B.t.u/h
O.2.	125,000 B.t.u/h
O.4.	200,000 B.t.u/h

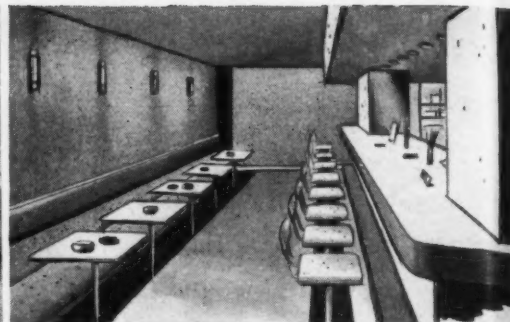
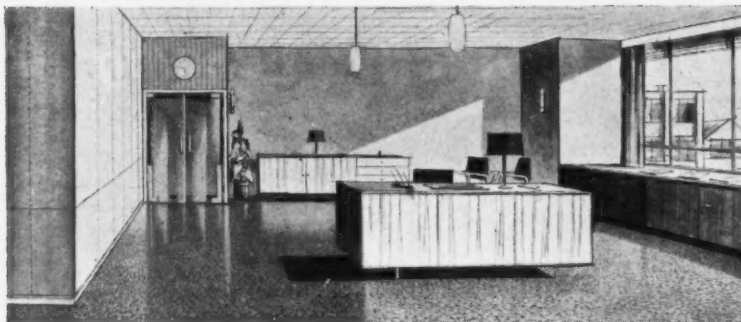
SOLID FUEL

JUNIOR	40,000 B.t.u/h
A.1.	50,000 B.t.u/h
A.2.	80,000 B.t.u/h
A.2x.	110,000 B.t.u/h
A.3.	140,000 B.t.u/h

JANITOR BOILERS LTD • CAMBERLEY • SURREY

London Showrooms: 19 Berkeley Street, London, W.1.

MEMBER OF THE POWELL DUFFRYN GROUP OF COMPANIES



Rossella—a tough coating of P.V.C. fused onto its own underfelt—has sound and thermal insulating properties.

It gives a soft, warm, quiet tread. Rossella's patterns are the work of today's leading designers. The colours, sealed below a transparent coat of plastic, stay permanently bright. Rossella has a surface that

the ONE floorcovering with all the advantages

withstands endless wear. It is waterproof, anti-static, resistant to dust, proof against chemicals and grease, hygienic and easy to clean. Rossella is the ideal, low cost floorcovering for hospitals, laboratories, beauty salons and public rooms.

Prices from 11s. 7d. per sq. yd. (inc. P.T.).

DERMIDE WALL COVERING

Dermide, the new fabric wall covering, combines the durability of P.V.C. with exciting contemporary colours and finishes. It is immune to normal stains and can be cleaned with the greatest ease. Dermide Wall Covering is resistant to heat and reduces fire risk.

Rossella

Regd.
THE MODERN FLOOR COVERING



For brochure, kindly write to:

DERMIDE LIMITED, VALLEY MILLS, MEANWOOD ROAD, LEEDS, 7. LEEDS 44721

THE "AVERY" VENETIAN BLIND is expertly made by British labour from British materials and beautifully finished. It is designed to give long, trouble-free service. A wide choice of attractive pastel shades in both tapes and slats permits matching or contrasting colours to suit any decor. Tapes are available in Carr's Super Terylene as well as French's woven Fleur-de-lis or washable plastic.

The Avery Venetian Blind

Avery

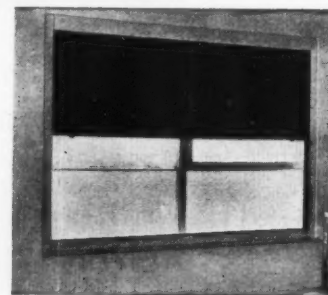
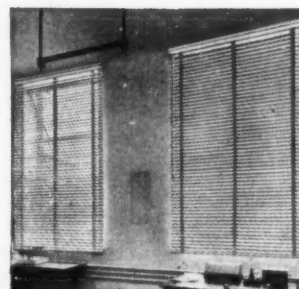
The Sundark

The Eden Door

THE SUNDARK is something new and eminently useful—a venetian sunblind giving all the advantages of the ordinary venetian blind which also gives an amazing degree of blackout when required. It is ideal for hospitals, lecture rooms, etc.

THE EDEN DOOR is the modern style door for private homes, hotels, restaurants, Board Rooms, hair-dressing saloons, etc. Folds back neatly and easily into the minimum space. Covered in attractive leather cloth, available in a wide range of patterns, grains and colours.

Fully descriptive leaflets on all the above are available on request.



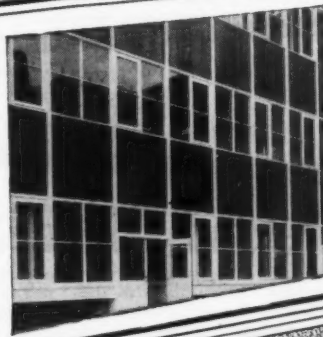
J. Avery & Co. Ltd.

81 GREAT PORTLAND ST., LONDON, W.1.
and at BOURNEMOUTH

Agents in
MANCHESTER, BIRMINGHAM, GLASGOW and ABERDEEN

Reflections
on
Successful
Curtain
Walling
Projects

m



Architect: Richard Mellor, Esq., F.R.I.B.A.
Architect to the Board

S. W. Metropolitan Regional Hospital Board
Contractors: Frank Batty & Smith Ltd., London, W.2

Two aspects of

ST. JAMES' HOSPITAL, BALHAM



H.C. JAMES LIMITED
BARTON · BEDFORDSHIRE

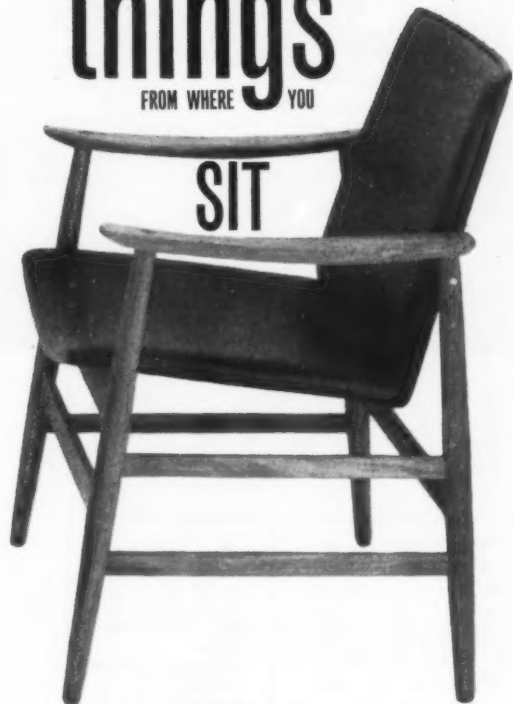
TELEPHONE: HEXTON 364/5

DHB9677

How
are
things

FROM WHERE YOU

SIT



learning, looking, listening, lazing — can be much more comfortable in this chair. Shown with oiled teak frame and leather upholstery it is also supplied in beech or african walnut, upholstered in wool and linen fabrics. There is a similar chair with steel tube frame and timber armrests. Chairs to match both types are also made without arms. The C14/A chair has a metal frame, the C14/B chair a timber frame.



CONRAN FURNITURE

6 Cadogan Lane, London, S.W.1.

Belgravia 3161 - 3024



An angle on the door closing against a lipped channel on the floor—that's how simple, and how fool-proof, the Trapper Weather Bar is. No mechanical parts, no finicky adjustments—fast, easy installation and silent operation. If the door drops, the angle can be adjusted. If the door twists, the seal is still effective. Sizes to fit all doors. Sample set, up to 36 in. door, 18/6 post paid. Cash with order; please state door size. Quantity discounts.

Wind and Water proof
Silent in Operation
No mechanical parts
Allows doormat inside door
Specified by many housing authorities
Over 50,000 now installed
Patented Design

ORDER FROM THE SOLE MANUFACTURERS

Douglas Aitken
(Metal Work) Ltd.,

176 Hope Street, Glasgow, C.2.
Telephone: DOUGLAS 0404/5

TRADE ENQUIRIES INVITED.

the bricks for the job **SANDLIME BRICKS**

FOOTINGS

Sandlime Bricks are available in Special Purpose and other load bearing grades to suit your job; of guaranteed strength and thoroughly durable.

FACINGS

Sandlime Bricks of facing quality (Class A of B.S. 187 - 1955) give maximum light reflection, are self-cleaning when exposed to rain, and are durable under the most severe conditions.

FEATURES

Sandlime Bricks give new scope and freedom. In addition to the "natural" whites, a wide range of permanent colours is available.

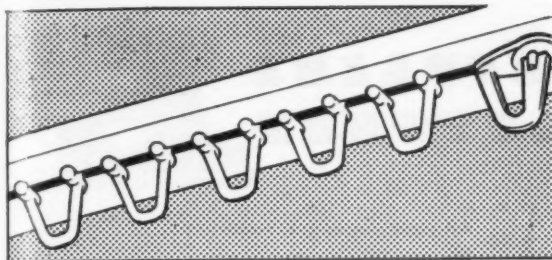
**SANDLIME BRICKS
FOR INDUSTRIAL, DOMESTIC
AND AGRICULTURAL BUILDING**

Buy your bricks from members of
The Sandlime Brick Manufacturers Assoc. Ltd.,
73/78 High Holborn, London, W.C.1.
Tel: HOL 5434.

A list of members and technical
literature can be obtained
from the Secretary.

The Sandlime Brick Industry is progressive and utilises
continuous research carried out both by individual
manufacturers and by the Sandlime Brick
Division of the Chalk Lime and Allied
Industries Research Association.





SESAME makes curtain rail headlines

- ... looks part of the soffit, reveal, ceiling, etc.
- is clean, non-metallic
- has no brackets, no protrusions, no need for pelmets
- is extremely simple to fix
- Sesame is smooth, silent, and faultless in operation
- takes any weight of curtain, cannot jam
- is approved by leading Furnishers



PATS. PENDING
REGD. DESIGNS

TRADE MARK

the reliable curtain rail
on completely new lines

for full details please write to:

PLASTIC FIXTURES LIMITED

55 Hatton Garden, London, E.C.1. Holborn 5331

The modern architectural model

by T. W. Hendrick F.R.S.A.

Foreword by Hugh Casson

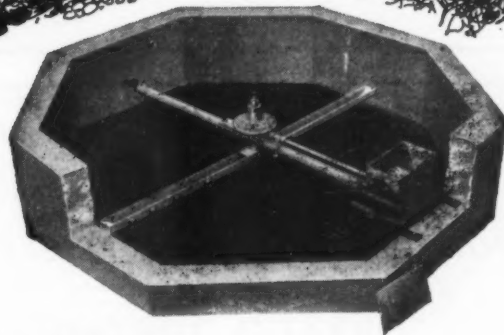
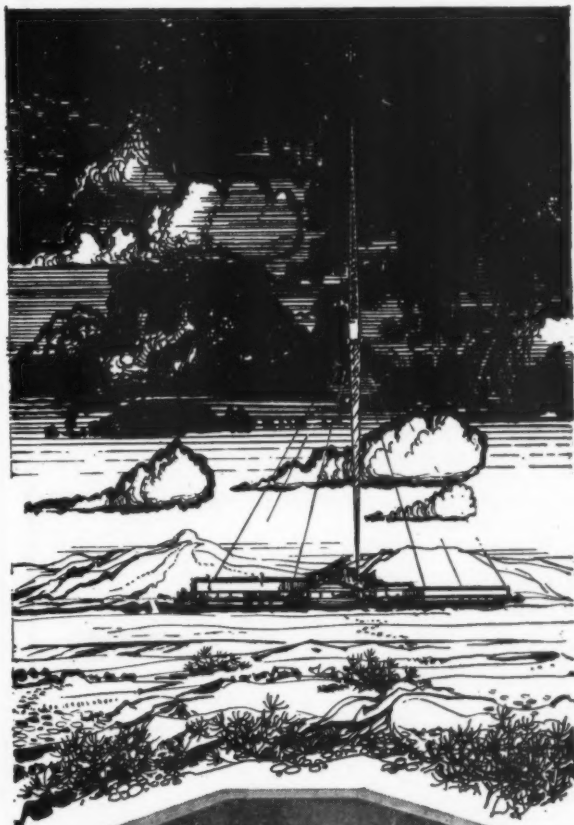
THIS FASCINATING HANDBOOK is the first to deal in full detail with every aspect of the construction of models of modern buildings. The author, himself an expert and experienced model maker, deals with models of all scales, sizes and types, mobile and static, realistic or diagrammatic, as well as their surrounding landscape and impedimenta; careful instructions are given on the construction of every conceivable detail from pylons to potted plants, from glass domes to door handles. The author describes the proper uses and the virtues and vices of traditional materials, plywood, card, glue, and the many new synthetic materials now available, not even forgetting such unorthodox things as dental plaster or cherry sticks.

Architects are increasingly using models to express their projects in a three-dimensional form, and this book will be of invaluable help both to them, their assistants, students, model makers professional and amateur, and all who are intrigued by buildings in miniature.

The book is illustrated with line diagrams, and photographs of a selection of models of all types of buildings by well-known contemporary architects.

Size 8½ in. by 5½ in. 144 pages including over 50 halftone and line illustrations 16s. net, postage 1s. 0d.

The Architectural Press. 9 Queen Anne's Gate, S.W.1



SEWAGE PURIFICATION FOR SMALL ISOLATED COMMUNITIES

The SIMPLETTE Revolving Sprinkler requires the minimum of attention and provides reliable distribution of settled sewage, under the most arduous conditions.

Write for Booklet P.52.



**AMES
CROSTA MILLS
AND COMPANY LIMITED**
HEYWOOD · LANCASHIRE

LONDON OFFICE: ABBEY HOUSE · VICTORIA STREET · LONDON S.W.1.
GLASGOW OFFICE: BALTIC CHAMBERS · 50 WELLINGTON STREET · GLASGOW G.2
CW 6797

ARCHITECTS

Sydney Greenwood A.R.I.B.A. Chief Architect

JOHN LAING AND SONS LIMITED

requires

ARCHITECTS AND ARCHITECTURAL ASSISTANTS in all grades to work on a wide range of projects in an office that is continually expanding. Salaries will be commensurate with experience.

ARCHITECTS should be Associates, R.I.B.A., with some experience in one or more of the types of project listed below.

ARCHITECTURAL ASSISTANTS should be of Intermediate standard or equivalent.

Projects in hand include:

- Major commercial developments.
- Industrial projects including factories.
- Laboratories, etc.
- Multi-storey dwellings.
- Schools.
- Housing.
- Proprietary systems.

The office offers opportunity for advancement and for close collaboration with all other branches of the building industry.

Applicants should apply in the first instance to Personnel Manager (A.S.5), John Laing and Son Limited, Building and Civil Engineering Contractors, London, N.W.7.

APPLIED LETTERS



All sizes, types and materials for internal or external use. Illuminated letters and box signs. Brochures sent on request.

WARD & CO. (letters) LTD.

6 - 12 WILDER ST. BRISTOL 2. TELEPHONE BRISTOL 21536

TO BUILDERS, ARCHITECTS, DEVELOPERS AND SURVEYORS

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

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

AGENTS AND ARCHITECTS WILL BE RETAINED

Particulars and Plans to Retained Agents:

NORMAN HIRSHFIELD & PARTNERS

85, GEORGE STREET, W.1 (WEL. 9145, 5 lines)
WHO WILL IMMEDIATELY INSPECT ALL PROPOSITIONS

OUR VALUABLE AND EXTENSIVE EXPERIENCE IS ALWAYS AT THE DISPOSAL OF LIBRARIANS AND ARCHITECTS FOR THE DESIGN AND MANUFACTURE OF FURNITURE FOR PUBLIC, SCHOOL AND RESEARCH

LIBRARIES

LIBRACO LIMITED

LOMBARD WALL WOOLWICH ROAD
CHARLTON S.E.7

ILLUSTRATED CATALOGUES ON REQUEST

Telephone - Greenwich 3308/9



AUSWALITE

SIGNS

AUSTIN WALTERS

PLASTIC & NEON SIGNS

NEW STYLES, NEW MATERIALS

An adequate after-sales service

Look for the symbol "AUSWALITE"

AUSTIN WALTERS & SON LTD.

AYRES RD

MANCHESTER 16

Tel: TRA 1827/8/9

CLASSIFIED ADVERTISEMENTS

Owing to the August Bank holiday the issue of August 1st will go to press one day earlier than usual. All advertisements for this issue must reach the publishers not later than first post Thursday, July 28th.

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

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

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

Public and Official Announcements

36s. per inch; each additional line, 3s.

GLASGOW CORPORATION
ASSISTANT ARCHITECTS
TOWN PLANNERS
QUANTITY SURVEYORS

The Architectural and Planning Department of the Corporation of the City of Glasgow has vacancies for a number of qualified Assistants in the above professions.

The Department has in hand a large, varied and interesting programme of works including comprehensive redevelopment, multi-storey flats, schools and civic buildings. The work will provide scope for personal initiative in the preparation of designs and details of schemes upon which construction work will follow.

The salary scale for these Assistantships is up to £1,385 with placing according to experience.

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

A. G. JURY,
City Architect and Planning Officer.
1958

BOROUGH OF BASINGSTOKE

Applications are invited from Associates, R.I.B.A., for the post of SENIOR ASSISTANT in the Architect's Department of a town which is growing rapidly.

The work is varied and interesting, but applicants must have gained considerable housing experience. Salary range £785-£1,070 according to experience. N.J.C. Conditions. Post pensionable. Medical examination. Casual user car allowance. Housing available if required. Assistance with removal expenses.

Details giving age, training, experience, etc., and names and addresses of three referees, to be sent to the Borough Architect, Eric Almond, Dipl. Arch., A.R.I.B.A., Municipal Buildings, Basingstoke, Hants., by 25th July, 1960.

L. WOMERSLEY,
Town Clerk.
2087

HATFIELD RURAL DISTRICT COUNCIL
ARCHITECTURAL ASSISTANTS

Applications are invited for Architectural Assistants upon salary Grades A.P.T. I, II or III dependent upon qualifications and experience. Housing accommodation will be considered if necessary.

Summary Form and applications to Engineer and Surveyor, 82 Great North Road, Hatfield, Herts, not later than 30th July, 1960.

S. F. JAGO,
Clerk of the Council.
2252

HATFIELD,
Herts.LONDON COUNTY COUNCIL
ARCHITECTS' DEPARTMENT

Vacancies for ARCHITECT/PLANNERS. Tasks include three-dimensional planning in Comprehensive Development Areas and all other important areas of new development throughout London, including those associated with road improvements. Up to £1,250 according to experience and qualifications. Forms and particulars from Hubert Bennett, F.R.I.B.A., Architect to the Council (EK/AJ/1790/7c), County Hall, S.E.1.

2180

SOUTHERN CAMEROONS GOVERNMENT
ARCHITECT. PUBLIC WORKS DEPARTMENT

To prepare sketch plans, working drawings, and detailed specifications for various types of buildings and to supervise and administer building contracts. Contract appointment for one year of 9-12 months. Salary range £1,720-£2,635 a year, plus Gratuity. Free passages. Candidates 25-45 years of age must be A.R.I.B.A.

Write Director of Recruitment, Colonial Office, London, S.W.1, giving full names, age, qualifications and experience, quoting BCD 112/603/01/AG.

2371

HAYES & HARLINGTON U.D.C.

Applications are invited for: ARCHITECTURAL ASSISTANTS (Two). Salary within Grade A.P.T. II, i.e., £765-£880 p.a., plus London weighting, 21-25 years, £25 p.a., 26 years and over £40 p.a. Candidates should have passed the Intermediate examination of the R.I.B.A. and must have good general architectural experience. Five-day week. Housing accommodation if required will be made available for one of the appointments. Further particulars and conditions of service and form of application obtainable from the undersigned, which when completed must be returned by 8th August, 1960.

GEORGE HOOPER,
Clerk & Solicitor.

Town Hall,
Hayes, Middlesex. 2193

THE CITY OF COVENTRY offers
TRAINING OPPORTUNITIES FOR CAREERS
IN TOWN PLANNING

for up to TEN CANDIDATES eligible to sit for the Final Examination of the Town Planning Institute (and already exempt from the Intermediate Exam.).

SALARIES—
ARIBA AMICE ANIMANE ARICS
£1,065-£1,220 APT.IV
Degrees or other approved qualifications within the range of £610-£1,065 APT.I/III.

PRACTICAL EXPERIENCE—
in various aspects of Town Planning will be arranged within the Planning Division (City Architect and Planning Officer—
Arthur Ling, B.A., F.R.I.B.A., M.T.P.I.)

commencing in Autumn 1960 for a period of 3 years.

STUDY—
2 days per week during academic sessions will be allowed for a course of study in preparation for the Final Examination of the Town Planning Institute.

HOUSING ACCOMMODATION—
will be granted in approved circumstances—
Removal Expenses Loan.

APPLICATION FORMS—
from Department of Architecture and Planning,
Council House, Coventry, to be returned by
16th August, 1960. 2274

ARCHITECTS
required by LONDON TRANSPORT EXECUTIVE for the following posts:—
ASSISTANT ARCHITECTS:

Salary range £1,070 p.a.—£1,245 p.a.
Applicants must be fully qualified and capable of supervising staff. (Reference 100/A/1).

ARCHITECTURAL ASSISTANTS:
Salary ranges £855 p.a.—£951 p.a.;
£989 p.a.—£1,028 p.a.

Applicants should be qualified to R.I.B.A. Intermediate standard with previous office experience (Reference 100/B/1).

FREE TRAVEL; 5 DAY WEEK! medical examination; contributory superannuation after probationary period. Applications quoting reference number of post applied for and giving age, qualifications and full details of previous experience should be sent to Staff and Welfare Officer, LONDON TRANSPORT EXECUTIVE, 55 Broadway, S.W.1. 227

BOROUGH OF CASTLEFORD
APPOINTMENTS IN THE BOROUGH
ENGINEER'S DEPARTMENT

Applications are invited for the following appointments:—

SENIOR ASSISTANT ENGINEER. Salary—Special Grade: commencing salary according to qualifications and experience but not less than £905 per annum, rising to £1,070 per annum. Applicants must be Corporate Members of the Institution of Municipal and/or Civil Engineers, and have had experience in a Municipal Engineer's office.

SENIOR ASSISTANT ARCHITECT. Salary—Special Grade: commencing salary according to qualifications and experience but not less than £905 per annum, rising to £1,070 per annum. Applicants must be Associate Members of the R.I.B.A. and/or Registered Architects, and have had some years' practical experience.

ASSISTANT ARCHITECTS (2 required). Salary—Grade A.P.T.II (£765-£880). Applicants should have passed the Intermediate Examination of the R.I.B.A. or its equivalent at one of the recognised Schools of Architecture.

N.J.C. Service conditions; superannuable; terminable by one month's notice on either side. The successful applicants will be required to pass satisfactorily a medical examination.

If required housing accommodation will be provided for successful married applicants. Applications, on forms obtainable from me, to be returned by the 30th July, 1960.

Canvassing disqualifies.
ERNEST HUTCHINSON,
Town Clerk.
2254

COUNTY BOROUGH OF EAST HAM
BOROUGH ENGINEER'S DEPARTMENT

Applications are invited for the following temporary appointment:—

SENIOR ASSISTANT ARCHITECT, Grade IV,
£1,065-£1,220.

London weighting is paid in addition, and a salary in excess of the minimum may be paid according to qualifications and experience. The appointment is for work on a new Technical College and is expected to be for a period of not less than three years.

Further details and application forms, returnable by 5th August, 1960, from the Town Clerk, Town Hall, East Ham, E.6. 2351

BOROUGH OF WALTHAMSTOW
BOROUGH ARCHITECT'S DEPARTMENT
Walthamstow is a municipal borough within the County of Essex, population 113,000, rateable value £1,747,737. It is a progressive authority and there is a large programme of interesting architectural and redevelopment schemes to be undertaken.

Applications are invited for the mentioned vacancies on the permanent staff of the Borough Architect:

- (a) ONE SENIOR ASSISTANT ARCHITECT, A.P.T. IV (£1,065-£1,220).
- (b) ONE ASSISTANT ARCHITECT, A.P.T. III (£880-£1,065).
- (c) TWO ARCHITECTURAL ASSISTANTS, A.P.T. I/II (£610-£880).
- (d) ONE ASSISTANT QUANTITY SURVEYOR, A.P.T. II (£765-£880).
- (e) ONE CLERK OF WORKS, A.P.T. II (£765-£880).

The above salaries do not include the London weighting allowances.

Applicants for post (a) must be professionally qualified and have had extensive experience. Applicants for posts (b), (c) and (d) should have the appropriate qualifications.

Applicants for post (e) should have a thorough knowledge of the building trade and be capable of supervising large housing contracts.

The Council will make 100 per cent. advances to successful applicants for house purchase in this or adjoining boroughs.

Application forms may be obtained from the undersigned.

Closing date for receipt of applications: 5th August, 1960.

G. A. BLAKELEY,
Town Clerk.

Town Hall,
Walthamstow, E.17.
13th July, 1960. 2358

AIR MINISTRY require JUNIOR and SENIOR WORKERS UP in Quantities Division in London. Must be fully experienced and competent to Work Up entire Bills of Quantities. Candidates must hold O.N.C. or C. & G. (Quantities) or equivalent technical qualification. Financial assistance and time off given for recognised courses of study. Promotion and pension prospects. Five-day week with 18 days paid leave a year initially. Salary ranges (Junior) from £720 (at age 26) to £990 and (Senior) £794 (at age 26) to £1,065. Applicants, who must be natural born British subjects, should write stating age, qualifications and experience to the Manager (PE.1234), Ministry of Labour, Professional and Executive Register, Atlantic House, Farringdon Street, London, E.C.4. No original testimonials should be sent. 1603

COUNTY BOROUGH OF NORTHAMPTON
THREE SENIOR ASSISTANT ARCHITECTS
A.P.T. IV/V (£1,065-£1,375)

Applications are invited for these appointments in Northampton which has an interesting programme of new schools, Municipal buildings and multi-storey flats in redevelopment schemes. Commencing salaries will depend upon ability and experience.

Full particulars and application forms, returnable by 8th August, from Borough Architect, Guildhall, Northampton.

C. E. VIVIAN ROWE,
Town Clerk.
2356

BOROUGH OF HENDON
BOROUGH ENGINEER AND SURVEYOR'S
DEPARTMENT
SENIOR ASSISTANT ARCHITECT
GRADE A.P.T. IV

Applications are invited for the above appointment at a commencing salary according to experience within Grade A.P.T. IV (£1,065 to £1,220 plus London weighting of £45).

Applicants should be Associate Members of the Royal Institute of British Architects and should have had experience of either housing and redevelopment work, or schools and general building works, and be familiar with modern design and construction methods. The person appointed will have opportunities to work as a member of a group on major projects.

Pensionable post; subject to National Scheme and medical examination. The Council is prepared to consider assistance with housing.

Applications, with full details and names and addresses of two referees, must reach the Borough Engineer and Surveyor, Town Hall, Hendon, N.W.4, by Monday, 8th August, 1960.

R. H. WILLIAMS,
Town Clerk.
2375

WEST SUSSEX COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT

Applications are invited for the following appointments:—

- (a) ASSISTANT ARCHITECT, at a salary in accordance with the Special Grade of the National Scales of Salaries (£785-£1,070). Commencing salary according to experience.
- (b) ARCHITECTURAL ASSISTANT, at a salary in accordance with Grade I of the National Scales of Salaries (£610-£765). Commencing salary according to experience.

Further particulars should be obtained from the County Architect, County Hall, Chichester, to whom all detailed applications must be submitted not later than 16th August, 1960.

T. C. HAYWARD,
Clerk of the County Council.
2357

County Hall,
Chichester.

**LONDON COUNTY COUNCIL
ARCHITECTS' DEPARTMENT**

ARCHITECTS (up to £1,250) required for Housing, Schools, General and Special Works Divisions. Full and varied programme of new work including schools, multi-storey flats and town development. Starting salaries according to qualifications and experience. Particulars and form from Hubert Bennett, F.R.I.B.A., Architect to Council (EK/AJ/1639/7a), County Hall, S.E.1. 1874

**BIRMINGHAM REGIONAL HOSPITAL BOARD
ARCHITECTS' DEPARTMENT**

- (a) ASSISTANT QUANTITY SURVEYOR (Arch. 9). Salary scale £905-£1,310 per annum. Corporate Membership RICS essential.
- (b) QUANTITY SURVEYING ASSISTANT (Arch. 10). Salary scale £625-£900 per annum. Intermediate RICS essential.
- (c) SURVEYING ASSISTANT (BUILDING) (Arch. II). Salary £625-£900 per annum. Intermediate RICS (Building Division) essential. To assist in survey of existing hospital buildings and preparation of record plans. Must be neat draughtsman with experience in measurement and plotting of surveys to all scales.

Previous hospital experience not essential. All posts supernumerary. Five-day week. Applications quoting appropriate reference) stating qualifications, age, experience, present appointment and salary and names of two referees to Secretary, Birmingham Regional Hospital Board, 10 Augustus Road, Birmingham, 15, by 2nd August, 1960. 2222

**LONDON COUNTY COUNCIL
ARCHITECTS' DEPARTMENT
PLANNING DIVISION
DEPUTY TO SENIOR PLANNING
OFFICER**

(NEW POSITION)

Applications invited for the above from town planners with a wide experience of urban planning with ability to lead and organise.

The position calls for exceptional imagination and drive. The selected officer will have overall responsibility as deputy to the officer-in-charge of the Planning Division and in particular for those aspects of the work which have a strong architectural content including comprehensive development, detailed planning and applications from public and private developers. He will assist the Senior Planning Officer on organisation and staffing questions. The division consists of 245 professional and technical staff with administrative and clerical support.

Salary £2,400 to £2,700.

Application form and particulars from Hubert Bennett, F.R.I.B.A., Architect to the Council, the County Hall, S.E.1, returnable by 15th August, 1960, quoting ref. EK/AJ/1900/7. 2354

**PERTH AND KINROSS JOINT COUNTY
COUNCIL**

Applications are invited for vacancies in the COUNTY ARCHITECTS' DEPARTMENT. Perth, on salary scales (a) £795-£1,075 and (b) £735-£865. Applicants for (a) must be fully qualified A.R.I.B.A. or hold a Diploma in Architecture. Applicants for (b) should hold an Intermediate A.R.I.B.A. qualification or equivalent. Placing on either scale will be given according to experience. Particulars and forms of application from The County Clerk, P.O. Box 15, County Offices, York Place, Perth. Applications to be lodged by 6th August, 1960. 2349

**METROPOLITAN BOROUGH OF CHELSEA
CHIEF ARCHITECTURAL ASSISTANT**

A.P.T. IV/V-£1,065 to £1,375 plus "weighting." Applications are invited for the above position from qualified members of the R.I.B.A. with full experience in the design, layout and construction of building projects; conversion of existing buildings into flats; maintenance of municipal buildings generally and overall supervision of architectural staff.

Application forms, obtainable from the Borough Engineer & Surveyor, with the names of three referees, should be received not later than Monday, 15th August, 1960.

J. C. KITCHIN, Town Clerk.

Town Hall,
King's Road,
Chelsea, S.W.3. 2372

**LANCASHIRE COUNTY COUNCIL
COUNTY ARCHITECTS' DEPARTMENT
SENIOR ASSISTANT ARCHITECTS. £1,320 to £1,484 according to experience.**

Applications are invited from experienced, registered architects to deal with a wide variety of buildings, including Magistrates' Courts, Police Training Schools and Technical Colleges.

Application Forms and details of appointment from: The County Architect, P.O. Box 26, County Hall, Preston, returnable by 29th July, 1960, quoting reference A/AJ. 2276

ARCHITECTS AND MAINTENANCE SURVEYORS. Pensionable posts for men and women at least 25 and under 35 on 1.1.60 (extension for regular Forces service, Overseas Civil Service, established civil service and temporary Government service as Architect or Maintenance Surveyor). Candidates must be registered Architects (Building Section), or have passed examinations necessary for attaining Corporate membership. Salary (men, London) £830-£1,125 according to age, rising to £1,300. Promotion prospects. Write Civil Service Commission, 17 North Audley Street, London, W.1, for application form quoting S 60-61. 2278

**EDINBURGH CORPORATION
TOWN PLANNING DEPARTMENT**

Applications invited for the following appointments. PLANNING ASSISTANT, salary scale £1,075-£1,275 p.a.

Applicants must have passed the Final examination of the Town Planning Institute or equivalent and be experienced in duties connected with development control under the Town and Country Planning Acts.

PLANNING ASSISTANT, salary scale £795-£1,075 p.a.

Applicants desirably should have passed the Final examination of the Town Planning Institute or equivalent and have had good general experience in Town Planning.

The work will be concerned with urban redevelopment projects. The posts are pensionable and subject to a medical examination.

Apply by letter to the Town Planning Officer, City Chambers, Edinburgh, giving full particulars. 2275

**QUANTITY SURVEYING ASSISTANTS
GRADE III**

REQUIRED BY
AIR MINISTRY

IN THE PROVINCES

Duties include abstracting and billing, site measurement and preparation of estimates. Candidates must hold O.N.C. (Building or Builders Quantities) or equivalent and have good experience under Quantity Surveyor or Building Contractor. Knowledge W.D. Schedule an advantage. Financial assistance and time off given for recognised courses of study. Promotion and pension prospects. Five-day week with 19 days' paid leave a year initially. Overseas tours for which special allowances granted. Salary ranges from £680 (at age 26) to £850. Commencing salary dependent upon age, qualifications and experience.

Applicants, who must be natural born British subjects, should write stating age, qualifications and previous appointments including type of work done, to Manager (P.E.2), Ministry of Labour, Professional and Executive Register, Atlantic House, Farringdon Street, London, E.C.4. No original testimonials should be sent. Candidates selected will normally be interviewed in London and certain expenses reimbursed. Only applicants selected for interview will be advised. 1309

CHURCH COMMISSIONERS

Applications are invited for the following appointments, based in London:-

(a) Two fully qualified Architects, aged 30-35, for the posts of ASSISTANT ARCHITECTS. Commencing salary during 12 months' probation to be £1,250 per annum followed, if satisfactory, by appointment on an established pensionable basis on a scale of £1,325-£1,780 subject to medical examination. These posts cover advisory and executive duties concerning the erection and maintenance of domestic buildings.

(b) One temporary post of ARCHITECTURAL ASSISTANT for drawing office duties in connection with domestic buildings. Candidates for this post should be at Intermediate R.I.B.A. standard. Salary, according to experience, within the scale of £820-£1,075.

Apply in writing to the Establishment Officer, Church Commissioners, 1, Millbank, Westminster, S.W.1, not later than 29th July, 1960. 2366

**BOROUGH OF ENFIELD
BOROUGH ENGINEER AND SURVEYOR'S
DEPARTMENT**

(Non-County Borough in the County of Middlesex. Population 109,700. Area 12,400 acres.)

Applications are invited, from suitably qualified persons, for the following permanent appointments:-

(1) ASSISTANT ARCHITECT, A.P.T. IV (£1,065-£1,220 plus London weighting).

(2) ARCHITECTURAL ASSISTANTS (TWO No.), A.P.T. III (£880-£1,065 plus London weighting).

(3) ARCHITECTURAL ASSISTANT, A.P.T. II (£765-£880 plus London weighting).

(4) JUNIOR ARCHITECTURAL ASSISTANT, A.P.T. I (£610-£765 plus London weighting). The commencing salary will be fixed at points within the Scale commensurate with qualifications and experience.

There is a large varied programme of work, including the redevelopment of Clearance Areas and other areas scheduled for Comprehensive Development.

Saturday mornings are normally free from duty. Application forms, obtainable from H. D. Peake, M.Sc. (Eng.), M.I.C.E., Borough Engineer & Surveyor, 7, Little Park Gardens, Enfield, Middx., must be delivered to the undersigned not later than Tuesday, 9th August, 1960.

CYRIL E. C. R. PLATTEN, Town Clerk.

Public Offices,
Gentlemen's Row,
Enfield, Middx. 2352

**CITY OF STOKE-ON-TRENT
CITY ARCHITECTS' DEPARTMENT**

ARCHITECTURAL ASSISTANTS are invited to apply for appointments on Grade A.P.T. II (£765-£880).

Applicants must have passed the Intermediate R.I.B.A. Examination and be studying for the Final Examination. Commencing salary in accordance with qualifications and experience.

Applications should be forwarded to J. R. Pigott, T.D., F.R.I.B.A., City Architect, Kingsway, Stoke-on-Trent, by Wednesday, 10th August, 1960.

HERBERT TAYLOR, Town Clerk. 2349

**RADNORSHIRE COUNTY COUNCIL
APPOINTMENT OF ARCHITECTURAL
ASSISTANTS**

Applications are invited for the following permanent appointments on the established staff of the County Architect's Department: THREE ARCHITECTURAL ASSISTANTS—

Salary Grade A.P.T. II (£765-£880 p.a.).

The Council have a varied and interesting building programme on hand including new schools, police houses and old people's homes.

The appointments will be subject to the National Scheme of Conditions of Service; to the Local Government Superannuation Acts and to termination by one month's notice in writing by either party.

Application, stating age, qualifications and experience, with the names and addresses of two persons to whom reference may be made, must be received by the undersigned not later than the 16th August, 1960.

D. C. S. LANE, Clerk of the Council.

County Hall,
Llandrindod Wells,
Radnorshire. 2346

**COUNTY COUNCIL OF THE STEWARTRY
OF KIRKCUDBRIGHT
ASSISTANT ARCHITECTS**

Applications are invited for posts of Assistant Architects from persons who have passed the Final Examination of the Royal Institute of British Architects and who have had ample experience in the design and construction of school buildings and/or housing schemes. Salary scale £1,048 by £63 to £1,300. Five-day week. Successful applicants will require to provide a car for the use of which an allowance will be paid; car purchase scheme available. Applications, giving age, qualifications and details of previous experience and the names and addresses of two referees, to be lodged with the undersigned not later than 5th August, 1960.

ROBERT C. MONTEATH, County Clerk.

County Offices,
Kirkcudbright,
13th July, 1960. 2365

**LANCASHIRE COUNTY COUNCIL
COUNTY ARCHITECTS' DEPARTMENT**

SENIOR ASSISTANT ARCHITECTS. £1,320 to £1,485 according to experience, and covered by Lancashire County Council Superannuation Scheme.

The Governors of Salford College of Advanced Technology are proceeding with a major expansion of the College. This project is to be of advanced design, offering opportunity for experience in the design of buildings to meet the needs of pioneer scientific processes, which are estimated to cost £3,000,000.

The team for this scheme will work with Messrs. Ove Arup & Partners, Structural Consultants, and will include Quantity Surveyors and Mechanical Engineers. The team will work in the County Architect's Office at Preston.

On completion of the project, architects will be engaged on a wide variety of new buildings for the Lancashire County Council.

Application forms and details of appointment from:

The County Architect, P.O. Box 26, County Hall, Preston, returnable by 29th July, 1960, quoting reference A/AJ. 2277

**CITY OF LEICESTER
CITY ARCHITECTS' DEPARTMENT**

Qualified Architects are required as follows:-

GENERAL SECTION.

GROUP LEADER, Grade A.P.T. IV (£1,065-£1,220).

ASSISTANT ARCHITECTS, Special Grade (£765-£1,070).

HOUSING SECTION.

ASSISTANT ARCHITECTS, Special Grade (£765-£1,070).

The commencing salary in the Special Grade posts will be up to maximum according to experience.

Current projects of the General Section include new Municipal Baths and Civic Centre. The work of the Housing Architects includes the redevelopment of Central Areas.

Previous Local Government experience not essential. Housing accommodation, at an economic rent, will be provided, if necessary.

National Conditions of Service apply. Applications, stating post applied for, together with names of two referees, should reach the undersigned not later than Monday, 8th August, 1960.

J. H. LLOYD OWEN, City Architect.

10, Loseby Lane,
Leicester. 2333

**THE GLASGOW SCHOOL
OF
ARCHITECTURE.**

THE ROYAL COLLEGE

SCIENCE AND TECHNOLOGY

GLASGOW.

LECTURESHIP

Applications are invited for the post of LECTURER-STUDIO ASSISTANT on the scale £1,050 to £1,850 with placing according to qualifications and experience. F.S.S.U. and Family Allowances.

Applicants, stating age, academic qualifications and experience and giving the names of three referees, should be sent by 30th July to the Secretary Treasurer, from whom further particulars can be obtained. 2281

LEEDS REGIONAL HOSPITAL BOARD

Applications are invited for the following appointments:

- (a) ASSISTANT ARCHITECTS. Salary scale £905-£1,310 per annum. Candidates should be registered architects.
- (b) ARCHITECTURAL ASSISTANTS. Salary scale £625-£900 per annum. Candidates should have passed the Intermediate Examination of the R.I.B.A. and have had previous drawing office experience.

The Board's offices are in Harrogate in pleasant surroundings and an excellent canteen is available on the premises.

Applications, stating age, qualifications and experience, together with the names and addresses of two referees, to The Secretary, Park Parade, Harrogate, by 3rd August, 1960. 2303

SALOP COUNTY ARCHITECTS' DEPARTMENT

SENIOR ARCHITECT required to act as Deputy Group Head for new work of an interesting character. Salary Grade A.P.T. V (£1,220-£1,375 p.a.). Applicants must be Associate R.I.B.A. N.J.C. Conditions. Five-day week. A disturbance allowance or weekly separation allowance will be paid to a married man taking up this appointment.

Conditions of service and application forms obtainable from Ralph Crowe, A.A.Dipl., A.R.I.B.A., A.M.T.P.I., County Architect, Column House, London Road, Shrewsbury. Closing date 12th August, 1960. 2304

BOROUGH OF SOUTHGATE ASSISTANT ARCHITECTS

Applications are invited for the following appointments in the Department of the Borough Engineer and Surveyor:

- (a) A.P.T. SPECIAL GRADE, £785-£1,070 plus London weighting.
- (b) A.P.T. GRADE II, £765-£880 plus London weighting.

The posts are permanent and supernannuated and the starting salary will be fixed in accordance with qualifications and experience. In the case of appointment (a) applicants should be Associates of the Royal Institute of British Architects. Forms of application may be obtained from the Borough Engineer and Surveyor and should be returned to the undersigned not later than 12 noon on Tuesday, 2nd August, 1960.

Canvassing, directly or indirectly, will be a disqualification. 2310

GORDON H. TAYLOR, Town Clerk.

Town Hall, Palmers Green, London, N.13. July, 1960. 2310

BRANDON AND BYSHOTTLES URBAN DISTRICT COUNCIL APPOINTMENT OF ARCHITECTURAL ASSISTANT

Applications are invited for the appointment of an Architectural Assistant in the Architect's Department on the salary scale A.P.T. I (£610-£765). The appointment will be subject to the National Scheme of Conditions of Service and Council Regulations. (Five-day week is in operation.) One month's notice is required on either side.

Forms of application can be obtained from the undersigned and should be returned not later than Monday, 25th July, 1960.

A. A. LUXMOORE, Clerk of the Council.

Brownie House, Brownie Colliery, Durham. 12th July, 1960. 2335

STAFFORDSHIRE COUNTY COUNCIL COUNTY PLANNING AND DEVELOPMENT DEPARTMENT

Applications are invited for the appointment in the County Planning and Development Department of a PLANNING ASSISTANT on A.P.T. Grade II (£765-£880 per annum) or Special Grade (£785-£1,070 per annum). The commencing salary and grading will depend on qualifications and experience.

The duties will include assisting in the preparation and review of Town Maps and the review of the Development Plan. The person appointed will be expected to lead a small team within the Development Plan Section of the Department. Applicants should preferably be Associate Members of the Town Planning Institute or hold an alternative professional qualification, or University Degree.

The Council are prepared to grant lodging allowance of 35s. per week for a period of six months and second class railway travel home every two months during the initial six months to married applicants maintaining a home outside the geographical county. Consideration will also be given to the granting of financial assistance in appropriate cases towards removal expenses.

Applications, giving details of age, education, qualifications, present and previous appointments, experience and the names of two persons to whom reference may be made, should be sent to D. W. Riley, County Planning and Development Officer, 41a, Eastgate Street, Stafford, not later than 31st July, 1960.

Relationship to any member or senior officer of the County Council must be disclosed. Canvassing will disqualify.

T. H. EVANS, Clerk of the County Council. 2288

JERSEY CIVIL SERVICE

STATES' ENGINEER'S DEPARTMENT

Applications are invited for the post of ARCHITECTURAL DRAUGHTSMAN in this Department. Salary range £585 to £850, point of entry to be dependent on age and experience.

Applicants should be competent draughtsmen trained, preferably, in an architectural office; surveying experience would be an advantage. The post is a permanent one and prospects of establishment are good (the pension scheme is non-contributory). Further details of conditions of service available on request.

Write giving full details of age, training and experience, together with names and addresses of two referees, to the undersigned not later than 30th July.

RONALD S. GRAY, F.C.C.S., Establishment Officer.

States' Greffe, Jersey, C.I. 2285

WEDNESFIELD URBAN DISTRICT COUNCIL ASSISTANT ARCHITECT

Applications are invited for an experienced Architect for the above position at a salary in accordance with A.P.T. Grade IV (£1,065 to £1,220).

Wednesfield has a population of approximately 31,000, and is developing rapidly.

A large programme of varied schemes has to be undertaken, and the district is a reception area for overspill population.

The National Joint Council Conditions of Service will apply and the successful candidate will be required to contribute to a Superannuation Scheme and also undergo a medical examination. Housing accommodation will be provided, if necessary, and reasonable removal expenses will be paid.

Applications stating age, qualifications, experience, with the names of two referees, must be received by the undersigned by not later than 25th July, 1960.

J. HENWOOD JONES, Clerk of the Council.

Council Offices, Alfred Squire Road, Wednesfield, Staffs. 2283

BOROUGH OF AYLESBURY ASSISTANT ARCHITECTS

Applications are invited from suitably qualified architects for the following appointments in the Consultant Architect's Office:—

- ASSISTANT ARCHITECTS, A.P.T. Grade V. Salary £1,220-£1,375 p.a., starting point according to qualifications and experience.

The appointments are supernannuated and subject to medical examination. Applicants should apply immediately by letter to F. B. Pooley, F.R.I.B.A., Consultant Architect, 1, Church Street, Aylesbury, giving fullest details.

R. D. W. MAXWELL, Town Clerk.

Town Hall, Aylesbury. 2325

CITY OF CHICHESTER CHIEF ASSISTANT

Applications are invited for this appointment at a salary within the Grade for Special Classes of Officers (£785-£1,070) and A.P.T. IV at a maximum salary of £1,120. The appointment is to be made on the grade considered suitable having regard to the experience of the successful applicant.

The person appointed must be an Associate Member of the R.I.B.A. or R.I.C.S. and will be responsible to the City Surveyor for the design of new council houses and other work connected with housing and housing estate layout. He must have a complete knowledge of building construction, experience in design, and fully competent to arrange and supervise building contracts. The Corporation retains the services of a firm of Chartered Quantity Surveyors and employs a Clerk of Works.

The appointment will be in accordance with the National Conditions of Service and terminable by one month's notice on either side.

Temporary housing accommodation will be provided, if required.

Applications on forms, obtainable from the City Surveyor at Greyfriars, North Street, Chichester, must be returned by 3rd August, 1960.

ERIC BANKS, Town Clerk. 2326

BOROUGH OF ILFORD BOROUGH ENGINEERS' DEPARTMENT

ASSISTANT ARCHITECT GRADE A.P.T. II/III (£765-£1,065)

Candidates should have passed the Intermediate Examination of the R.I.B.A. or equivalent. Commencing salary within the scales according to qualifications and experience. London weighting payable in addition. Five-day week.

The candidate appointed will be required for specific work in connection with the design and working drawings for a scheme comprising New Public Baths and Library at Fullwell Cross.

The Council is prepared to consider, if necessary, the provision of housing accommodation.

The appointment will be subject to one month's notice on either side, the provisions of the Local Government Superannuation Acts, National Conditions of Service and medical examination.

Application forms obtainable from the Borough Engineer, Town Hall, Ilford, should be returned not later than 2nd August. 2327

WELWYN GARDEN CITY URBAN DISTRICT COUNCIL

CLERK OF WORKS

ERECTION OF 262 DWELLINGS AND GARAGES

Applications are invited for the post of Clerk of Works to supervise the construction of permanent houses and other works in Welwyn Garden City under the direction of the Council's Architect.

Candidates should have had previous experience as Clerk of Works on fairly large house building contracts and possess a sound knowledge of building construction generally.

The appointment will be made for a temporary period of about two years and subject to two months' notice on either side.

Salary according to qualifications and experience will be in the range of £1,000-£1,200 per annum.

Applications, stating age, present appointment, and particulars of experience with names of two referees, should be submitted to reach the undersigned not later than Thursday, 4th August, and the envelope endorsed "Clerk of Works."

Canvassing disqualifies. L. J. SLOOMBE, Clerk of the Council.

Council Offices, Welwyn Garden City, Herts. 2328

CITY OF PETERBOROUGH CITY ENGINEER AND SURVEYOR'S DEPARTMENT

Applications are invited for the appointment of a SENIOR ARCHITECTURAL ASSISTANT on the staff of the City Engineer, at a salary within Grade IV, A.P. & T. (£1,065 per annum rising by annual increments to £1,220).

Applicants should be qualified architects, experienced in school building, and capable of carrying out sketch designs, working and detail drawings and site control, with the minimum of supervision.

Housing accommodation, if desired, will be provided.

Forms of application may be obtained from the City Engineer, Town Hall, Peterborough. Closing date for applications 11th August, 1960.

C. PETER CLARKE, Town Clerk.

Town Hall, Peterborough. 2324

YORKSHIRE ELECTRICITY BOARD No. 7 (GRIMSBY) SUB-AREA CLERK OF WORKS

The successful candidate will be responsible for the supervision of various Building and Civil Engineering works within the Sub-Area.

Applicants must have a thorough knowledge of the building trade including experience in connection with reinforced concrete structures and foundations. They must be conversant with plans, specifications, bills of quantities and competent to set out work, give levels and keep all the necessary records and progress reports.

Membership of the Institute of Clerks of Works will be an advantage.

Salary: N.J.B. Class K, Grade 12 (Scale 7) £845-£930 plus personal allowance of £50 per annum.

Applications, giving full details of age, qualifications and experience, together with the names of two referees, should be forwarded to the Manager Yorkshire Electricity Board, No. 7 (Grimsby) Sub-Area, Moss Road, Grimsby, not later than 2nd August, 1960. 2323

WORCESTERSHIRE COUNTY COUNCIL COUNTY ARCHITECT'S DEPARTMENT

Applications are invited for the positions of:— SENIOR ASSISTANT ARCHITECTS, Grade IV (£1,065-£1,220).

ARCHITECTURAL ASSISTANTS, Grade III (£880-£1,065).

ASSISTANT ARCHITECTS, Special Grade (£765-£1,070).

HEATING ENGINEERING ASSISTANT, Grade II (£765-£880).

The Senior Architects should be qualified members of the R.I.B.A. and should preferably have had some experience of Education work, though this is not essential.

The Assistant Architects are required for Education, Police, Health and Fire Brigade projects of a large and varied nature. Previous experience of these types of contracts is not necessary, but the applicants should have an architectural training, a good knowledge of building construction and practice and be reliable draughtsmen.

The Heating Engineering Assistant is required for work in connection with general fuel economy in County buildings in conjunction with N.I.F.E.S. and will be responsible for the general maintenance of all types of heating equipment, instructing caretakers on operation of it and issuing orders to contractors for necessary repairs, etc. He may also prepare simple drawings and specifications for small heating systems and conversions. This position will give interesting and varied work and experience which could lead to future promotion.

The County Council has a certain amount of housing accommodation for staff and the successful candidates may apply for this as it is available. The Council also makes some allowance towards necessary removal expenses to married applicants.

A five-day week is in operation.

Forms of application may be obtained from L. C. Lomas, F.R.I.B.A., County Architect, 14, Castle Street, Worcester. (B.104.) 2316

new salary scales for architects

Applications are now invited for **Architectural Assistants, Architects Grade III and Architects Grade II.**

The department is concerned with a vast building programme and in all divisions architects are wanted who are prepared to match the demands of exacting programmes with professional skill, vision and enthusiasm.

Promotion from grade to grade is by merit. Within the grades the scales are flexible and individuals whose performance merits rapid advancement can be reviewed to higher points in the scale in addition to the normal annual increment.

All positions are pensionable, and except for a small number of special appointments, permanency is granted after two years' satisfactory service.

Every effort is made to give opportunities to design to young architects, provided that they have the necessary quality.

The new building divisions are:

HOUSING All types of dwellings, flats, maisonettes and cottages.

GENERAL A varied programme of building, including welfare establishments, development in expanding towns and hostels.

SCHOOLS All types of schools.

SPECIAL WORKS Crystal Palace National Youth Centre and Sports Arena, completion of South Bank with Royal Festival Hall extensions and a varied programme of other buildings.

IMPROVEMENTS Conversion and improvements to existing buildings and adaptations for Council purposes. Individual jobs up to £20,000.

There is also a considerable programme of modernisation and rehabilitation of older type dwellings, both Council built and acquired properties.

The **London County Council** on 21 June 1960 approved the following new salary scales:

Architectural Assistants	
up to £950 - (221)	
Architects Grade III	
£830 - £1250 - (223)	
Architects Grade II	
£1250 - £1500 - (117)	
Architects Grade I	
£1500 - £1700 - (41)	
Principal Assistants (Professional)	
£1700 - £1950 - (7)	
Assistant Senior Architects	
£1750 - £2050 - (9)	

The figures in brackets give the total number of positions in each grade in the four new building divisions and the improvements division.

Similar salary improvements have been made for **architect planners, structural engineers, surveyor planners, building surveyors, quantity surveyors.** Those interested in any of these opportunities please call, write or telephone for further details to Hubert Bennett, F.R.I.B.A., Architect to the Council, Room 163 (North Block), County Hall, S.E.1, telephone WATerloo 5000, extension 7335, quoting ref. EK/1759/AJ/7.

COUNTY BOROUGH OF BLACKPOOL
Applications are invited for ASSISTANT QUANTITY SURVEYORS, Special Scale (£785-£1,030 p.a.).
Forms, etc., from Arthur Hamilton, B.Sc., A.R.I.B.A. (Borough Surveyor), P.O. Box 17, Municipal Offices, Blackpool. 2306

COUNTY BOROUGH OF SWANSEA
BOROUGH ARCHITECTS' DEPARTMENT
Applications are invited for the following post—

SENIOR ASSISTANT ARCHITECT. Salary Grade A.P.T. IV (£1,065-£1,220). Applicants must be Associates of the R.I.B.A. and must have had considerable experience in the design and supervision of the erection of public buildings.

The commencing salary will be within the grade according to ability and experience.
Candidates must be under 45 years of age unless in Local Government Service.

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

Forms of application may be obtained from the Borough Architect, The Guildhall, Swansea, to whom they must be returned not later than Saturday, 30th July, 1960.

Canvassing disqualified.
IORWERTH J. WATKINS,
Town Clerk. 2302

The Guildhall,
Swansea.
9th July, 1960.

ROYAL COUNTY OF BERKSHIRE
ASSISTANT QUANTITY SURVEYORS are required mainly for taking-off in connection with a varied and interesting programme of building work.

Candidates should be Associate members of the R.I.C.S. (Quantities Sub-Division) or members of the I.Q.S.

Salary Scale A.P.T. Special Grade (£780-£1,070). Point of entry dependent on experience. The Council have a small number of staff houses and flats, some of which become available from time to time.

Assistance is given with removal expenses. Application forms obtainable from the County Architect, Wilton House, Parkside Road, Reading, are to be returned by July 26th, 1960. 2292

EASTERN ELECTRICITY BOARD
ESSEX SUB-AREA
FOURTH ASSISTANT ENGINEER (CIVIL)
SUB-AREA HEADQUARTERS

Candidates should have received a technical education to Higher National Certificate level in building and should possess a sound knowledge of building construction with experience in the preparation of specifications, bills of quantities, estimates, contracts, and the settlement of accounts in connection with new building and maintenance of properties.

The successful candidate will be required to contribute to a Superannuation Scheme and may be required to undergo a medical examination.
Salary: N.J.B. Class L, Grade 13 (£845-£930), plus £50 London Allowance.

Apply by letter to G. M. Holland, M.I.E.E., A.M.R.I.M., Engineer, Essex Sub-Area, Millfield, Bentley, Nr. Brentwood, Essex, by 4th August, 1960. 2301

NORTH RIDING COUNTY COUNCIL
COUNTY ARCHITECTS' DEPARTMENT
Applications are invited for the following appointments on the permanent staff—

A.P.T. II and Special Grade (£785-£1,070). Intermediate R.I.B.A. standard. Point of entry will depend upon experience, with promotion to special grade on passing the Final R.I.B.A. examination.
Special—A.P.T. IV (£785-£1,220). Final R.I.B.A. essential and point of entry will depend upon experience.

The National Scheme of Conditions of Service and the Local Government Superannuation Acts apply, and medical examination required.

Forms of application are not being issued but application should state age, qualifications and experience, together with particulars of present and previous appointments and names and addresses of three referees, to be delivered to the undersigned not later than the 8th August, 1960. Canvassing, directly or indirectly, will be deemed a disqualification and candidates should state in writing whether they are related to any member of, or senior officer under, the Council.

These appointments relate to the amalgamated architectural department dealing with both Education and General works.

ROBERT A. WOTHERSPOON,
Clerk of the County Council. 2381
12th July, 1960.

BOROUGH OF LEYTON
(in the County of Essex)
COMMITTEE FOR EDUCATION
APPOINTMENT OF ARCHITECTURAL ASSISTANT

Applications are invited for the permanent appointment of Architectural Assistant, Grade A.P.T. II £765-£880 per annum, plus London Weighting. The successful applicant will be employed by the Essex County Council, and will work in the School Architect's Section of the Borough Engineer & Surveyor's Department, Town Hall, Leyton, E.10, five-day week is operated.

Details and forms of application from the Borough Education Officer, Education Offices, Kirkdale Road, Leytonstone, E.11, to whom they should be returned not later than Friday, the 5th August, 1960. 2377

ASSISTANT ARCHITECT required for Planning Office which is supervising a new building programme costing about £5 million. The work will be varied and interesting and will provide excellent experience for a young and capable man. A.R.I.B.A. essential and good knowledge of service installations desirable. Commencing salary according to experience within scale £900 x £50-£1,300 with family allowance and superannuation benefits. Apply by letter to the Bursar, The University, Sheffield, 10, with names of two persons to whom reference may be made, before 30th July. Envelopes should be marked "Assistant Architect—Planning Office." 2295

BOROUGH OF NELSON
JUNIOR ASSISTANT ARCHITECT

Applications are invited for the appointment of a Junior Assistant Architect in the office of the Borough Engineer and Surveyor at a salary within the scale A.P.T. I/II (£610-£880 per annum), commencing salary in accordance with age and experience.

Applicants should have some experience of an Architect's office and be studying for the R.I.B.A. qualification.

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

Consideration will be given to the provision of housing accommodation.

Applications (endorsed "Junior Assistant Architect") giving details of age, education, qualifications, experience and present salary, together with the names and addresses of two referees, to be received by the undersigned not later than first post on Saturday, the 6th August, 1960.

F. W. ROBERTS,
Town Clerk. 2382

Town Hall,
NELSON,
Lancs.
23rd June, 1960.

BOROUGH OF NEWCASTLE-UNDER-LYME
Applications are invited for the following established posts:—

(a) **SENIOR ARCHITECTURAL ASSISTANT.** Grade A.P.T. IV (£1,065-£1,220 p.a.).
(b) **ASSISTANT ARCHITECT.** Special Grade (£785-£1,070 p.a.).

All applicants must have passed the R.I.B.A. Final Examination, applicants who have recently qualified will be suitable for post (b). Commencing salaries will be in accordance with experience.

Works pending include a Crematorium, Shops, Offices, Flats, Branch Libraries and other interesting projects.

A five-day week is in operation and housing accommodation will be made available in suitable cases.

Application forms and Conditions of Service may be obtained from the Borough Surveyor, Lancaster Building, Newcastle, Staffordshire, and must be returned to him not later than Monday, 1st August, 1960.

C. J. MORTON,
Town Clerk. 2289

ADMIRALTY—NAVY WORKS DEPARTMENT

ARCHITECTURAL ASSISTANTS are required in the newly-formed Architects' Branch at Pinner where a wide variety of new work is being handled comprising all forms of accommodation building, i.e. for sleeping, messing and recreation of naval personnel, instructional buildings, hospitals, industrial type of buildings in Dockyards, office blocks, housing estates and residences.

Architectural Assistants will work in groups with professional grade Architects.

Candidates are expected to be keen to explore new forms of construction and must be quick and competent draughtsmen. Preference will be given to those who are studying for professional qualifications and successful candidates will be considered for day release to help them in their studies.

Salary (London Rate) starting £570 p.a. (at age 21) to £785 (28 and over); maximum of scale £900 p.a.

Opportunities exist for promotion to Leading grade (salary maximum £1,055, London Rate) and further prospects for those becoming fully qualified are favourable. Every facility will be given to Assistants to obtain the necessary professional practice for Part III of their final examination.
Five-day week—annual leave 18 days rising to 22 after 10 years.

Candidates, who must be British subjects, are invited to apply in writing, giving details of qualifications and experience, to Director General, Navy Works, Admiralty, Chamberlain Way, Pinner, Middlesex. 2291

SALISBURY CITY COUNCIL
CIVIC HALL, SALISBURY

CLERK OF WORKS required for eighteen months' contract starting in October, 1960. Applications are invited from suitably experienced and qualified men. Knowledge of piling, reinforced concrete construction and specialist joinery work an advantage. Applications stating age and qualifications with full details of past experience and salary required, together with the names of two referees, should be sent in writing to the Council's Architects, Messrs. Robert Potter & Richard Hare, F.A.R.I.B.A., De Vaux House, Salisbury, Wilts, by Tuesday, 2nd August, 1960.

GEORGE RICHARDSON,
Town Clerk. 2230

SOUTH EASTERN REGIONAL HOSPITAL

BOARD
REGIONAL ARCHITECT'S DIVISION

Applications are invited from registered architects for the following supernumerary posts on the staff of the Regional Architect's Division, headquarters Edinburgh.

SENIOR ASSISTANT ARCHITECTS—£1,300 x £50 (5)—£1,600.

ASSISTANT ARCHITECTS—£905 x £35 (1) x £45 (6) x £50 (2)—£1,310.

Applications, giving details of age, qualifications and experience, should be sent to the Regional Architect, 18, Rothesay Terrace, Edinburgh, 3, within seven days. 2314

COUNTY COUNCIL OF ESSEX
COUNTY PLANNING DEPARTMENT

Applications invited for post of ASSISTANT AREA PLANNING OFFICER in the South Essex Area Planning Office at Romford at a salary in accordance with A.P.T. Grade V (£1,220-£1,357).

Candidates for this post must be Corporate Members of the Town Planning Institute and should hold an additional appropriate professional qualification.

The successful candidate must possess a wide experience of all aspects of the work of a large and busy Area Office, and will be required particularly to assume control of the work of the Development Plan Section. They should be capable administrators and able to supervise and control staff.

Five-day week; medical examination; superannuation.

Applications with names of three referees to be sent to the County Planning Adviser, Broomfield Place, Broomfield, Chelmsford, Essex, by 4th August, 1960. 2221

BRACKNELL DEVELOPMENT CORPORATION
Applications are invited for the post of ARCHITECT, salary range £1,165-£1,390. Applicants must be Corporate Members of the R.I.B.A.

Superannuation schemes, medical examination. Housing available. Apply by 3rd August, 1960, giving age, education and qualifications, experience and appointments held (with dates and salaries), and names of two referees, to General Manager (A), Bracknell Development Corporation, Farley Hall, Bracknell, Berks. 2228

METROPOLITAN BOROUGH OF ISLINGTON
BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT

Applications are invited from persons not more than 50 years of age for the following appointments on the permanent staff—

(a) 2 **SENIOR ARCHITECTURAL ASSISTANTS**—Grade A.P.T. V (£1,220-£1,375 p.a.).
(b) 2 **ARCHITECTURAL ASSISTANTS**—Grade A.P.T. III (£880-£1,065 p.a.).

All plus appropriate London Weighting.

Applicants for:—
(a) should be Associate Members of the R.I.B.A. with considerable experience including the design and construction of multi-storey housing.

(b) should have passed the Intermediate examination of the R.I.B.A. and be suitably experienced.

Application forms, returnable by FIRST POST ON MONDAY THE 15TH AUGUST, 1960, obtainable from Mr. C. N. Cowney, Borough Engineer and Surveyor, Town Hall, Upper Street, N.1.

H. DIXON CLARK,
Town Clerk. 2259

BUILDING SURVEYORS

Architect's Department, L.C.C., has vacancies in Building Regulation Division and District Surveyors' Service for work in connection with applications under the London Building Acts and Byelaws. District Surveyors' offices are located in Metropolitan Boroughs and work involves negotiations with developers and supervision of works in progress.

Up to £1,250, commencing according to qualifications and experience. Form and particulars from Hubert Bennett, F.R.I.B.A., Architect to Council (EK/AJ/1637/7c), County Hall, S.E.1. 1964

URBAN DISTRICT OF MERTON AND

MORDEN

Applications are invited for the appointment of an ARCHITECTURAL ASSISTANT in the Department of the Engineer and Surveyor. The commencing salary will be within the grades A.P.T. I-II (£610-£880), plus London allowance, depending on experience, etc. Applications should be sent to the Engineer and Surveyor, Morden Hall, S.W.19, not later than 18th August, 1960.

SYDNEY ASTIN,
Clerk of the Council. 2390

Morden Hall,
S.W.19.

HAMPSHIRE COUNTY COUNCIL

PLANNING ASSISTANT, A.P.T. II (£765-£880) required for nonsessional post in Headquarters, Planning Department, Winchester, for work in connection with the preparation of Town Maps and the review of the County Development Plan. Commencing salary according to qualifications and experience. Candidates should have passed the Intermediate Examination of the Town Planning Institute or other related professional body and have had good all-round planning experience. Assistance with removal and other expenses granted in approved cases.

Applications, stating age, education, qualifications and experience, together with a copy of one testimonial and the names of two referees, should reach the Clerk of the County Council, The Castle, Winchester, by 4th August. 2391

COUNTY BOROUGH OF BLACKPOOL
Applications invited for ARCHITECTURAL ASSISTANT, A.P.T. I (£610-£765). Forms, etc., from Arthur Hamilton, B.Sc., A.R.I.B.A. (Borough Surveyor), P.O. Box 17, Municipal Offices, Blackpool. 2353

BOROUGH OF SHREWSBURY
ARCHITECTURAL ASSISTANT
Applications are invited for the post of Architectural Assistant on the permanent staff of the Borough Surveyor at a salary in accordance with the Special Grade, £785-£1,070 per annum, commencing according to qualifications and experience.

Housing accommodation will be provided and approved removal expenses paid.
The programme of major works planned includes new sewage disposal works, abattoir, houses and bungalows, shops, public lavatories, and redevelopment in areas of special architectural interest.

Applications, stating age, qualifications, experience, and names of two referees, to be sent to the Borough Surveyor, Guildhall, Shrewsbury, by Wednesday, 3rd August, 1960.

S. K. H. LOXTON,
Town Clerk. 2385

BOROUGH OF RAMSGATE
QUANTITY SURVEYING ASSISTANT
Applications are invited for the above-mentioned appointment at a salary in accordance with A.P.T. Grade II (£765-£880).

Candidates should have experience in all types of work, measurements of variation and settlement of final accounts.

It is anticipated that the duration of this appointment will be not less than five years.

Applications, endorsed "Quantity Surveying Assistant," giving details of qualifications, experience, and the names and addresses of two referees, must be received by the Borough Engineer, Municipal Buildings, Ramsgate, not later than Friday, 5th August, 1960.

Candidates must disclose whether or not they are related to any member of or the holder of any senior office under the Council.

Canvassing will disqualify.
K. F. SPEAKMAN,
Town Clerk. 2387

SOUTH AUSTRALIAN GOVERNMENT
Applications are invited for appointments in the following professions in the Government Service of South Australia:

ENGINEERS, CIVIL, MECHANICAL AND ELECTRICAL. Salary range: £A1,170-£A1,920.

ARCHITECTS. Salary range: £A1,170-£A1,920.
ARCHITECTURAL ASSISTANTS. Salary range: £A1,340-£A1,525.

QUANTITY SURVEYORS. Salary range: £A1,460-£A1,655.

ASSISTANT QUANTITY SURVEYORS. Salary range: £A1,340-£A1,525.

SURVEYORS AND ASSISTANT SURVEYORS. Salary range: £A1,340-£A1,525.

SPECIFICATION WRITERS. Salary range: £A1,340-£A1,525.

DRAUGHTSMEN, STRUCTURAL. Salary range: £A1,340-£A1,525.

DRAUGHTSMEN, ARCHITECTURAL. Salary range: £A895-£A1,280.

Commencing salaries within these ranges according to qualifications and experience.

First class passages provided for selected applicants and families.

Good leave conditions (Recreation, Sick and Long Service). Superannuation Fund available. Houses on a rental basis provided.

Full information from:
Agent General for South Australia,
50, Strand,
London, W.C.2.
Whitehall 7471. 2404

Architectural Appointments Vacant
3s. per line; minimum 12s. Box Number, including forwarding replies, 2s. extra.

EXPANDING practice with varied work in different parts of the country, require keen and capable Intermediate standard ASSISTANTS. Good salary and prospects for the right men. Holiday commitments honoured. Dalling and Partners, 14, Bloomsbury Square, W.C.1. CHANCERY 4725. 9469

SENIOR ASSISTANTS required immediately. Salary by arrangement. Theo. H. Birks, 38, Portland Place, London, W.1. LAN 7236. 1486

EXPERIENCED ARCHITECTURAL ASSISTANT wanted urgently, specialising in flat and housing work. Write, giving details of experience, to Kenneth Parker and Associates, 4, Liverpool Terrace, Worthing, Sussex. 2256.

ARCHITECTURAL ASSISTANT required in North Wales Office. Office experience essential. Write giving full particulars to J. M. Porter & Co., The Estate Office, Colwyn Bay. 2251.

BOOTH, LEBEBOER AND PINKHEARD require ASSISTANTS in the salary range £750-£1,000. Apply 17-20, Mason's Yard, Duke Street, St. James's, S.W.1. Tel. TRAFalgar 1866. 2271

ERNO GOLDFINGER requires ASSISTANTS with sound knowledge of construction. Expanding programme of work includes office buildings, schools, shops, factories, local authority and private housing. Local Authority Rates. Telephone: HYDe Park 5657. 2188

ASSISTANT ARCHITECT required for senior position in private office, London, W.1. Box 2270.

"SENIOR AND ADVANCED" ASSISTANTS with initiative required immediately to work on varied and interesting projects with the minimum supervision. Congenial working conditions. Excellent salaries offered for competent assistants. Write, stating age, experience and availability, etc., to Messrs. J. W. Hammond, Lloyds Bank Chambers, Main Road, Gidea Park, Romford, Essex. 2200

LEWELLYN SMITH & WATERS require **TWO ASSISTANTS** willing to specialise in Domestic work and Conversions. Applicants should be of Intermediate standard with two or three years' office experience. Salary in the range £700-£1,000 p.a. L.V.s; Pension Scheme; holiday arrangements may be kept. A number of other vacancies still exist for staff of all grades. Write: 103, Old Brompton Road, S.W.7, or Tel. KEN. 4477. 2201

ARCHITECT (A.R.I.B.A.) for responsible post with capacity for administration and imaginative designing required in old established office of standing. Varied and extensive work and prospects. Pleasant working conditions and good pension scheme. Write, stating age, experience and salary required, to Forshaw, Greaves & Partners, 11, King Street, Newcastle-under-Lyme. 2202

ARCHITECTURAL ASSISTANTS required in busy Bloomsbury office with varied practice. Good salary and prospects for suitable applicants. Five-day week. Write giving particulars of age, qualifications, experience, etc., to Box 918, c/o 7, Ooptic Street, W.C.1. 8515

RONALD WARD & PARTNERS have immediate vacancy for **ASSISTANT ARCHITECTS** with initiative and some experience, for interesting, commercial, industrial and civic projects. Salaries commensurate with ability. Apply, 29, Chesham Place, S.W.1. BELgravia 3361. 6538

LEWIS SOLOMON, KAYE & PARTNERS, rapidly expanding practice require **ARCHITECTS** and **ASSISTANTS** with initiative and competence to work on major design projects in the London area. These projects include Comprehensive Development Schemes, Hotels, Schools, Offices, and Luxury Flats. Good salaries according to ability and experience, luncheon vouchers, five-day week, and excellent working conditions. Write 5, Holborn Circus, Thavies Inn House, E.C.1, or telephone CITY 8811, quoting SLB in both instances. 7700

MONRO AND PARTNERS require **ARCHITECTURAL ASSISTANTS** of Intermediate/ Final R.I.B.A. standard in their London, Watford, and Glasgow Offices for work on interesting industrial and commercial projects. Salary range £800-£1,000 p.a. Non-contributory Pension Scheme. Five-day week. Apply in writing to 32, Clarendon Road, Watford. 8609

ARCHITECTURAL ASSISTANT, about Intermediate standard, required for general practice in North Devon Office. Pension scheme. Box 9744.

ARCHITECTURAL ASSISTANT required, with at least two years' office experience. Apply in writing to Thomas Mitchell & Partners, 20, Bedford Square, London, W.C.1. 7282

£1,000/£2,000 p.a. will be paid to experienced competent **ARCHITECTS** by a private practice in the City of London. The work will be primarily on the drawing board on new and interesting projects of magnitude. A high standard of design and detailing ability is required. Please apply in writing to Box 9360.

ARCHITECTURAL STAFF, all grades, required for interesting work. Good salary, bonus, superannuation scheme. House Purchase Assistance Scheme. Excellent working conditions. Five-day week. Please apply, giving details of qualifications, experience and salary required to: George Brown & Partners, A.R.I.B.A., F.R.I.B.A., and Eric Ross, F.R.I.B.A., Equity & Law Building, Baldwin Street, Bristol. 1. 9458

ARCHITECTS and **ASSISTANT ARCHITECTS** required for interesting commercial, industrial and civic projects. Responsibility and initiative encouraged. Five-day week, good salary commensurate with ability and experience. Ronald Ward & Partners, 29, Chesham Place, S.W.1. BELgravia 3361. 9246

BUSY City Firm engaged in industrial and commercial work requires **ASSISTANT** of Final standard with several years' office experience. Five-day week. Luncheon vouchers. Salary by arrangement. Box 9227.

H. ELSOM & PARTNERS require **ASSISTANTS** for work on theatres, laboratories, shops, stores and town centre redevelopment, etc. Apply 10, Lower Grosvenor Place, S.W.1. VIC. 4304. 9594

ARCHITECTURAL ASSISTANTS required in busy West End office. Varied work, excellent salary and prospects. Apply to Maurice Sanders, F.R.I.B.A., 24, Harley Street, W.1. 1441

BASIL SPENCE & PARTNERS require qualified and experienced **ARCHITECTS** to fill positions of responsibility on a major building programme. Write to 48, Queen Anne Street, W.1, stating experience and salary required. 9824

ARCHITECTURAL ASSISTANTS required by **PILKINGTON BROTHERS LIMITED** at the St. James's Street, London Office.

Applicants should be experienced in preparation of working drawings for interiors and exhibition stands. The positions are permanent, pensionable. Five-day week.

Applications, stating age, qualifications and experience should be made in writing to Mr. S. M. Sternfeldt, L.R.I.B.A., 29-30, St. James's Street, London, S.W.1. 2337

CROUDACE LTD. of Caterham urgently require additional **ASSISTANTS** to work on housing, flats, maisonnettes and estate layouts. Good opportunity of working on designs where the latest building techniques are used, plus scope for exercise of initiative and ability. Commencing salary £700-£900, permanent and pensionable position, with excellent opportunities. Immediate assistance with housing accommodation if required. Please write giving full particulars or phone the Chief Architect, Croudace Ltd., 97, Godstone Road, Caterham, Surrey. Caterham 4221. 2330

CROUDACE LTD. of Caterham has vacancies for **STUDENT ARCHITECTS** during the summer vacation who will be able to gain experience on housing, flats, maisonnettes and estate layouts. Generous remuneration, dependent upon year of study. Please write stating periods available and year of study or phone the Chief Architect, Croudace Ltd., 97, Godstone Road, Caterham, Surrey. Caterham 4221. 2331

THE Architects Department of a large Retail Multiple Company with office in the North-East require an **ARCHITECTURAL ASSISTANT** of Intermediate standard for interesting work throughout the country. Applicants must be capable of preparing working drawings and details under supervision. The position is permanent and a Pension Scheme is available. Written applications should be sent giving details of experience and salary required to the Staff Architect, Box 2321.

WIMPEY
An expanding programme of work in the Architects' Department offers good opportunities to **ARCHITECTS** and **ASSISTANTS**

keen to apply their knowledge and ability to progressive design and construction techniques. The work covers varying types of Industrial, Commercial and Domestic Projects of considerable size and interest.

Permanent appointments, with good salaries, and covering a wide range of experience, are immediately available at Head Office.

Five-day week; Pension Scheme available for successful applicants wishing to make a career with the Company.

Applicants should write to:—E. C. Collins, A.R.I.B.A., Chief Architect, **GEORGE WIMPEY & CO. LIMITED**, 27, Hammersmith Grove, London, W.6. 2360

INTERMEDIATE to Final standard. Design-conscious expanding practice engaged large scale commercial projects requires **ARCHITECTURAL ASSISTANTS** with initiative and perspective ability. Good salaries according to capabilities. Five-day week. L.V.s. Raymond Spratley & Partners, 9, Hertford Street, Park Lane, W.1. GRO 1532. 2338

SOUTH LONDON. EXPERIENCED SENIOR ARCHITECTURAL ASSISTANTS required. Applicants should be capable of carrying out surveys, preparing working drawings and details, organising and controlling new buildings, extensions, alterations, etc., to completion with a minimum of supervision. Five-day week. Dining facilities. Superannuation scheme. Apply giving details age, experience and salary required to Box 2340.

ASSISTANT ARCHITECTS required at all levels for new office of London Practice opening Bristol. Good working conditions and salaries will be available to any person who would like to be in on the "ground floor." Interviews will be either in London or Brighton. Initially please telephone Brighton 29381. 2099

BIRMINGHAM.—Clifford Tee & Gale, F.R.I.B.A., require experienced **SENIOR ASSISTANTS** and **INTERMEDIATE STANDARD ASSISTANTS** for interesting industrial and commercial work in a congenial atmosphere.

There are also vacancies for **ASSISTANTS** who are particularly interested in Service installations for these types of buildings.

Five-day week. Three weeks' holiday after qualifying period. Profit-sharing scheme. Pension scheme.

Please apply to Mr. R. G. Cox, F.R.I.B.A., 43, Frederick Road, Birmingham, 15. Tel.: EDGbaston 3676. 2088

ARCHITECTURAL ASSISTANT required for busy London office. Intermediate to qualified standard with a minimum of five years' office experience and a sound knowledge of construction. Salary commensurate with ability. Five-day week.

Apply:
J. Murphy & Sons Limited.
Design Section,
62, Paul Street,
London, E.C.2.
or ring: SHOrditch 6876 for appointment. 2359

ARCHITECTURAL ASSISTANT required by The Zoological Society of London for its extensive re-building programme. Salary according to qualifications and experience. Apply to the Establishments Officer, Zoological Society of London, Regent's Park, N.W.1. 2319

ST. ALBANS, HERTS. ESTABLISHED FIRM OF ARCHITECTS WITH VARIED AND GROWING PRACTICE REQUIRE ASSISTANT. INTERMEDIATE STANDARD OR HIGHER (KNOWLEDGE OF FRENCH DESIRABLE BUT NOT ESSENTIAL). DETAILS OF AGE, EXPERIENCE, SALARY REQUIRED, PHONE OR WRITE. HERBERT COX & GEAR, 2, HARPENDEN ROAD, ST. ALBANS. TEL. 54367/8. 2320

W. S. HATTRELL & PARTNERS invite applications to fill the following vacancies in COVENTRY, LONDON and MANCHESTER.

(a) Fully qualified ARCHITECTS with some years' office experience to work on a wide range of contracts, including a large Central Redevelopment Scheme; Television Studios; Schools; Church; Licensed Premises; Factories; Shops, etc. Applicants must have good design sense and first-class knowledge of construction and administration and be capable of controlling junior staff. Salary within the range £1,000-£1,500 depending on ability. 2320

(b) ASSISTANTS of Intermediate to Final Standard, capable of preparing full working drawings, specifications, etc., under supervision and of taking responsibility for smaller contracts. Salary within the range £750-£1,000 depending on experience and ability. Salaries reviewed annually. Pension Scheme. Five-day week. Travelling expenses paid to interviewed applicants. Replies in the first instance to: 1, Queens Road, Coventry. 2363

LADY ASSISTANT. Intermediate-Final, required for Country practice 44 miles from London. Can assume responsibility. Site supervision if interested, design opportunities. Salary will satisfy. Box 2341.

SECOND SENIOR ASSISTANT required for Country Practice, Bedfordshire. Intermediate to Final. Opportunities design and supervision. No salary difficulties. Box 2342.

MALE OR FEMALE ASSISTANTS. Intermediate to Final, required. Design, surveys to final account, supervision. Car an advantage. Salary on top scale. Box 2343.

TRIBE & WAKEHAM. Chartered Architects, require ASSISTANTS with three to five years' office experience for work on interesting projects in their London Office. Telephone WE1beck 7744, or write '16 Fitzhardinge Street, W.1, for an appointment. 2344

ARCHITECTURAL ASSISTANT required. Intermediate standard, some office experience, varied practice, small office. Write or phone: Nicholson & Rushton, 2, New Square, Lincoln's Inn, W.C.2. Holborn 2095. 2345

CHALLEN AND FLOYD require an ASSISTANT of Intermediate to Final standard with a minimum of three years' experience. Work will be interesting, varied, and responsible, and a good salary will be paid. A JUNIOR ASSISTANT is also required. Apply: 7, Cromwell Road, South Kensington, London, S.W.7. KEN 8334/8549. 2361

CROYDON. Varied and interesting experience offered in progressive and growing practice to SENIOR and JUNIOR ASSISTANTS. Holiday arrangements respected. Five-day week. Please write or telephone: L. A. Macintosh & Haines, A./A.R.I.B.A., 33/35, High Street, Croydon. CRO 5780/9992. 2362

EXPERIENCED ASSISTANT required with ability to take charge of jobs from start to finish. Excellent prospects for keen type who can see further than the drawing board, intelligence and experience are important than qualifications. Small busy office mainly industrial and commercial. Salary around £1,250 p.a. Write full particulars. A. F. Hare, F.R.I.B.A., 24, Baker Street, London, W.1, marked "Personal." 2367

AN ASSISTANT (male or female) with some experience, capable of working on own initiative, required to work on a varied programme of commercial and agricultural schemes in a pleasant rural office. Up to £750 per annum. Write or phone: R. C. Harrison, A.R.I.B. The Elms, White Roding, Nr. Dunmow, Essex. White Roding 260. 2368

NORMAN-BAILEY & PARTNERS. E. L./A.R.I.B.A. require ASSISTANT of Intermediate to Final stage with office experience. Interesting contemporary work. Five-day week. Phone Central 5777 or write to Canada House, Chepstow Street, Manchester 1. 2373

INTERMEDIATE STANDARD ASSISTANTS required by Berkshire Architects. Previous office experience and a good knowledge of construction essential. The post is permanent and housing accommodation can be arranged if required. Salary according to experience. Reply Box 2370. 2370

SENIOR ARCHITECTURAL ASSISTANT required, Essex, near London. General practice. Salary up to £1,500 per annum. Write Box 2369.

ARCHITECTURAL ASSISTANT, qualified or unqualified, with practical experience, required for busy, interesting and varied practice. Salary up to £1,000. Box 2347.

ARCHITECT required to take charge of old established West Riding practice, to be controlled by architects closely connected but some few miles away. Modern approach essential but need not be uncompromisingly brutalistic. Hope not, but may be necessary to nod at tradition occasionally. Salary and arrangements according to demonstrable ability. In confidence. "Sorry to keep you waiting," closing date 25th July, 1960. Reply to Box 1626 or Peter A. Hickson, 51, Hall Gate, Doncaster, or 4, St. Peters Street, Huddersfield. Hope also to need a brilliant designer.

ARCHITECTURAL ASSISTANT required with Inter. R.I.B.A. or equivalent and 5 years' experience of planning and design of working drawings of industrial buildings and offices. Candidates must be competent to make site surveys. Commencing salary up to £1,000 per annum. Permanent, pensionable appointment; 5-day week. Housing available to married men if required and removal expenses paid. Write fully, quoting Ref. SPA/545/AJ, to Mr. A. C. McCOMBIE, MICHELIN TYRE CO. LTD., STOKES-ON-TRENT, STAFFS. 2383

MEDWAY TIMBER BUILDINGS require STAFF ARCHITECT familiar with modular methods of prefabrication. Interesting work on wide variety of projects using existing systems with some development design. Modern outlook, top-grade planning ability and sound knowledge of joinery detailing are all essential requirements. Send full details of training, qualifications, experience and salary required to Personnel Manager, Medway Buildings & Supplies Ltd., Phoenix Wharf, Rochester, Kent. 2378

MEDWAY TIMBER BUILDINGS require ARCHITECTURAL ASSISTANT with experience of grid planning. Able to develop economic plans and produce good elevations using existing constructional systems. Send full details of training, experience and salary required to Personnel Manager, Medway Buildings & Supplies Ltd., Phoenix Wharf, Rochester, Kent. 2379

ARCHITECTS with busy practice in Brighton require ASSISTANTS with practical experience for varied work. Salary up to £750 per annum. Five-day week, pension scheme, etc. Box 5848.

SENIOR ARCHITECTURAL ASSISTANT. Vacancy occurs in leading Bristol and Plymouth offices engaged in highly interesting projects. Applicant must possess initiative and be thoroughly conversant with supervision in addition to being first-class in design and details. The position offered covers the use of a car and inclusion in a Non-Contributory Pensions Scheme. Apply with full details of experience, etc., and indication of salary required to: Alec F. French, F.R.I.B.A., Pearl Assurance House, Queen Square, Bristol, 1. 2399

SENIOR PLANNING ASSISTANT sought by active national developers. Must be experienced in the preparation of attractive housing estate layouts and in negotiating with Planning Authorities. The position is permanent and pensionable and the successful applicant should have the knowledge, ability and initiative to work with minimum supervision. Men between 25 and 38 years interested in this rewarding and progressive post should write to Cooper Estates Ltd., Wilmington House, Wilmington, Dartford, Kent, giving full details of their training and experience and salary required. 2297

SENIOR ARCHITECT. An entirely new appointment offering excellent opportunities to a qualified Architect. He should combine a contemporary design approach (particularly in context of a modular construction, using a factory produced system) with practical experience in construction, cost planning, and contract procedure. He should also be capable of liaising with and giving clear advice to others. Applicants' holiday commitments will be honoured. Please reply, giving full details of age, experience and salary required to Taylor Woodrow (Arcon) Limited, 41, Welbeck Street, W.1. 2290

SENIOR ASSISTANT required for Commercial projects. Opportunity for first rate experience. Good salary. Bernard Gold & Partners, 4/6, Savile Row, W.1. Phone Regent 7551. 2293

CHELTEMHAM. Intermediate stage ASSISTANTS required at once for established but expanding office. Work varies from Cathedrals to Improvement Grants. Roiser & Whitestone, 12, Imperial Square, Cheltenham. Tel. 2719. 2294

ASSISTANT ARCHITECTS AND ARCHITECTURAL ASSISTANTS required in the office of Naylor, Sale & Widdows, St. Mary's Chambers, St. Mary's Gate, Derby. Interesting and varied work including General and Psychiatric Hospitals, Schools. Housing and works of alterations and conversion. Salary by arrangement but comparable with equivalent Local Authority gradings. 2296

M.R. C. F. J. THURLEY, F.R.I.B.A., requires SENIOR ASSISTANT based in Torbay area. Good prospects and opportunities for right man. 51, Hyde Road, Paignton, S. Devon. 2300

JUNIOR ASSISTANT required, with some office experience. Pamela M. Cannington, A.R.I.B.A., 59, Great Ormond Street, W.C.1. 2298

A.R.I.B.A. required. Opportunity in expanding office, interesting variety of work. Not less than five years' office experience. Evening interviews if required. Write or phone: George E. Clay & Partners, A.A.R.I.B.A., 198, Parrock Street, Gravesend. Gravesend 1401/2. 2280

ASSISTANT required in busy and varied practice in Winchester, Hants. Final standard or near; previous office experience essential. Write giving particulars and salary required to Box 2282.

ASSISTANTS required in busy and professional practice in small market town with projects widely spread in Midlands, Southern England and Wales. Salaries in four grades from £400 to £1,200. Car drivers preferred. Apply: A. Roscoe-Hudson, A.R.I.B.A., 14, Market Place, Faringdon, Berks. 2284

ASSISTANT with own connections wanted by established Manchester Architect with a view to early take over of practice. Reply in complete confidence. Box 2286.

THE DISTILLERS COMPANY LIMITED. ARCHITECTURAL ASSISTANT and ASSISTANT QUANTITY SURVEYOR. The Distillers Company Limited has vacancies in its Engineering Division in the West End of London for the above two male appointments. Candidates should be in the age range 25/32 and be nearing the Final examination stage of their respective professional institutions. They should have several years of relevant experience preferably in connection with laboratories, canteens and industrial buildings. Working conditions are good, and a five-day week is worked. There is a non-contributory pension scheme. Write: Staff Manager, The Distillers Company Limited, 21-22, Bolton Street, London, W.1. Quote ref. 71/60. A.J. 2317

JUNIOR ASSISTANT required in small but busy Architect's Department of multiple commercial firm, at present in West End, but shortly moving to premises in Bracknell, Berks. Work covered is mainly concerned with shop development and some travelling will be involved. The man appointed will work with the minimum of supervision and control. Five-day week, Canteen facilities. Excellent Superannuation Scheme. Write giving details of age, experience and salary required to Personnel Manager, Dorothy Perkins Ltd., 17, Newman Street, W.1. 2307

ARCHITECTURAL ASSISTANTS, up to Inter. R.I.B.A. standard, required to work in Architects' Section of large multiple Company. Interesting and varied programme of work including shops, offices and factories. Existing holiday arrangements honoured. Good salary, bonus, L.V.s., five-day week, etc. Apply G. K. Deighton, Radio Rentals Ltd., 70, Wigmore Street, London, W.1. Tel. WE1 3918. 2309

OPPORTUNITY in growing and varied practice for ARCHITECTURAL ASSISTANTS of around Intermediate standard seeking responsibility and experience for good remuneration. Write: Pomeroy & Cuming, A.R.I.B.A., 176, Old Brompton Road, S.W.5, or telephone FREmantle 6311. 2311

EXPERIENCED SENIOR ASSISTANT ARCHITECT required in Architect's Department of commercial firm in the West Riding of Yorkshire. Must be prepared to travel on projects of varying size, also willing to travel throughout the country. Five-day week, Pension Scheme, canteen facilities. Salary by arrangement according to age and experience. Apply Box 1077.

DONALD ROWSWELL urgently requires capable ASSISTANTS of various grades for Croydon office. Salary by agreement. Holiday arrangements honoured. Apply with full details to 5a, Friends Road, Croydon, or telephone CROydon 4080. 1045

ASSISTANT required by busy City office engaged mainly in industrial and commercial work. Five-day week; luncheon vouchers; salary by arrangement. Holiday arrangements will be honoured. Please apply: Eric Firmin & Partners, Thavies Inn House, 5, Holborn Circus, E.C.1. Tel.: CITY 8811. 1623

ARCHITECTURAL ASSISTANT required. Intermediate/Final standard, for busy general practice. Good salary offered to experienced man. Pension scheme. Bothams & Brown, F./A.R.I.B.A., 32, Chipper Lane, Salisbury. 2374

ARCHITECTS AND ASSISTANTS REQUIRED for work on interesting Industrial Project affording first class design and technical experience.

Apply in writing to:
Sir William Halcrow & Partners,
(B.A. Architects' Section),
47, Park Lane, London, W.1.

1752

WATKINS, GRAY & PARTNERS. 57, Catherine Place, S.W.1, require SENIOR and JUNIOR ASSISTANTS for work on large hospital projects. Excellent opportunities for those seeking first hand experience in this most interesting and rapidly developing field. Luncheon Vouchers and pension scheme in operation. Write giving full particulars. 1524

SENIOR ASSISTANT ARCHITECT required by Devereux and Davies. Good salary to applicant with the requisite ability and experience. 3, Gower Street, Bedford Square, London, W.C.1. 1733

GRINLING—Exceptional qualified ASSISTANTS required at Hyde Park Corner office—salary £900—£1,100 per annum. Summer holiday by arrangement. Telephone for appointment: BELgravia 6695. 1977

ASSISTANT required by firm of Architects and Surveyors in Beds. and Herts. General practice. Apply, stating experience, salary, etc., to Box 2022. 1914

BRYAN & NORMAN WESTWOOD & PARTNERS require **SENIOR ASSISTANTS**. Please apply at 21, Suffolk Street, S.W.1. Trafalgar 4411. 1914

J. M. AUSTIN-SMITH & PARTNERS require qualified ASSISTANTS (Maximum age 30) to work in conjunction with senior assistants. Apply in writing giving all relevant details to 29 Sackville Street, London, W.1. 2061

J. M. AUSTIN-SMITH & PARTNERS require fully qualified **ARCHITECTURAL ASSISTANTS** with office experience and the ability to design, run and supervise contracts on their own initiative. Salary according to age (limit 35) and experience. Apply in writing to 29 Sackville Street, London, W.1. 2060

CLIFFORD CULPIN requires experienced qualified and "post-Intermediate" ASSISTANTS to work on a wide variety of schemes including luxury flats, an office building, a comprehensive school, London banks, a town hall and a Civic Centre. Opportunities to take responsibility. Paid holiday this year. Phone CHANCERY 5395 or write 39, Doughty Street, W.C.1. 1849

ASSISTANTS required by City Architects. Varied practice. Five-day week, 9.30—5.30. Of special interest to those who seek a position offering scope for responsibility, initiative and opportunity for experience in running jobs from conception to completion. Salaries in accordance with ability and up to £1,400 per annum. Kenneth Lindy, Joseph Hill & Partners, 24, St. Mary Axe, E.C.3. 1936

ARCHITECTURAL ASSISTANTS required by busy Architect's Dept. of large multiple firm. Applicants should be experienced in preparation of working drawings and details. Good salary and prospects to suitable applicants. Five-day week. Pension Scheme and canteen facilities. Apply Box 1947. 1947

F. W. WOOLWORTH AND CO. LIMITED
ARCHITECT'S DEPT.
KING STREET DUDLEY
WORKS.

REQUIRE ASSISTANTS of Final standard in their Architect's Dept. for interesting development programme in multiple stores. Applicants must have previous experience in preparation of working drawings and details. Starting salary depending on qualifications and experience. The positions are permanent and pensionable. Good working conditions. Five-day week. Canteen facilities. 1948

APPLICATIONS are invited to fill posts as **ASSISTANT ARCHITECTS**. Five-day week. Compulsory Superannuation Scheme. Salary range £730—£1,080 per annum according to age and experience. Apply: R. C. Steel, A.R.I.B.A., Chief Architect, C.W.S. Ltd., 99, Leman Street, London, E.1. 1534

NORTH & PARTNERS, Chartered Architects, Broadway, Maidenhead, require additional **ARCHITECTURAL ASSISTANTS** for wide-spread and varied practice. Salary range £750—£1,250 p.a. 1890

INTERMEDIATE to Final ASSISTANTS required immediately. Salary according to ability and experience. Theo. H. Birks, 38, Portland Place, London, W.1. LAN. 7236. 9739

AN ARCHITECTURAL ASSISTANT required in small but busy London West End Office. Work includes Churches, Schools, Homes for old people, Factories, etc. Must be capable of preparing working drawings from sketch plans. Luncheon voucher scheme. Salary by arrangement. Telephone WELbeck 8863 for appointment. 1963

ASSISTANT to work on interesting new housing developments, with an enlightened approach to design in this field. Experienced in working drawings and specification essential. Also **JUNIOR ASSISTANT** with some experience of commercial work. Apply by telephone or in writing for an interview to Walter F. Price, A.R.I.B.A., 23, Beaumont Street, Oxford. Tel. 49032. 2146

WEST END OFFICE requires ASSISTANT ARCHITECTS of Final and Intermediate standards for interesting Industrial projects in Home Counties. Good salaries offered to men with initiative and ability. Bonus Scheme, five-day week, holiday arrangements honoured. Box 2039.

COLLINS, MELVIN, WARD & PARTNERS ARE LOOKING FOR STAFF TO WORK ON THE DESIGN OF HOSPITAL, UNIVERSITY AND OFFICE PROJECTS. AGE AND EXPERIENCE ARE LESS IMPORTANT THAN ENTHUSIASM AND INTEREST IN ARCHITECTURE. FIVE-DAY WEEK. QUARTERLY BONUSES. PENSION SCHEME. RING WELBECK 9991 FOR APPOINTMENT. 2137

ARCHITECTURAL ASSISTANTS. Intermediate to Final standard, required for varied and interesting work in private office. Five-day week, 9.30—5.30. Holiday arrangements honoured. Salary according to experience. Geoffrey Shires, A.R.I.B.A., 69, Walton Street, Chelsea, S.W.3. Tel. KNI 8677. 2138

SENIOR ASSISTANT required by Hasker & Hall, L.F.R.I.B.A., in their office in Warwickshire. Good salary, with scope for initiative and responsibility. Write Longdon House, High Street, Knowle, or telephone Knowle (Birmingham) 3502. 2143

ARCHITECTURAL ASSISTANTS of Intermediate and Final standard required. Possible vacancy for partnership in local branch office to applicants with suitable experience. Hare & Pert, A.A.R.I.B.A., 29, Elm Street, Ipswich. 2063

CREATIVE ASSISTANTS of all grades required for modern office. Salaries £850—£1,100. Pension Scheme etc. Apply: Godsmark & Miller-Williams, A.A.R.I.B.A., 37A, Tubwell Row, Darlington. 4932. 2147

ARCHITECTURAL ASSISTANTS, Intermediate-Final standard, urgently required to work on large Industrial and Commercial Developments in London. Holiday arrangements honoured. Five-day week. Luncheon vouchers. Salary £850—£1,000 per annum plus bonus. Tel. GER 1857 for appointments. 2152

ARCHITECTURAL ASSISTANT (SENIOR) required for Southampton Office. Bernard H. Dale & Partners, 19, Carlton Crescent, Southampton. 1985

SIR JOHN BURNET, TAIT & PARTNERS have vacancies for **ARCHITECTURAL ASSISTANTS** of all grades. Salaries ranging from £1,000 to £1,500 per annum. Luncheon vouchers. Pension and Medical schemes (non-contributory). Telephone LANGham 3826 for appointment. 2113

MESSERS. BEARD, BENNETT, WILKINS & PARTNERS require a number of **SENIOR ARCHITECTURAL ASSISTANTS**. Pension and Profit Sharing Scheme available. Apply giving full particulars to 101 Baker Street, London, W.1. Telephone: Hunter 1711. 2094

A PROGRESSIVE and expanding building and civil engineering organisation requires the services of an **ARCHITECTURAL ASSISTANT** in their Housing Division. Applicants should be experienced in the design and execution of working drawings in connection with Housing and Flat Development Schemes. Permanent and progressive position. Pension and Luncheon Voucher Schemes. Salary according to ability and experience. Write or phone Percy Bilton Ltd., Bilton House, 54-58 Uxbridge Road, Ealing, W.5. Tel. EALing 7777. 2068

DAVID DU R. ABERDEEN & PARTNERS require experienced Senior **ARCHITECTURAL ASSISTANTS** for the preparation of working drawings and details for large scale projects. Apply in writing, stating age, qualifications, experience and salary required, to 19, Southampton Place, London, W.C.1. 2073

ARCHITECTURAL ASSISTANT required for Head Office appointment. Permanent position with good salary, bonus scheme and entry into superannuation scheme after 12 months' service. Experience in the design of industrial structures would be an asset but is not essential. Write giving age and details of experience to: The Mitchell Construction Company Ltd., Wharf Works, Peterborough. 2080

POLYTECHNIC trained ASSISTANT required by Armstrong & MacManus. Excellent prospects on interesting work, or capable and keen man. Please write 28, Gloucester Place, W.1. or telephone WELbeck 2273 for appointment. 2134

£850—£1,400. **ARCHITECTS**—TALENTS with imagination and designing ability required to assist with large and important new developments in the central London Area. Telephone or write—Trehearne & Norman, Preston & Partners, 83 Kingsway, W.C.2. HOLborn 4071. 2185

WHY work in Town when you can eat your sandwiches in equal squalor at Hershams, 5 miles south of Kingston, as a member of the Architects Dept. for a large Development Group, carrying out work varying from a Chelsea conversion to £350,000 office and shop schemes, including factories, warehouses, housing flats, etc. Salary range £800—£1,500 per annum. Holiday arrangements honoured. Please phone Walton on Thames 26311. Ref. G.W.M. for interview. 2132

ARCHITECTURAL ASSISTANT (A.R.I.B.A.) required on the Architect's Staff of a large Industrial Group near Birmingham. Good prospects of long-term employment for experienced and capable man. Reply stating age, qualifications, experience and approximate salary to Box 2135. 2135

OSCAR GARRY AND PARTNERS have immediate vacancies for Senior and Junior ASSISTANTS for work on major design projects. Good salary, luncheon vouchers, travelling expenses. Apply: 66 Gloucester Place, W.1. WELbeck 2507. 2131

INTERESTING, fast-moving work on office blocks, laboratories, factories. If this appeals to you ring SLane 8238. Both SENIOR and JUNIOR **ARCHITECTURAL ASSISTANTS** needed. Five-day week, superannuation scheme, holidays honoured. Or write Box 2122. 2122

POWELL AND MOYA require **ARCHITECTURAL ASSISTANTS** of all grades to work on new Hospital schemes. Please write to 36, Great Smith Street, London, S.W.1. or telephone ABey 3156. 221

ASSISTANT urgently required, Intermediate to Final standard. Single man preferred, willing to work in City or country office in Buckinghamshire. Interesting and varied work with opportunities for site supervision. Salary from £600 plus L.V. G. Gordon Stanham, Adamson, Gray & Partners, 9/10, Fenchurch Street, London, E.C.3. MANShon House 1010 and 5274. 212

ELIE MAYORCAS requires **ARCHITECTURAL ASSISTANTS**, preferably with some office experience, for interesting work. Write, giving particulars of architectural education and experience, and salary required to: 13, David Mews, Baker Street, W.1. 220

REEMA CONSTRUCTION LTD. **ARCHITECTS** are required in a young and expanding office for work on a wide variety of projects including multi-storey flats, halls, swimming pools, office buildings and housing. We design and build in pre-cast concrete units and need men who are anxious to apply their knowledge to the problems of prefabrication. We would expect to pay a salary of £900—£1,000 for newly qualified architects and correspondingly more for those with some experience. Applicants should telephone or write to: R. H. Ball, A.R.I.B.A., A.A.Dipl., Chief Architect, Reema Construction Ltd., Milford Mans, Salisbury. Telephone No.: Salisbury 5141. 227

ASSISTANTS—All standards of Assistants urgently required from junior to senior. Extremely busy West End office. Top salaries paid. Vacations honoured this year. Ring VICTORIA 7088 for appointment. E. Norma-Bailey & Partners, 25/27, Catherine Place, S.W.1. 223

FARMER AND DARK have vacancies for:—**ASSISTANT ARCHITECTS** (Min. five years Office experience). **JUNIOR ASSISTANTS**. Wide variety of interesting projects both here and abroad, including Schools, Offices, Laboratories, Factories, Power Stations and Military Establishments. Scope for people with initiative and ability. Five-day week. Holiday arrangements honoured and travelling expenses paid to those interviewed. Please write or telephone—Romney House, Taunton Street, S.W.1. ABey 6311. 223

ARDIN & BROOKES & PARTNERS offer excellent opportunities for all grades of ASSISTANTS, qualified or not, in a fast expanding practice. Several large and exciting projects are in hand together with many smaller and no less interesting jobs. If you are keen and hard working with a good design sense and ability to get on with the job with minimum fuss, we can offer you the right salary and prospects in our friendly and progressive office. Phone or write to us at 129, Mount Street, London, W.1. Telephone: GROsvenor 7728. 2225

ROOM AT THE BOTTOM **THREE INTERMEDIATE STANDARD SLAVES** required for chaining to drawing boards in hectic Architects' Dept. of public property company (merely a safety measure to protect the typists). Loss of freedom from 9.30 a.m.—5.30 p.m. offset by salaries up to £1,000. Gluttons for punishment who relish hard and varied work in our three design teams should call, write or phone M. R. Day, A.R.I.B.A., Industrial & Investment Services Limited, 129/139, Finsbury Pavement, E.C.2. Tel.: Moorgate 0767. 2223

ARCHITECTS' CO-PARTNERSHIP require a qualified or nearly qualified ASSISTANT with some experience. Write to 44, Charlotte Street, W.1. or phone LANgham 5791. 2219

EXPERIENCED SENIOR ASSISTANT ARCHITECT required, to be in charge of housing and flat projects. Write, giving details of experience, to Kenneth Parker and Associates, 4, Liverpool Terrace, Worthing, Sussex. 2225

ARCHITECTURAL ASSISTANT required for General Practice. Salary £900 to £1,000. Lunn & Lunn, Milnsbridge, Huddersfield. 2230

TO Architects living in the Hemel Hempstead area. Mr. Clifford Culpin, having been appointed architect for the new Town Hall, the new Pavilion and several other important buildings in the Hemel Hempstead locality, proposes opening a local office. It occurs to him that architects tired of commuting might like to work locally for a London firm. By the courtesy of the Borough Council, those interested may gather at the Council Offices on Saturday morning, 13th August, when aims and aspirations can be discussed following which individual interviews can take place. Please write briefly to Clifford Culpin & Partners, F/A.A.R.I.B.A., 39, Doughty Street, W.C.1. 2255

COLWYN BAY—ASSISTANT required, with school training, either just qualified or up to three years' office time. Entirely contemporary work, young staff, salary by arrangement. Partially qualified ASSISTANT also required. Lingard & Associates, 90, Conway Road, Colwyn Bay. 2211

STEEL, PEECH AND TOZER Branch of The United Steel Companies Limited, urgently require an **ARCHITECTURAL ASSISTANT** with a minimum of 10 years' experience. Must be capable of carrying contracts through from sketch design stage to final working drawings, including supervision of detail drawings. Variable type of work including Office Blocks, Amenity Centres, extensions to existing buildings, motor houses and ancillary service buildings of an industrial nature. Salary according to experience and qualifications. Applications should be made in writing to The Labour Manager, Steel, Peech and Tozer, The Ickles, Rotherham. 2210

TOOLEY AND FOSTER require **ARCHITECTURAL ASSISTANTS**. Intermediate, soon to take R.I.B.A. Final, or just qualified, for responsible work in Essex practice 10 miles from London. Unfurnished one-bedroomed flat available if required. Salary by arrangement in accordance with age and experience; five-day week; voluntary superannuation scheme. Apply by letter to Midland Bank Chambers, Buckhurst Hill, Essex, or phone BUC 2211. 2196

EXPERIENCED ASSISTANTS, Intermediate to Final Standard, urgently required in Chief Architect's Department of George Calverley & Sons (Contractors) Ltd. The department is an enthusiastic on and has already won The Civic Trust Amenity Award for Leicestershire and two commendations in the recent Ideal HomeS.R.I.B.A. Small House Design Competition. Applicants with drive and initiative will be given ample opportunity for advancement and a staff pension scheme is in operation for those wishing to make a career with the Company. Apply in writing stating particulars of training, positions held and present salary to: J. L. Heap, A.R.I.B.A., Chief Architect, George Calverley & Sons (Contractors) Ltd., Evington Valley Road, Leicester. 2401

ARCHITECTURAL ASSISTANT required. Must be competent draughtsman with sound knowledge of building construction. Salary according to experience. Apply: C. Lovett Gill & Partners, 41, Russell Square, W.C.1 (Museum 4185). 2399

ARCHITECTURAL ASSISTANT required in private practice in central London, capable of surveys, working drawings, details, etc. Exceptionally varied work. Salary £600 p.a. Telephone: CHAncery 7611. 2397

ARCHITECTS (London F.R.I.B.A.) have a vacancy for pupil with G.C.E. Tel. CHA 7611. 2398

SOUTH COAST Office require **ARCHITECTURAL ASSISTANT**, varied practice. Wages a appropriate scale according to experience. Five-day week. Write giving particulars to Mr. L. Chandler, A.R.I.B.A., The Shrubbery, Grove Road South, Southsea, Hants. 2395

PRACTICAL ASSISTANT required for Architects Department of Property Development Company (Ealing office), to take control of detailing and site supervision of varied works throughout a wide area. The appointment which will be permanent, carries qualification for Company's pension scheme and affords an excellent opportunity for capable man able to control staff and work with minimum supervision. Details of qualifications, age, experience and present salary to Box 2394.

BRISTOL. **SENIOR** (Final) 35-55. Partnership possibilities. **JUNIORS** with office experience. Intermediate or near. Phone for appointment. 2393
Bernard Lowe, 8, Queen Square.

Architectural Appointments Wanted

3s. per line; minimum 12s. Box Number, including forwarding replies, 2s. extra.

ASSOCIATE R.I.B.A., B.Arch.(C.T.), arriving shortly in London desires position with a view to eventual partnership. Capital available. At present in highly successful practice in Cape Town. Proven ability to handle clients and bring in work. Varied experience. Small London firm preferred. Write Box 2063.

ASSISTANT ARCHITECT requires position in a progressive firm with prospects of promotion. Three-four years' office experience. Sound knowledge of Building Construction and Running of Contracts. Salary required £1,200. Prefer to work on Hospitals and Office Blocks. Box 2236.

ASSISTANT ARCHITECT (26) requires position with progressive northern firm. First-class experience and references hospital, housing and office. Yorkshire or Durham areas preferred. Box 2376.

ASSOCIATE (33), 16 years' good varied experience, requires interesting position with progressive firm. S.E. England preferred. Box 2380.

R.I.B.A., with 15 years' wide experience in England and West Africa, seeks senior position in this country or overseas. Minimum U.K. salary £1,550. Box 2313.

ASSOCIATE, 25 years' experience home and overseas, seeks senior position with prospects as chief or company architect. Accustomed to complete charge of contracts of £1,000,000 and over. Excellent at public relations. Salary £2,300-£2,500. Box 2305.

SHOPS AND INTERIOR DESIGNER with 12 years' specialised experience, at present in own West End consultant practice (five years), seeks full or part time responsible position. Box 2318.

Other Appointments Vacant

3s. per line; minimum 12s. Box Number, including forwarding replies, 2s. extra.

CHARLES B. PEARSON & SON require **ARCHITECTURAL DRAUGHTSMEN** for varied modern practice in pleasant County Town Lancaster/Morecambe, which provides very economic living conditions. Minimum salary £650 p.a., 5-day week, 3 weeks' annual holiday. Write with full details to Charles B. Pearson & Son, Architects, 18, Dalton Square, Lancaster. Telephone 4234. 2169

SECRETARY/SHORTHAND-TYPIST urgently required in small Architects' Office, South Kensington. Five-day week, holidays arranged. Box 2332.

ARCHITECTURAL DRAUGHTSMAN required for interesting work on a variety of building types in the Design Office of a rapidly expanding firm of Timber Engineers. Good prospects. Contributory Pension and Life Assurance Scheme. Salary scale £650-£850. 1960 holiday arrangements are honoured. Write giving age and full details of experience: H. Newsom Sons & Co. Ltd., 238, High Street, Lincoln, endorsing envelope (Architectural Assistant). 2336

LANDSCAPE DESIGNER wanted for this office, preferably recently qualified. Write brief details to Eric Lyons, O.R.E., F.R.I.B.A., M.S.I.A., Mill House, Bridge Road, Hampton Court, Surrey. 2364

DRAUGHTSMAN required for plant layout work with a medium sized engineering company situated in the south-east Essex locality. Previous experience of factory buildings general services an asset. The ideal candidate would be aged between 24-30 years and possess O.N.C. or equivalent qualifications. This is an interesting position in an expanding company which would appeal to a trianed man requiring further experience. Applications may be made in writing in the strictest confidence stating age, qualifications, experience and salary required to Box 2350.

NOTTINGHAM. QUANTITY SURVEYOR required to take charge of Q.S. section of Architects and Surveyors practice. Must be member of R.I.C.S., thoroughly experienced in all branches of profession including cost analysis and cost control. Salary by arrangement. Box 2287.

SECRETARY-ACCOUNTANT required for medium sized building and contracting business in Birmingham area. Must be capable of taking control of office and preparing monthly trading statements and annual accounts. Details of experience to Box 2315.

ESTIMATOR/TAKER OFF required by R.C. Floor Specialists in Central London. This position with growing firm offers exceptional prospects. Write, stating age, experience and salary required to Box 2312.

DESIGNER/ARTIST. Any Architect who considers that he is well above average as a designer and can back his designs with the details has a job waiting for him in our Chatham office at a salary he demands. Apply H. A. Halpern and Associates, 7, Edgware Road, W.2, or phone AMBassador 2471. 2384

THM PARTNERS require **SENIOR DRAUGHTSMAN** to work on shop and office projects. Superannuation scheme. Luncheon vouchers. Apply in writing giving full particulars of experience and salary required to THM Partners, 48, Dover Street, London, W.1. 2388

CIVIL ENGINEERING ASSISTANTS required in Chief Architect's Department of George Calverley & Sons (Contractors) Ltd. Applicants should have a sound knowledge of: Land surveying on a large scale; Roads and Sewer Work. The department is an expanding one and ample opportunity exists for advancement. A staff pension scheme is in operation for those wishing to make a career with the Company. Apply in writing stating particulars of training, positions held and present salary to J. L. Heap, A.R.I.B.A., Chief Architect, George Calverley & Sons (Contractors) Ltd., Evington Valley Road, Leicester. 2400

PROPERTY MANAGEMENT IBM UNITED KINGDOM LIMITED

QUALIFIED SURVEYOR with at least five years' experience required to look after the Company's interests in its premises situated in London and the Provinces.

Responsibilities will include advising on the establishment of schedules for maintenance, space allocation, rating valuations, lease negotiations, location of new premises, etc.

The appointment will be eligible for the Company's normal benefits of free Life Assurance, Pension, etc.

Applicants please write giving details of age, education and experience to the Personnel Manager, 101, Wigmore St. W.1, quoting Ref. GA/50/109. 2402

Services Offered

3s. per line; minimum 12s. Box Number, including forwarding replies, 2s. extra.

"DON" ARCHITECTURAL MODEL MAKERS. We offer the highest grade work with speed and reliability. —Please 'Phone Woolwich 1262 or write 6, Pelham Crescent, Hastings. 1673

ARCHITECTURAL, Civil Engineering, Land, Building and Quantity Surveying services on fee, lump sum or quantum meruit basis. Tel. Wallington 3712. 2269

SURVEYS. Large or small, drawn to large scales, accuracy guaranteed. Structural sewerage, sewage disposal, sanitary plumbing and drainage design. The Site Survey Company, London, S.E.3. Telephone LEE Green 7444. 6988

MODELS FOR ARCHITECTS. Charles Longbottom specialises in this work and offers first class personal service to architects in the London area. Northcroft Studio, Northcroft Road, West Ealing, W.13. Phone Ealing 7349. 1436

FULLY experienced in all Building and Architectural work, I am available to undertake: Designs, Working Drawings, Details, Surveys, Specifications, Models, etc. Just telephone Wallington 9883 (near Croydon) and I will call anywhere atnd take your instructions. Box 5548

ARCHITECTURAL MODELS.—Tomas E. Bartlett and Partners specialise in this work. 5 King's Ave., W.5. Phone Perivale 6283 6176

SURVEY OF LAND or buildings also Specifications, quantities and final accounts prepared for new or conversion work. LIV. 1839. 2356

COMPREHENSIVE ARCHITECTURAL SERVICES, including measured surveys, offered by experienced London Architect. Tel. AMBassador 4641. 1877

ARCHITECTS: If you need temporary help, write to John B. Stubbs, A.R.I.B.A., 276r, Earls Court Road, London, S.W.5. 2095

TIMBER PRESERVATION AND DECAY. Surveys, reports, recommendations and specifications on all aspects, prepared by qualified consultants. Anywhere in Britain. Wilfred Barton & Partners, 37, George Street, London, W.1. Tel. Hunter 1169. 2091

SMALL OFFICE undertakes ghosting, Design, tracing, surveys. Anywhere South or West. Competent staff. Ford, Viaduct House, New Rd., Chippenham. 3638. 2178

MODELS AND COLOUR PERSPECTIVES. Charles Houthuesen offers work of the highest quality. 16, Thames Street, Sunbury-on-Thames, Middlesex. Sunbury 3728. 2339

LABORATORY layout and installation. Advertiser with wide experience in this field willing to assist Architects with a busy programme of laboratory construction as a Consultant. All replies treated as confidential and will be answered. Box 2403.

ARCHITECT has staff available to give immediate assistance in preparation of working drawings, etc., to other members of the Profession in the London area and Home Counties. Write to Box 2392.

For Sale and Wanted

3s. per line; minimum 12s. Box Number, including forwarding replies, 2s. extra.

THREE Antiquarian Drawing Stands, Angular parallel movement for sale or exchange for double elephant stand(s), cash adjustment if necessary. Telephone Malda Vale 7890. 2389

IS PLAN FILING YOUR PIDGEON? Then you must consider our "ECONOMY" Plan Chest. Britain's finest value in drawing office furniture. Double Elephant size only £25 10s.—other sizes stocked. May we send a sample on approval.—GLENHILL (Office Furniture) Ltd. (Dept. WAJ), Green Lane, Hounslow, Middlesex (HOU. 7281-7). 2207

Premises To Let

3s. per line; minimum 12s. Box Number, including forwarding replies, 2s. extra.

CHEAM, SURREY. Building very suitable for Design/Drawing Offices, about 1,450 sq. ft. plus existing living accommodation. V.P. £6,500. Freehold. Posters, 12, Gloucester Place, W.1 (HUNTER 0777). 2334

PROFESSIONAL OFFICES to let, West Central area. Two rooms total 220 square feet, short term, possible extension of lease and floor area later. Tel. HOL 5843. 2308

Miscellaneous

3s. per line; minimum 12s. Box Number, including forwarding replies, 2s. extra.

J. BINNS, LTD. Specialists in the supply and fixing of all types of Fencing, Gates and Cloakroom Equipment.—Harvest Works, 96/107, St. Paul's Road, N.1. Canonbury 2061. 2093

BROUGHTON MOOR

**LIGHT
SEA GREEN
OLIVE GREEN
AND BLUE**

SLATE

for Facings, Foundation Stones, Paving and Flooring, Steps, Cills, Shop Fronts, Surrounds, Pilasters, Fireplaces and all architectural work

- | | | |
|------------------------------|----------------------|------------|
| Send for technical pamphlets | 1. Floorings | 2. Facings |
| | 3. Coping | 4. Cills |
| | 5. Riven Faced Slabs | |

The BROUGHTON MOOR GREEN SLATE QUARRIES Ltd

CONISTON - LANCASHIRE
Telephone: Coniston 225/6 Telegrams: Cann, Coniston

MODELS

for Architects & Civil Engineers

by **John B. Thorp**

EST 1883
98 GRAY'S INN ROAD, LONDON, W.C.1.
Tel: HOLborn 1011

KIRKSTONE

GREEN SLATE FOR WALL CLADDING, CILLS, COPING, FLOORING, PAVING, ETC.

The slate from our quarries has been used for these purposes for over 50 years. Our accumulated experience is offered to Architects in the services of our Technical Staff and illustrated literature.

Service in Slate
KIRKSTONE GREEN SLATE QUARRIES Ltd.
Ambleside, Westmorland

Tel.: Amb. 3270

HANDMADE, CLAY TILES available in many beautiful colours. The perfect roofing material with the longest life. Particulars, samples and brochure from G. Tucker & Son, Ltd., Loughborough, Leicestershire. Phone: Loughborough 2446/7. 1599

CROGGON & CO., LTD.—Chain Link Fencing and all types of Wrought Iron Fencing supplied and erected.—230, Upper Thames Street, London, E.C.4. CENTRAL 4382. 9429

REFRIGERATED SHELVES for bottle cooling; beer and wine coolers, etc., for hotel, catering and licensed trades, supplied and installed. G.V.E. Ltd., Rose Alley, off Park St., S.E.1. WAT. 1912. 7651

Educational Announcements

3s. per line; minimum 12s. Box Number, including forwarding replies, 2s. extra.

R. I.B.A. and T.P.I. EXAMS.—Stuart Stanley (Ex. Tutor Sch. of Arch. Lon. Univ.), and G. A. Crockett, M.A./B.A., F.F.R.I.B.A., M./A.M.T.P.I., prepare Students by correspondence. 10, Adelaide Street, Strand, W.C.2. T.E.M. 1562/4. 9963

THE POLYTECHNIC
309, REGENT STREET, W.1
SCHOOL OF ARCHITECTURE
SURVEYING AND TOWN PLANNING
Head of the School: JOHN S. WALKDEN, F.R.I.B.A., M.T.P.I.

TOWN PLANNING
The School offers a post-graduate course of three years' of evening study leading to the Diploma in Town Planning of The Polytechnic and exemption from the Final Examination of the Town Planning Institute. The next course will commence in September.

The course is open to students who have passed or gained exemption from the Intermediate Examination of the Town Planning Institute. Before being admitted to the course, applicants will be required to attend for interview with the Head of the School. Information regarding fees, entrance qualifications, etc., can be obtained on application to the Director of Education. 2322

FULL OR SUPPLEMENTARY TUITION

Provided by correspondence for R.I.B.A. examinations. Revision Courses also available in any subject. Descriptive brochure on application. 1

ELLIS SCHOOL OF ARCHITECTURE

Principal: A. B. Waters, F.R.I.B.A., F.I.Arb.
103B, Old Brompton Rd., London, S.W.7
and at Albany House, Worcester. 1

NOISY CISTERNS SILENCED

with the **CRAIG "SILENT" BALLCOCK**

By introducing the CRAIG SILENT BALLCOCK in W.C. cisterns and attic supply tanks, irritating CISTERN NOISE and WATER HAMMER is effectively removed. So constructed that back syphonage is impossible, the "CRAIG" fits any make of cistern and costs as little as £2.9.0.

INDISPENSABLE IN HOMES, HOSPITALS, HOTELS, OFFICES, CLUBS, ETC. Write for particulars to



The **SILENT BALLCOCK Co Ltd**
MONIFIETH, DUNDEE, SCOTLAND Phone Monifieth 1

BROAD-ACHESON
BLOCKS for
unvarying quality

with REVEAL BLOCKS for
4" & 3" STRUCTURAL SIZES

BROAD & CO. LTD., PADDINGTON, W.2

today's slate

WINCILLATE

A NATURAL MATERIAL WITH A BIG PLACE IN MODERN ARCHITECTURE

W The Bow Slate & Enamel Co. Ltd
The Tower Hill, Bow Road, ADV 2201

PATENT COMPOSITE STEEL & ASBESTOS FIRE RESISTING DOORS

TO F.O.C. SPECIFICATIONS

- DURACHECK and FIREMAN Doors to F.O.C. 2-hour ratings.
- Fireproof sub-division of storage space.
- Cladding to spray booths, etc.

Send for data to manufacturers—
DURASTEEL LTD.
OLDFIELD LANE, GREENFORD, MIDD^X
TEL. WAXLOW 1031/2
Suppliers to British Railways, Kodak Ltd., Rolls-Royce Ltd., I.C.I. Ltd., and prominent firms in the Paint & Chemical Industry.

HY-RIB

combined shuttering and reinforcement
long span metal lathing

FURSE LIGHTNING CONDUCTORS

AND EARTHING EQUIPMENT
SUPPLIED ONLY OR SUPPLIED AND ERECTED

SUPPLIED FOR EVERY CLASS OF BUILDING OR STRUCTURE & EARTHING REQUIREMENT

W. J. FURSE & CO. LTD.
14, TRAFFIC STREET, NOTTINGHAM.
LONDON: 22 ALIE STREET, ALDGATE, E.1.
ALSO MANCHESTER, BIRMINGHAM, BRISTOL—SEE TEL. DIRECTORIES

HATHERNWARE

FAIENCE

IN THE CITY

PURPLE-GREY STONE-FACED FAIENCE WINDOW PANELS ON

Architects: C. Edmund Wilford & Son

GOLDSMITHS SITE FETTER LANE LONDON E.C.4.

Send for details to Dept. AJ. **HATHERNWARE LTD.** LOUGHBOROUGH, LEICS. Tel: Hathern 273/4.

FIRST FOLD HERE

AJ enquiry service

If you require catalogues and further information on building products and services referred to in the advertisements appearing in this issue of the Architects' Journal please mark with a tick the relevant names given in the index to advertisers overleaf. Then detach this page, write in block letters, or type, your name, profession or trade and address in the space overleaf, fold the page so that the post-paid address is on the outside and despatch. We will ensure that your request reaches the advertisers concerned.

Postage
will be paid
by
Licencee

No postage stamp
necessary
if posted
in Great Britain or
Northern Ireland

BUSINESS REPLY FOLDER
Licence No. S.W. 178

THE ARCHITECTS' JOURNAL

9-13 Queen Anne's Gate

London, S.W.1.

FOLD HERE

TUCK IN THIS END

Alphabetical index to advertisers

	PAGE	CODE
Access Equipment, Ltd.....	4	0768
Acme Flooring & Paving Co. (1904) Ltd.....	2	0004
Aidas Electric, Ltd.....	131	0009
Airscrew Co. & Jiewood, Ltd.....	6	0011
Aitken, Douglas, Ltd.....	152	1083
Ajax Aluminium, Ltd.....	106	0012
Allied Ironfounders, Ltd.....	75, 85	1049
Allied Ironfounders, Ltd.....	85	1061
Ames Crosta Mills & Co., Ltd.....	153	0020
Architectural Press, Ltd., The	106, 146	0026
Association of Vermiculite Ex- foliators, The.....	8	0144
Austin, Walters, Ltd.....	154	0041
Avery, J., & Co., Ltd.....	150	0044
Aygee, Ltd.....	30	0802
Batley, Ernest, Ltd.....	2	0052
Bayliss, Jones & Bayliss, Ltd.....	73	0054
Bendz, Ltd.....	140	0056
Bileston Foundries, Ltd.....	119	0067
Bolton Gate Co., Ltd., The.....	14, 15	0078
Boulton & Paul, Ltd.....	12	0081
Boulton & Paul, Ltd.....	141	1065
Bow Slate & Enamel Co., Ltd., The.....	13, 164	0083
Briggs, William, & Sons, Ltd.....	167	0088
British Aluminium Co., Ltd., The British Insulated Callender's Cables, Ltd., The.....	18	0090
British Paints, Ltd.....	34	0770
British Sanitary Fireclay Assoc....	10	0099
British Sanitary Fireclay Assoc....	77	0177
Broad & Co., Ltd.....	164	0111
Broughton Moor Green Slate Quarries, Ltd., The.....	164	0115
Burwell Brick Co.....	112	1063
CIBA (A.R.L.), Ltd.....	35	0736
Cape Building Products, Ltd.....	52, 53	0920
Carron Co.....	110	0132
Catesbys, Ltd.....	111	0134
Cement Marketing Co., Ltd., The Chloride Batteries, Ltd.....	68	0136
Clark, James, & Eaton, Ltd.....	19	0141
Clark, James, & Eaton, Ltd.....	76	0145
Coal Utilisation Council.....	20	0147
Cole, E. K., Ltd.....	145	0823
Colt Ventilation, Ltd.....	3	0152
Compactom, Ltd.....	78	0153
Conran Furniture.....	151	0884
Corrie, J. B. (Flexitella), Ltd.....	149	0228
Costain Concrete, Ltd.....	124	1100
Dermide, Ltd.....	150	0182
Dorman, Long (Steel), Ltd.....	92	0185
Durasteel, Ltd.....	164	0194
E.U.K. Catering Machinery, Ltd.....	104	0460
Ecko Plastics, Ltd.....	117	1042
Ellis School of Architecture, The... Evode, Ltd.....	164	0202
Expanded Metal Co., Ltd., The...	5	0876
Expanded Metal Co., Ltd., The...	108	0211
FEB (Great Britain), Ltd.....	7	0216
Fablon, Ltd.....	64	0213
Federated Foundries, Ltd.....	79	0217
Ferodo, Ltd.....	101	0218
Finlock Gutters, Ltd.....	147	0222
Flexipipe, Ltd.....	129	0926
Flintkote, Ltd.....	84	0229
Formica, Ltd.....	87	0233
Freeman, Joseph, & Sons, Ltd....	21	0236
Furse, W. J., & Co., Ltd.....	164	0241
G.A.P. Fuel Conservation, Ltd. ...	22	1052
Gardiner, C. B., Sons & Co., Ltd.	100	0247

	PAGE	CODE
Gay, R., & Co.....	121	0243
General Electric Co., Ltd.....	147	0934
Gent & Co., Ltd.....	23	0251
Glass Benders Association.....	37	1033
Goodlass, Wall & Co., Ltd.....	86	0256
Greenwood's & Airvac Ventilating Co., Ltd.....	41	0263
Hall, Robert H., & Co. (Kent), Ltd.	43	0271
Hammond & Champness, Ltd.....	58	0275
Harris & Sheldon, Ltd.....	105	0280
Hathernware, Ltd.....	164	0691
Hattersley (Ormskirk), Ltd.....	40	0846
Heatrac, Ltd.....	130	0287
Hickson's Timber Impregnation Co. (G.B.).....	82	0988
Higgs & Hill, Ltd.....	42	—
High Duty Alloys, Ltd.....	113	0292
Hill, E. Aldam & Co., Ltd.....	93	0294
Hills, F., & Sons, Ltd.....	65	1001
Hills (West Bromwich), Ltd.....	88	0297
Hirshfield, Norman & Partners ...	154	—
Hollis Bros., Ltd.....	138	0300
Hollowseal Glass Co., Ltd., The...	91	0301
Ideal Boilers & Radiators, Ltd. 123, 137	0315	—
Imperial Chemical Industries, Ltd.	132, 133	0321
Industrial Engineering, Ltd.....	69	0322
Janes, H. C., Ltd.....	151	0880
Janitor Boilers, Ltd.....	149	0118
John, Edwards & Co., Ltd.....	24	0332
Kerner-Greenwood & Co., Ltd. ...	90	0339
Kenyon, William, & Sons, Ltd. ...	153	0982
Key Engineering Co., Ltd., The 114-115	0340	—
Kirkstone Green Slate Quarries, Ltd.....	39, 164	0739
Laing, John, & Sons, Ltd.....	168	0345
Leaderflush (Doors), Ltd.....	136	0347
Lewis, G. W., Tilerics, Ltd.....	45	0352
Libraco, Ltd.....	154	0355
Linden Doors.....	31	0359
London County Council.....	158	—
M.K. Electric, Ltd.....	36	0416
Mallinson, William, & Sons, Ltd....	122	0379
Marley Tile Co. (Marley Mura).....	125	0871
Mason, Joseph, & Co., Ltd.....	97	0400
Mellor Bromley & Co., Ltd.....	38	0405
Mellowes & Co., Ltd.....	44	0406
Merchant Adventurers, Ltd.....	55	0407
Minnesota Mining & Manuf. Co., Ltd.....	94	1048
Monk, A., & Co., Ltd.....	46	0420
Moorwoods, Ltd.....	144	0826
Morris, M. A., Ltd.....	47	0914
Nairn, Michael, Co., Ltd.....	28, 29	0427
National Salt Glazed Pipe Manuf. Assoc.....	66, 87	1034
Newalls Insulation Co., Ltd.....	48	0433
Newton Chambers & Co., Ltd ...	56, 57	0437
North British Plastics, Ltd.....	70	0440
Norwood Steel Equipment, Ltd ...	59	0443
Nuralite Co., Ltd., The.....	32, 33	1092
Olsson, Martin, & Sons, Ltd ...	25, 50	0446
Olsson, Martin & Sons, Ltd.....	50	0446

	PAGE	CODE
Panel-Lastic Construction Co., Ltd	147	0973
Patent Glazing Conference, The...	49	1069
Permanite, Ltd.....	116	0458
Philips Electrical, Ltd.....	95	0462
Pilkington Brothers, Ltd.....	54	0472
Plyglass, Ltd.....	139	0479
Plastic Fixtures, Ltd.....	154	1686
Plus Gas, Ltd.....	145	0725
Power Centre Co., Ltd.....	96	0486
Precon, Ltd.....	11	0813
Pressed Steel Co., Ltd., The.....	99	0827
Prodorite, Ltd.....	148	0489
Pullin, R. B., & Co., Ltd.....	140	0974
Pyrok, Ltd.....	167	0741
Quickset Water Sealers, Ltd.	141	0795
Radiation Group Sales.....	107	1006
Rawlings Bros., Ltd.....	148	0499
Redpath Brown, Ltd.....	126	0501
Ruberoid Co., Ltd., The.....	120	0521
Sanders, William, & Co. (Wednes- bury), Ltd.....	74	0532
Sandlime Brick Manuf. Assoc., Ltd.	152	0531
Saniguard Appliances, Ltd.....	143	0534
Savage & Parsons, Ltd.....	26	0539
Semtex, Ltd.....	51	0548
Shires & Co. (London), Ltd.....	63	0554
Siemens Edison Swan, Ltd.....	118	0559
Silent Balcock Co., Ltd., The.....	164	0916
Sommerfelds, Ltd.....	60	0576
Sound Control, Ltd.....	98	0577
Steel Radiators, Ltd.....	80, 81	0589
Sterdy Telephones, Ltd.....	106	0763
Stewart & Gray, Ltd.....	16	0600
Stott, James, Ltd.....	127	0602
Swiftplan, Ltd.....	61	0613
Tarmac Vinculum, Ltd.....	143	0618
Taylor, John, Dunford & Co., Ltd.	135	0831
Thermacoust, Ltd.....	133	0629
Thermalite Ytong, Ltd.....	17	0630
Thompson, John, Beacon Windows, Ltd.....	89	0631
Thorp, John B.....	164	0633
Timber Development Assoc., Ltd., The.....	102, 103	0635
Tretol, Ltd.....	9	0638
Trianco, Ltd.....	142	0639
True-Flue, Ltd.....	128	0641
Truscon, Ltd.....	164	0645
Tucker, G., & Son, Ltd.....	142	0646
Universal Asbestos Manuf. Plastics, Ltd.....	27	0653
Venesta, Ltd.....	62	0816
Walker Crossweller & Co., Ltd. ...	83	0669
Wall Paper Manufacturers, Ltd....	134	0671
Walpamur Co., Ltd.....	107	0048
Ward & Co. (Letters), Ltd.....	154	0676
Weatherfoil Heating Systems, Ltd.	72	0685
Webb, John, & Co., Ltd.....	144	1046
Wuidart, J., & Co., Ltd.....	145	0734
Yorkshire Imperial Metals, Ltd....	109	0705
Zinc Alloy Rustproofing Co., Ltd.	167	0706

For Appointments (Wanted or Vacant), Competitions Open, Drawings, Tracings, etc., Education, Legal Notices, Miscellaneous, Property and Land Sales, see 155, 156, 157, 159, 160, 161, 162, 163, 164.

**Write in block letters or type, your name, profession and address below,
and fold so that the post-paid address is on the outside.**

NAME

PROFESSION

ADDRESS

000E
0973
0669
0458
0462
0472
0479
0686
0725
0486
0813
0827
0489
0974
0741

0795

1006
0499
0501
0521

0532
0531
0534
0539
0548
0554
0559
0916
0576
0577
0589
0763
0600
0602
0613

0618
0831
0629
0630

0631
0633

0635
0638
0639
0641
0645
0646

0653

0816

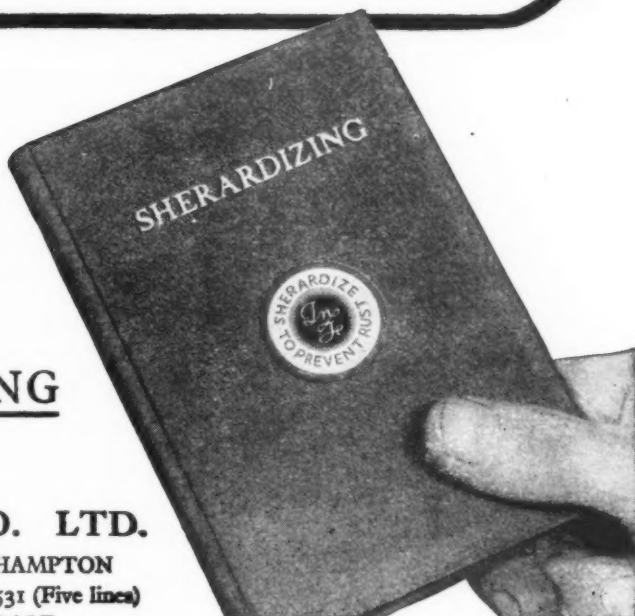
0669
0671
0048
0676
0685
1046
0734

] 0705

] 0706

YOURS *for the Asking*

This book shows that maintenance considerations for the after-treatment or prevention of rust need not arise, where Sherardizing is specified. May we send you a copy together with a reprint of the Architects' Journal Information Sheet, reference Corrosion prevention 40 B1?



SHERARDIZING

**ZINC ALLOY
RUST-PROOFING CO. LTD.**

SHAKESPEARE STREET, WOLVERHAMPTON
TELEPHONE: WOLVERHAMPTON 27531 (Five lines)
ALSO AT LONDON & ROCHDALE



Regd Trade Mark

for FIRE PROTECTION
SOUND ABSORPTION
THERMAL INSULATION
EXTERNAL PROTECTION
COLOUR DECORATION and
ANTI-CONDENSATION TREATMENTS

Pyrok has been used successfully in

**SWIMMING BATHS
BREWERIES
KITCHENS
DAIRIES
SCHOOLS
FACTORIES etc.**

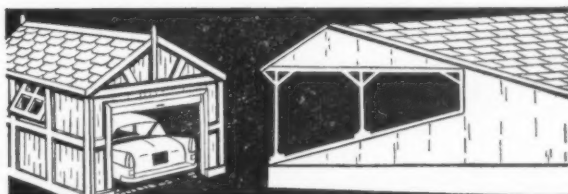
For further details of this treatment and of the properties of Pyrok apply to:—

PYROK LIMITED

401-404 Montrose Avenue,
Slough
Tel.: Slough 24061

2-5 Old Bond Street, W.1
Tel.: HYD 1491

GARAGES OR GRANDSTANDS



BUNGALOWS OR BOATSHEDS



Specify

"CHALLENGE" STRIP SLATES

"Challenge" Strip Slates provide the architect with an attractive, colourful, permanent roof covering for most types of buildings, at economical cost. Available in either Octagonal or Square Butt shapes, and in natural colours of red, green and grey. Send for Descriptive Literature and Samples:

**WILLIAM BRIGGS & SONS LIMITED
DUNDEE**

LAING

PROJECT



Waring House, Bristol
Redcliff Redevelopment Area

Architect: Albert H. Clarke, F.R.I.B.A., A.M.T.P.I.
Bristol City Architect

In more than a century of uninterrupted progress John Laing and Son Limited have developed one of the most efficient organisations in the building and civil engineering world.

To every Laing project, whether large or small, are brought the same comprehensive technical resources supported by meticulous advance planning—and generations of practical experience. The name of Laing means high-quality workmanship and completion in the shortest possible time.

JOHN LAING AND SON LIMITED
Building and Civil Engineering Contractors

GREAT BRITAIN • CANADA • UNION OF SOUTH AFRICA • RHODESIA

