The Architects' JOURNAL for December 4, 1958

THE ARCHITECTS' JOURNAL

andard contents

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

. 3327] [Vol. 128

HE ARCHITECTURAL PRESS
1 and 13, Queen Anne's Gate, Westminster, W.1. 'Phone: Whitehall 0611

Price 1s. 0d.
Registered as a Newspaper.

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

ILA	Institute of Landscape Architects. 1, Park Crescent, Portland Place, W.1. Museum 3473
I of Arb	Institute of Arbitrators. Hastings House, 10, Norfolk Street, Strand, W.C.2. Temple Bar 4071
IOB	Institute of Builders. 48, Bedford Square, W.C.1. Museum 7197
IQS	Institute of Quantity Surveyors. 98, Gloucester Place, W.1. Welbeck 1859
IR	Institute of Refrigeration. Dalmeny House, Monument Street, E.C.3. Avenue 6851
IRA	Institute of Registered Architects. 68, Gloucester Place, W.1. Welbeck 9966
ISE	Institution of Structural Engineers. 11, Upper Belgrave Street, S.W.1. Sloane 7128
JFRO	Joint Fire Research Organisation (DSIR & Fire Offices' Committee). Fire Research Station, Boreham Wood, Herts. Elstree 1341/1797
LDA	Lead Development Association. 18, Adam Street, W.C.2. Whitehall 4175
LMBA	London Master Builders' Association. 47, Bedford Square, W.C.1. Museum 3891
MAFF	Ministry of Agriculture, Fisheries and Food. Whitehall Place, S.W.1. Trafalgar 7711
MOE	Ministry of Education. Curzon Street House, Curzon Street, W.1. Mayfair 9400
MOH	Ministry of Health. 23, Savile Row, W.1. Regent 8411
MOHLG	Ministry of Housing and Local Government. Whitehall, S.W.1. Whitehall 4300
MOLNS	Ministry of Labour and National Service, 8, St. James's Square, S.W.1. Whitehall 6200
MOS	Ministry of Supply. Shell Mex House, W.C.2. Gerrard 6933
MOT	Ministry of Transport, Berkeley Square House, Berkeley Square, W.1. Mayfair 9494
MOW	Ministry of Works. Lambeth Bridge House, S.E.1. Reliance 7611
NAMMC	Natural Asphalte Mine Owners and Manufacturers Council. 94/98, Petty France, S.W.1. Abbey 1010
NAS	National Association of Shopfitters. 9, Victoria Street, S.W.1. Abbey 4813
NBR	National Buildings Record, 31, Chester Terrace, Regent's Park, N.W.1. Welbeck 0619
NCBMP	National Council of Building Material Producers, 10, Storey's Gate, S.W.1 Abbey 5111
NEFMAI	National Employers Federation of the Mastic Asphalt Industry. 21, John Adam Street, Adelphi, W.C.2. Trafalgar 3927
NFBTE	National Federation of Building Trades Employers. 82, New Cavendish Street, W.1. Langham 4041/4054
NFBTO	National Federation of Building Trades Operatives. Federal House, Cedars Road, Clapham, S.W.4. Macaulay 4451
NFHS	National Federation of Housing Societies. 12, Suffolk St., S.W.1. Whitehall 1693
NHBRC	National House Builders Registration Council. 58, Portland Place, W.1. Langham 0064/5
NPL	National Physical Laboratory. Head Office, Teddington. Molesey 1380
NRDB	Natural Rubber Development Board. Market Buildings, Mark Lane, E.C.3. Mansion House 9383
NSAS	National Smoke Abatement Society. Palace Chambers, Bridge Street, S.W.1. Trafalgar 6838
NT	National Trust for Places of Historic Interest or Natural Beauty. 42, Queen Anne's Gate, S.W.1. Whitehall 0211
PEP	Political and Economic Planning. 16, Queen Anne's Gate, S.W.1. Whitehall 7245
RCA	Reinforced Concrete Association. 94, Petty France, S.W.1. Abbey 4504
RIAS	Royal Incorporation of Architects in Scotland. 15, Rutland Square, Edinburgh. Fountainbridge 7631
RIBA	Royal Institute of British Architects. 66, Portland Place, W.1. Langham 5533
RICS	Royal Institution of Chartered Surveyors. 12, Great George Street, S.W.1. Whitehall 5322/9245
RFAC	Royal Fine Art Commission. 5, Old Palace Yard, S.W.1. Whitehall 3935
RS	Royal Society. Burlington House, Piccadilly, W.1. Regent 3335
RSA	Royal Society of Arts. 6, John Adam Street, W.C.2. Trafalgar 2366
RSH	Royal Society of Health. 90, Buckingham Palace Road, S.W.1. Sloane 5134
RIB	Rural Industries Bureau. 35, Camp Road, Wimbledon, S.W.19. Wimbledon 5101
SBPM	Society of British Paint Manufacturers. Grosvenor Gardens House, Grosvenor Gardens, S.W.1. Victoria 2186
SE	Society of Engineers. 17, Victoria Street, Westminster, S.W.1. Abbey 7244
SFMA	School Furniture Manufacturers' Association. 30, Cornhill, E.C.3. Mansion House 3921
SIA	Society of Industrial Artists. 7, Woburn Square, W.C.1. Langham 1984/5
SIA	Structural Insulation Association. 32, Queen Anne Street, W.1. Langham 7616
SNHTPC	Scottish National Housing. Town Planning Council. Hon. Sec., Robert Pollock, Town Clerk, Rutherglen
SPAB	Society for the Protection of Ancient Buildings. 55, Great Ormond Street, W.C.1. Holborn 2646
TCPA	Town and Country Planning Association. 28, King Street, Covent Garden, W.C.2. Temple Bar 5006
TDA	Timber Development Association. 21, College Hill, E.C.4. City 4771
TPI	Town Planning Institute. 18, Ashley Place, S.W.1. Victoria 8815
TTF	Timber Trades Federation. 75, Cannon Street, E.C.4. City 5040
WDC	War Damage Commission. 6, Carlton House Terrace, S.W.1. Whitehall 4341
ZDA	Zinc Development Association. 34, Berkeley Square, W.1. Grosvenor 6636

Where the battle rages fiercest...

Yet another foray which will leave its mark on long-suffering walls. Unless, of course, TYLEX has been used on the walls—in which case a washing-down will remove all trace of the battle which has raged. Ease of cleaning is only one of the many virtues of TYLEX. This brush-applied finish for walls can be used on new or old surfaces as an inexpensive alternative to glazed tiling. There are no joints to harbour dirt or bacteria and the hard gloss retains its brilliance despite the hardest wear. TYLEX is recommended for schools, hospitals, food factories, ablutions and is ideal for kitchens, where hygiene is a first requirement. We shall be glad to send a specification sheet with details of the wide TYLEX colour range, based on B.S.2660.

TYLEX

Brush-applied tile-like finish for walls

TRETOL LTD., THE HYDE, LONDON, N.W.9
Telephone: Colindale 7223
Tretol (Scotland) Ltd., 65 Renfield Street, Glasgow, C.2
Telephone: Douglas 6133

Modern joiners make full use of EVO-STIK 'impact'

The adaptability of Perstorp laminated plastic board combined with the strength of Evo-Stik 'Impact' adhesive 528 have been used to produce interesting curved effects in the kitchen of a bungalow at Hutton, Essex.
The laminate is bonded to ¾" Novobord on both sides and the work was carried out by B. & H. (Woodworkers) Ltd. of 22 Palmerston Road, Wealdstone, Harrow, Middlesex, with materials supplied by C. F. Anderson & Son Ltd.

Do You?

Evo-Stik Impact Adhesive techniques have been developed for a great variety of modern building operations. If you have sheet materials of any kind to apply to any surfaces we shall be glad to advise you of ways in which accurate bonds of great strength can be obtained with a minimum of labour.

Fill in this coupon

EVO-STIK 'impact' Adhesives

Reg'd trade mark

EVODE LTD. (INDUSTRIAL ADHESIVES DIVISION), COMMON ROAD, STAFFORD. TEL: 2241 (5 lines)

LONDON OFFICE: 82 VICTORIA STREET, S.W.1 ABBEY 4622/3

Manufactured in Eire by Evode Industries Ltd., Swords Co. Dublin.

• Please send me brochure giving full technical details of Evo-Stik adhesives.

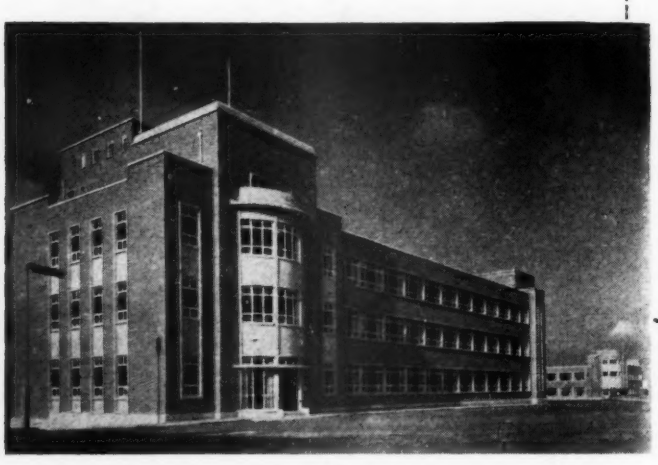
NAME .....

ADDRESS .....

.....

Once again, skirting heating by Crane

Metropolitan-Vickers' new Transformer Works at Wythenshawe are a model of modern factory building. The Reception Hall, illustrated here, is an example of the careful attention to detail observed throughout. The heating system here is both efficient and inconspicuous, for it is Crane Skirting Heating. This most modern of heating systems provides even warmth everywhere, no cold spots, no hot spots. The type used here is 9-inch RC (Radiant-Convector). There is also **Type R (Radiant) which, as well as being made in the 6-inch size, has lately been made available in the 9-inch size for situations requiring additional heating surface.** Both types are in 2-ft. lengths and 1-ft. half sections. An important feature of Crane Skirting Heating panels is that they are made of cast iron and are therefore highly resistant to accidental damage. Skirting heating is the perfect modern way of heating any building.



Designed and installed by Ashwell & Nesbit Ltd. Manchester, in conjunction with Metropolitan-Vickers' Engineers' Dept.

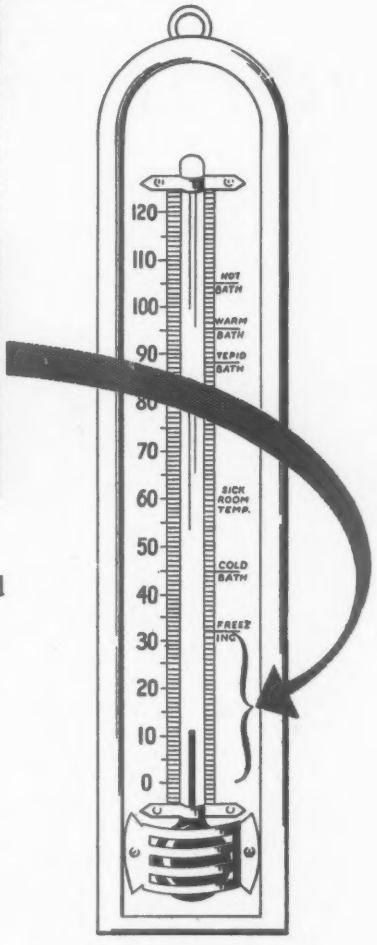
CRANE FOR HEATING EQUIPMENT

CRANE LTD., 15-16 RED LION COURT, FLEET STREET, LONDON, E.C.4. Works: IPSWICH
Branches: Birmingham, Brentford, Bristol, Glasgow, London, Manchester

B25

23°F and they worked on

Block of Flats, Willow Court, Willow Way Luton. Contractors : Stevenson & Spence Ltd., Harpenden.



And they worked on because FEBSPEED PLUS enabled the brickwork to be erected and the concrete placed at day temperatures of 23 deg. F. and night temperatures of 9 deg. F. The building is today sound and solid with mortar joints, plasterwork and concrete in perfect condition. That this was possible during the 1955/56 winter, the worst winter for ten years, was due to the use of—

FEBSPEED PLUS

The Cement Anti-Freeze Compound that also Plasticises, Waterproofs and Rapid Hardens.

FEB **(GREAT BRITAIN) LTD.**

102 Kensington High Street, London, W.8. Phone : WES 0444
Albany Road, Chorlton-cum-Hardy, Manchester 21 Phone : CHO 1063

DHB/5777

Power without vibration

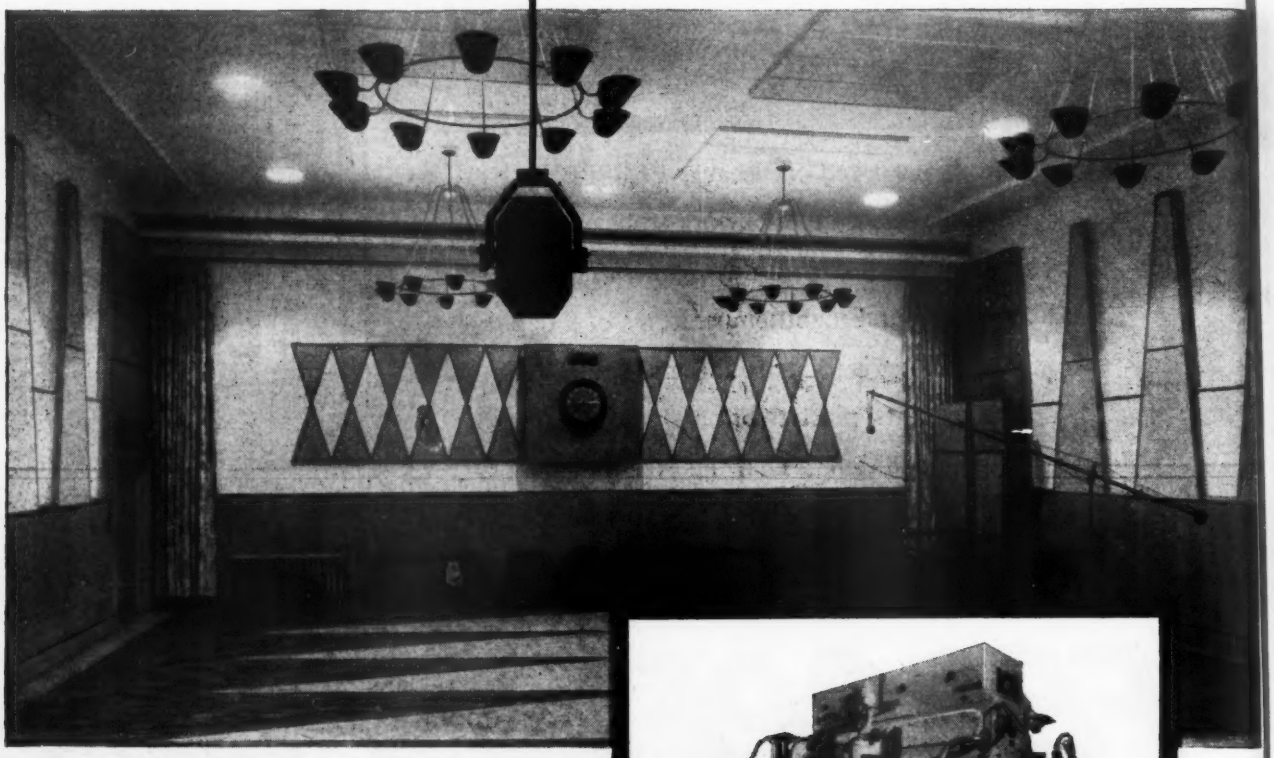
• *Essential at the B.B.C.*

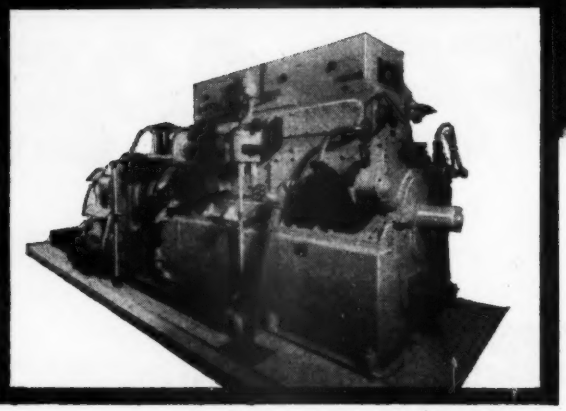
• The huge electrical generator below is in the basement of the British Broadcasting Corporation's recording studios at Maida Vale.

No suggestion of vibration is felt in any part of the building because the generator is isolated on the Dunlop 'rubber-foundation-mounting' principle.

The installation has been running perfectly for several years while, in the studios above, recordings are made with complete accuracy.

As you switch on your set, bear in mind this tribute to Dunlop anti-vibration mountings.





For advice on any kind of vibration problem consult :

DUNLOP

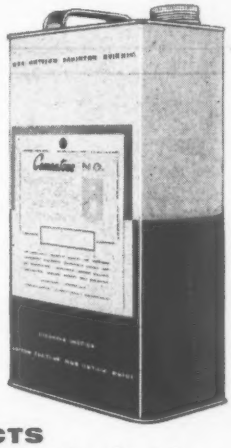
DUNLOP RUBBER COMPANY LIMITED,
(ENGINEERING COMPONENTS DIVISION)
FORT DUNLOP, BIRMINGHAM, 24

EWC/PC10

winter concreting?

The danger period when laying concrete during frosty or sub-zero temperatures is the time before the initial set when the mix will freeze and suffer permanent damage if no precautions are taken. The simple addition of Cementone No. 8 to the gauging water will protect the work throughout this danger period. A supply of Cementone No. 8 is your guarantee against the frost menace — and, of course, against 'dusty' floors all the year round.

SPECIFICATION	
Temperatures down to 23°F	Mix 1 part of Cementone No. 8 with 8 parts of gauging water.
Temperature below 23°F down to 18°F	Mix 1 part of Cementone No. 8 with 6 parts of gauging water.

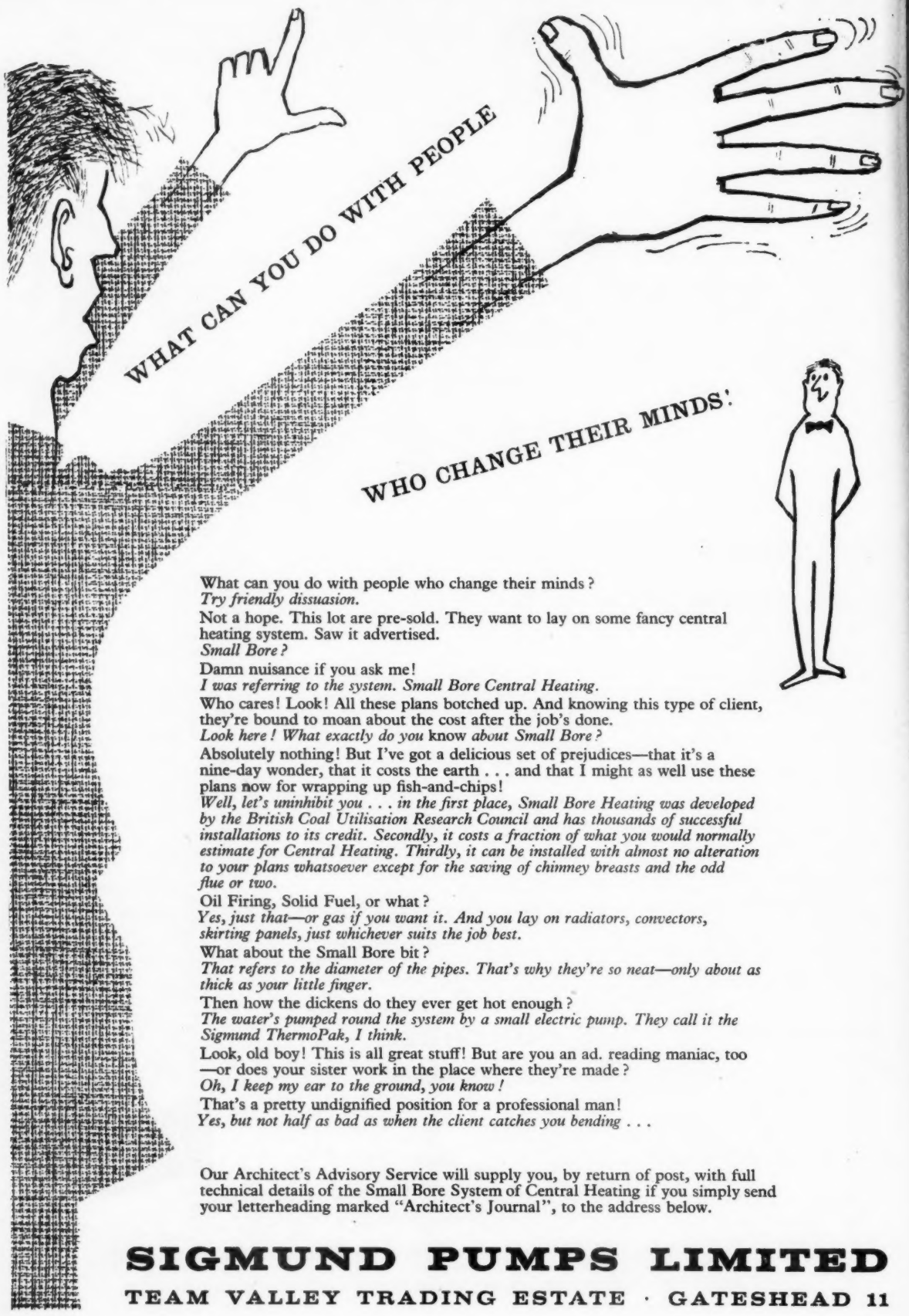


number 8 LIQUID CONCRETE HARDENER

YOU CAN DEPEND ON THE Cementone PRODUCTS
specially made for the job

Write for further details and your copy of the Cementone Handbook.
Obtainable from your local Cementone stockist or from
JOSEPH FREEMAN SONS & CO. LTD., CEMENTONE WORKS, WANDSWORTH, LONDON, S.W.18
Telephone: VANdyke 2432 (10 lines)

TA 592

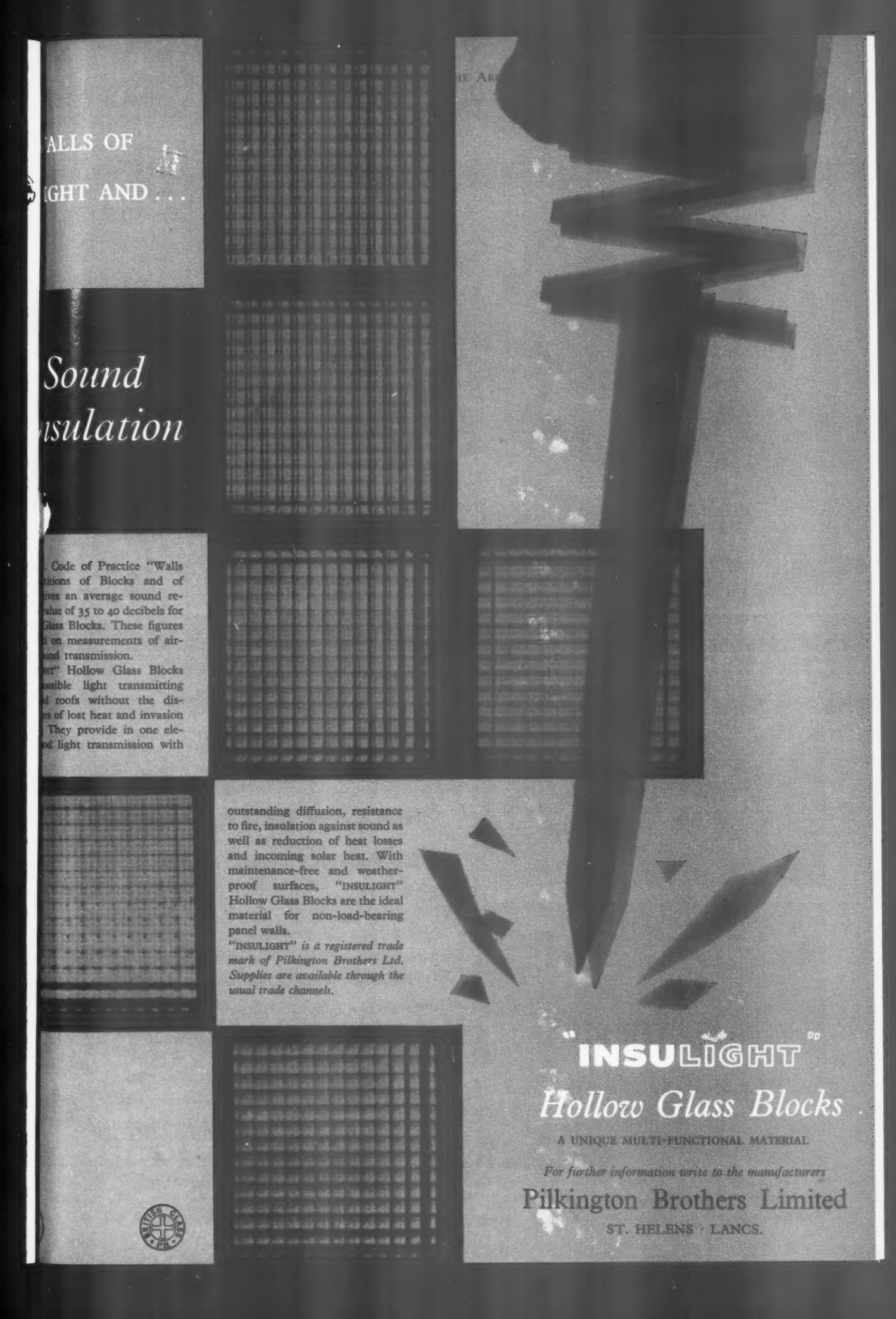


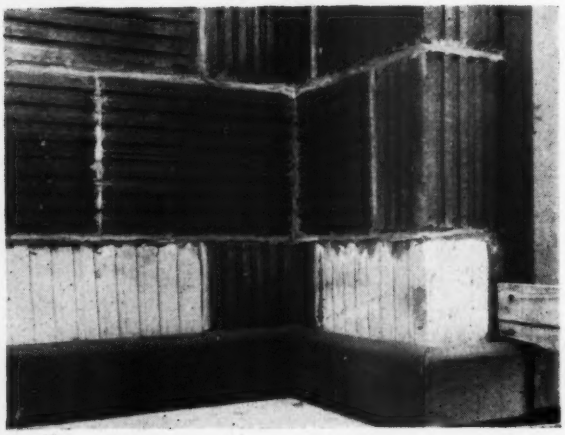
What can you do with people who change their minds?
Try friendly dissuasion.
Not a hope. This lot are pre-sold. They want to lay on some fancy central heating system. Saw it advertised.
Small Bore?
Damn nuisance if you ask me!
I was referring to the system. Small Bore Central Heating.
Who cares! Look! All these plans botched up. And knowing this type of client, they're bound to moan about the cost after the job's done.
Look here! What exactly do you know *about Small Bore?*
Absolutely nothing! But I've got a delicious set of prejudices—that it's a nine-day wonder, that it costs the earth . . . and that I might as well use these plans now for wrapping up fish-and-chips!
Well, let's uninhibit you . . . in the first place, Small Bore Heating was developed by the British Coal Utilisation Research Council and has thousands of successful installations to its credit. Secondly, it costs a fraction of what you would normally estimate for Central Heating. Thirdly, it can be installed with almost no alteration to your plans whatsoever except for the saving of chimney breasts and the odd flue or two.
Oil Firing, Solid Fuel, or what?
Yes, just that—or gas if you want it. And you lay on radiators, convectors, skirting panels, just whichever suits the job best.
What about the Small Bore bit?
That refers to the diameter of the pipes. That's why they're so neat—only about as thick as your little finger.
Then how the dickens do they ever get hot enough?
The water's pumped round the system by a small electric pump. They call it the Sigmund ThermoPak, I think.
Look, old boy! This is all great stuff! But are you an ad. reading maniac, too —or does your sister work in the place where they're made?
Oh, I keep my ear to the ground, you know!
That's a pretty undignified position for a professional man!
Yes, but not half as bad as when the client catches you bending . . .

Our Architect's Advisory Service will supply you, by return of post, with full technical details of the Small Bore System of Central Heating if you simply send your letterheading marked "Architect's Journal", to the address below.

SIGMUND PUMPS LIMITED

TEAM VALLEY TRADING ESTATE · GATESHEAD 11


ALLS OF
GHT AND . . .
Sound
nsulation
. Code of Practice "Walls
itions of Blocks and of
ives an average sound re-
alue of 35 to 40 decibels for
Glass Blocks. These figures
on measurements of air-
und transmission.
HT" Hollow Glass Blocks
ossible light transmitting
d roofs without the dis-
s of lost heat and invasion
They provide in one ele-
od light transmission with
outstanding diffusion, resistance to fire, insulation against sound as well as reduction of heat losses and incoming solar heat. With maintenance-free and weather-proof surfaces, "INSULIGHT" Hollow Glass Blocks are the ideal material for non-load-bearing panel walls.
"INSULIGHT" is a registered trade mark of Pilkington Brothers Ltd. Supplies are available through the usual trade channels.
"INSULIGHT"
Hollow Glass Blocks
A UNIQUE MULTI-FUNCTIONAL MATERIAL
For further information write to the manufacturers
Pilkington Brothers Limited
ST. HELENS · LANCS.



'PHORPRES' HOLLOW CLAY BLOCKS— CHASING AND FIXING

1 Hollow Clay Blocks can be chased accurately.

2 Skirting Boards and all types of wooden frame can be nailed direct into Fixer Blocks which if required are supplied with normal deliveries.

PHORPRES

LONDON BRICK COMPANY LIMITED
in the service of the building industry

BY APPOINTMENT TO HER MAJESTY QUEEN ELIZABETH BRICK MAKERS

Head Office: Africa House, Kingsway, London, W.C.2. *Tel.: Holborn 8282* **Midland District Office:** Prudential Buildings, St. Philips Place, B'ham, 3. *Tel.: Central 4141*
South-Western District Office: 11 Orchard Street, Bristol, 1. *Tel.: Bristol 23004/5* **Northern District Office:** St. Paul's House, 20/22 St. Paul's Street, Leeds. *Tel.: Leeds*

Very simple to fix . . . highly satisfactory in service

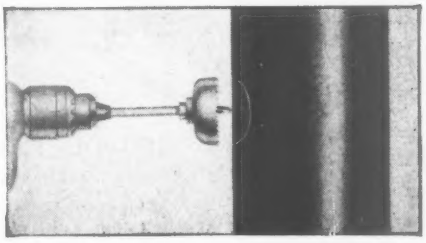
Registered design No. 883728
Provisional Patent Nos. 10568/56 and 16240/56
The word 'Everite' is registered under the Trades Mark Act.

'Everite' SINGLE STACK SOIL CONNECTORS

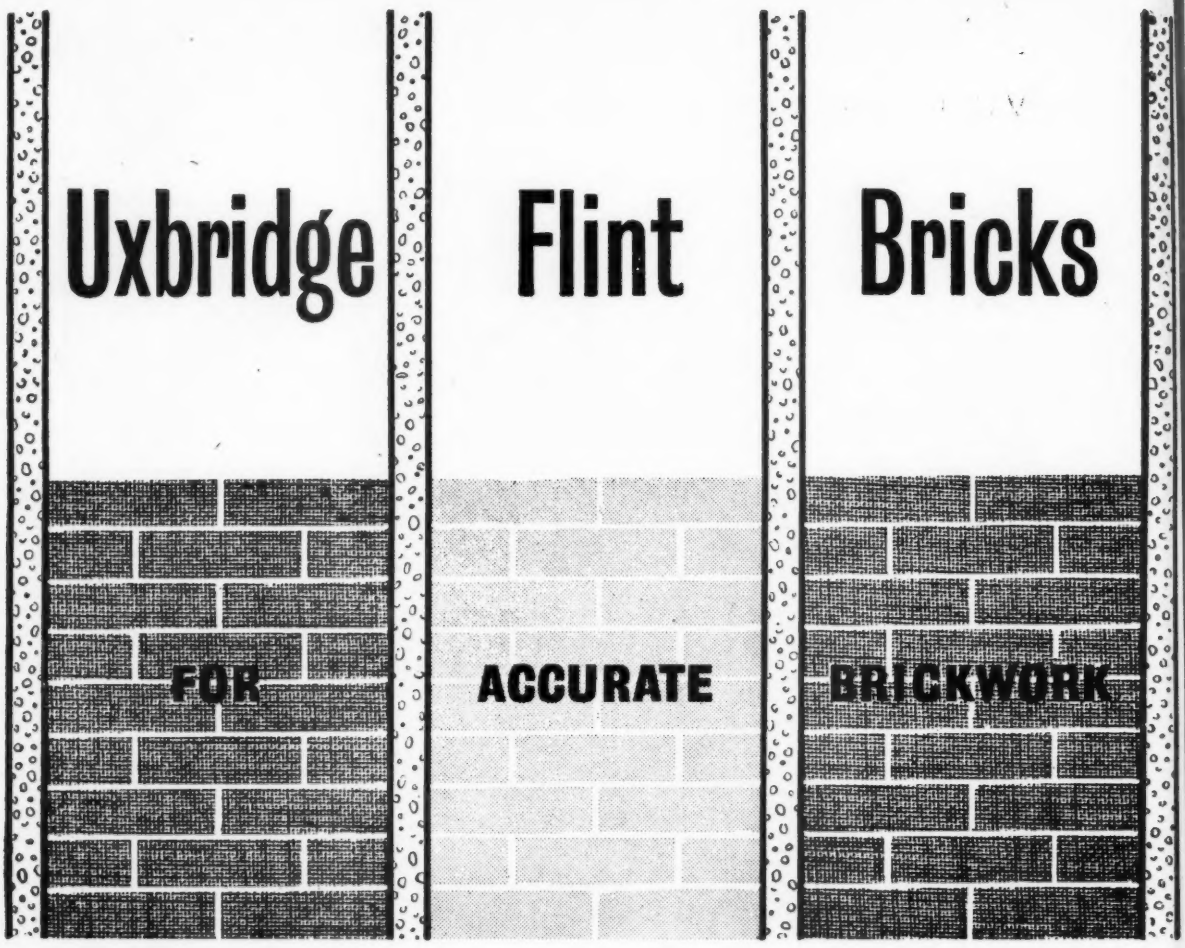
for use with 'Everite' Asbestos-Cement Soil Pipes

- ***Complete flexibility in planning and erection***
- ***Reduction of costs of labour and materials***
- ***Simple to install . . . highly satisfactory in service***

Available as single units or double units (for two waste connections entering main stack directly opposite to each other). Designed for use in conjunction with the standard range of "Everite" Asbestos-Cement Soil Goods $3\frac{1}{2}$" and 4" nominal diameter, they provide a simple and effective means of making a multiplicity of gas tight junctions at the approved angle of $92\frac{1}{2}°$ between various water pipes and main stack. They cost considerably less than special fittings and their use saves both time and money. Fixing is a very simple matter — the "Everite" Single Stack Soil Connector can be positioned after connection has been made at the bath, wash-basin or sink. It is necessary only to drill a $1\frac{3}{4}$" diameter clearance hole and then assemble the unit in the manner shown above.



TURNERS ASBESTOS CEMENT CO. LTD.
A MEMBER OF THE TURNER & NEWALL ORGANISATION
TRAFFORD PARK MANCHESTER 17



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

CREAM, BUFF, GOLDEN, BROWN, TERRACOTTA, LILAC, PURPLE, GREY, BLUE-BLACK

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

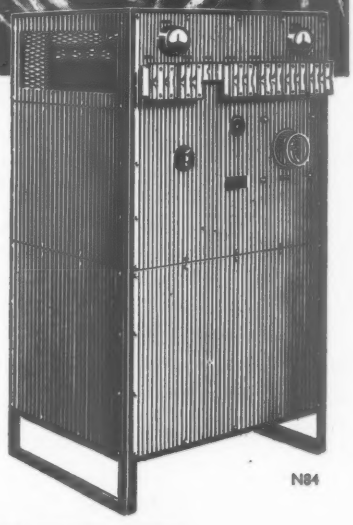
CAPE BUILDING PRODUCTS LIMITED
Cowley Bridge Works, Uxbridge, Middlesex. Tel. Uxbridge 4313

Glasgow: Eagle Buildings, 217 Bothwell Street, Glasgow C.2. Tel. Central 2175
Manchester: Floor D, National Buildings, St. Mary's Parsonage, Manchester 3. Tel. Blackfriars 7757
Birmingham: 11 Waterloo Street, Birmingham 2. Tel. Midland 6565-6-7
Newcastle: 19 & 20 Exchange Buildings, Newcastle-upon-Tyne. Tel. Newcastle 20488

They never let you down

THE FIRE BRIGADES

No one who lived in a blitzed town or city during the war needs reminding of the sterling deeds performed by the N.F.S. and A.F.S. The latest figures show that the Fire Brigades answer, on an average, over 390 calls a week in the London area alone. They turn out at all hours of the day and night to deal with every emergency from chimney fires to blazing factories. Anyone unfortunate enough to need their help can rest assured that the Fire Brigades will be on the spot as soon as humanly possible. They never let you down.



YOU CAN BE CERTAIN TOO that Nife-Neverfayle Emergency Lighting Equipment will never let you down. *Whenever needed*, these reliable units will instantly, automatically, spring into action. That is the special advantage of the Nife Steel Alkaline Battery—it never deteriorates, even after long periods of inactivity.

Nife-Neverfayle units occupy only one-third of the space required by conventional equipment and, as they can be installed adjacent to other equipment, a separate battery room is not needed—a point worth remembering when planning new buildings. Maintenance costs are negligible—after years of trouble-free service you will realise just how economical your Nife-Neverfayle equipment has been.

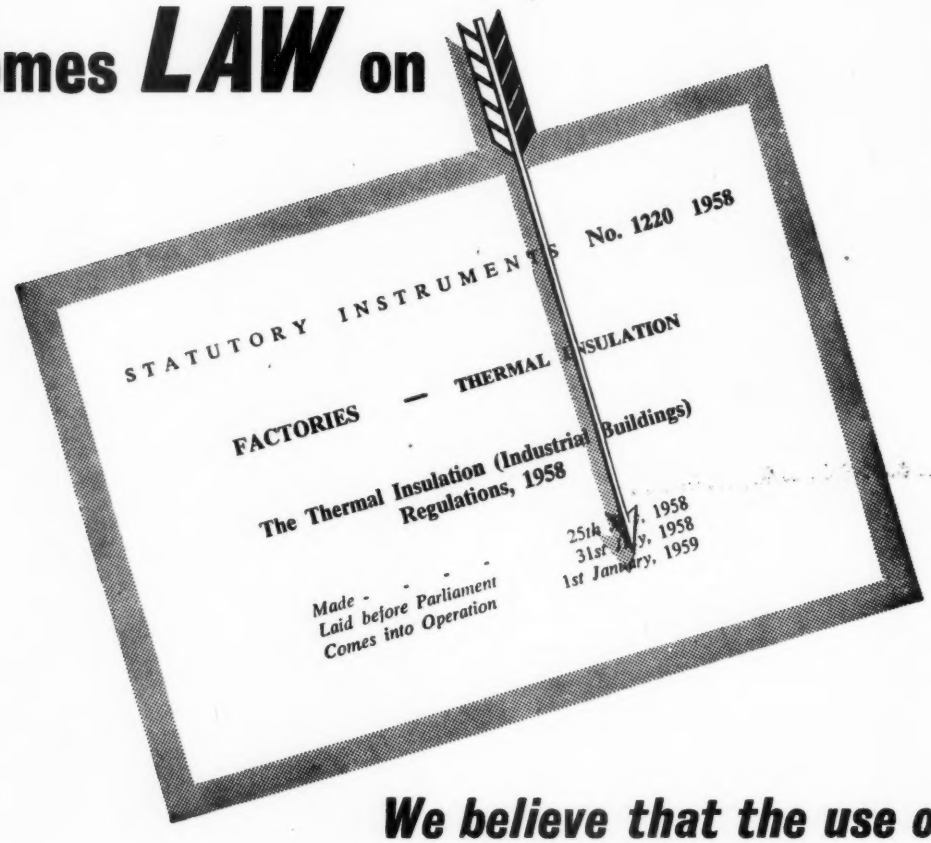
NIFE-NEVERFAYLE

THE EMERGENCY LIGHTING EQUIPMENT WITH THE **STEEL** ALKALINE BATTERY

NIFE BATTERIES · REDDITCH · WORCESTERSHIRE

it *AFFECTS* architects and builders

it becomes *LAW* on



We believe that the use of 'Paramount' NON-COMBUSTIBLE INSULATING PLASTERBOARD

is the most efficient and inexpensive method of complying with the Regulations. It meets the requirements in respect of both Thermal Insulation and Fire Resistance. Cost is only about 5d. per square foot—it needs no additional surface protection.

Send TODAY for a brochure showing how insulating plasterboard has helped owners of both large and small factories to save fuel and money. A technical representative will call on request.

THERMAL INSULATION DIVISION

THE

BRITISH PLASTER BOARD

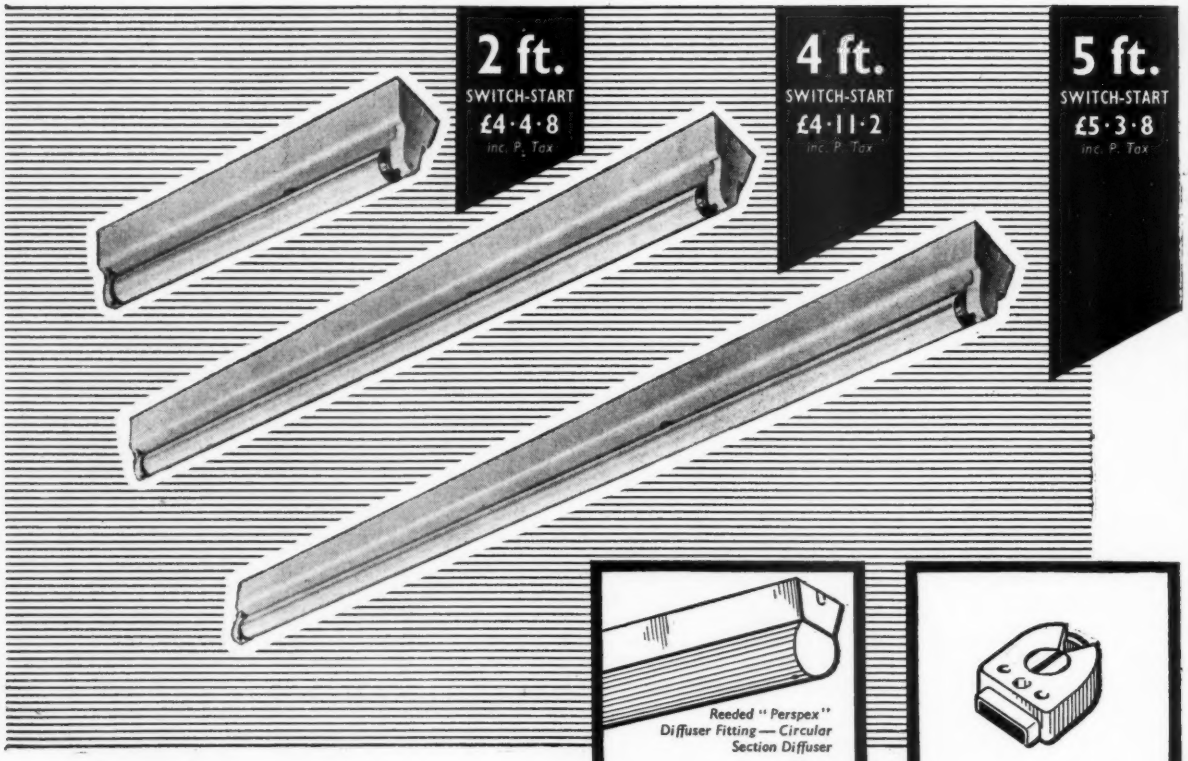
(Manufacturing) LTD

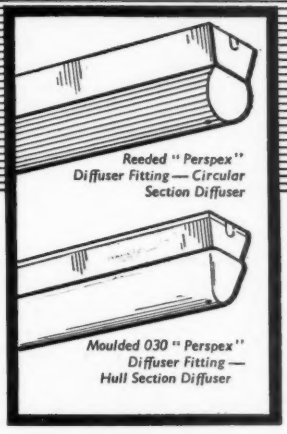
BATH HOUSE, 82 PICCADILLY, LONDON, W.1. TELEPHONE: GROSVENOR 8311.

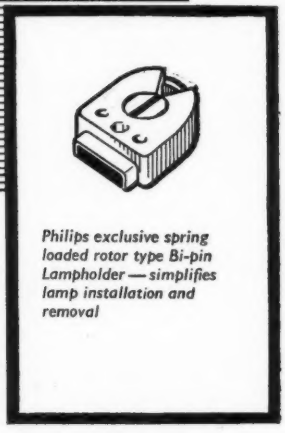
BLUE HAWK PRODUCTS

This advertisement is produced to B.S. 1311, 1956, governing Trade and Technical publications.

BP130







NEW low cost lighting!

Philips present another important new lighting development! Available in 2 ft., 4 ft., and 5 ft. sizes, each of these new TME units consists of a specially designed and robust batten fitting, complete with a Philips double-coated Warm White de Luxe tube and with all electrical components entirely enclosed. In addition, two types of perspex diffusers are available: reeded or moulded. And look at the other exclusive features listed on right.

- *Simpler one-man fixing—and the lamp can be inserted with one hand only.*
- *Unique Philips spring-loaded rotor type Bi-pin lampholders.*
- *Supplied complete with Philips double-coated Warm White de Luxe tubes. (Bi-pin Capped.)*
- *Incorporates the new Philips Polyester-filled ballast—smaller, lighter in weight, silent.*

PHILIPS series TME Bi-pin units

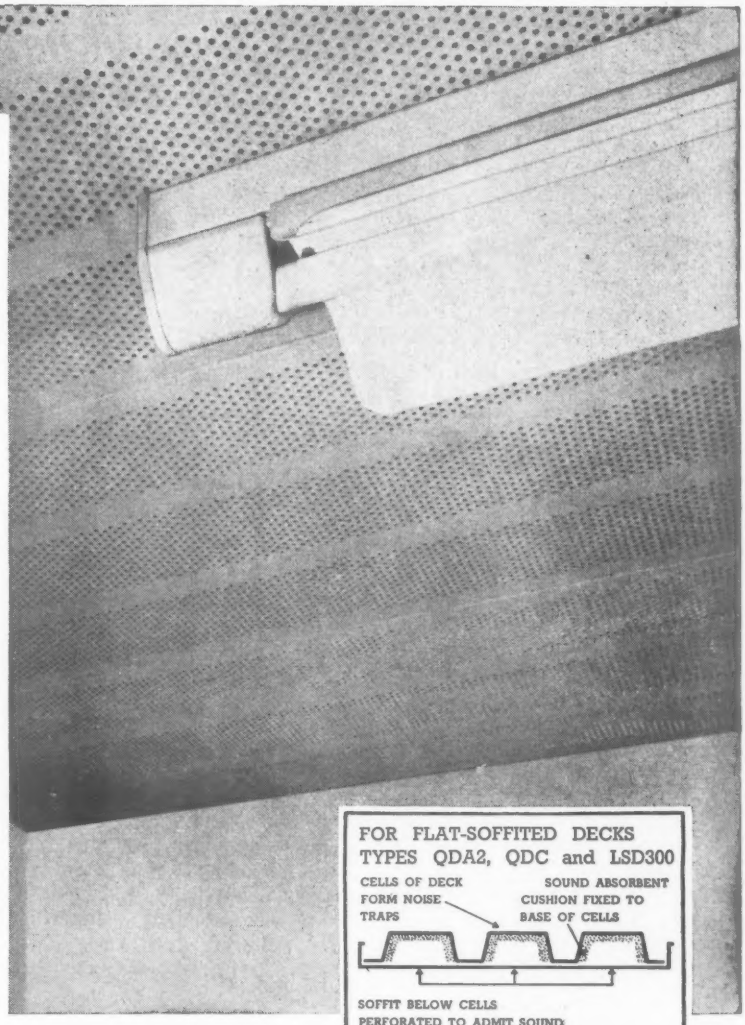
PHILIPS

PHILIPS ELECTRICAL LTD. (LIGHTING DIVISION) · Century House · Shaftesbury Avenue . London · W.C.2

(LD3118)

Another notable advance in Roof-Deck development

—ACOUSTICALLY-TREATED Q-DECK



- **HIGH ACOUSTICAL EFFICIENCY PROVIDED AT MODEST COST**
- **THE TREATMENT IS BUILT INTO THE SOFFIT**

Economy : Acoustically-treated Q-deck generally represents a more economical method of providing for sound absorption in the ceiling than can be secured by most of the conventional alternatives, applied in situ to the underside of the decking.
The complete roof is quickly and easily erected—in one operation.

Effective Sound-Reduction :
The measure of sound-reduction obtainable with acoustically-treated Q-deck compares favourably with a similar specification of perforated tiles or of spray applied treatments.
The absoption co-efficients quoted are derived from proving tests carried out at the National Physical Laboratory.

Attractive Appearance:
Acoustically-treated Q-Deck provides an attractive ceiling; the alternative perforated and imperforate bands creating a decorative pattern.

Range: Acoustical treatment can be applied to Robertson Q-Deck types QDA2, QDC and LSD300 with which it is possible not only to obtain sound absorption, but to provide cells of untreated panels for electric wiring.

FOR FLAT-SOFFITED DECKS
TYPES QDA2, QDC and LSD300

SECTION THROUGH METAL DECK UNIT

FREQUENCY	ABSORPTION CO-EFFICIENT
125 C.P.S	0.25
250 „	0.50
500 „	0.75
1000 „	0.70
2000 „	0.50

SEND FOR DETAILS

ROBERTSON THAIN LIMITED

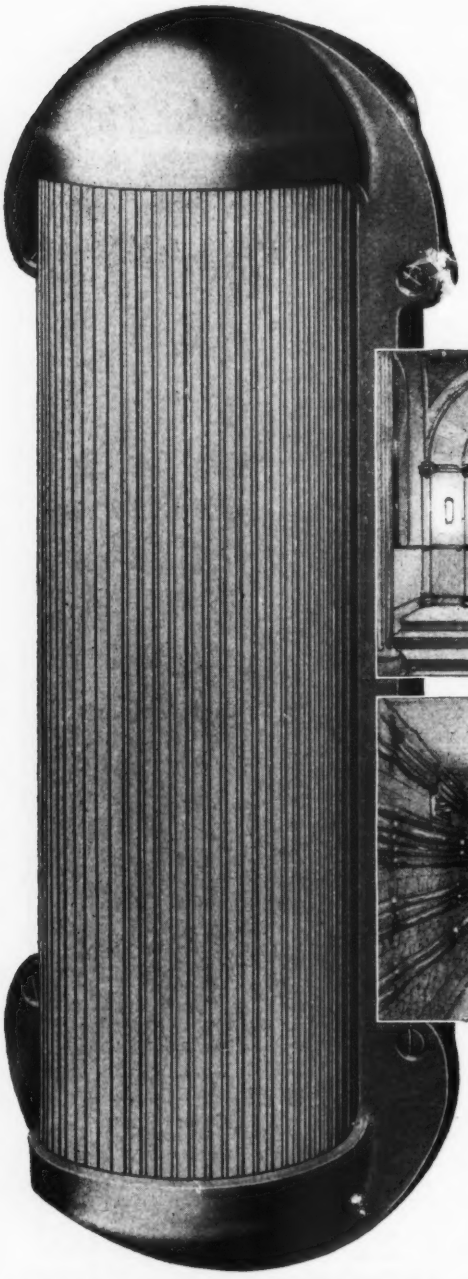
ELLESMERE PORT · WIRRAL · CHESHIRE

Telephone: Ellesmere Port 3622-9 Telegrams: 'Robertroof'

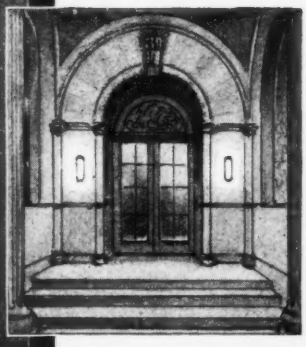
Sales Offices

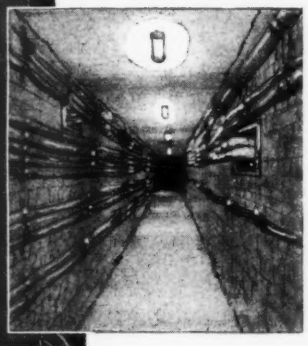
BELFAST · BIRMINGHAM · CARDIFF · EXMOUTH · GLASGOW · IPSWICH · LIVERPOOL LONDON · MANCHESTER · NEWCASTLE · SHEFFIELD

Associated Companies or Agents in most countries throughout the world



the FIRST *fluorescent bulkhead fitting*





This Wardle directional lighting fitting is weatherproof and particularly suitable for public buildings, canopies, cable ducts and bus shelters, where continuous lighting is needed with minimum maintenance.

DESIGN FEATURES INCLUDE . . .

- ★ **Two or three 8 watt 12 inch fluorescent tubes.**
- ★ **Lamp life over 5,000 hours.**
- ★ **Built-in control gear.**
- ★ **Fluted glass or "Perspex" secured in detachable front cover.**
- ★ **Corrosion resistant aluminium alloy body.**
- ★ **Choice of five inlet positions.**
- ★ **Specially shaped for normal, tilted or corner mounting.**
- ★ **Completely weatherproof.**

Full details available by return of post.

WARDLE

THE WARDLE ENGINEERING CO. LTD

OLD TRAFFORD, MANCHESTER 16 *Telephone: TRAfford Park 1801 (3 lines)*

London Office: 34 Victoria Street, S.W. 1. Telephone: ABBey 4072 and 1356.

W39125

BRABY

Pressed Steel Stairs

are strong, safe and dependable

These internal stairs are load-saving, rapidly assembled at site and when erected with structural frame can be used to facilitate building operations.

Treads and landings are designed to take granolithic, terrazzo, marble, wood, etc. or prepared for rubber covering.

Designs and estimates submitted on request.

Pressed Steel Stair in a modern office building.
Associated architects:
H. Courtenay Constantine, F.R.I.B.A.
and Arthur A. Stewart, F.R.I.B.A.

other BRABY products include

METAL WINDOWS AND PARTITIONS · STRUCTURAL STEELWORK
DOVETAIL STEEL SHEETS · COPPER ROOFING · TANKS, CISTERNS
AND CYLINDERS · DUCTING · STEEL STORAGE EQUIPMENT

ONE OF THE WIDE RANGE OF
BRABY
PRODUCTS

FREDERICK BRABY & COMPANY LIMITED

ECLIPSE WORKS, PETERSHILL ROAD, GLASGOW, N. TELEPHONE: **SPRINGBURN 5151**

OTHER FACTORIES AT: London Works, Thames Road, Crayford, Kent. TELEPHONE: Bexleyheath 7777
Havelock Works, Aintree, **Liverpool, 10.** TELEPHONE: Aintree 1721
Ashton Gate Works, **Bristol, 3.** TELEPHONE: Bristol 64041. And **Falkirk**

OTHER OFFICES: 352-364 Euston Road, **London, N.W.1** (Head Office). TELEPHONE: EUSton 3456
110 Cannon Street, **London, E.C.4** (Export). TELEPHONE: MANsion House 6034
Queen's Buildings, 10 Royal Avenue, **Belfast.** TELEPHONE: 26509
Palace Street, **Plymouth.** TELEPHONE: 62261

AP-283

Series No. 7

Exceeds all others

THE EARLIEST TELESCOPE

Though there is evidence that the early Arabian scientists understood something of the magnifying power of lenses, their first use to form a telescope has been attributed to Roger Bacon (c. 1214-92) in England. The prototype of modern refracting telescopes was that completed by Hans Lippersheim for the Dutch government on 2nd October, 1608.

THE MOST MALLEABLE METAL

The most malleable, or ductile, of metals is gold; either pure or in the form of an alloy containing 97 per cent. gold, the remainder being copper and silver, can be beaten down without annealing from 1/1,000 inch thickness to about 1/250,000 inch thickness. One ounce of gold (avoirdupois) can be drawn in the form of a continuous wire thread to a length of 51 miles.

THE LONGEST THEATRE RUN

The longest run of any show at one theatre anywhere in the world is by the play "The Drunkard" written by W. H. Smith and a "Gentleman". First produced, as a moral lesson, by the American showman P. T. Barnum in 1843, it was not used commercially again until the Theatre Mart in Los Angeles, California, revived it on 6th July, 1933. In December, 1957, it reached its 8,700th performance. Neely Edwards has played "Arden Rencelaw" for over twenty-five years.

THE EARLIEST PAINTING

The earliest known painting is probably the Stag's head, painted by finger tip, in the La Pileta Cave at Benoajan, Malaga, Spain, belonging to the Upper Paleolithic period 30,000 to 15,000 B.C. Ceiling paintings in the Pech-Merle Cave at Lot, France, also belong to this period.

THE LARGEST ORGAN

The largest musical instrument ever constructed is the Atlantic City Auditorium Organ, Atlantic City, New Jersey, U.S.A. Completed in 1930, this heroic instrument has two consoles (one with seven manuals and another movable one with five). 1,225 speaking stops and 33,112 pipes ranging from 3/16th inch to 64 feet in length. It is powered with blower motors of 365 h.p. and cost $500,000 (£178,600).

THE EARLIEST POWERED SHIP

Generally accepted as the earliest mechanically propelled vessel was a boat designed by James Rumsey in the United States in 1786. Working on a jet principle driven by a pump, it reached about four miles an hour. The "Charlotte Dundas" was the first really successful power-driven vessel. She was a paddle-steamer built by Symington in Scotland in 1801-2.

THE LARGEST GEYSER IN THE WORLD

The Waimangu geyser, New Zealand, in 1909 erupted to a height in excess of 1,000 feet, but is now quiescent. Currently the world's largest active geyser is the "Giant" in the Yellowstone National Park, Wyoming, U.S.A., which erupts at intervals varying from seven days to three months, throwing a spire 200 feet high at a rate of 700,000 gallons an hour.

FUNGI-CHEK
GERM-CHEK

★ THE NEWEST PAINTS

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

THE FINEST PAINTS

★ SUPER DENTONAMEL Gloss is the finest and most durable High Gloss Paint it is possible to produce. It is available in the complete range of 101 B.S.S. 2660 colours plus six contemporary colours. SATIN-E with APR is a *unique* finest quality PVA Emulsion Paint by The Dentolite Process, available in a very attractive range of pastel and contemporary colours. The properties of SATIN-E with APR are so outstanding that many paint companies throughout the world (In U.S.A. alone there are ten) now manufacture, under licence, paying royalties to Denton Edwards Paints Limited.

By permission, the Publishers of the Guinness Book of Records.

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

DENTON EDWARDS PAINTS LTD

Manufacturers of Fine Paints for Over 160 Years

ABBEY ROAD, BARKING, ESSEX. *Telephone: Rippleway 3871 (10 lines.)*

Walton-on-Thames, Hersham and Qatlands Hospital; Sidney Road, Walton-on-Thames.
Architects: Westwood, Sons & Partners, F/F.R.I.B.A.

TOMO DOUBLE GLAZED WINDOWS

—BY TEST,† THE BEST!

The natural choice for this fine new hospital building in Walton-on-Thames was TOMO double-glazed WINDOWS. Shown here are horizontal-pivot-hung and hopper-type windows and double-glazed doors in Utile framing. The spandrel below the window is in vertical cedar boarding.

The excellent thermal-efficiency achievement of TOMO double-glazing (amply demonstrated in the report of the recent B.R.S. Tests quoted below) was one good reason why these superb windows and doors were chosen for Walton Hospital.

Noise is an enemy of hospital life and in this instance TOMO double-glazing was especially suitable because of its remarkable sound-reduction properties. (The amount of reduction in sound level depends, of course, on the thickness of glass and the space between panes—32-ounce glass spaced at 1⅞ in. gives a reduction of approximately 40 decibels.)

TOMO double-glazed WINDOWS afford all the advantages of finely-controlled ventilation and total indoor window-cleaning. They are suitable for inward or outward opening and can be top-hung, bottom-hung, side-hung or pivot-hung.

† BUILDING RESEARCH STATION TESTS

When a standard-production TOMO WINDOW Wall-Unit (8 ft. × 8 ft.) was tested at the Building Research Station, Garston, the mean thermal transmittance of the complete unit was found to be 0·31 B.Th.U. sq. ft. h/°F. This is equal to the thermal transmittance of a traditional 11-in. cavity brick wall! This impressive result was further improved to 0·29 when the TOMO pleated blinds, fitted between the panes, were lowered.

The U-value of the window-area only was found to be 0·38 which, with TOMO pleated blinds down, became 0·35. At 0·38, TOMO double-glazed WINDOWS are substantially (29%) better than the U-value of 0·47 quoted for conventional double windows in the I.H.V.E. Guide to Current Practice, 1955.

FOR UTMOST EFFICIENCY IN THERMAL INSULATION AND SOUND REDUCTION

—SPECIFY

TOMO DOUBLE GLAZED WINDOWS

—purpose-made in finest timbers to Architect's size, style and finish

To: TOMO TRADING CO. LTD., COWLEY PEACHEY, UXBRIDGE, MIDDLESEX (Phone: West Drayton 3751)
Please send me your 24pp. TOMO double-glazed WINDOWS brochure.

Name .....

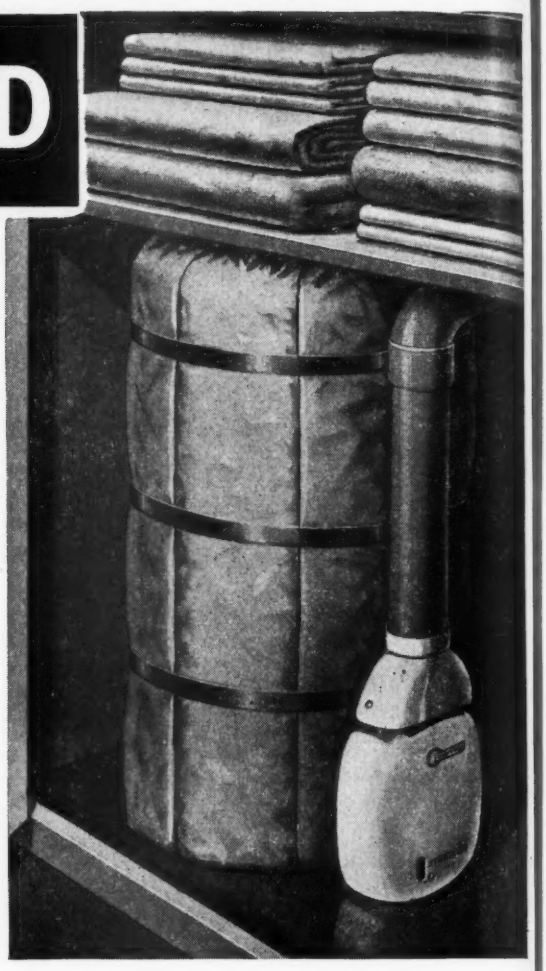
Address .....

.....

For the attention of A1 12

FOR NEW BUILDINGS, CONVERSIONS & IMPROVEMENTS

NEW WORLD



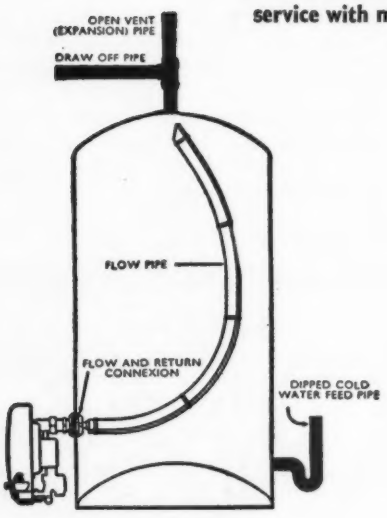
leads the way

with the ***STRATALYN***

INJECTOR

GAS WATER HEATER

The NEW WORLD Stratalyn Injector Heater is inexpensive to buy, economical to run, cheap to fit, and will give maximum service with minimum maintenance



The **NEW WORLD Stratalyn** is a Regulo-controlled gas water heater for attachment to a storage cylinder or tank by means of a single connexion. It is the GAS application of the IMMERSION HEATER.

The flow pipe terminates close to the top of the storage vessel and hot water is injected into the top ready to be drawn off. Mixing is avoided and the highest degree of stratification is attained.

Fit and Forget

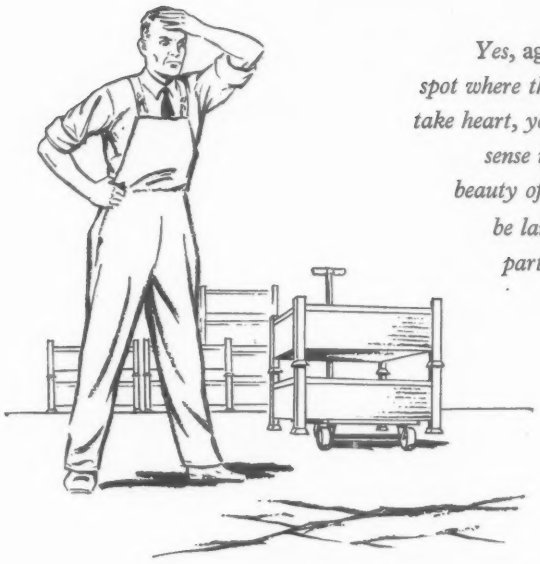
* *Gas Rating*—6,000 B.Th.U./hr.
Output—5½ gallons raised 80°F.
Complete with governor and T.C.O.
Available with flue cap or draught diverter. Finished in white vitreous enamel.

NEW WORLD
PRODUCT OF Radiation Ltd.

Water Heaters

Write for a free copy of the ARCHITECTS' BROCHURE ON NEW WORLD WATER HEATERS *to*
RADIATION GROUP SALES LTD., 7 STRATFORD PLACE, LONDON, W.1

NOT AGAIN!



Yes, again! *And for the umpteenth time that spot where the traffic is heaviest needs repair. But take heart, you can say "Not again" in a different sense if you lay Stelcon Raft Flooring. The beauty of Stelcon Raft Flooring is that it need be laid only at the "black spots" and to fit particular areas. It is, in fact, the answer to many floor maintenance problems in heavy industry.*

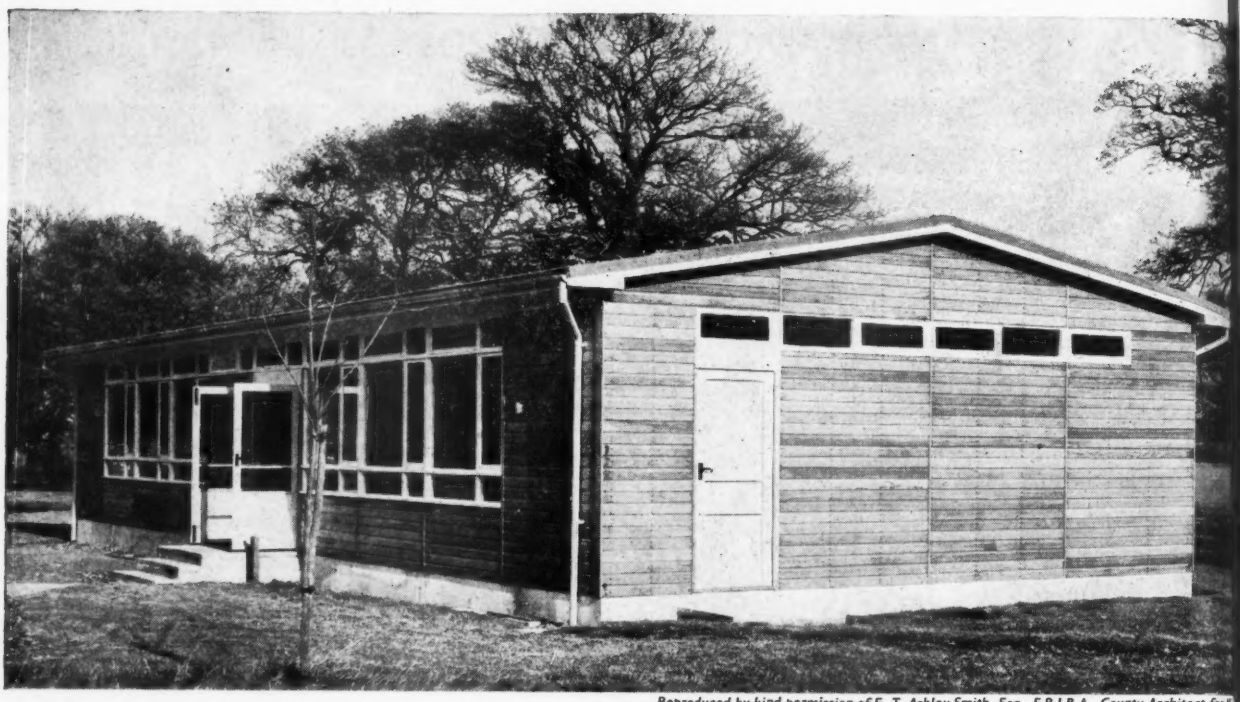
Stelcon Raft Flooring, easy to lay, easy to re-lay—on a bed of sand—is made to stand up to exceptionally hard usage. The steel-clad heavy duty rafts will give long dependable service under the severest conditions. Where traffic is not quite so heavy, the more economical mineral clad type is adequate.

The illustration shows Stelcon Steel Clad Rafts laid at the Northern Aluminium Company Ltd., Handsworth, Birmingham.

Stelcon ***RAFT FLOORING AND PAVING***

You are invited to write for a copy of this brochure which tells the full story of Stelcon Raft Flooring.

STELCON (INDUSTRIAL FLOORS) LTD. Dept. A · CLIFFORDS INN · LONDON · E.C.4 · Tel: CHAncery 9541

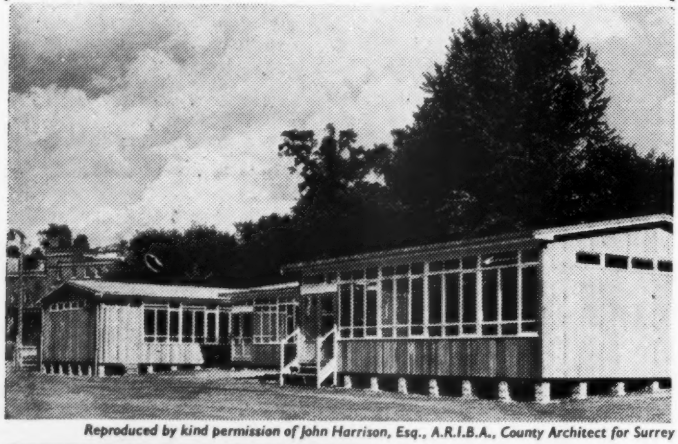


Reproduced by kind permission of E. T. Ashley Smith, Esq., F.R.I.B.A., County Architect for H

Hall's give a service when they sell a building

OFFICES · CLASSROOMS · CANTEENS
CHURCH HALLS · RECREATION HALLS
SPORTS PAVILIONS · HOSPITALS

* **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.



Reproduced by kind permission of John Harrison, Esq., A.R.I.B.A., County Architect for Surrey

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 needs and can offer specifications and quotations including all foundation work or erection on foundations already prepared.

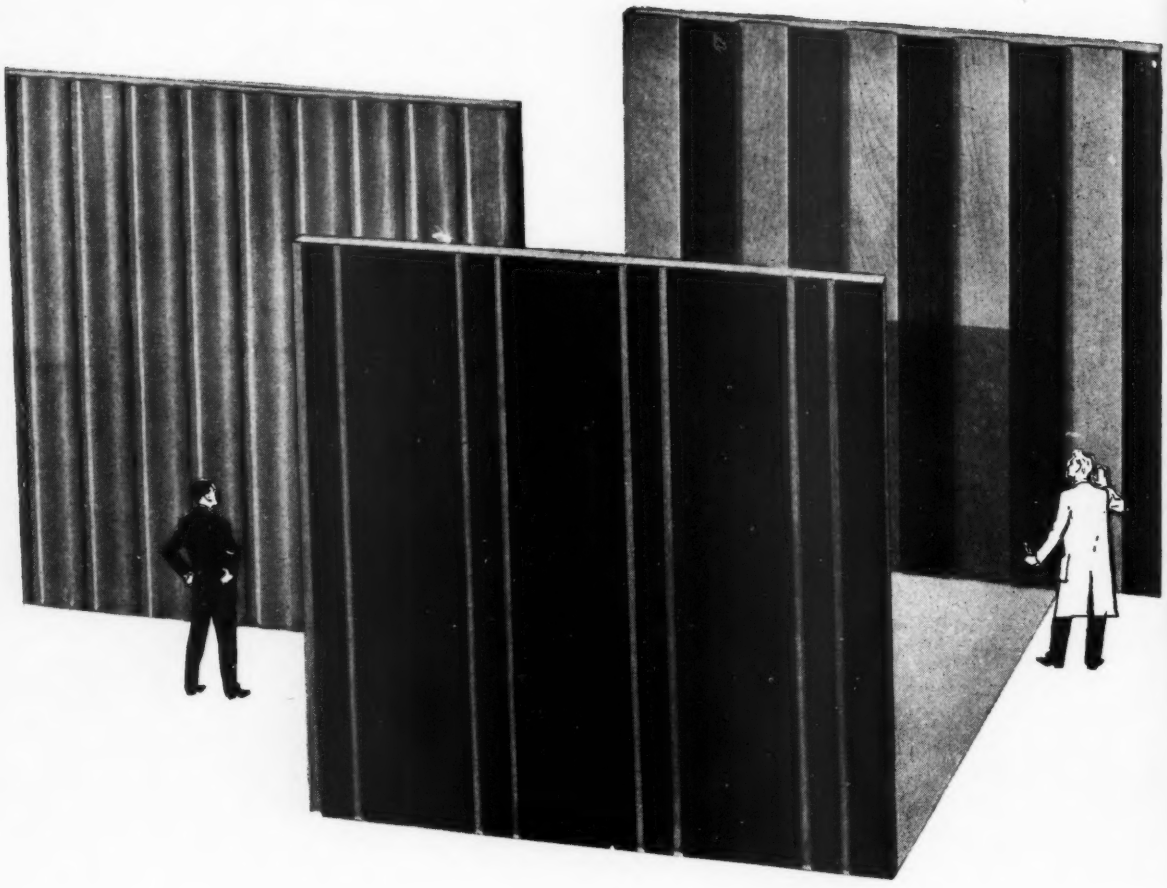
An illustrated brochure showing Hall's demountable buildings in the service of education and hospital authorities and many branches of industry is available free on request.

HALL'S

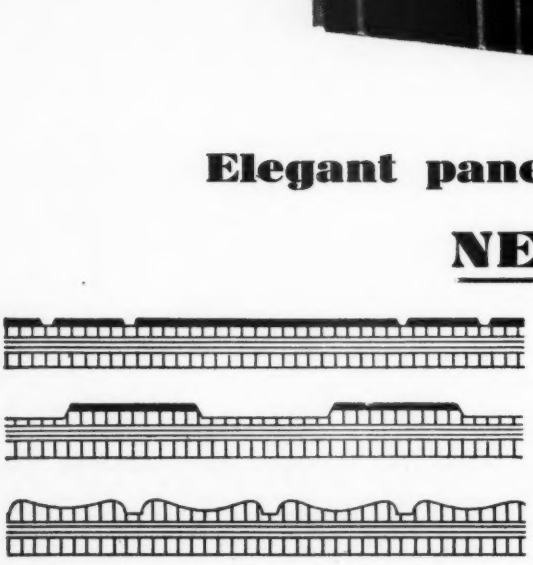
ROBERT H. HALL & CO (KENT) LTD

33 PADDOCK WOOD · TONBRIDGE · KENT

THE TIMBER BUILDING MANUFACTURERS 45% OF GT BRITAIN



Elegant panelling with this NEW decorative plywood



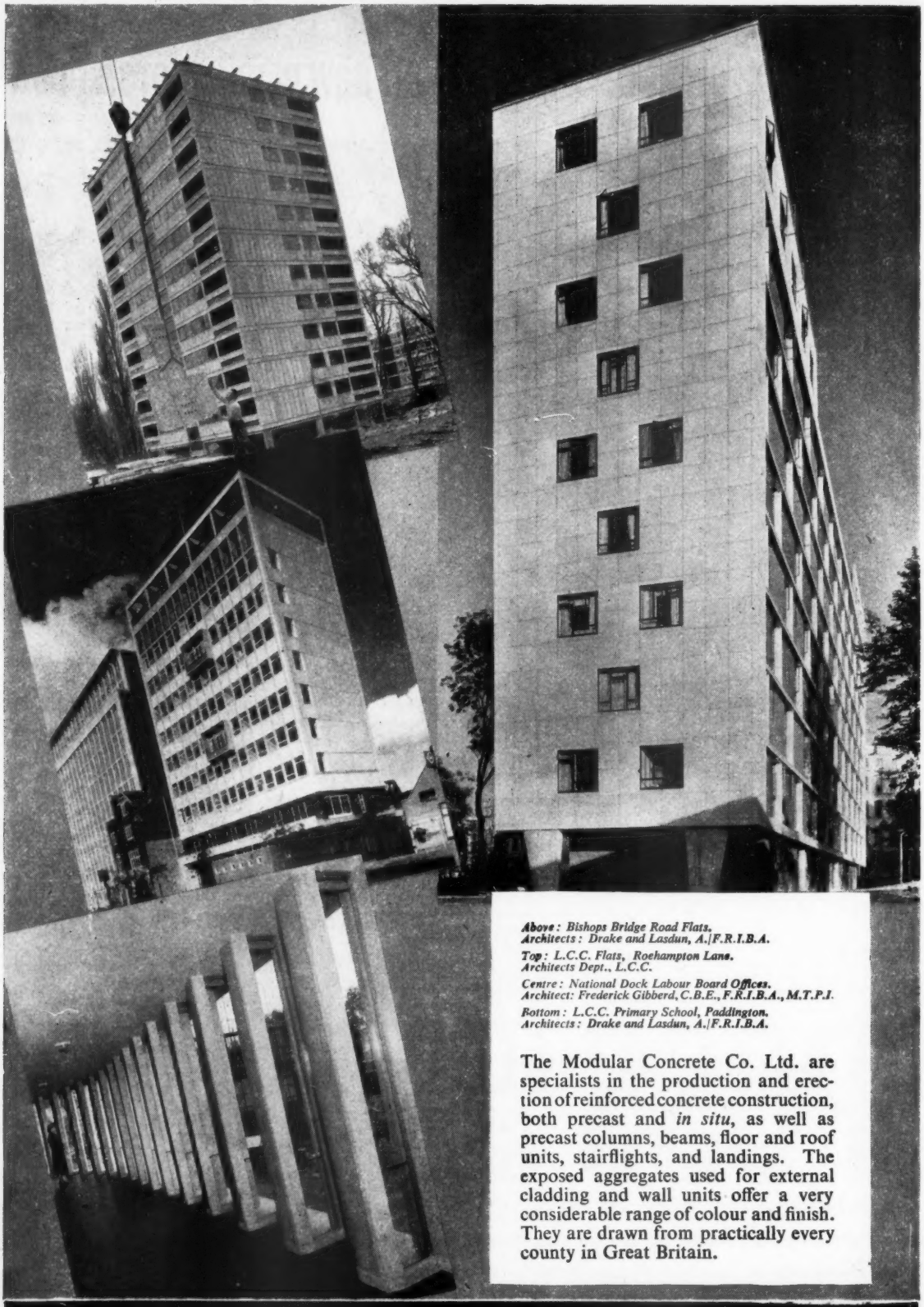
These are full-size cross-sections of the PLYFA PROFIL *examples illustrated above.*

Now you can obtain excellent effects for interior decoration with profiled plywood. PLYFA PROFIL is fine quality plywood with the profile actually machined out of the thick face veneer—it is *not* a pressed board. There is a selection of six different profiles in obechi or mahogany, or a combination of both. Send now for our descriptive brochure on PLYFA PROFIL.

PLYFA *Profil*

Sole importers: **VENESTA LIMITED**

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



Above: Bishops Bridge Road Flats.
Architects: Drake and Lasdun, A.|F.R.I.B.A.

Top: L.C.C. Flats, Roehampton Lane.
Architects Dept., L.C.C.

Centre: National Dock Labour Board Offices.
Architect: Frederick Gibberd, C.B.E., F.R.I.B.A., M.T.P.I.

Bottom: L.C.C. Primary School, Paddington.
Architects: Drake and Lasdun, A.|F.R.I.B.A.

The Modular Concrete Co. Ltd. are specialists in the production and erection of reinforced concrete construction, both precast and *in situ*, as well as precast columns, beams, floor and roof units, stairflights, and landings. The exposed aggregates used for external cladding and wall units offer a very considerable range of colour and finish. They are drawn from practically every county in Great Britain.

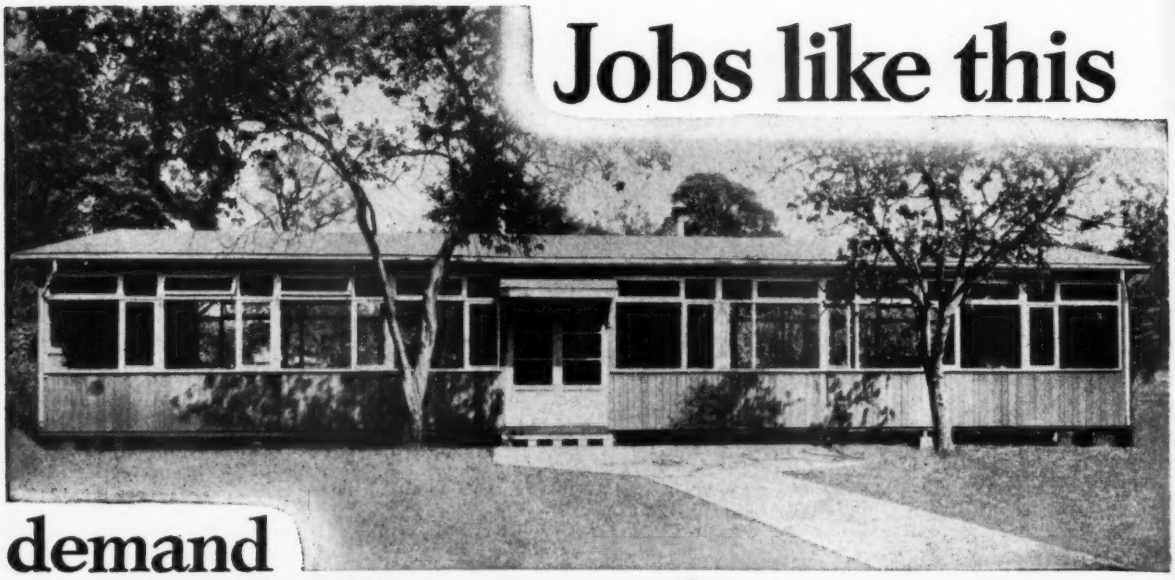
THE MODULAR CONCRETE CO LTD

Pre-cast Concrete Specialists

STAINES ROAD, BEDFONT, MIDDLESEX Telephone: Ashford (Middlesex) 5601 – 2

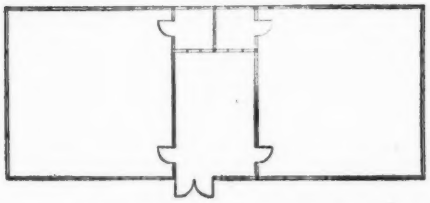
CASE RECORDS FROM THORNS' FILES - 2

Jobs like this

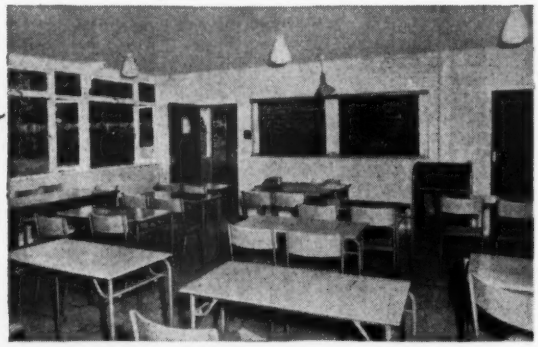


demand *versatility... speed... economy...*

SPECIFICATION
A timber building to form two classrooms, each 24' x 24'. A store room for each classroom and a cloak bay to house 80 coat pegs. A timber floor and flat ceiling providing space for electric lighting. The building to be based on a panel unit, capable of being dismantled and removed to another site in approximately two years' time. Erection to be carried out by supplier on a prepared foundation.



FAIRFORD FARMOR'S SECONDARY MODERN SCHOOL near Cirencester, Glos.



Photographs by courtesy of the County Architect, Gloucestershire County Council.

Thorns' Contemporary Design, which conforms to Ministry of Education recommendations for school buildings, was eminently adaptable for this requirement. The consequent saving in time and cost was substantial. A trained THORNS' team was ready to start erection as soon as the foundations were completed.

The size agreed upon was 60ft. × 24ft. × 8ft. 6in. eaves. Walls were clad with vertical tongued and grooved boarding of Western Red Cedar with building paper behind, and lining of hardboard and insulation board. Partitions, similarly lined, were fitted to plan. The floor was constructed of tongued and grooved boards on joists, with sleeper plates. Rain-water goods were included in the contract.

THORNS

THORNS' prefabricated sections, as used at Fairford Farmor's School, are available on a 6ft. multiple basis.

All or any part of the construction work is undertaken by THORNS, at the client's request.
Catalogue of designs and prices on request.
Ask THORNS to quote for your own job.

J. THORN & SONS, LTD., (Dept. 188) BRAMPTON ROAD, BEXLEYHEATH, KENT

B D. 368

BRITISH PLIMBER LIMITED

are now producing

PLIMBER
WOOD CHIPBOARD

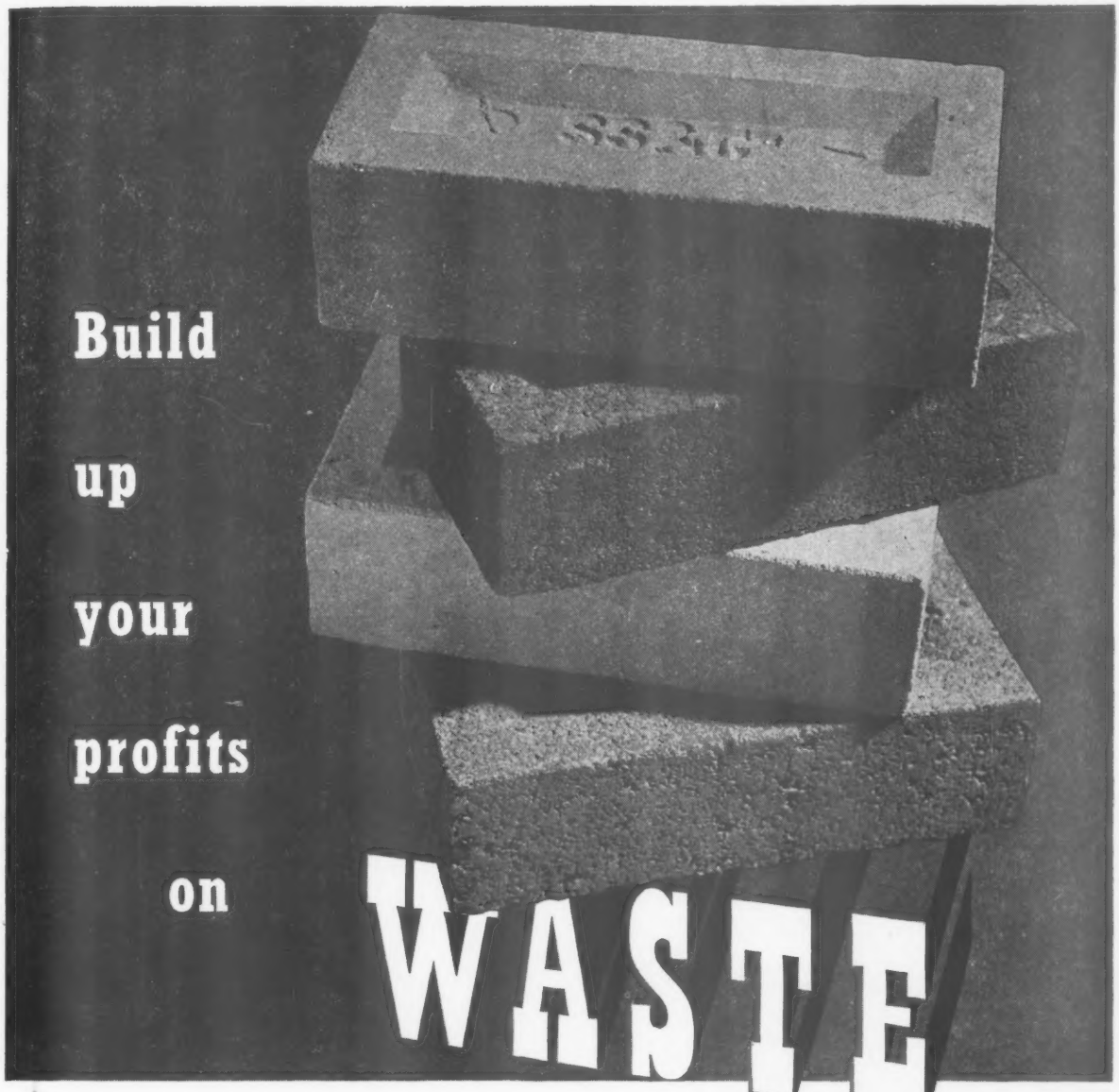
at their new factory,
Rainham, Essex.

Standard size: 8 ft. x 4 ft.
Standard thicknesses: ½" and ¾"

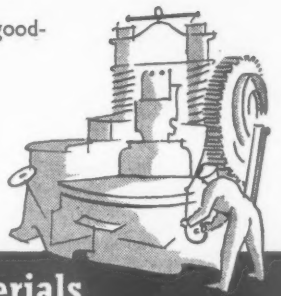
★ *FOR TECHNICAL INFORMATION, PRICES AND NAMES OF STOCKHOLDERS, PLEASE WRITE TO:*

BRITISH PLIMBER LIMITED
Dovers Corner, New Road, Rainham, Essex
TEL: RAINHAM 5262

BRITISH PLIMBER



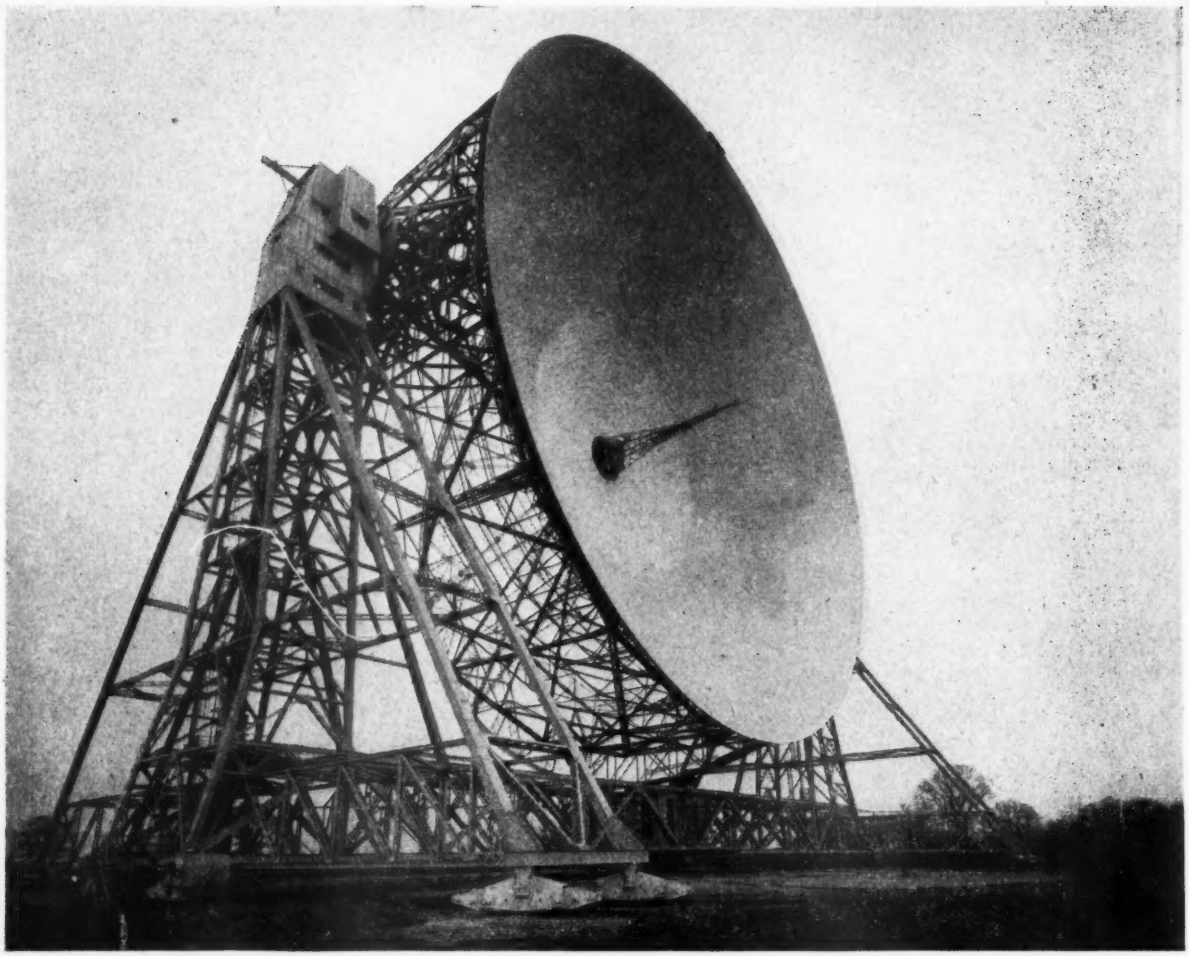
'Waste' materials, such as clinker and slag, can add a comfortable total to the profits. Sutcliffe Speakman's EMPEROR Press turns these materials into good-quality bricks — consistent, well formed and readily marketable. The Press, exerting a pressure of 200 tons, produces up to 3,000 bricks per hour. Its other uses include coal Briquetting, pressing of fine pulverents into special shapes and forms, briquetting metal borings and turnings (iron, steel, brass, copper, aluminium, etc.).



On-the-spot Brickmaking from Waste Materials

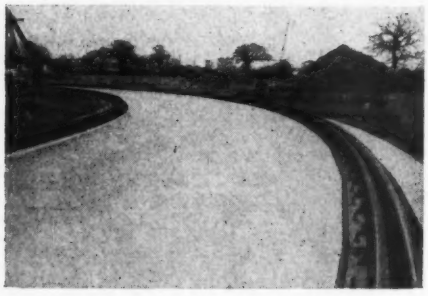
FULL PARTICULARS FROM **SUTCLIFFE SPEAKMAN** *AND COMPANY LIMITED*

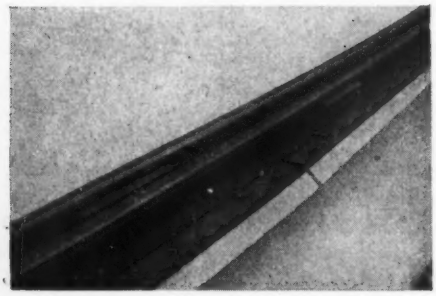
LEIGH, LANCASHIRE. LONDON OFFICE: 2 CAXTON STREET, WESTMINSTER, S.W.1. PHONE: ABBEY 3085



WARDS and the RADIO TELESCOPE

JODRELL BANK, CHESHIRE.





The whole of this gigantic structure, weighing over 2000 tons, revolves on two double tracks laid by Wards' Railway Sidings Department, who were pleased to assist in this major scientific project.

The tracks, 109 lb. F.B. rail, set at 168 ft. radius, had of necessity to be constructed to very fine limits of accuracy, as can be seen from the two photographs taken during course of construction.

Photographs by courtesy of the Consulting Engineers: Husband & Co., Sheffield.

THOS. W. WARD LTD

ALBION WORKS · SHEFFIELD

PHONE:- 26311 (22 LINES) · GRAMS:- FORWARD SHEFFIELD

LONDON OFFICE:- BRETTENHAM HOUSE, LANCASTER PLACE, STRAND, W.C.2 PHONE · TEM 1515

SC.58

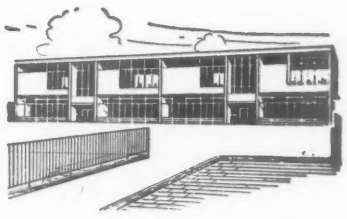
ONLY ONE COAT NEEDED

They're stove-enamelled as well as galvanised! Standard Maclean metal windows are thoroughly rust-proofed by galvanising, and then are stove-enamelled with Red Oxide and a second coat of Sandy Beige Paint, specially developed by Imperial Chemical Industries Ltd., for lasting protection. Just add final colour, if required:
You save time, materials and labour on site if you insist on specifying Standard Maclean metal windows. Standard Maclean make the full range under B.S.S. 990, or will tailor to your requirements.

In any case, Standard Maclean make a good Metal Window

Standard Maclean also make
Curtain Walling, Purpose made Metal Windows, Architectural Metalwork, Balconies, Cat Ladders, Doors of all types, Handrailings, Open Flooring, Partitioning, Internal Fire Escape Stairs.

Standard Maclean Limited



A Standard Maclean Metal Window installation; Moredun Primary School, Edinburgh.

STANDARD MACLEAN LIMITED CADZOW WORKS, LOW WATERS ROAD, HAMILTON, Lanarkshire
Hamilton 1413/4.

ABERDEEN: 13 Bridge Street, *Tel.: Aberdeen* 52331. **EDINBURGH:** 7 Albany Street, *Tel.: Waverley* 2 90. **NEWCASTLE:** 41 Pilgrim Street, *Tel.: Newcastle* 27776. **BELFAST:** 32 Ann Street, *Tel.: Belfast* 32003. **LONDON, W.C.1:** Ascog House, 46 Theobalds Road, London, W.C.1, *Tel.: Holborn* 2462. **MANCHESTER:** 11 Norfolk Street, *Tel: Blackfriars* 4 71 **OLDBURY,** Warwickshire: 43. Birmingham Street, *Tel.: Broadwell* 2191. **WORTHING:** 30 Manor Road, *Tel.: Worthing* 7495.
O.C.3

ROSEMARY
CLAY ROOF TILES

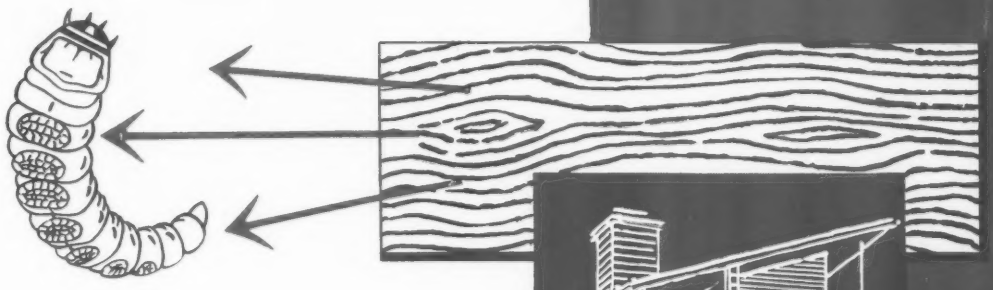
Rosemary Clay Roof Tiles are exceptionally strong and well known for their ability to withstand the risks incidental to transport and handling. They are unaffected by the weather and can be depended upon to give permanent protection to the buildings on which they are used. In addition to their durability, architects favour Rosemary Clay Roof Tiles because of the wide range of colours in which they are made —lovely reds, browns, brindles and multicolours. In this range designers will surely find the colour best suited to the buildings they have in hand. Remember too, these colours are *permanent*.

In association with Haunchwood Brick & Tile Co. Ltd. Makers of blue bricks, rustic facing bricks, brick fireplaces, and other clay building products.

You are invited to write for our brochure "Colour in the Roof." This shows in full colour the wide variety of colour in which these well-known tiles are available.

G. W. LEWIS' TILERIES LTD., Stockingford, Nuneaton **Phone Nuneaton 3125**

PENTA gives timber longer life



The most powerful wood preservative in commercial use is Penta — Monsanto's pentachlorophenol. Penta gives sure protection against dry rot, termites, furniture beetles, and long-horned and powder-post beetles. Other significant advantages of Penta include:

1. In Penta-treated timber, dimensional changes are negligible.
2. Less leaching — safer in ground contact.
3. Penta-treated timber is clean to handle, non-staining.
4. Penta-treated timber does not require re-seasoning.
5. Penta is chemically stable, has negligible volatility, and is virtually insoluble in water.

Architects and corporations can now specify timber Penta-treated by pressure and non-pressure methods; Penta-treated timber is now available from timber merchants throughout Britain.

Builders and householders can obtain Penta-based preservatives from the majority of wood preservative manufacturers. Monsanto will be glad to provide you with a list of suppliers in your area.

Penta is one chemical from the wide range Monsanto offers industry: a range to which Monsanto is constantly adding new, better products — as well as improving those you already use.

Monsanto chemicals help industry — to bring a better future closer

Monsanto Regd.

MONSANTO CHEMICALS LIMITED,

441 Monsanto House, Victoria Street, London, S.W.1

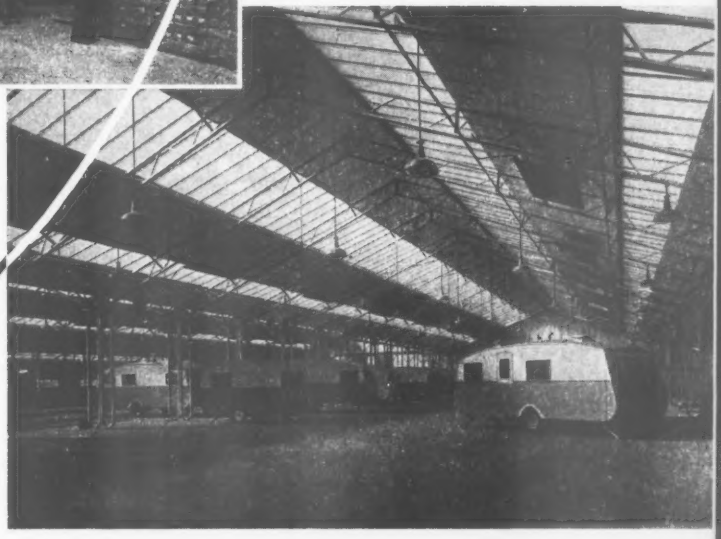
In association with: Monsanto Chemical Company, St. Louis, U.S.A. Monsanto Canada Limited, Montreal. Monsanto Chemicals (Australia) Ltd., Melbourne. Monsanto Chemicals of India Private Ltd., Bombay. Representatives in the world's principal cities.

COSELEY

speed space economy

Picture by courtesy of Lenham Storage Co. Ltd., Lenham, Kent

Picture by courtesy of Eccles (Birmingham) Ltd.



'SPACE'?

that's an easy one! COSELEY rigid portal frames give free headroom right up to the ridge purlin—invaluable in warehouses and buildings to house large machinery. Again the COSELEY tapered vertical member allows the absolute maximum of clear floor space with minimum obstruction. For a given floor area and height to ridge purlin NO BUILDING ON EARTH CAN GIVE YOU MORE SPACE THAN A 'COSELEY'!

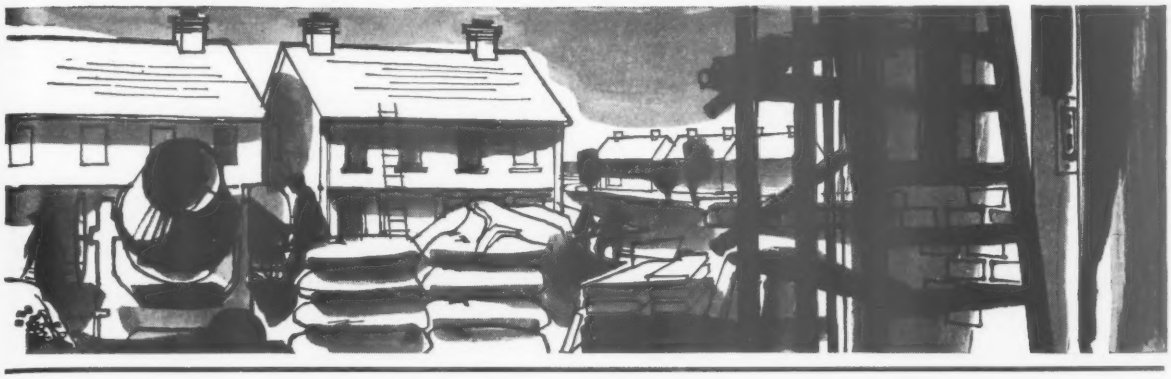
COSELEY BUILDINGS LTD

LANESFIELD - WOLVERHAMPTON - ENGLAND

LONDON OFFICE: 41 - 46 Piccadilly, London W.1.

Makers of COSELEY STANDARD BUILDINGS and KINGSTRAND HOUSES

— buildings for all purposes — buildings for all climates.



Redfyre Bacboilers provide low-cost water heating in new housing schemes at Aycliffe, Peterlee and Stevenage

A Redfyre Bacboiler supplies ample domestic hot water, and heats one or two radiators as well. (Or it will heat up to four radiators if hot water isn't needed.) Installation is simple and quick and maintenance costs low. Two new Ministry approved Redfyre grates with Bacboilers are now available — the new Hearth Redfyre with sunken grate and underfloor draught; and the Redfyre 60, a new low-cost controlled-burning fire with exceptionally clean modern lines. All Redfyre fires are fitted with 30% chrome, semi-steel bottom grates for longer life.

Bacboilers like this are being installed in new homes at Aycliffe.
Chief Architect: G. A. Goldstraw, O.B.E., B.A. (ARCH.), A.R.I.B.A.

REDFYRE

Full technical information from

NEWTON CHAMBERS & COMPANY LIMITED
REDFYRE PRODUCTS, THORNCLIFFE, SHEFFIELD

Chesterfield College of Technology

Architect: F. Hamer Crossley, Dipl. Arch. (L'pool), F.R.I.B.A., County Architect

Truscon Theorem 9

Required: Fine Floors for a fine building

Chesterfield College of Technology is a fine building

∴ Truscon Floors were used

q.e.d. Truscon

For fifty years The Trussed Concrete Steel Company Limited *now* Truscon Limited 35–41 Lower Marsh London SE.1. Telephone: Waterloo 6922

Also: Birmingham, Central 2345-6 · Bristol 21861 · Glasgow, Central 0157-8 · Liverpool, Central 5281-2 · Manchester, Trafford Park 2766 · York 24594.

Unatap

One tap instead of two
giving both hot and cold
Wash in the running spray
halves the hot water

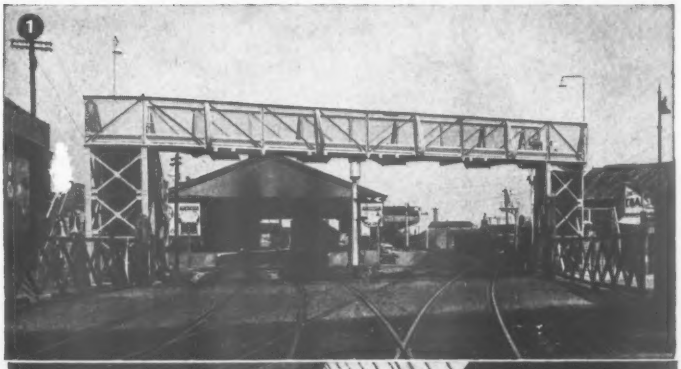
Unatap was designed by our Technical Staff in collaboration with the Building Research Station. More about it from Walker, Crosweller & Co. Ltd., in pamphlet UB/2.

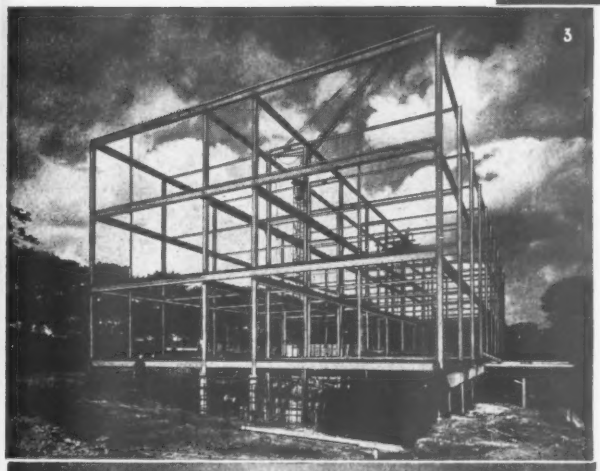
WALKER, CROSWELLER & CO. LTD., CHELTENHAM

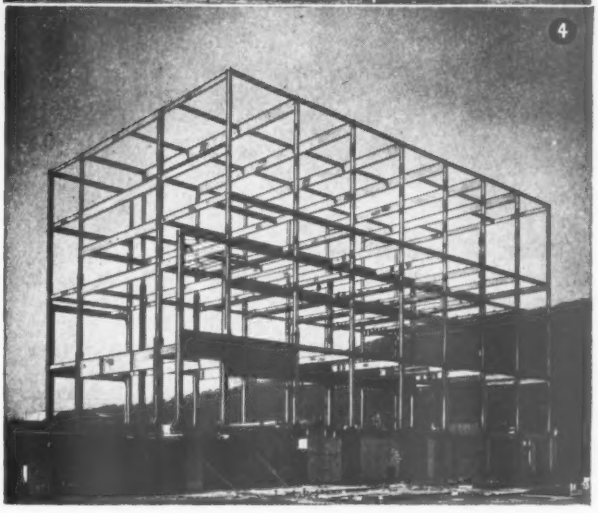
Telephone: CHELTENHAM 56317

1. Footbridge for Level Crossing in Grimsby.
2. Interior view of factory for Messrs. Brook Motors Ltd., Barnsley.
3. Sowerby Bridge Secondary School.
4. Control Room, Services and Welfare Block, Elland Power Station.

STRUCTURAL STEELWORK







BY AUSTINS

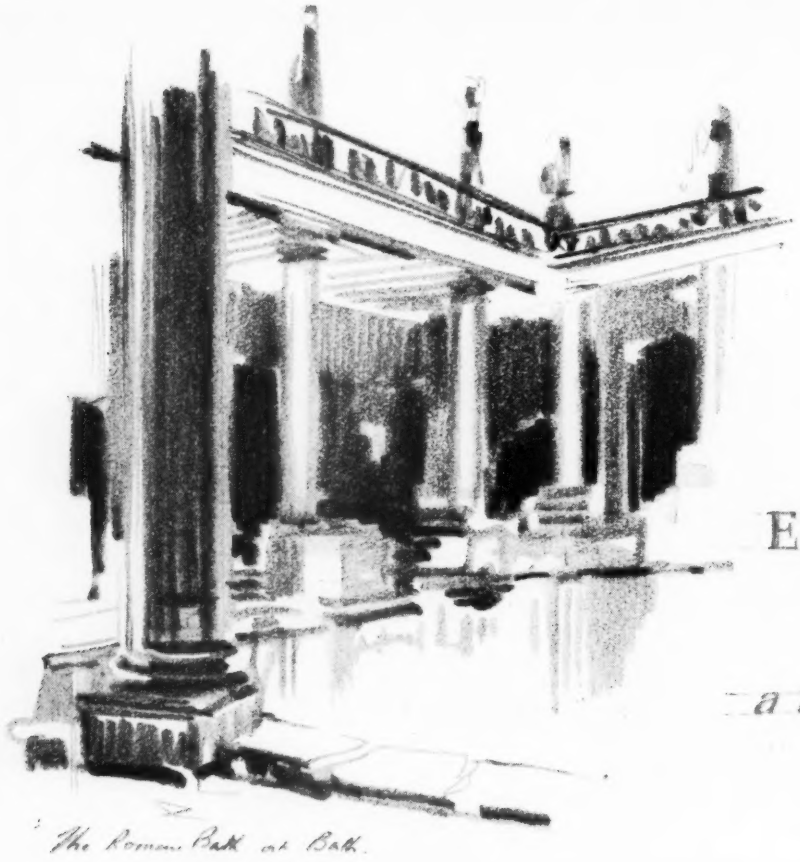
JAMES AUSTIN AND SONS (DEWSBURY) LIMITED

Thornhill Iron & Steel Works, Dewsbury, Yorkshire
Telephone: Dewsbury 1750 (7 lines)
Telegrams: Austins, Dewsbury, Telex No. 55-129

TRADE MARK VULCAN
ESTABLISHED 1850

LONDON OFFICE: Kirkman House,
54A Tottenham Court Road, London, W.1.
Telephone: Museum 1064

H.P.5917



The Roman Bath at Bath

ENDURING QUALITY

a thing of beauty for ever

The quality of Leaderflush doors is the reason for their endurance. It is not just skin deep, it goes right through to the core, through the first quality resin-bonded and weatherproofed plywood faces to the carefully stressed core of CANADIAN WESTERN RED CEDAR, a timber which is recognised as one of the most reliable in the world for immunity to movement, resistance to decay, insect attack and weather conditions. All the timber is scientifically kiln-dried to meet every atmospheric condition. THAT IS WHY LEADERFLUSH DOORS LOOK, AND REMAIN, SO GOOD FOR SO LONG.

The three best-known Leaderflush Doors

The "SHERWOOD"
Skeleton-framed, sturdy. Supplied in internal and external qualities. For public and private housing schemes.

The "TRENT"
Genuine half-solid door, very strong and stable. Ideal for schools, etc.

"TYPE B"
Laminated solid timber core. Everlasting durability. Sound-proof and fire check qualities. For hospitals, public buildings, etc.

Leaderflush

BRITAIN'S FINEST FLUSH DOORS

LEADERFLUSH (DOORS) LIMITED · TROWELL · NOTTINGHAM

Telephone: Ilkeston 623 (5 lines) *Telegrams: Leadaflush, Ilkeston, Nottingham*

ARCHITECTS ARE INVITED TO MAKE USE OF OUR ARCHITECTS' ADVISORY SERVICE

Cogent

Greenwood Airvac at Grosvenor House

Architect: Gordon Jeeves, F.R.I.B.A.
Consulting Engineers: Winton, Thorpe, Tunnadine & Partners.

Main Contractor: Taylor Woodrow Construction Ltd.
Electrical Contractors: Troughton & Young Ltd.

The Greenwood Airvac Underfloor Conduit System is installed throughout Grosvenor House Extension carrying services to every room. They include television, telephones, power, lighting and signals. Each group is segregated by the Greenwood Airvac Crossover unit fitted in each junction box.

If you would like more details of Greenwood Airvac Conduit Systems, call to see the demonstration layout at Carlisle House or write to us.

We'll be glad to send full information.

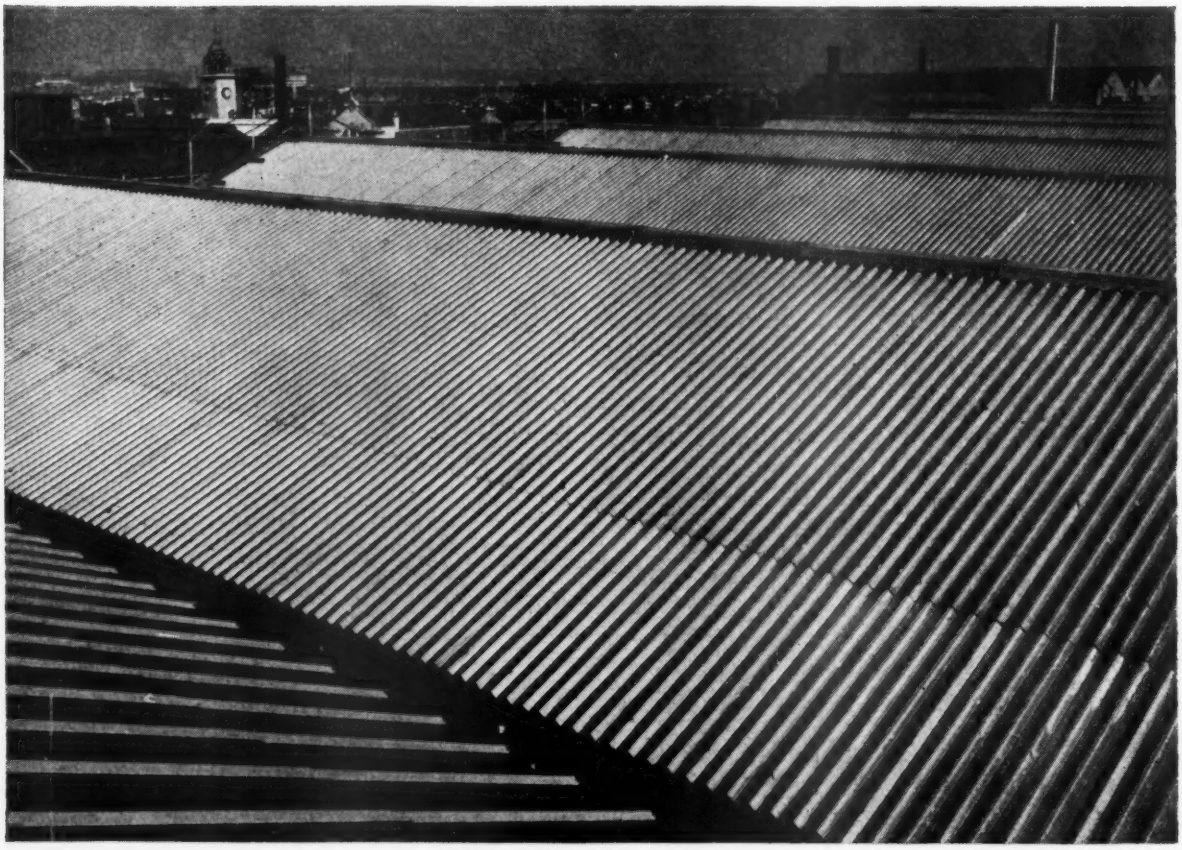
Greenwood Airvac Conduits Ltd

Patentees, Designers and Manufacturers of Electrical Conduit Systems

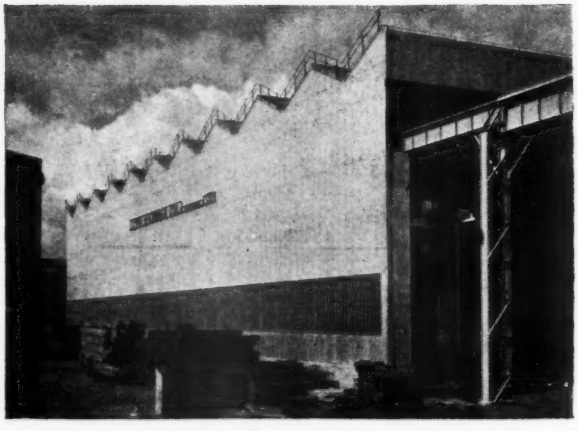
CARLISLE HOUSE, 8 SOUTHAMPTON ROW, LONDON, W.C.1. CHAncery 9377 (3 lines) 'Grams: Aircon, Westcent, London

BRITISH ALUMINIUM

FOR SHIPYARD BUILDINGS



Many shipbuilders are finding Rigidal corrugated aluminium sheet the ideal material for cladding shipyard buildings. Extremely long-lived, Rigidal withstands salt air, and compares favourably in cost with materials of similar life. John Brown & Co. (Clydebank) Ltd specified Rigidal for the roof and vertical cladding of their Prefabricating Shop. The work was carried out by Freeman, Morrison Ltd, who used Industrial Trough LT for the roof, and 3" Pitch for the side and end walls, some 18 tons in all.

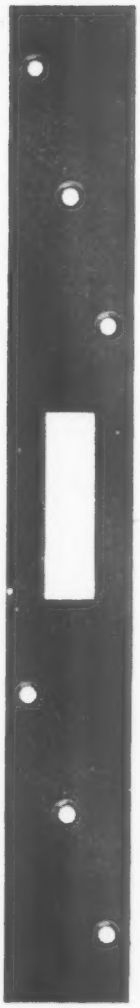


PLEASE HELP SPASTICS

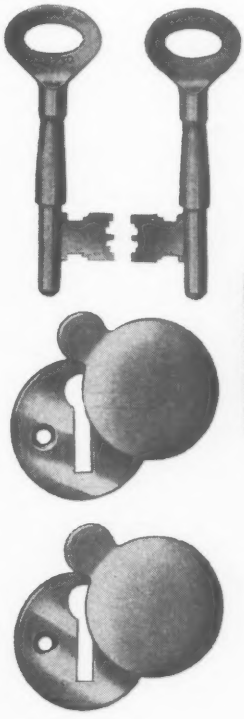
The BRITISH ALUMINIUM Co Ltd

NORFOLK HOUSE ST JAMES'S SQUARE LONDON SW1

AP 271



STRIKING PLATE
Steel 10" long with 6 staggered screwholes



DEADBOLT
Steel reinforced With ½" shoot

110 DIFFERS
110 key changes from 5 levers

Yale M.555 five lever mortice deadlock with 110 key differs

Specially designed to meet insurance requirements, this lock under test has withstood a pressure of 4,800 lbs – 4,400 lbs *more* than is required by British Standards Specifications (Performance tests for Locks, No. 2086, 1956).
Recommended by all leading Insurance Companies. Reasonably priced.

The lock designed to exceed insurance requirements

CYLINDER Rim and Mortice night latches, latches, deadlocks, deadlatches and locks. Padlocks, cabinet and industrial locks.

LEVER Rim and Mortice latches, deadlocks and locks. Padlocks, cabinet and industrial locks.

LOCKSETS AND DOOR FURNITURE Wide range of designs for all types of doors, including cupboard catches etc.

DOOR CLOSERS A range of closers with choice of fixings to suit all weights and types of doors.

MASTER-KEYED SUITES In either Cylinder or Lever Locks, to suit individual requirements.

The Yale range of locks and builders' hardware embraces some 1,000 items – each guaranteed for quality and workmanship by the name Yale . . . famous for almost a century.

Where there's a door there's a need for YALE
REGISTERED TRADE MARK

* We can now offer PROMPT DELIVERY !

The Yale & Towne Manufacturing Company · British Lock and Hardware Division · Willenhall · Staffs · England

RIPPERS STANDARD WINDOWS

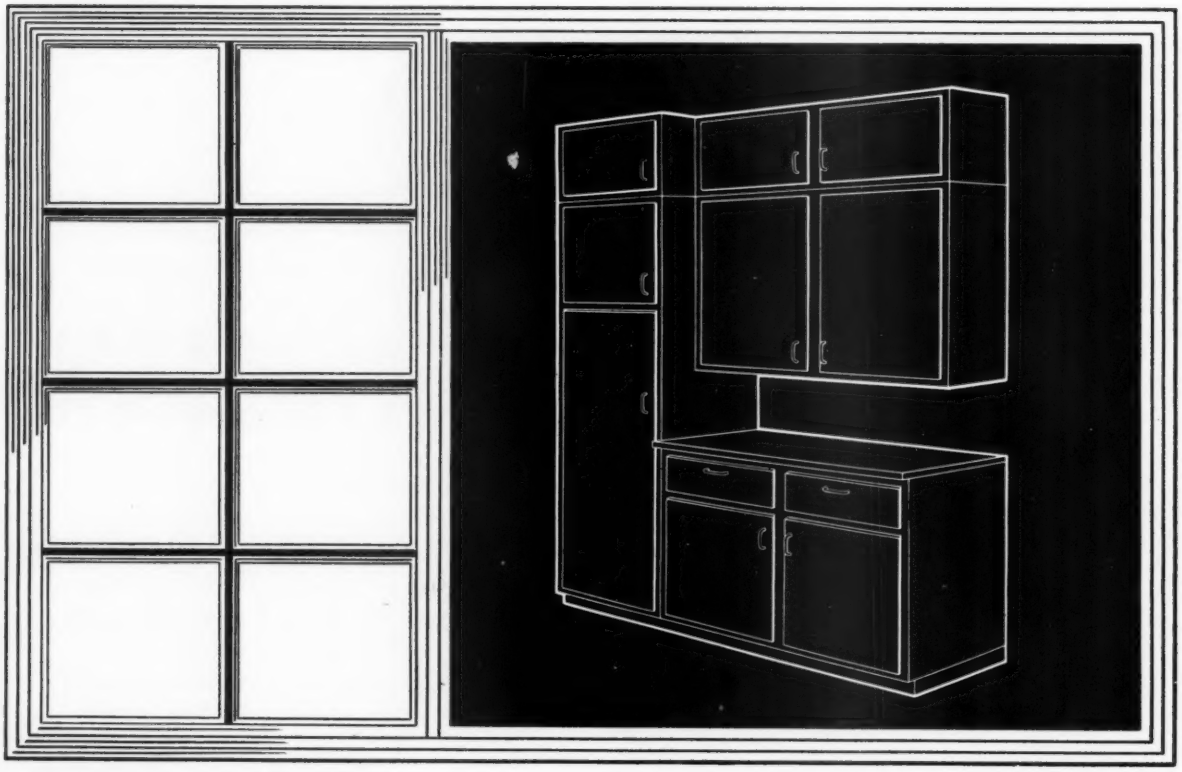
When you order windows, external door frames, internal door frames or kitchen units, make sure you buy Rippers—the finest standard joinery obtainable.

Over sixty years experience is behind Rippers quality—

'the best in the business'

Write to-day for our free Catalogue : it describes over three hundred designs from which endless window combinations can be arranged, and includes descriptions of all our products.

Apply for your free catalogue to Dept. A.J. 4/12.

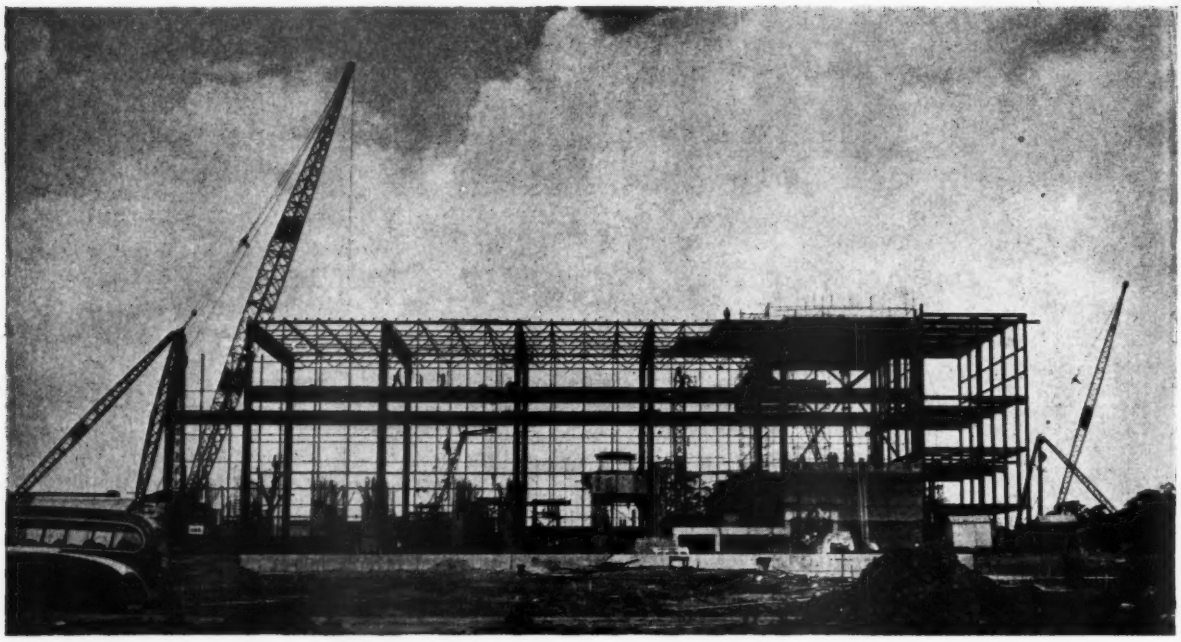


RIPPER WOODWORK

"you'll be glad you chose WOOD windows"

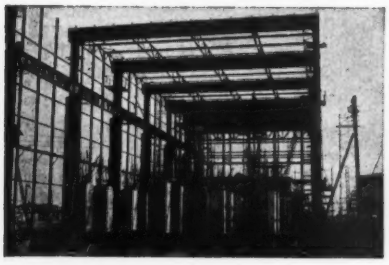
RIPPERS LIMITED

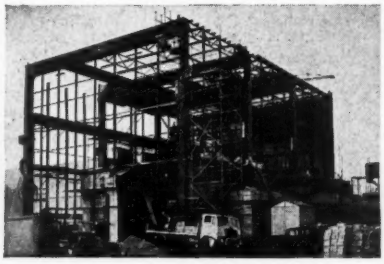
CASTLE HEDINGHAM, HALSTEAD, ESSEX
TELEPHONE. 191 HEDINGHAM (4 lines). TELEGRAMS: RIPPERS, CASTLE HEDINGHAM
LONDON OFFICE:
9, SOUTHAMPTON PLACE, LONDON, W.C.1. TELEPHONE: CHANCERY 8306/7.

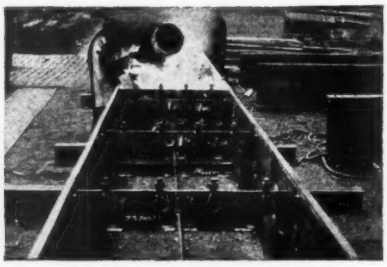


BOOTH STEELWORK

chosen for the new ROLLS-ROYCE HIGH ALTITUDE TEST FACILITY AT DERBY



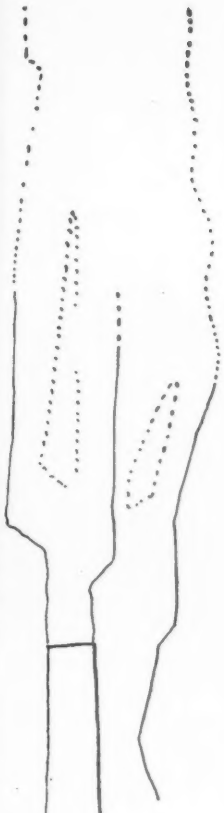


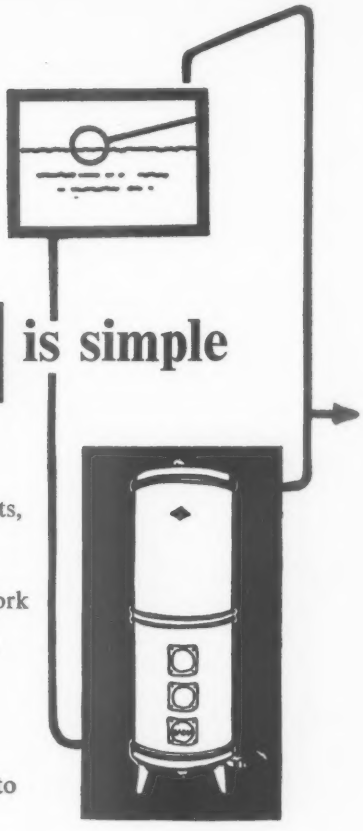


The buildings which comprise the new High Altitude Test Facility of this world-famous company are of all-welded rigid frame construction. The total weight of steel involved is approximately 1,200 tons. Consulting Engineers :—McLellan & Partners in association with Merz & McLellan. Consulting Civil Engineers :—R. T. James & Partners.

JOHN BOOTH & SONS (BOLTON) LTD. HULTON STEELWORKS BOLTON

TELEPHONE: BOLTON 1195 LONDON: VICTORIA STREET, WESTMINSTER, S.W.1 TELEPHONE: ABBEY 7162





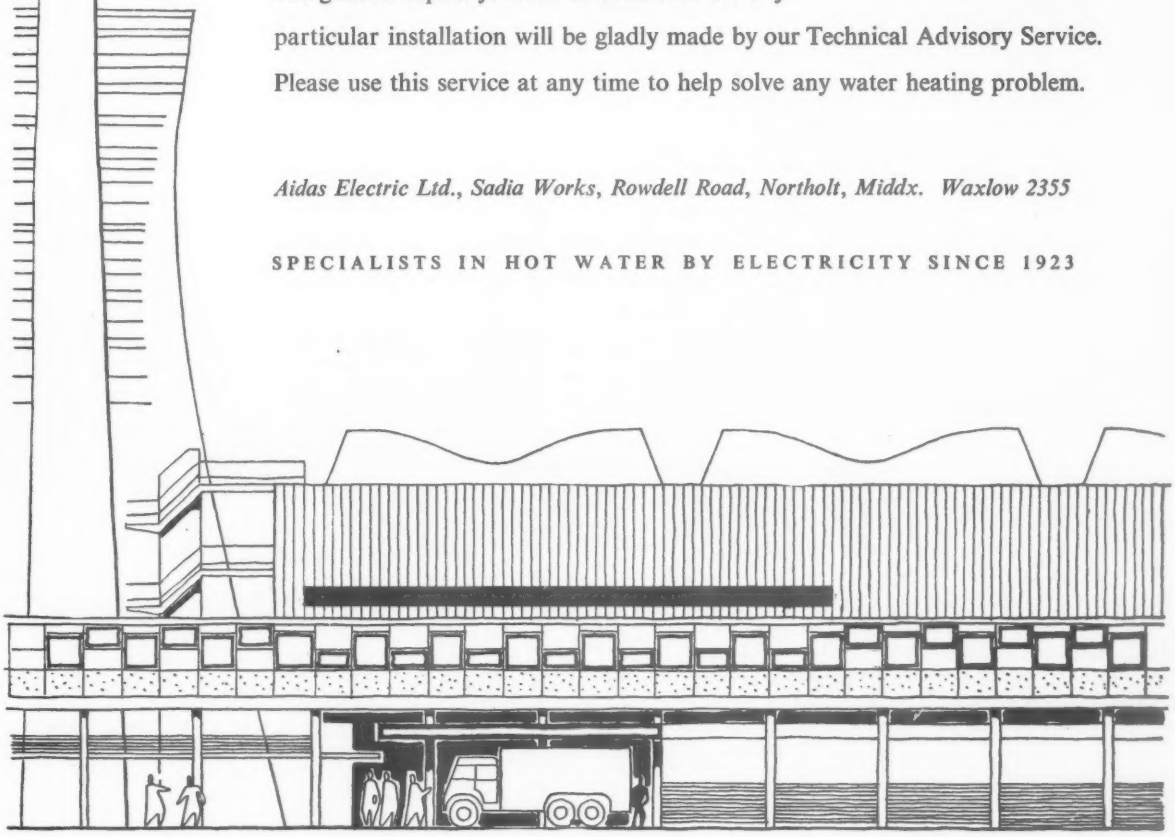
Hot water by SADIA is simple

HOT WATER BY ELECTRICITY

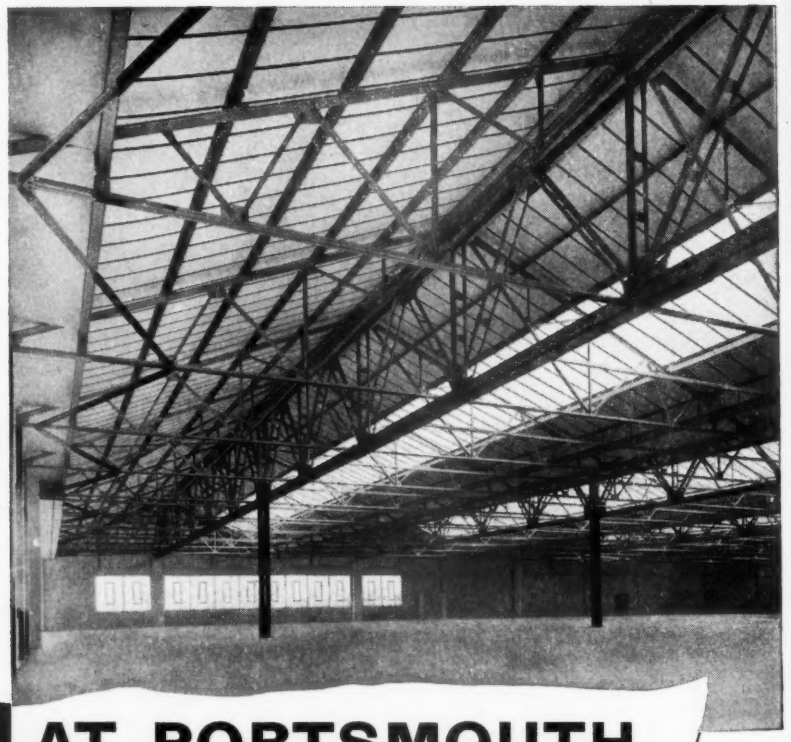
Sadia Water Heaters, installed at factory key points, provide a highly efficient and economical hot water service. You reduce plumbing costs; pipe work is minimized; no flues are needed; there is no fuel storage problem. The advantages are manifold. Commercial and Industrial premises are amply provided for by Sadia water heaters of 1½-gallons to 120-gallons capacity. Recommendations for any particular installation will be gladly made by our Technical Advisory Service. Please use this service at any time to help solve any water heating problem.

Aidas Electric Ltd., Sadia Works, Rowdell Road, Northolt, Middx. Waxlow 2355

SPECIALISTS IN HOT WATER BY ELECTRICITY SINCE 1923



Insulating GYPROC Wallboard used in the Gypstele System at the factory of Johnson and Johnson (Gt. Britain) Ltd., Paulsgrove, Portsmouth.
Architects:
R. A. Thomas & Son.
Quantity Surveyor:
W. V. Thomas, A.R.I.C.S., A.I.A.S.
General Contractors:
Howe & Bishop Ltd., Portsmouth.
Roofing Sub Contractors:
H. J. Haynes Ltd.



GYPROC AT PORTSMOUTH

. . . solved roof lining problems

cheaply and effectively by providing

thermal insulation together with

a high degree of fire resistance

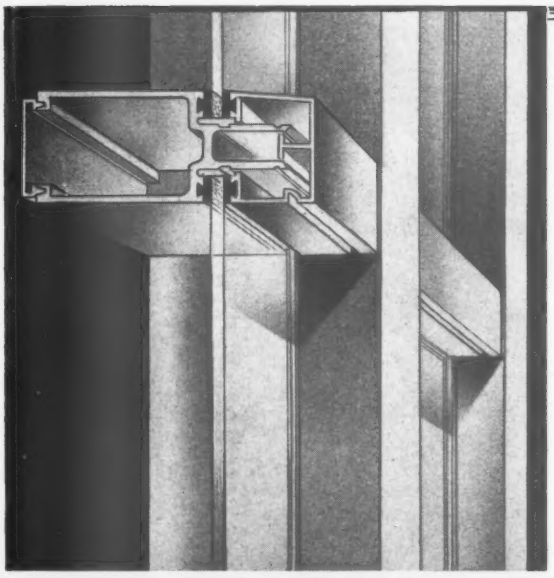
USING THE GYPSTELE SYSTEM

The many advantages of the GYPSTELE System incorporating Gyproc Plasterboard Panels can be summarised in six main features: 1. Improved thermal insulation with fuel saving. 2. Fire Protection Class 1 flame spread. 3. Simplicity of erection. 4. Increased light reflection. 5. Lightweight "dry" construction. Completely adaptable to individual requirements. The system is worth studying in all its aspects, particularly for use in factories, offices, schools and hospitals. For full information write for Information Sheets A22.E1 and A22.E2.

GYPROC PRODUCTS LIMITED

Head Office: Singlewell Road, Gravesend, Kent. *Gravesend 4251/4*
Glasgow Office: Gyproc Wharf, Shieldhall, Glasgow, S.W.1. *Govan 2141/3*
Midland Sales Office: 11 Musters Road, West Bridgford, Nottingham. *Nottingham 82101*
London Office: Bath House, 82 Piccadilly, London, W.1. *Grosvenor 4617/9*

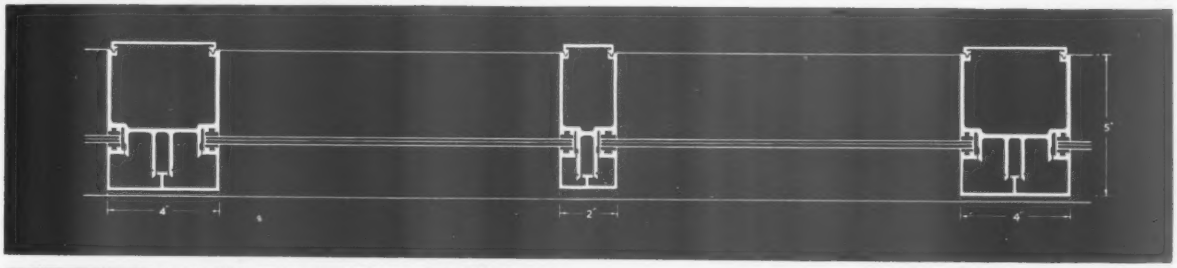
S/GS/6

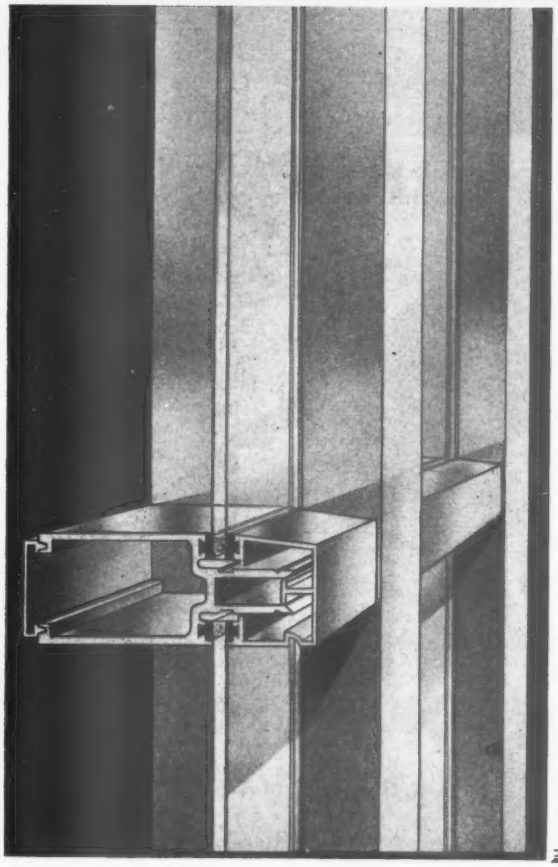


★ Glass-Span ★

Curtain Walling

For architectural distinction...





The Glass-Span curtain walling system has been designed to permit wide variation of design, finish and colour, using rear structural sections in common alloys, and facing sections in superior alloys which can be satin anodised or coloured.

Infilling panels or glass do not require beads to secure them as they are positively sealed in on both sides providing virtually air-tight construction. The channels designed to carry away condensation are continuous in vertical mullions carrying moisture to the exterior at all points.

Glass-Span sections are flush and free of rebates and projections, and cutting and assembly is the essence of simplicity.

Send for our new Catalogue including data sheets on Glass-Span, Entrances, Shopfront mouldings and facing sections.

★ AJAX ★

Ajax Architectural Products Ltd.

AJAX HOUSE · KANGLEY BRIDGE ROAD · LOWER SYDENHAM · LONDON S.E.26 · TEL. SYD 7062/1

Photograph reproduced by courtesy of B.B. Chemical Co. Ltd.

EVERY BUILDING SHOULD BE AS SAFE AS THIS . . . . . .

The new B.B. Chemical Co. Ltd. factory at Leicester is really safe. They have the latest A.F.A. fire alarm system which, with its sensitive detectors in all parts of the building and the direct connection to the works fire station, will automatically call the brigade to the smallest outbreak *within minutes.*

The A.F.A. system, approved by Fire Officers and qualifying for valuable insurance rebates, is fully described in our book "If you had a fire tonight." Please send for your copy.

AFA

AUTOMATIC FIRE DETECTION

ASSOCIATED FIRE ALARMS LIMITED

Claremont Works, Claremont Road, London, E.17 Telephone: Larkswood 8373

Branches throughout Great Britain

TAS/AF 127

LIGNACITE REGD *specified for*

dwellings of every type

FORE STREET RE-DEVELOPMENT, EDMONTON
Borough Architect: A. Wilkinson, Esq., A.R.I.B.A.
Senior Assistant in Charge: R. D. Kain, Esq., A.R.I.B.A.
Contractors: Edmonton Borough Council Direct Works Department.

Bungalow for Mr. Manson at Roundhay, Leeds.
Architects: Messrs. Gillinson & Barnett, A.A.R.I.B.A.
General Contractors: Messrs. Hartley, Lund Ltd., Leeds.

BUNGALOW AT CHADDERTON, near OLDHAM, Lancs.
Architects: Messrs. Taylor, Roberts & Bowman, Oldham.
LIGNACITE SPECIFIED FOR INNER LEAVES AND PARTITIONS

Lignacite Blocks meet the most exacting requirements. They are easy to work, can be sawn, chased, bolstered, chiselled, screwed or nailed. They provide an overall fixing base on all surfaces, completely eliminating plugging. They have a smooth, true surface suitable for either plastering or direct decoration and are speedily laid as the blocks are easily handled and worked.

LIGNACITE REGD BUILDING BLOCKS

LIGHTWEIGHT
INSULATING
FIRE RESISTING
LOAD BEARING

For more detailed information and delivered prices please contact our nearest factory

LIGNACITE (South Eastern) Ltd. Ninfield, Sussex. Telephone: Ninfield 345.

LIGNACITE (Brandon) Ltd., Brandon, Suffolk. Telephone: Brandon 350.

LIGNACITE (Fordingbridge) Ltd., Fordingbridge, Hampshire. Telephone: Fordingbridge 2177.

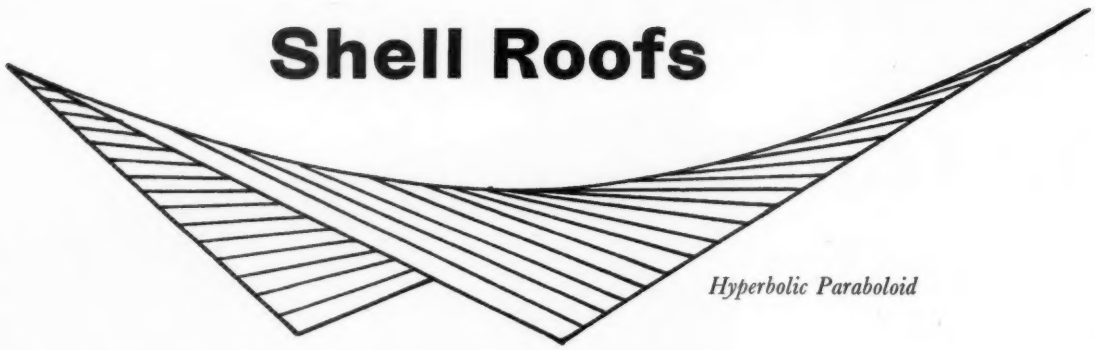
THE LIGNACITE GROUP OF COMPANIES

LIGNACITE (Home Counties) Ltd., Bracknell, Berkshire. Telephone: Bracknell 666

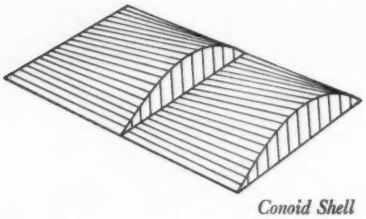
LIGNACITE (North London) Ltd., Meadowgate Works, Nazeing, Essex. Telephone: Hoddesdon 2277

LIGNACITE (North Eastern) Ltd., Whitley Bridge, Nr. Goole, Yorks. Telephone: Whitley Bridge 354/5

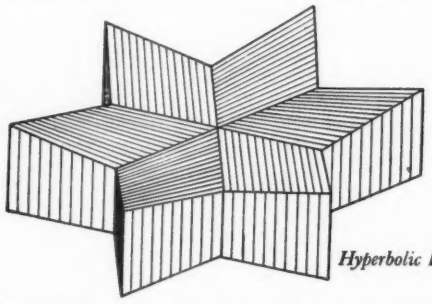
Shell Roofs



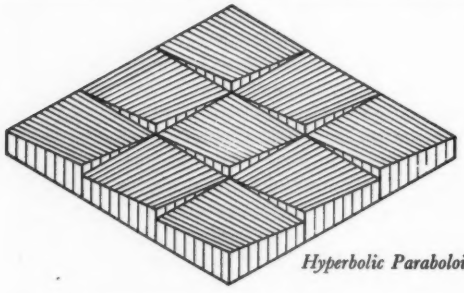
Hyperbolic Paraboloid



Conoid Shell



Hyperbolic Paraboloid



Hyperbolic Paraboloid

Folded Plate

FOR INDUSTRIAL AND PUBLIC BUILDINGS

Suitable for industrial and public buildings, these new structures in timber provide an exceptionally clear floor space.

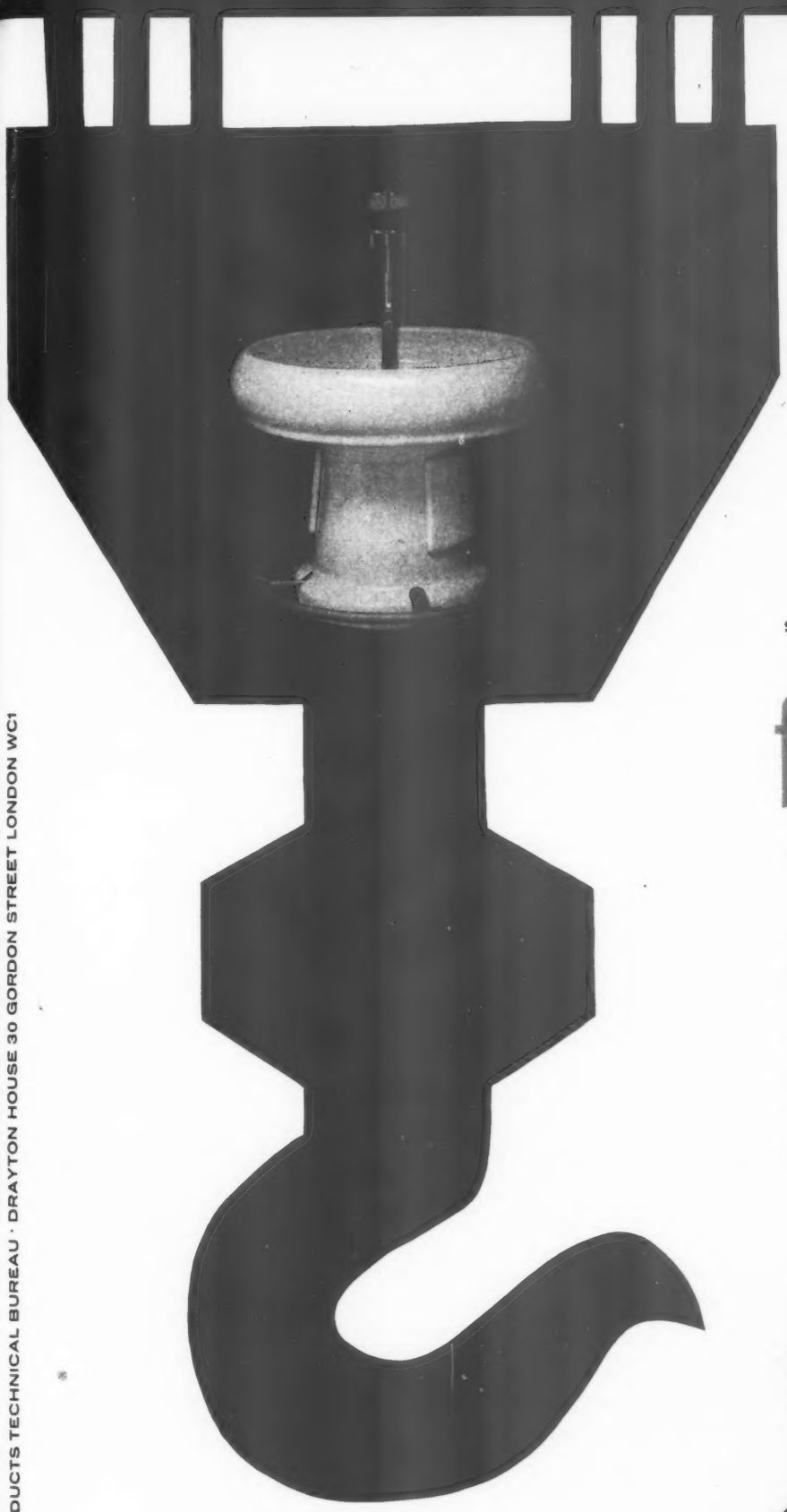
Before you decide...

please do not hesitate to consult the T.D.A. who will gladly supply you with information on the use of softwoods, hardwoods, plywoods, modern timber design and names of timber fabricators.

CONSULT TDA

ISSUED BY THE TIMBER DEVELOPMENT ASSOCIATION LIMITED · 21 COLLEGE HILL · LONDON · EC4 and branches throughout the country

TDA TD137A



specify ceramic glazed

fireclay

sanitary ware

in all industrial installations,
where hygiene is essential,
where rough usage is expected,
where maintenance costs
must be kept down.
With glazed fireclay, first cost
is last cost.

CLAY PRODUCTS TECHNICAL BUREAU · DRAYTON HOUSE 30 GORDON STREET LONDON WC1

NEW!

Allied Ironfounders have now designed a new oil-fired boiler

THE RAYBURN MAJOR

with a guaranteed continuous output of

30,000 b.t.u's per hr.

The Rayburn Major has been tested and re-tested under all kinds of atmospheric and working conditions. In fact, it has been subjected to — and triumphantly withstood — tests equivalent to a lifetime of normal wear. See details opposite.

The Rayburn Major has a brilliant new internal design that should cut after-sales service to a minimum.

The new RAYBURN MAJOR has these advantages

● **30,000 b.t.u's guaranteed**

The Rayburn Major gives a continuous output of 30,000 b.t.u's per hour serving the following systems:

Hot water only—connecting to cylinders from 25-80 gallons capacity.

Radiators only—up to 175 sq. ft. of radiating surface.

Hot water and radiators—for a 30 gallon cylinder and up to 140 sq. ft. of radiating surface; for a 40 gallon cylinder and up to 120 sq. ft. of radiating surface; or, for a 50 gallon cylinder and up to 100 sq. ft. of radiating surface. (For fullest efficiency and fuel economy, cylinder and circulating pipes should be insulated.)

● **New "blue flame" burner**

The Rayburn Major has a short drum "blue flame" burner with high-duty chrome alloy retaining rings. It does not depend on flue draught for its full output.

● **New low-level return tapping**

The return tapping to the boiler of the Rayburn Major is only 5" from the floor. Flow and return tappings are available on either side.

● **Thermostatic oil control**

The oil control unit is governed by a thermostat which reacts immediately to temperature changes in the water. It incorporates a safety trip mechanism.

● **Fuel economy**

The Rayburn Major has a welded steel boiler with vertical fire tubes into which are fitted steel wire wound gas turbulators which in turn extract the maximum heat from the flue gases.

● **Looks handsome, in the smallest kitchen**

The Rayburn Major is small and compact, measuring only 32" high, 18½" wide, and 20" deep. The finish is stove enamel, with vitreous enamelled top plate and hob. Colours are all white, all cream, or either colour with black top plate.

● ● **New hire purchase and credit facilities**

The Rayburn Major, together with the cost of the oil tank and other installation charges, may be bought on H.P. terms, thus bringing oil-fired heating within the reach of people of modest means.

● **Illustrated leaflet**

with full technical details, and H.P. facilities, may be had from:

ALLIED IRONFOUNDERS LTD., 28 Brook St., London W.1

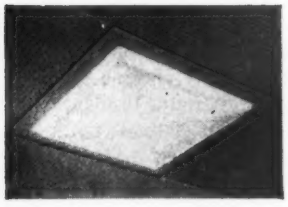
AI

REGD TRADE MARK

TUBALUX MODULE FITTINGS

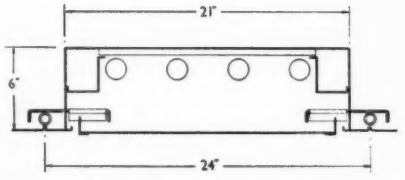
TUBALUX MODULE FITTINGS are designed for incorporation with 2 ft. x 2 ft. or 2 ft. x 1 ft. module ceiling panels. The standard fitting incorporates adjustable bolts at each corner for use in ceiling panels manufactured by :— Frenger Ceilings Ltd.; Burgess Products Co. Ltd.; Horace Cullum Ltd.; and with their co-operation we can arrange for the weight of the fitting to be taken by the suspended ceiling. Alternative methods of suspension can be provided for other types of suspended ceiling based on this module.

Module fittings are made from sheet steel which is bonderized and finished in white stoved enamel. Instant start or switch start control gear is mounted in two removable channels along opposite sides of the interior and supplied ready wired to a fused terminal block easily accessible for connection to mains supply. Interchangeable diffusers in obscured 'Spotlyte' glass with removable hinged frame, polystyrene louvres, or dished opal 'Perspex', are available. The diffusers allow easy access for maintenance and cleaning.

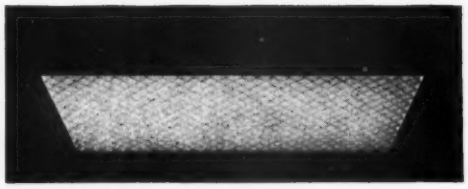


OPENING 2FT.x2FT.

T254 Glass Diffuser
T264 Polystyrene Louvres
T274 Dished Opal 'Perspex' Diffuser
Lamps. Four 20W. 2 ft.

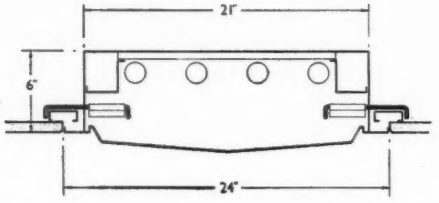


FRENGER CEILING — GLASS DIFFUSER



OPENING 2 FT. x 4 FT.

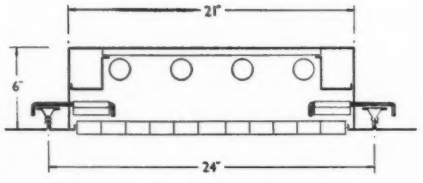
T454 Glass Diffuser
T464 Polystyrene Louvres
T474 Dished Opal 'Perspex' Diffuser
Lamps. Four 40W. 4 ft.



CULLUM CEILING — DISHED 'PERSPEX' DIFFUSER

OPENING 2 FT. x 6 FT.

T554 Glass Diffuser
T564 Polystyrene Louvres
T574 Dished Opal 'Perspex' Diffuser
Lamps. Four 80W. 5 ft.



BURGESS CEILING — POLYSTYRENE LOUVRE DIFFUSER

TROUGHTON & YOUNG

Prices may be obtained on application.

TROUGHTON & YOUNG (Lighting) LTD. *The Lighting Centre*
143 KNIGHTSBRIDGE, LONDON, S.W.1. 'Phone KENsington 3444
and at 46 Rodney Street, Liverpool 1.

RFW 28

AJ

THE ARCHITECTS' JOURNAL

No. 3327 Vol. 128 December 4, 1958

9-13 Queen Anne's Gate, London, S.W.1. Tel. WHI. 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 10s. 0d.; carriage 2s. extra.

NOT QUITE ARCHITECTURE

VIVE LA DIFFÉRENCE

Some interesting sociological conclusions could probably be drawn from a comparison between the high-circulation weekly women's magazines in England and their best known opposite number in France, *Elle*. They share a number of features—articles on beauty, gossip about film stars, and some of the serials appear on both sides of the Channel, although while France has translations from English and American writers such as Monica Dickens and Vicki Baum, England fights shy of stories from France.

*

Connoisseurs of *Elle* maintain that its most characteristic and appealing feature is the *Courrier du Coeur*. Marcelle Ségal may be as staunch an upholder of the basic domestic virtues as any English Auntie Mabel, but she sees her problems with a more realistic, not to say cynical, eye which should cure anyone still nursing illusions of Gallic romanticism. Answering a reader who complains that her fiancé allows his cat to eat from his plate, she announces that *her* cat also eats from *her* plate, so there! When a mother protests because her son-in-law has a mistress, Marcelle Ségal merely points out that the wife need not spend her free time with her mother, and to the young man, newly married, who writes "*Notre amour n'est pas un amour charnel mais sublime, pur, idéal,*" she gives her opinion briefly "*Que votre mariage n'est pas valable. Que votre histoire est peu vraisemblable.*" Even if you believe that all Lonely Heart letters are dreamed up in the office, *Elle* has a better dreamer than most.

Environments for Reform

There are more people in prison today than ever before, though whether this is due to there being more indictable offences, more criminals or a more efficient police force we don't know. It suffices to say that, whether we are suffering under the law, or are mere conscientious observers of it, we should be interested in penal reform. The photographs of the new Everthorpe Hall prison, above, and Strangeways, left, show what progress in one respect has been achieved in a hundred years. The concentric circular paths of Strangeways are the standard method of exercising prisoners for the regulation hour to which they are entitled Indeed, this photograph shows one comparatively recent reform: the doubling of the track to allow prisoners to walk in pairs and converse. By contrast, Everthorpe possesses no such monotonous ambulatory grooves and the substantial, but markedly less grim buildings stand amongst what promises to be green lawns. But the planning of the cell block (shown above, with the workshops in the distance, right, and the prison wall on the left) has barely changed since this country's first and last prison-building programme was carried out in the 1840's. In an article on pages 813-818, a correspondent describes and comments on the new prison, which houses men at approximately £2,000 a head: a not inconsiderable sum. Whether the administrative set-up by which we design new prisons is as advanced and efficient as it could be is discussed opposite.

Readers are expected to have a taste for higher things, as well. They need to have a fair working knowledge of French history, art and literature. Recent articles have dealt with paintings by Delacroix and le Douanier Rousseau and Cezanne, and earlier there was a series on the architecture of famous abbeys and cathedrals. Modern royalty is not neglected, and there have been articles on the Comte de Paris and his family, King Baudouin, Queen Juliana and, of course, Princess Margaret. Fashion is dealt with more thoroughly than in any comparable English magazine. The Paris collections get fuller, if less dramatic treatment, than in *Vogue* or *Harpers*, and readers are not expected to ignore a fashion because it is expensive—instead they are told how to achieve the latest line themselves, with paper patterns and eternal willingness to alter last year's clothes to this year's shape.

*

In the intervals of improving her knowledge of history, keeping up with the latest plays and the progress of education in the Congo or Algeria, and trying out delicious but decidedly complicated recipes, the regular reader is expected to be a very handy woman about the house. I visualize "typical reader" living in an inconvenient, fifty-year-old flat at the top of a Paris house, with no bathroom, no hot water, no lift. A tiny kitchen, a salon and two bedrooms, for a family of four, usually shown in the "before" photos with paper peeling off the walls and damp patches all over the ceiling. More or less single handed, "typical reader" turns this discouraging place into a home of such elegance that *House and Garden* would be glad to illustrate it. There is no question of simply slapping on a coat of paint and putting up new curtains. The kitchen is transformed, with built-in cupboards, water heater and venetian blinds, and, with a shower or microscopic bath in the corner, also doubles as the *salle d'eau*. In the living room the walls are lined with fitments to hold sewing materials, books, household linen, suitcases, all tidily hidden behind doors so that all that is seen is the minimum of tasteful, well designed furniture. A tiny attic room has one wall covered with mirror, and concealed storage that would do credit to the Nautilus. There is never any suggestion that this might be beyond the ability of an ordinary woman or that a builder should be used for any but the most complicated installations. I have never seen one of these transformations—all the flats I have visited in Paris have been dark, and full of heavy, ornate furniture which only appears in *Elle* in the adverts, but I like to think of all these bright, comfortable and efficient homes, where there is plenty of time for the housewife to sit down and write to Marcelle Ségal for advice on how to stop her husband blowing kisses to pretty girls, or whether it is better to divorce an unfaithful husband or to find a lover for herself. There is no doubt about it, they order these matters better in France. . . .

MOIRA MATHIESON

The Editors

STRIVING TOWARDS DEMOCRACY

THE conclusions reached in the interim provisional report of the RIBA's Constitutional Committee, reported on page 808, are sufficiently fundamental and controversial to ensure the possibility of a lively meeting at Portland Place on January 6. All members of the RIBA should read this report and either directly, or through the allied societies, let the RIBA have their views. There is space here only to comment briefly. The committee have decided that, either by national or regional votes, every member of Council should be elected, except for the President of the AA (on "sentimental grounds," how typically British!) and the chairmen of the RIBA Registration Committee and the Board of Architectural Education. This is a step in the right direction, but whether it is the only step towards ensuring that "the RIBA Council is fully and democratically representative of the profession at large" as the committee seems to imagine, is another matter.

PRISON REFORM: BOTH WAYS

Few architects will have read the Sixth Report from the Select Committee on Estimates, and fewer still will have seen the 400 pages of evidence printed with it.* As the daily papers paid little attention to this mass of material on Treasury control of expenditure—apart from the jolly but maliciously superficial jibes of Sir Ivone Kirkpatrick—the profession remains ignorant of what could be a landmark in its history.

The Treasury witnesses told the Select Committee that they had set on foot an inquiry into the whole system of control over Government and Government-financed building. Question 2995 ". . . We think that there is a question, particularly in relation to the whole of the Government's very considerable expenditure on building which is looked after by a great many Departments—the Ministry of Works, the Service Departments, and so on, and indirectly for the hospital service—very largely or wholly at Government expense. We have been wondering in recent times whether, in fact, our financial controls were as good as they could be . . . . . They are rather variable as between the various agencies which carry out building either for the Government or at Government expense, and therefore we embarked a month or two ago on a special review of the whole of our financial control of building, directed to two things—one to the financial control itself, and the other to looking at something which is only indirectly financial, to see whether the Government had proper arrangements to make sure that the experience they had acquired in one place was made use of in another place . . ." This is headline stuff for architects, for the associated professions, and for builders. It could also mean a lot, in time, for the long-suffering client, who pays in rates and taxes more than he need for buildings less useful than they could be. This

*HMSO. £1.

is a collective failure, attributable not exclusively to architects or to administrators or to engineers or to the client authorities severally, but to the whole system of relationships between these people and to outmoded ideas of " control."

The article on pages 813 to 818 of this issue, which discusses the first new prison opened in England since 1910, is highly relevant to this general question. It makes it painfully clear that not nearly enough thinking has been done about what today's prisons should be like. Some of the unknowns are concerned with economical and efficient planning and use of materials, some with suitable standards of lighting, heating, ventilation and noise control; it is certain that special problems of strength and durability are involved. But standing behind these are the even more critical and apparently unanswered questions as to what the organization of a modern prison demands in terms of planning, construction, and services, if it is to play its part in the rehabilitation of offenders. So we come up against the problem of collaboration between a number of different skills.

How does the present administration of prison building provide for these different skills to be brought to bear? The Prison Commissioners, subject to the control of the Home Secretary, are responsible for the administration of prisons. The Home Office finds the money—which means in practice that it has to convince the Treasury of the justification for the claims which it has received from the Prison Commissioners. But neither the Home Office nor the Prison Commissioners are responsible for the design and construction of new prisons. This is in the hands of the Ministry of Works who are not responsible either for prison administration or for the expenditure. Why should we expect this incoherent administrative and financial set-up to do better than Everthorpe?

The Home Secretary has announced that a prison building programme costing several million pounds is in prospect. If he wants to get value for money out of this programme and to build prisons which are not already long out of date before they are opened, he will address his mind first of all to this problem of organization. " Development " has now become an OK word, which means that it is widely used by people who do not understand how the job has to be done on the ground. The problems of prison building will not be solved by sticking a patch labelled " Development Group " over the tattered fabric of the present prison set-up. A more radical solution is demanded. If the results of penological research and experiment are to be combined with the fruits of building research and development to provide a responsible, far-sighted and economical solution to the many problems involved in building prisons, some way must be found of integrating the scattered and to some extent conflicting responsibilities which are at present distributed among at least three authorities. Architects produce the best results when in direct contact with their clients. Obviously, therefore, one authority —the Prison Commissioners—must be solely responsible for the programming, design, and execution of prison building.

ENGLAND-EXPECTS, ETC.

It looks as if the National Gallery extension which the Government intends to build on the " Hampton's site " in Trafalgar Square (though not for twenty-five years or so) has a good chance of being less of a classical fuddy-duddy than we might have feared. The *Sunday Times* is holding an architectural competition (first prize, £2,500) for a building for this site, and although the whole thing is purely academic there is surely a good chance that the Government will at least cast an interested eye on the winning design. And there is every chance that the winning design will be imaginative. How could it be less when the assessors are Sir William Holford and Peter Chamberlin (of Golden Lane and Boston Manor fame), in addition to Sir Philip Hendy, director of the Gallery?

*

The *Sunday Times* hopes to publish details of the competition on January 4. Meanwhile, as that newspaper has stated, great excitement " has been caused in architectural circles." And, of course, great dismay among architectural squares.

COCKED SNOOKS AT HOOK

Hampshire is now waking up and reacting to the LCC's proposal to build an overspill town near Hook.

As usual, there are objections from retired people who like to be shut away from life, and loud cheers from people who like the idea of having a better choice of jobs.

*

This is all reasonable enough. Less reasonable are the protests about confusion in land values and about LCC "spying." Everyone knew the LCC was looking for sites, and no doubt it considered at least 200 before saying anything about Hook. It's just as well that the LCC didn't issue tentative statements about the 199 sites not chosen.

SCOTLAND THE BRAVE

The Scots want to control building, as you will see on page 807, with one set of regulations. This strikes the RIBA as a good idea, and it has asked why England and Wales couldn't also get rid of its many sets of bye-laws. ASTRAGAL is glad to see the RIBA taking up this point and wishes it all possible success.

*

It may be easy enough to get uniformity in building laws, but it isn't so easy to get flexibility. For this you need someone pretty skilled and authoritative to interpret requirements on the spot. What happens when ASTRAGAL wants to use pylumenized porridge as a dpc for his bungalow at Pittenweem (Royal Borough, population 1,500)? Who, in this very small authority—and there are many like it—is going to approve the scheme for him? The local authority set-up must be organized to deal with this sort of thing.

NEEDLE BITES CAMEL

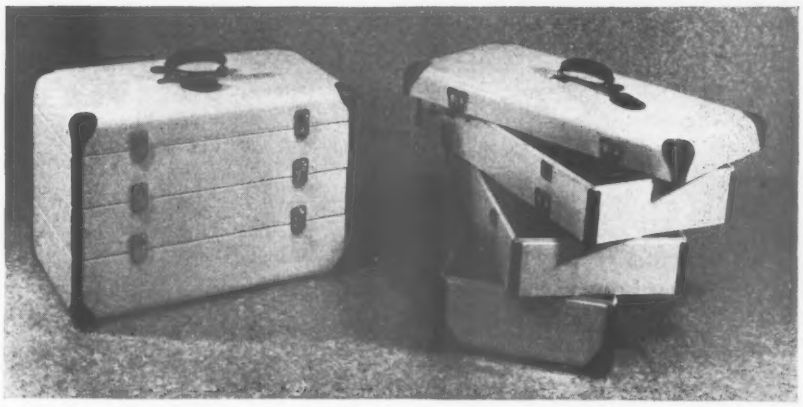
Caravan dealers and site owners are always driving through the loopholes in the Town and Country Planning Acts. At last the Minister of Housing, Henry Brooke, has asked Sir Arton Wilson to investigate the residential caravan problem. The government will consider his report and then decide what to do.

*

Is it too obvious to suppose that residential caravanners have increased because houses are scarce and caravans are cheap and plentiful? That is part of the answer. But a friend of mine, who works pretty well full time with a local authority that is trying to eliminate residential caravan sites, tells me that he finds most of the people living on wheels in his area do so because they prefer that way of life.

*

It is nonsense that people with enough money should be permitted to live in this sub-standard way. Will Sir Arton Wilson please consider whether caravans which remain stationary for a month or more should not be treated as buildings?



This expandable suitcase, designed by Natale Beretta, was one of the prize winning designs in the "Golden Compasses" competition organized by Italy's leading store, the Rinascente, and referred to in these columns last week. This design is particularly ingenious. Clothes will travel with less creasing in the separate compartments, which would also be useful for storage in the home.

THAT'S NO LAITY . . .

Are you what Peter Smithson describes as "the non-layman"? If so you ought to have heard his talk on Greek sites at the AA the other evening, which he prepared specially for you when doing the marginal notes for his recent broadcast. He suggested that the Greeks were unconscious of architectural space in our (post-17th century?) sense, their whole interest being concentrated on the temple or what-have-you as an isolated object. Much of the talk was taken up with pictures of Greek walls (too many) to show how easily Greek methods of building were adapted to site conditions.

*

Peter Smithson is a relaxed talker whose provocative and illuminating observations are worth working hard to understand. It was a pity that some of the audience had to work particularly hard because of the bad listening conditions (in the lower lecture rooms) which followed the stand-up food scramble that was offered, at the usual price, as a dinner substitute. An enjoyable but somewhat baffling time was had by one and possibly all.

IRON BRIDGE AGAIN

Ever a Salopiast, ASTRAGAL was delighted to see that Professor Pevsner's *Buildings of England* series has now reached Shropshire*. This is an interesting volume from a purely technical point of view—the county is short not only on masterpieces from the past, but also on recent developments of outstanding interest. On the other hand it contains any number of first-class second-magnitude country houses, such as Attingham, Hawkstone or Cound, a nearly-magnificent Roman remain at Wroxeter, some fine medieval wreckage, as at Haughmond, Acton Burnell and Stokesay, and some crucial monuments of technique and taste, such as the Iron Bridge and Nash's pioneer Italianate house at Crankhill.

*

When you come to assess the average architectural worth of all these bits and pieces, and add in such significant Victoriana as Thomas Harris's Stokesay Court (about whose crazy space-staircase Professor Pevsner might have said more) and Norman Shaw's Adcote you have a picture of a county that is, in fact, very rich architecturally, and has produced a very rich volume of the Buildings of England.

FUTURE LORD BURLINGTONS?

The reference to an honours degree in architecture at Cambridge, printed in last week's JOURNAL, was liable to misinterpretation. The course for architectural students, is, naturally, vocational. The unusual feature is that other students who have obtained honours in Part I of *another* honours

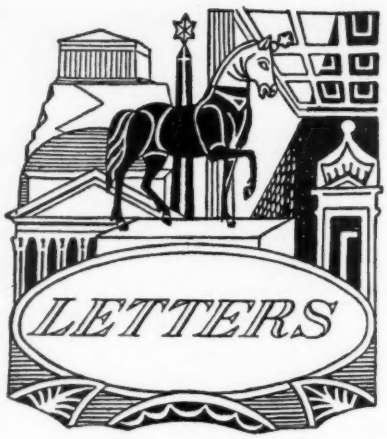
Penguin Books 8s. 6d.

examination subject may sit for honours in Part II of the Architecture and Fine Arts Tripos. Dr. Martin has not been alone in pressing for an honours degree in architecture and the fine arts. It has, in fact, been mooted at Cambridge for some time now. ASTRAGAL, who is delighted to see extra emphasis given to Building Science, and is puzzled only to know where the competent lecturers are coming from, welcomes even more wholeheartedly the idea of instilling an appreciation of architecture into university graduates: a first step to increasing the supply of "informed clients."

NEW BROOMS

At last week's Architecture Club dinner, D'Arcy Braddell announced that Lord Esher was retiring as President. He is to be succeeded by Lord Conesford. In order that there should be, in Lord Esher's phrase, "a clean sweep," D'Arcy Braddell and Godfrey Samuel, the Treasurer and Secretary, have also retired and have been succeeded by Gontran Goulden and Jefferiss Mathews. The announcement of this change—and the opportunity it provided for very appropriate praise of Lord Esher for all he had done to set the Club on its feet after the war—took so long that relatively little time was left for Misha Black, Sir John Balfour and the rest of the diners to debate that: "British representation in international exhibitions is deplorable." Black thought our Brussels pavilion a wasted opportunity and harmful in its basic conception, and the Treasury budget inadequate. He found nothing wrong with the hall of tradition "unless you dislike pastiche." However brilliant the display technique, the total effect was of a small country advertising for tourist traffic, and of the industry pavilion: "What a mess." Balfour in reply made the maximum effect he could from the well-known fact of the pavilion's popularity: both the Russians and visiting American industrialists had praised the exhibits in the industry pavilion, apparently, which to ASTRAGAL, at any rate, was just the confirmation of our shopkeeping smart-Alickery he'd feared. One of the best speeches was by Max Fry, who frankly deplored these show-off exhibitions as factors in the war game.

ASTRAGAL



Clive Pascall, A.R.I.B.A.

J. H. S. New

Stanley Milburn, F.R.I.B.A.

Transair Hangar

SIR,—Far beyond the specific points mentioned, Allan Hodgkinson's letter (November 27) raises an interesting subject, as to whether the professional adviser to a client should truly act as a consultant, or merely accept the details of his instructions from a "customer," for interpretation into an enclosure of space by a drawing office.

The question of specification is relative to the job, bearing in mind fitness for purpose, first cost, and maintenance; and, more important, the attitude of mind of the client in his brief and whether this is accepted verbatim without consideration of alternatives and real liaison between all concerned. For instance, if a telephone is asked for on the hangar floor, this must be flame-proofed; this is probably to be used only to ring up the bookmaker and its proper place is in the canteen lobby, non-flame-proofed, for calls outside working time.

The quotation of "American standard" is diversionary, suggesting: "We don't know what we want, therefore provide for all possible circumstances"; and the use of such terms as "lowering standards" is really an admission that the "standards" are far too high. The word "charter" is a misnomer, as the Corporations in this country also charter aircraft and it should be mentioned that independent airlines have to operate scheduled services at all times.

All questions of flame-proofing are worthy of the most detailed investigation in all their ramifications, to arrive at a true classification of fire risks in relation to a critical volume. Specifically, A. J. Harris confirms that the fire protection of the tendons in the main beams is very adequate and is of a far higher order than uncased steel, and, generally, all required standards are satisfied.

The question of aircraft dock versus a floor hoist not only refers to maior overhauls, but also to aircraft turn-round and an open hangar floor. The largest proportion of man-hours here are spent on the power units and instrumentation at the "sharp end."

The question of sterilization of floor space during assembly of the roof structure is the old battle of "steel versus concrete." With proper pre-planning this question does not arise, and in the case of the Transair building trunking for lighting and other services was done at floor level prior to the jacking of the secondary beams into position, therefore reducing the amount of work for "other trades" at a height in excess of 30 ft. above floor level. Since the bulk of the work of the "other trades" was in the annexe buildings erected and roofed long before the erection of the hangar roof, the point again did not arise; with ample pre-planning the final floor-laying programme, after the erection of the main hangar roof and subsidiary services, was well provided for.

The question of spans and heights again raises the question of attitude of mind, and the old argument of complete aircraft hangarage versus nose or wing hangarage. Consideration has already been given to the accommodation of, say, a Comet IV in the space provided, excluding tail fin. If buildings are to be built for unknown aircraft sizes, we should all then build to provide for at least a Brabazon or a Princess Flying Boat, or, for that matter, a Flying Saucer; and it is patently uneconomic to provide for all such eventualities and saddle operating companies with vast capital expenditures. In considering the sizes of hangar one must never forget that, whilst the largest aircraft may get larger and larger, there will always be a place for medium-sized aircraft; many is the instance today of a Britannia taking off with a full crew and two passengers. Thought in the aircraft as opposed to the construction world must now bear in mind power units in the tail. These wou'd be of the pure jet as opposed to the prop-jet, and raise maintenance issues of replacement rather than servicing.

CLIVE PASCALL.

London.

Vale of Health

SIR,—As a resident of the Vale of Health, Hampstead, I read the Editorial in your issue of November 20 about the inquiry into Mr. Goldfinger's proposals with great interest.

I must confess that I, as a layman who played a part in organizing the opposition of the residents and spoke at the inquiry, enter the professional opposition camp with some hesitation in order to state my point of view.

I have the greatest admiration for your efforts in the endless struggle against the "play safe" mentality of so many of those who are responsible for commissioning new building in this country; however, it is possible in the struggle to close the ranks against the mediocre, to become unresponsive to lay opinion about really "new" work and to denounce all opposition as being reactionary and uneducated. Sometimes this is so: at other times, and I submit the Vale of Health case is an example, many of the residents may be right—but certainly not for the "olde-worlde" motives so wrongly ascribed to them.

May I briefly make two points?

(*i*) It is because of the high density in this already overcrowded *cul-de-sac* that I oppose new high-density development of a hitherto non-residential site. (Your argument about the 13-bedroomed house is a good debating point but scarcely realistic; a single dwelling-house is unlikely in this area to have more than four or five bedrooms at the most.)

(*ii*) Sir John Summerson, in a passage which you do not quote, conceded that Mr. Goldfinger was at the "Rigorous end of the Modern Movement". I doubt if this Rigorous End—which for many younger people is already a little *vieux jeux* (my use of French is deliberate), really does conform to what Sir John would describe as "the best lights of the profession" at this time, and I have a suspicion that you, Sir, might agree with me.

With great diffidence, and with the above

in mind, I should be happy to join one of Sir John's tutorials for those who find less difficulty in envisaging from architectural drawings the scale and feel of a building, than in looking on all the age-old artistic struggles which we know so well, entirely in terms of all-black or all-white.

J. H. S. NEW.

London.

The Editors write: Mr. Goldfinger puts the number of bedrooms in a single house on this site at 15. The fact is that the LCC's method of computing density by assuming 3·6 persons per dwelling is most unrealistic; its alternative method of taking 1·1 persons per habitable room would produce a greater density for a single four-storey house than for two flats and a maisonette. Moreover, a four-storey house with three flights of stairs above the ground floor is not much wanted these days: nearly all such houses are being converted into flats, and if one were to be built in the Vale of Health it would undoubtedly be converted in the course of time, as its neighbours have already been.

Adventurous Spirit

SIR,—I have been very interested to read ASTRAGAL'S recent comments upon designs from Northumberland, Cumberland and Durham, and the correspondence which followed. I personally agree with ASTRAGAL except that his remarks apply not only to the North of England but to a very large proportion of the British Isles. The reason I think is due to a great lack in the appreciation of "the spirit of adventure" in architecture, not only in the general public but also among members of our own profession.

The President, in his address at the RIBA, gave a very strong lead for a relaxation in planning control, which would certainly help to open the door and relieve the feeling of frustration which exists among large numbers of our profession in this country. I am, however, very hopeful that although the progress may seem to be slow, the spirit of live architecture engendered in the South Bank Exhibition will eventually reach the speed and attainments of railway engineering which was started in 1851. I only hope, if I am right, that the revival does not get lost in another fog of industrial revolution.

STANLEY MILBURN.

Sunderland.

DIARY

Motorways. Special University Lecture in Estate Management, by Dr. W. H. Glanville at the University of London, Senate House, W.C.1. 5.30 p.m. DECEMBER 5

Comprehensive Redevelopment. Talk by P. E. A. Johnson-Marshall, at the RIBA, 66, Portland Place, W.1. 6 p.m. DECEMBER 9

High-Density Housing. Talk by Peter Chamberlin, at the HC, 13, Suffolk Street, S.W.1. 6 p.m. DECEMBER 9

Le Corbusier Exhibition. At the Walker Art Gallery, Liverpool. Open until January 17. OPENS DECEMBER 10

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

The Landscape of Greece. Talk by Sheila Haywood, illustrated with colour slides, at the ILA, 1, Park Crescent, Portland Place, W.1. Entrance by ticket only, to be obtained from the Secretary, price 7s. 6d. 6.15 p.m. DECEMBER 18

RIBA

Building Law Revision

On December 3 the RIBA Committee on Byelaws and Building Regulations published a summary and some observations on the Report of the Committee on Building Legislation in Scotland. After a short preamble the observations quote the metaphor used by the Scottish Committee to describe their reaction to their task: "It soon became apparent to us, therefore, that the old patchwork quilt of building law was not only full of holes and frayed at the edges: it only covered part of the bed. We needed little convincing that the time had come for it to be discarded in favour of a full-sized bedcover in contemporary style." This quotation, they considered, could be applied equally well to existing building regulations in England and Wales.

One of the first questions considered by the Scottish Committee was to what extent building regulations should go beyond the bare needs of health. On this matter the Scottish Committee concluded that building control should be concerned with public health and safety (with the national economy as a qualifying consideration); should secure that new buildings are safe and sound when erected and are reasonably durable; and should provide for dealing with buildings which have become a danger to health or safety. They considered that it was not concerned with the preservation of amenity or with the protection of a building owner against a builder; and that siting was a matter for planning and not building control. They then listed the following matters which in their view should be the subject of regulation:

"(*a*) the preparation of sites; (*b*) strength and stability; (*c*) structural fire precautions: (*i*) resistance to the outbreak and spread of fire, (*ii*) means of escape from fire; (*d*) resistance to moisture; (*e*) resistance to the transmission of heat; (*f*) resistance to the transmission of sound; (*g*) durability; (*h*) resistance to infestation; (*i*) drainage; (*j*) ventilation; (*k*) day lighting; (*l*) heating and artificial light sources; (*m*) equipment, facilities and accommodation; (*n*) access; (*o*) prevention of damage and obstruction." Commenting on this the RIBA remark that it goes much further than anything so far done in England and Wales.

In considering how to construct the machinery of control and how to make it work, the Scottish Committee took as their guiding principles uniformity and flexibility. These, the RIBA point out, are precisely the principles on which the RIBA has always insisted.

The main decision of the Scottish Committee was that Scotland should have a uniform code which should be laid down in regulations made by the Secretary of State instead of byelaws made by each Local Authority. Apart from the advantage of uniformity, this proceeding would save Local Authorities the trouble of adopting byelaws and would make the introduction of amendments easy and rapid. Discussing the question of how to ensure consistency of interpretation, the Scottish Committee recommends that "A desirable objective . . would be for all the authorities responsible for laying down requirements which affect structure to consult together and endeavour to codify their requirements, at least insofar as they affect new buildings, and to pay particular attention to reconciling any unnecessary conflicts between their requirements. We think that every effort should be made to publish requirements. We hold strongly to the view that a person designing a new building should be able readily to ascertain in advance standards with which he is expected to comply, preferably by reference to a published Code."

Next the Committee considered how to express requirements in such a way as to give flexibility, and made three principal proposals. These are, first, the exclusion of all detailed requirements from statutes. Second, the expression of requirements in terms of standards to be achieved in relation to each function the parts of a building has to perform rather than by rigidly specifying its construction and the materials to be used. Third, the creation of machinery which would permit the individual treatment of special cases.

Commenting on this, the RIBA Committee say that these proposals may seem simple to put into effect but in fact are not. "The nearer a requirement is related to pure function (and that is the ideal for perfect flexibility), the harder it is to give it any legal precision and the greater becomes the risk of differences in interpretation demanding something different to satisfy one requirement. Satisfactory machinery to permit individual treatment calls for some over-riding control such as would permit the relaxation of requirements where these might be more restrictive than is necessary to achieve the objects of building control. Such duplication must, however, be carefully worked out and administered." The RIBA Committee concludes by suggesting that England and Wales should follow Scotland's lead and should collaborate with the London County Council with the aim of achieving the same degree of uniformity in building regulations: and that serious consideration should be given to the idea of control by centrally-made regulations instead of by byelaws.

ILA

Landscape Design Centre

The facilities for the training of landscape architects in London are at present restricted to the pre-Intermediate evening course at London University, and the demand for places at this University exceeds the present capacity. There are no facilities in the London area for training beyond the Intermediate level.

The Institute of Landscape Architects is therefore contemplating setting up a Landscape Design Centre at their new premises at 1, Park Crescent, Portland Place, W.1, where students can come to discuss matters of landscape design and receive criticism of their designs in preparation for the Institute's examinations. It would also be a centre to stimulate creative design. It is not anticipated that formal lectures will be given.

Before setting up such a centre, the Institute wishes to assess the demand for such facilities. Would all those interested in taking advantage of these facilities please

write to the Secretary, Institute of Landscape Architects, 1, Park Crescent, Portland Place, W.1, giving full particulars.

LAW REPORT

Damages Increased

The Court of Appeal decided last week that the former owners of 92 Cheyne Walk, Chelsea, S.W., were entitled to damages for breach of contract against both the builders, Townsends (Builders) Ltd., of Dean-street, London, W., and architects, David A. Wilkie & Partners, chartered architects and surveyors, of Chancery Lane, W.C., in respect of alterations effected at the house.

The builders and the architects failed to get prior planning permission and the work was found to be in contravention of LCC bye-laws. The building owners, Cinema News and Property Management Ltd., of Wardour-street, W., later gave an undertaking to the local authority that they would comply with the regulations.

At Westminster County Court, Judge Sir Edgar Dale held that both builders and architects were entitled to be paid for their work, but awarded the building owners £126 damages against the architects for breach of contract. He found that, in the circumstances, the architects were to blame for failing to get planning permission and for the breach of bye-laws. On cross-appeals by the building owners and the architects, the Master of the Rolls (Lord Evershed), Lord Cohen and Lord Justice Sellers varied the County Court judgment on damages.

Lord Evershed said the County Court judge based the damages on the cost of reinstatement of the building. His lordship thought the proper figure was the cost of making the premises comply with regulations, namely £162 10s. The building owners were entitled to recover that sum from either builders or architects because both were in breach of contract.

MODULAR ASSEMBLY

Duke of Edinburgh's Visit

The Duke of Edinburgh visited the Modular Assembly, the Modular Society's experimental structure on the Albert Embankment, on November 26. He was received by Sir Alfred Bossom, President of the Modular Society, Donald Fraser, Chairman, R. A. Sefton Jenkins, Chairman of the Technical Committee, and Mark Hartland Thomas, Secretary.

TRADE LITERATURE

1958 Competition Result

No award was made in the highest class by the assessors in the RIBA Building Centre 1958 competition for Manufacturers' Trade and Technical Literature. The assessors were George Grenfell Baines (who was unfortunately prevented from taking part in the judging), Sir Hugh Casson, Bruce Martin, E. D. Jefferiss Mathews, and Bryan Westwood. The results are:

Certificates of Exceptional Merit

Class I: No Award.

Class II: Lead Development Association.

Certificates of Merit

Class I: Bartrev Board Co. Ltd.; British Werno Ltd.; Dryad Metal Works Ltd.; Falk Stadelmann & Co. Ltd.; Ferodo Ltd.; Gyproc Products Ltd.; Holoplast Ltd.; Jones & Attwood Ltd.; Limestone & Green Slate Slab Co. (Westmorland) Ltd.; Redland Tiles Ltd.; Troughton & Young (Lighting) Ltd.

Class II: Floor Quarry Association.

Honourable Mentions

D. Anderson & Son Ltd.; Concrete Ltd.; Key Engineering Co. Ltd.; Magpie Furniture

(*Continued on page* 819)

RIBA CONSTITUTIONAL COMMITTEE

Far-reaching Proposals on Elections

The Interim Provisional Report of the Constitutional Committee, set up by the RIBA Council as a result of this year's Annual General Meeting, will be presented to a Special General Meeting on January 6. The Report has not been fully considered by the Council, which will re-examine the conclusions of the Report in the light of the views expressed at the meeting, or in writing. The Council proposes that no formal motions should be moved or debated at the meeting, but that discussion should be invited. The recommendations summarized in Para. 8 of the Report are printed below. The full Report starts opposite.

1. In the United Kingdom membership of the appropriate provincial Allied Society to be automatic on corporate membership of the RIBA. Students, RIBA on election to become members of the appropriate Allied Society, but without voting powers in RIBA elections (para. 2).

2. Members of Council should be elected in part nationally by the general body of members both at home and overseas, and in part regionally in the United Kingdom through United Kingdom Allied Societies (para. 2 (*a*) and para. 6).

3. National nominations should be drawn from the RIBA Council or made by any seven individual members as at present. Regional nominations should be drawn from the Allied Societies' Councils or made by any seven individual members in the appropriate area. Voting and the right of nomination should be restricted to corporate members of the RIBA (para. 2 (b)).

4. There should be no differentiation by classes of membership or categories of employment or occupation (para 2 (*c*)).

5. All members of Council should serve for three years and should be elected by postal ballot (para. 2 (*d*)).

6. The Council should be no larger than it now is (para. 2 (*e*)).

7. The present provision by which a member of Council may not serve continuously for more than six years should be retained, subject to the provision set out at paragraph 3 (*b*) (para. 2 (*f*)).

8. The Chairman of the Allied Societies' Conference to be ex-officio a Vice-President, RIBA as at present (para. 3 (*a*)).

9. The two Vice-Presidents already members of Council to continue to be appointed by the Council as at present (para. 3 (*a*)).

10. The Council to retain the power to appoint a fourth Vice-President in special circumstances from outside the elected membership of the Council as at present (para. 3 (*a*)).

11. The Honorary Secretary and the Honorary Treasurer to be appointed by the Council from amongst elected members of Council or those who, having just completed a six-year term of office, would otherwise be debarred from service in the current year. (See recommendation (7)) (para. 3 (*b*)).

12. In future, there should be no restriction as to the class of membership of Honorary Officers other than the President (para. 3).

13. The representation of the Architectural Association on the Council to be continued under the same conditions as at present (para. 4).

14. The representation of the Association of Building Technicians on the Council to be discontinued (para. 4).

15. The representation of the Salaried and Official Architects' Committee by two members on the Council to be discontinued (para. 5).

16. The Chairmen of the RIBA Registration Committee and the Board of Architectural Education to continue to be ex-officio members of Council; the former appointment not to be restricted by class of membership, but the latter to remain restricted to the class of Fellows (para. 5).

17. No other ex-officio appointments to be made to the Council (para. 5).

18. All corporate members, RIBA resident overseas to have a vote in the

national section of the Council election (para. 6).

19. The Institute should work towards a federal relationship with the Commonwealth Allied Societies and should try to evolve some form of Federal Consultative Council (para. 7 (*a*)).

20. In the meantime, the existing provisions be continued by which the five senior Allied Societies overseas appoint their Presidents as members of the RIBA Council with deputies in the United Kingdom, but with the modification that these deputies be selected only from already elected members of Council (para. 7 (*b*)).

21. A Commonwealth and Overseas Committee to be formed to watch the interests of overseas Allied Societies and to consider further development of the principle of a Federal Council. Representatives of overseas Societies who may be visiting the United Kingdom should be invited to take part in the meetings of this Committee (para. 7 (*c*)).

The Report

1. INTRODUCTION

Probably the main concern among those who voted at the last Annual General Meeting was to be left in no doubt that the RIBA Council is fully and democratically representative of the profession at large. This has accordingly been at the core of the Committee's work. Yet it at once became evident that hardly less important than questions of equity were those of administrative method and voting systems, besides various legacies of history of a kind which any long-established institution finds it necessary to review from time to time.

The situation that confronted the Committee at the outset is described in the Appendix. Members will readily see from this that many of the questions it poses are so interrelated as to defy separate treatment. Among the major issues for discussion were these:

(*a*) No Allied Society includes all RIBA members resident in its area; every Allied Society includes architects who are not RIBA members; and many Allied Societies include people who are not architects at all. Is it reasonable that an Allied Society President, however elected or appointed by this kind of membership, should automatically be his area's representative on the RIBA Council? If not, does the answer lie in a re-casting of Allied Society constitutions, or in superimposing a quite new RIBA regional structure, at any rate for voting purposes?

(*b*) How far in any case is it right to take direct local representation on a body like the RIBA Council? Should we have a national voting list only and put up with the fact that some candidates will necessarily be unknown to many members; or, conversely, have regional voting only, allowing accidents of geography to deny to most members the opportunity to vote for famous names, and risking the possibility of a slightly "parish pump" approach with each Council member determined to "represent" his locality; or settle for a compromise between the national and regional system not unlike the present arrangement?

(*c*) Do we mind the fact that an Allied Society may be 200 or 1,200 strong but in either case is still represented by one member on the Council?

(*d*) Are there any longer valid reasons for recognizing a distinction between Fellows, Associates and Licentiates in the composition of the Council? If not, ought the distinction nevertheless to be retained for certain key posts?

(*e*) Some key posts (*e.g.*, Hon. Secretary, Hon. Treasurer) may require an exceptional sacrifice of time or the exercise of relatively rare skills. If they are to be appointed from some 60 elected Council members only, will there invariably be a choice of first-class candidates?

(*f*) As to length of service on the Council, what is a right balance between a healthy turnover on the one hand and proper continuity on the other?

(*g*) What is the case for retaining the various representatives of internal committees and external institutions now included in the Council?

(*h*) Finally, what can be done to represent and foster the interests of some 3,000 corporate members scattered among countries overseas?

2. COMPOSITION OF THE RIBA COUNCIL

Space clearly forbids a detailed exposition of the arguments surrounding each of these questions of principle; but the problem of regional representation proved to be much the most difficult, and this calls for some special mention.

Broadly, it would have been possible to bypass the Allied Societies (beyond according their Councils the right to make nominations) and to have organized the entire membership in a system of voting regions in which it would be a matter of chance whether or not the successful candidates were members of their respective Allied Societies. This, however, would have meant some necessarily cumbersome machinery for keeping Allied Societies in touch with RIBA Council affairs. More important, it would have been tantamount to ignoring the long experience and valuable work of many Allied Societies, whereas, in the Committee's view, the more closely their work and that of the RIBA can be co-ordinated towards a common end, the better. The aim of the RIBA is and should be to guide and develop the organizations that already exist, not to supplant them with untried alternatives.

The Committee concluded that this aim could be much advanced, and many electoral anomalies simultaneously resolved, by establishing a system in which all members of the RIBA would automatically become members of the appropriate Allied Society without additional fee. This would involve detailed problems both of finance and of organization, but it is not felt that these are insuperable; and it makes possible a rationalization of the present part-national, part-regional system of voting which the Committee favour rather than elections on a wholly national or wholly regional basis.

It is therefore recommended in principle that in the United Kingdom membership of the appropriate provincial Allied Society should be automatic on corporate membership of the RIBA.

Students, RIBA on election should also become members of the appropriate Allied Society, but without voting powers in RIBA elections.

The following principles are also recommended

(*a*) Members of Council should be elected in part nationally by members throughout the country and in part regionally through Allied Societies.

(*b*) National nominations should be made by the RIBA Council or by a given number of individual members as at present. Regional nominations should be made by the Allied Societies' Councils or by a given number of individual members in the appropriate area. (Voting and the right of nomination should be restricted to corporate members of the RIBA.)

(*c*) There should be no differentiation by classes of membership or categories of employment or occupation.

(*d*) All members of Council should serve for three years and should be elected by postal ballot.

(*e*) The Council should be no larger than it now is.

(*f*) The present provision by which a member of Council may not serve continuously for more than six years should be retained, subject to the provision set out at paragraph 3 (*b*).

If these principles are accepted, there are many matters of detail to be settled. Among these are the financing of the Allied Societies; methods of nomination nationally and regionally; the representation of members in London and Middlesex; the place and method for the conduct of elections; the possibility of relating the number of representatives to the population of each "Constituency"; and the best way of ensuring a smooth transition from the present constitution to the new one.

3. THE HONORARY OFFICERS

(*a*) The Vice-Presidents. At present the Chairman of the Allied Societies' Conference is automatically a Vice-President. It may well be that the proposals above will lead to some re-appraisal of the constitution and function of the Allied Societies' Conference, but until that takes place—

It is recommended that the Chairman of the Allied Societies' Conference be ex-officio a Vice-President, RIBA as at present.

At present two other Vice-Presidents are

appointed by the Council from members of Council. Since the Council will in future consist entirely of elected members (*vide* para. 9)—

It is recommended that no change be made.

Finally, the Council may appoint as a fourth Vice-President one who is not already a member of Council. The Committee think that there is much to be said for making provision in exceptional cases where the services of a highly qualified member would be of value to the Council. Such provision should, however, as at present, be permissive rather than mandatory.

It is recommended that no change be made in the possible methods of selecting a fourth Vice-President.

It is further recommended that there be no restriction as to class of membership of the Vice-Presidents.

(*b*) The Honorary Secretary and the Honorary Treasurer. There are strong arguments both for and against giving discretion for the appointment of these two officers from outside the membership of the Council.

On the one hand there should be provision in emergency for the appointment of a particularly qualified man, especially in connection with the highly specialized duties of Honorary Treasurer. On the other hand, these appointments may be said to need previous experience on the Council, and both these offices, exerting, as they do, a considerable influence on the Institute's policy, ought to be held by those who have at some point received the mandate of the general body of members.

It is therefore recommended that the Honorary Secretary and the Honorary Treasurer be appointed by the Council from amongst elected Members of Council or those who, having just completed a six-year term of office on the Council, would otherwise be debarred from service in the current year: and that there be no restriction by class of membership.

4. REPRESENTATION OF OTHER BODIES

Besides the Allied Societies' Conference, there are two other bodies which appoint representatives to the RIBA Council—the Architectural Association and the Association of Building Technicians.

The Architectural Association was founded in 1845. It took the initiative in establishing the RIBA Examinations in 1855, and has been continuously represented on the RIBA Council since 1884. The Committee consider that there are special arguments of sentiment, as well as practical grounds, for continuing the representation of the Architectural Association on the Council on the same basis as in the past.

It is recommended that the Architectural Association continue to be represented on the RIBA Council as at present.

The origin of the representation of the Association of Building Technicians was at a time when no machinery whatever existed for the representation in the RIBA of the interests of members in salaried employment. The position has now changed completely.

It is recommended that the appointment of a representative of the Association of Building Technicians on the RIBA Council be discontinued.

It follows from the principle of having elected members only that various other bodies representing sectional groups of achitects, which might otherwise have a good case for representation on the Council, cannot be admitted.

It is recommended that the principle be accepted that the Council should consist of elected members, and that no bodies other than the Architectural Association should be given representation.

5. EX-OFFICIO REPRESENTATION OF COMMITTEES

For the reasons set out in paragraph 4 concerning the representation of members in salaried employment,

It is recommended that the appointment of two representatives of the Salaried and Official Architects' Committee on the RIBA Council be discontinued.

On the other hand the special position of the RIBA Registration Committee and the link between the RIBA Board of Architectural Education and the Statutory Board, constitute strong arguments for continuing the ex-officio representation of these two bodies.

It is therefore recommended that the Chairman of the RIBA Registration Committee and the Chairman of the Board of Architectural Education should continue to be ex-officio Members of the Council: that the former appointment be not restricted by class of membership, but that the latter continue to be restricted to the class of Fellows.

It is recommended that apart from these there should be no ex-officio appointments to the Council.

6. REPRESENTATION OF CORPORATE MEMBERS RIBA RESIDENT OVERSEAS

These members, whether or not they are members of an available Allied Society in their country, are still part of the general body of the RIBA and ought in the opinion of the Committee to have equal rights with those in the United Kingdom. They number approximately 3,400. Subject to further consideration of the time-table for the new election procedure and other administrative details which should not present any great difficulty:

It is recommended that the franchise be extended to all Corporate Members, RIBA resident overseas, to vote in the National Section of the Council election.

7. REPRESENTATION OF OVERSEAS ALLIED SOCIETIES

There is a large number of architects of British nationality practising in Commonwealth countries not members of the RIBA nor qualified for membership, though fully qualified in their own country and for membership of their own Allied Society. Apart from sentiment, they will have no especial attachment to the RIBA nor particular claim for a say in its affairs. The table above shows the proportions of members and non-members RIBA in the Overseas Allied Societies.

Of these, only the five senior Commonwealth Societies (Canada, Australia, New Zealand, South Africa and India) are represented on the Council. The Committee do not think there is any argument for extending representation to the other Societies; rather, the direct representation of the five should ultimately be replaced by federal or Commonwealth links of a different kind.

The Committee are aware that there have been informal consultations with a view to setting up some form of Commonwealth Consultative Council in which the RIBA would participate on an equal footing with the other overseas Allied Societies. The Committee commend this suggestion, but appreciate that it will take time to develop. Meanwhile, they think that developments would be assisted and the interests of overseas Allied Societies sufficiently cared for, if a Commonwealth and Overseas Committee were set up at the RIBA.

It is therefore recommended that:

(*a*) The Institute should work towards a federal relationship with the Commonwealth Allied Societies and should try to evolve some form of Federal Consultative Council.

(*b*) In the meantime, the existing provisions be continued by which the five senior Allied Societies oversea appoint their Presidents as members of the RIBA Council with deputies in the United Kingdom, but with the modification that these deputies be selected only from already elected members of Council.

(*c*) A Commonwealth and Overseas Committee, which might start as an offshoot of the Constitutional Committee plus the

	Total membership	RIBA members and students	Non-RIBA	Percentage non-RIBA
Institute of South African Architects	1,383	411	972	70
East Africa Institute of Architects	207	106	101	49
Institute of Northern Rhodesian Architects	45	38	7	15
Institute of Southern Rhodesian Architects	232	100	132	57
Ghana Society of Architects	58	46	12	21
Royal Australian Institute of Architects	2,540	368	2,172	85
New Zealand Institute of Architects	569	256	313	55
Royal Architectural Institute of Canada	1,796	168	1,628	91
Indian Institute of Architects	545	165	380	70
Institute of Architects of Malaya	141	125	16	11
Federation of Malaya Society of Architects	66	32	34	51

United Kingdom deputies, be formed to watch the interests of overseas Allied Societies and to consider further development of the principle of a Federal Council. Representatives of overseas Societies who may be visiting the United Kingdom should be invited to take part in the meetings of the Committee.

9. THE ROYAL CHARTERS, BYE-LAWS, AND ALLIED SOCIETIES' RULES

Of the recommendations set out in paragraph 8:

(*a*) The following would necessitate amendments to the Bye-laws: (2), (3), (4), (5), (7), (11), (12), (14), (15), (16), (18), (20).

(*b*) The following would necessitate the grant of a Supplemental Charter: (12).

(*c*) The following would necessitate amendment to the rules of Allied Societies: (1).

10. FURTHER WORK OF THE COMMITTEE

In addition to the many points referred to at the end of paragraph 2 the Committee have yet to consider in detail the structure and organization of the Allied Societies, as well as the various points or other aspects of the Bye-laws, which were raised at the Annual General Meeting. As stated earlier, however, it has been considered wise to start with a discussion of principles, particularly concerning the constitution of the Council, before proceeding to details of organization or of Bye-law changes.

APPENDIX

TERMS OF REFERENCE AND BACKGROUND INFORMATION

1. Membership

The following members were appointed by the Council at their meeting on July 8, 1958:

Richard H. Sheppard [*F*], Honorary Secretary

E. D. Jefferiss Mathews [*F*], Honorary Treasurer.

Norman H. Fowler [*F*], Chairman, Allied Societies' Conference.

Hubert Bennett [*F*].

Denis Clarke Hall [*F*].

A. W. Cleeve Barr [*A*].

Bernard H. Cox [*L*].

R. O. Foster [*F*].

Edward Holman [*F*].

Arthur G. Ling [*F*].

J. H. Napper [*F*].

Thomas E. Scott [*F*].

John C. Stillman [*A*].

T. H. Thoms [*F*].

Thurston M. Williams [*A*].

L. Hugh Wilson [*A*].

Three other members invited by the Council were unable to accept appointment, *viz.*:

Kenneth J. Campbell [*A*].

Professor R. J. Gardner-Medwin [*F*].

Peter F. Shepheard [*A*].

A. W. Cleeve Barr was elected Chairman of the Committee.

2. Terms of Reference

A proposal to set up the Committee was originally approved by the Council at their meeting on April 15, 1958, the task being to carry out a full review of the structure and finances of Allied Societies and their constitutional position in relation to the RIBA. However, following upon the Annual General Meeting in May, 1958, the Committee's tasks were redefined in the following form:

(*a*) Review of the constitution of Allied Societies in relation to the RIBA, including a survey of the current financial arrangements.

(*b*) Review of the constitution of the RIBA Council in the light of the motion passed at the Annual General Meeting requesting the Council to initiate and prosecute such action as is necessary to ensure that:

(i) Honorary Officers, other than the President and Past Presidents who are directly elected, shall be appointed only from elected members of Council.

(ii) All members of Council who shall be entitled to vote shall be elected by postal ballot—this being organized in the case of regional representatives locally by the Allied Societies.

(*c*) Revision of the Bye-laws. In addition to proposing any consequential revisions to the Bye-laws arising from recommendations the Committee may make in regard to the constitution of the Council, it has also been left to them to examine suggestions in regard to the machinery for requisitioning a referendum and for requisitioning Special General Meetings.

3. Present Position

The following facts are relevant:

Membership of the RIBA is confined to British subjects but not restricted to the United Kingdom. Nearly 20 per cent. of the membership lies outside the United Kingdom.

The present RIBA Council elected in June, 1958, is the result of the second year of a three-year transitional programme being implemented on the recommendation of the Constitutional Committee which sat under the Chairmanship of Kenneth M. B. Cross (Immediate Past President) during 1954-55. The recommendation was submitted to and approved by the general body of members at General and Confirmatory Meetings held on December 20, 1955, and January 10, 1956.

4. Present constitution of the RIBA Council

On completion of the transitional period in June, 1959, the constitution of the Council will be as shown in the following tables:

DISTRIBUTION

(*a*) Elected by ballot of General Body resident in United Kingdom or Eire			
Officers:			
	President	1	
	Past Presidents	2	
		—	3
Members:			
	Fellows	9	
	Associates	9	
	Licentiates	3	
	"Ordinary Members" (irrespective of class)	9	
		—	30
(*b*) Appointed by Allied Societies in England		17	
Appointed by Allied Societies in Scotland		4	
Appointed by Allied Societies in Wales		1	
Appointed by Allied Societies in Ireland		2	
Appointed by Allied Societies Overseas		5*	
* With deputies in the United Kingdom.			
		—	29
(*c*) Appointed by Other Bodies:			
	AA	1	
	ABT	1	
	Allied Societies' Conference (ex-officio Vice-President)	1	
		—	3
(*d*) Appointed by Boards or Committees:			
	Board of Architectural Education	1	
	RIBA Registration Committee	1	
	Salaried and Official Architects' Committee	2	
		—	4
(*e*) Appointed by the Council:			
	Vice-President	1	
	Hon. Secretary	1	
	Hon. Treasurer	1	
		—	3
			72

SUMMARY OF ELECTED AND NON-ELECTED		
Elected by ballot	33	(45·8 per cent)
Appointed by other bodies	31	(43·0 per cent)
Appointed by Council	3	(4·2 per cent)
Ex-officio	5	(7·0 per cent)
SUMMARY BY CLASSES OF MEMBERSHIP		
Must be Fellows	15	(21·0 per cent)
Must be Associates	9	(12·6 per cent)
Must be Licentiates	3	(4·2 per cent)
Any Class	44	(61·0 per cent)
Fellow or Associate	1	(1·2 per cent)
SUMMARY BY REGIONS, ETC.		
Representing Geographical Areas	29	(40·4 per cent)
Elected by General Body (United Kingdom)	33	(45·8 per cent)
Appointed by other Bodies, Committees, Council, etc.	10	(13·8 per cent)

5. Present Representation of Allied Societies in the RIBA Council

(*a*) UNITED KINGDOM AND REPUBLIC OF IRELAND—

(i) Under the present constitution, the following Allied Societies each appoint one representative:

Berks, Bucks and Oxon Architectural Association.
Birmingham and Five Counties Architectural Association.
Devon and Cornwall Society of Architects.
Essex, Cambridge and Hertfordshire Society of Architects.
Hampshire and Isle of Wight Architectural Association.
Leicestershire and Rutland Society of Architects.
Liverpool Architectural Society.
Manchester Society of Architects.
Northamptonshire, Bedfordshire and Huntingdonshire Association of Architects.
Northern Architectural Association.
Nottingham, Derby and Lincoln Society of Architects.
Sheffield, South Yorkshire and District Society of Architects and Surveyors.
South Eastern Society of Architects.
West Yorkshire Society of Architects.
York and East Yorkshire Architectural Society.
South Wales Institute of Architects.
Royal Society of Ulster Architects.
Royal Institute of Architects of Ireland.

(ii) The following Allied Societies, while not individually appointing a representative, share on a federal basis:

Scotland Aberdeen Society of Architects Dundee Institute of Architects Edinburgh Architectural Association Glasgow Institute of Architects Inverness Architectural Association Stirling Society of Architects	Through the RIAS appoint four repretatives.
England Norfolk and Norwich Association of Architects Suffolk Association of Architects	Through the "East Anglian Society of Architects" appoint one representative.
Bristol and Somerset Society of Architects Gloucestershire Architectural Association. Wilts and Dorset Society of Architects	Through the "Wessex Federal Society of Architects" appoint one representative.

(*b*) OVERSEAS—

(i) The following Allied Societies each appoint one representative, with the right to have a deputy in the United Kingdom in the absence of the appointed representative:

Royal Architectural Institute of Canada.
New Zealand Institute of Architects.
Indian Institute of Architects.

(ii) The following Allied Societies, while not individually appointing a representative, share on a federal basis:

Cape Provincial Institute of Architects
Natal Provincial Institute of Architects
Transvaal Provincial Institute of Architects
} Through the Institute of South African Architects appoint one representative with a deputy in the United Kingdom.

New South Wales Chapter
Queensland Chapter
Tasmanian Chapter
South Australian Institute of Architects
Royal Victorian Institute of Architects
Western Australian Chapter
} Through the Royal Australian Institute of Architects appoint one representative, with a deputy in the United Kingdom.

(iii) The following Allied Societies are *not* represented on the RIBA Council:

East Africa Institute of Architects.
Institute of Northern Rhodesian Architects.
Institute of Southern Rhodesian Architects.
Ghana Society of Architects.
Institute of Architects of Malaya.
Federation of Malaya Society of Architects.

(*c*) PRESIDENTS REPRESENTING ALLIED SOCIETIES

In accordance with Bye-law 28, those Allied Societies which are represented on the RIBA Council must appoint their Presidents to represent them. In the majority of societies, the constitutions provide for the election of Presidents by the vote of the general body of members, though in practice contested elections are rare.

6. MEMBERSHIP OF ALLIED SOCIETIES IN THE UNITED KINGDOM

The table below has been compiled from information supplied by Allied Societies. It sets out the proportions of members and non-members, RIBA.

7. MEMBERSHIP OF ALLIED SOCIETIES OVERSEAS

The position differs from that in the United Kingdom and varies in different Commonwealth countries. In the five senior Commonwealth Allied Societies 74 per cent (average) of the membership are not members of the RIBA. In the smaller Commonwealth Allied Societies the proportion of non-RIBA members is substantially lower (20 per cent or less) and there are very few RIBA members resident in the "newer" countries who are not members of the appropriate Allied Society. However, with the development of some of these countries towards independence it is probable that the proportion of architects locally qualified but not eligible for membership of the RIBA will increase, with the result that the proportion of non-RIBA members in these Allied Societies will also increase.

With regard to the major Commonwealth countries, the proportion of RIBA members who are not members of the Allied Society is fairly low, apart from Canada, where, in certain provinces, the Associateship, RIBA, does not qualify for registration and membership of the Allied Society until Canadian citizenship has been attained.

8. COUNCILS OF OTHER COMPARABLE INSTITUTIONS

The Committee have thought it proper to examine the constitution and method of election of the Councils of some 12 other comparable institutions. They much appreciate the assistance and information which was so readily made available by each institution.

There appear to be two distinct systems:

(i) nomination and election by the whole general body of members. In this case provision is often made for nomination by regional or sectional interests, but candidates are voted on by the whole general body.

(ii) representation by regional or sectional interests, but with no detailed provisions being laid down for the procedure by which these interests select their representatives.

Some institutions have a composite system in which part of the Council is appointed by each method. It may be noted that the RIBA Council as at present constituted is an example of this composite system.

Society	Corporate members RIBA (*FAL*) (*a*)	Students RIBA (*b*)	Probationers RIBA (*c*)	Architects or assistants other than (*a*), (*b*), (*c*) (*d*)	Surveyors and associated professions (*e*)	Others (*f*)	Total of non-RIBA (*d*), (*e*), (*f*) (*g*)	Total of Society (*h*)	Percentage RIBA corporate members and students (*i*)	Percentage RIBA including probationers (*j*)	Percentage non-RIBA (*k*)
									Per cent.	Per cent.	Per cent.
Berks, Bucks and Oxon AA	397	60	61	76	4	3	83	601	76	86	14
Birmingham and Five Counties AA	523	131	14	101	60	30	191	859	76	78	22
Devon and Cornwall SA	258	69	62	22	—	6	28	417	78	93	7
Norfolk and Norwich AA	110	22	0	43	13	11	67	199	66	66	34
Suffolk AA	61	13	— (*b*)	23	—	8	31	105	70·5	70·5	29·5
Essex, Cambs and Herts SA	732	187	24	106	40	60	206	1,149	80	82	18
Hants and I.O.W. AA	223	63	46	25	49	17	91	423	67·5	78·5	21·5
Leics. and Rutland SA	106	17	2	10	4	11	25	150	82	83	17
Liverpool Architectural Soc.	247	46	40	12	1	56	69	402	73	83	17
Manchester SA	454	120	— (*b*)	40	—	144	184	758	76	76	24
Northants, Bedfordshire and Hunts AA	170	39	20	35	2	8	45	274	76	83·5	16·5
Northern AA	484	137	186 (*a*)	49	—	6	55	862	72	93·5	6·5
Notts, Derby and Lincs SA	401	77	90 (*a*)	87 (*a*)	—	—	87 (*a*)	655	73	87	13
Sheffield, S. Yorks and District SAS	160	15	3	24	16	8	48	226	78	79	21
South Eastern SA	1,249	180	167	224	19	6	249	1,845	77·5	86·5	13·5
Bristol and Somerset SA	283	54	39	56	—	27	83	459	73	82	18
Gloucestershire AA	108	26	29	35	—	10	45	208	64	78	22
Wilts and Dorset SA	117	11	16 (*a*)	3	—	5	8	152	84	95	5
West Yorkshire SA	426	173	95	16	17	87	120	814	73·5	85	15
Yorks and E. Yorkshire AS	191	76	— (*b*)	47	—	3	50	317	84	84	16
South Wales IA	311	76	100 (*a*)	140 (*a*)	—	—	140 (*a*)	627	61·5	77·5	22·5
RIAS	1,306	323	— (*b*)	514	62	—	576	2,205	74	74	26
RSUA	134	60	33	50	—	7	57	284	68	80	20
RIAI	106	4	—(*b*)	261	—	91	352	462	24	24	76
Totals	8,557	1,979	(1,027)	1,999	287	604	2,890	14,453	73	(80)	(20)

Notes: (*a*) Estimate. (*b*) No records available. (*c*) Figures in brackets are open to doubt owing to lack of complete information.

Everthorpe Hall Prison, in Yorkshire, is the first prison (apart from open prisons) to have been built in this country since Camp Hill was built in the Isle of Wight in 1910. A correspondent, who is both an architect and a student of penology, examines the design of Everthorpe in the light of new ideas on the treatment and rehabilitation of criminals and questions whether the prison authorities have made an adequate appraisal of their needs.

THE FIRST NEW PRISON

—*but is it new enough?*

For those who can detach their minds from the stupidity, waste and inhumanity that have characterized much of the past history of prisons, there are aspects of their organization and design that are particularly fascinating. This is partly because different penal authorities have followed rather distinctive policies towards prisoners, and these are closer, and deliberately reflected in the buildings that the different authorities commissioned.

The design of prisons as such is a modern problem, because imprisonment as a method of dealing with convicted criminals was only widely adopted in the 18th century as a substitute for the traditional methods of execution, mutilation or transportation. Initially, therefore, the only model for a convict prison was the complex of chambers, as at Newgate or the Bastille, into which malefactors, debtors, and the insane were herded, mainly before trial, without undue reference to their sex, age or the nature of the offence with which they were charged.

Even in the 19th century, plans were still being prepared for congregate prisons along these lines. But such plans were out of date from the start, for new ideas of penal management and new concepts of prison design and construction were in the air. In 1775, John Howard began his tours of Europe which took him not only into the traditional prisons and gaols but also into the Houses of Correction which had been built to discipline and reform vagrants and mendicants. Among the buildings that Howard visited was one that was to have a profound and surviving influence on the design of cell-blocks in British prisons. This was the Hospice of San Michele in Rome, which Pope Clement XI had established for the purpose of dealing with local wayward boys. In this building, two alternative régimes were provided side by side. Some of the boys were sentenced criminals, and they were congregated into a central hall and kept at spinning and weaving under a harshly administered rule of silence. Other boys had been committed because they had proved to be beyond the control of their parents, and these were shut away into individual cells in which they were given plenty of time and solitude to reflect on their past mistakes.

The alternative penal principles enshrined in these two types of régime were those that later underlay the two most celebrated rival policies in the United States which became known as the Auburn and Pennsylvania systems. The Auburn system called for a businesslike institution, in many cases built by prison gangs and incorporating workshops as an essential feature, on the principle that the convicts should be employed as far as possible on the job of repaying the financial cost of their imprisonment. It was recognized that for reasons of productive efficiency it would be necessary to congregate the prisoners together, but extremely harsh discipline and the use of such devices as hoods and visors to cover the heads of the prisoners were used to ensure good behaviour. Although in practice the prisoners were locked in their cells for long periods, particularly at week-ends, the cells were assumed to be just sleeping places and were of minimum size, *e.g.*, 7 ft. long by 3 ft. 6 in. wide by 7 ft. high.

In contrast, the Pennsylvania, or Eastern, Penitentiaries were devised, as their name suggests, to provide the setting within which a prisoner could, in a régime of Solitude and Labour, muster his own moral resources and work his own passage to salvation. On grounds which are not entirely clear, but which may have to do with the monastic analogy, this was thought from the start to require the strictest isolation of individual prisoners from each other and even from the prison officers. For various reasons, the earliest versions of these Penitentiaries were as buildings dark and gloomy, complicated in plan and extremely expensive; in contrast with the minimal dimensions of the Auburn cell, each cell at the Eastern Penitentiary was designed for solitary working as well as living and sleeping, and was 11 ft. 9 in. long by 7 ft. 6 in. wide and 16 ft. high, which gave a cubic capacity eight times as great as the Auburn cell. Furthermore, elaborate yards had to be provided for each prisoner's solitary outdoor exercise.

Obviously the idealists, like Jeremy Bentham with his impossible Panopticon, favoured the Pennsylvania system, while the businesslike realists went for the economical Auburn system. But both types provided

a much needed stimulus to the rethinking of prison design. Examples of both systems in the United States became places of pilgrimage for various official commissions sent out from Europe. One British visitor was Dr. William Crawford, who had been appointed in 1832 as a Commissioner to study the American systems of penal administration. In 1834 he reported in favour of separate confinement, and Pentonville Prison was consequently designed to echo in slightly modified form the organization and design of the Eastern Penitentiary. In the six years after Pentonville was opened in 1842, 54 new prisons were built on similar lines in Great Britain, providing 11,000 separate cells, and these make up almost all the stock of prisons today. Literally the only new security prison opened in England since the 1840's until this year was Camp Hill in the Isle of Wight, opened in 1910, a reasonably small establishment which resulted from the preventive detention provisions in the Act of 1908. This means that the essential features of the Pentonville plan type, modified only in minor ways, are still the norm. One change was that, for reasons of economy and space, the individual exercise yards of the Eastern system were at an early date replaced in England by common exercise yards; when these common yards were introduced anonymity and silence were at first ensured by the visors and by disciplinary measures borrowed from the Auburn system. From Auburn also came the use of congregate workshops, but not so much to exploit prison manpower as to give scope for John Howard's maxim, " Make men diligent and they will be honest."

Meanwhile, and particularly in the last 50 years, an entirely new set of beliefs relating to the function of imprisonment has been growing up. The ideas of retribution tend to be discounted; the idea of penitence is regarded, to say the least, as not enough by itself; the ideas of deterrence and of the protection of the public by immobilizing the criminal retain only a fraction of their former weight. In place of these, the dominant idea is one of rehabilitation. It is recognized today that very many offenders are handicapped as individuals by mental disturbances or are immature as personalities, and it is believed that they should be helped towards achieving the kinds of social competence and adjustment towards society that would enable them to fit into normal community life.

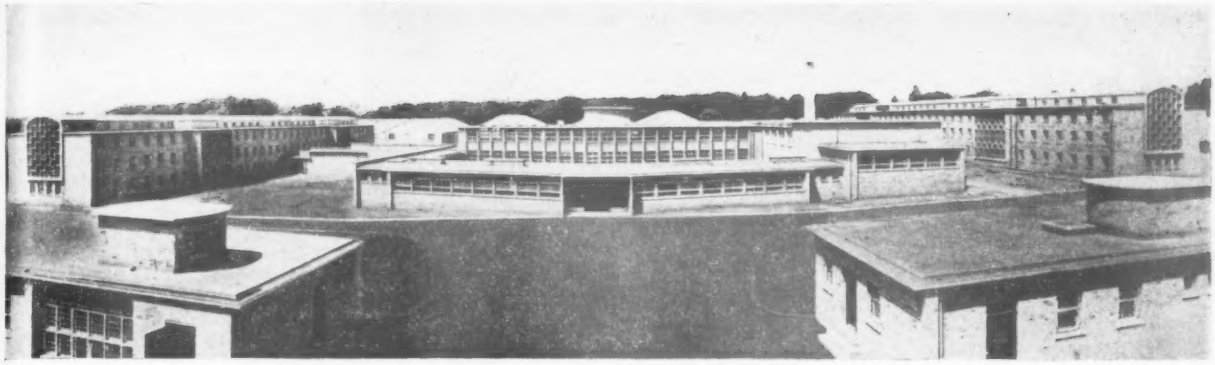
There are naturally some difficulties and inconsistencies in this analysis of the criminal problem, which perhaps exaggerates the improvability of human nature and perhaps pays too little attention to the possibility that at least some criminals may be normally adjusted, but to the wrong sub-culture. But this is not the point. What is important is that there exists today a widely accepted philosophy of penology and a method of treatment which is fundamentally different from that which informed the building programme of the 1840's, and one which is being actively reflected in the practical organization and day-to-day running of contemporary prisons. What is demanded of today's prison officer is radically different from what was demanded of his predecessor. Many have received some psychiatric training, and in some prisons a new relationship, the so-called " officer-prisoner association," has been introduced. At least one Governor is a qualified Psychiatric Social Worker. In this respect, the British prison system is more advanced than, for example, the American in which the psychiatric service is liable to be an unincorporated appendage on a basically unchanged traditional disciplinary system.

It is therefore of particular interest to consider what kind of a place the new prison of Everthorpe Hall has been made, and to ascertain the extent to which the new buildings have been designed to reflect these new ideas in the treatment and rehabilitation of criminals.

In its physical appearance, Everthorpe Hall is more or less what might have been expected. As a Crown building, it bears the stamp of the authoritative Chief Architect's Department of the Ministry of Works. It possesses a dignified solidity which is obviously appropriate for a prison building. In the cell-blocks, which now constitute a relatively minor part of the total complex of buildings, the solidity is clearly a structural requirement. In other parts, such as the administration block, the robustness would probably be justified on grounds of æsthetic symbolism rather than of practical necessity. But although it obviously looks an expensive group of buildings—just as traditional schools look expensive in contrast with the flimsy structures of today—this appearance does not strongly violate our sense of the appropriate. In carrying out the requirements of the Prison Commission, the Ministry of Works has done its job. But we still have to examine these needs, as expressed by the Prison Commission, and try to gauge whether they have been well conceived.

Everthorpe Hall was designed as a security training prison, that is for prisoners who are deemed to need close guard but who might also benefit after release if they have received some practical training in a trade. Through no fault of the Prison Commission, the need for Borstal accommodation has been so great that in the first place it is being retained for an indefinite period as a Borstal establishment, and it would not be fair to judge Everthorpe Hall by its fitness for its present use. In order to be fair, one has to people the prison in one's imagination with a full complement of just over 300 tough and experienced criminals, many of whom will have served time in one or other of the famous prisons of the past, and will have learned all the tricks of informal and unsanctioned self-government at which prison populations are so adept.

Faced with a population of this kind, it is not realistic to suppose that a regime of love and psychiatric understanding will suffice alone It has to be remembered that Everthorpe is designed to take the hard core, and it had to be armoured accordingly. This must be the explanation of the prison wall which is 2,480 ft. in length and averages 18 ft. above the ground. This wall, which is of precast and prestressed concrete units bolted together, is said to have cost £100,000, out of the total prison building contract of just over £600,000. This is technically an obvious advance on the laborious brick walls that it supersedes; one cannot say, but it

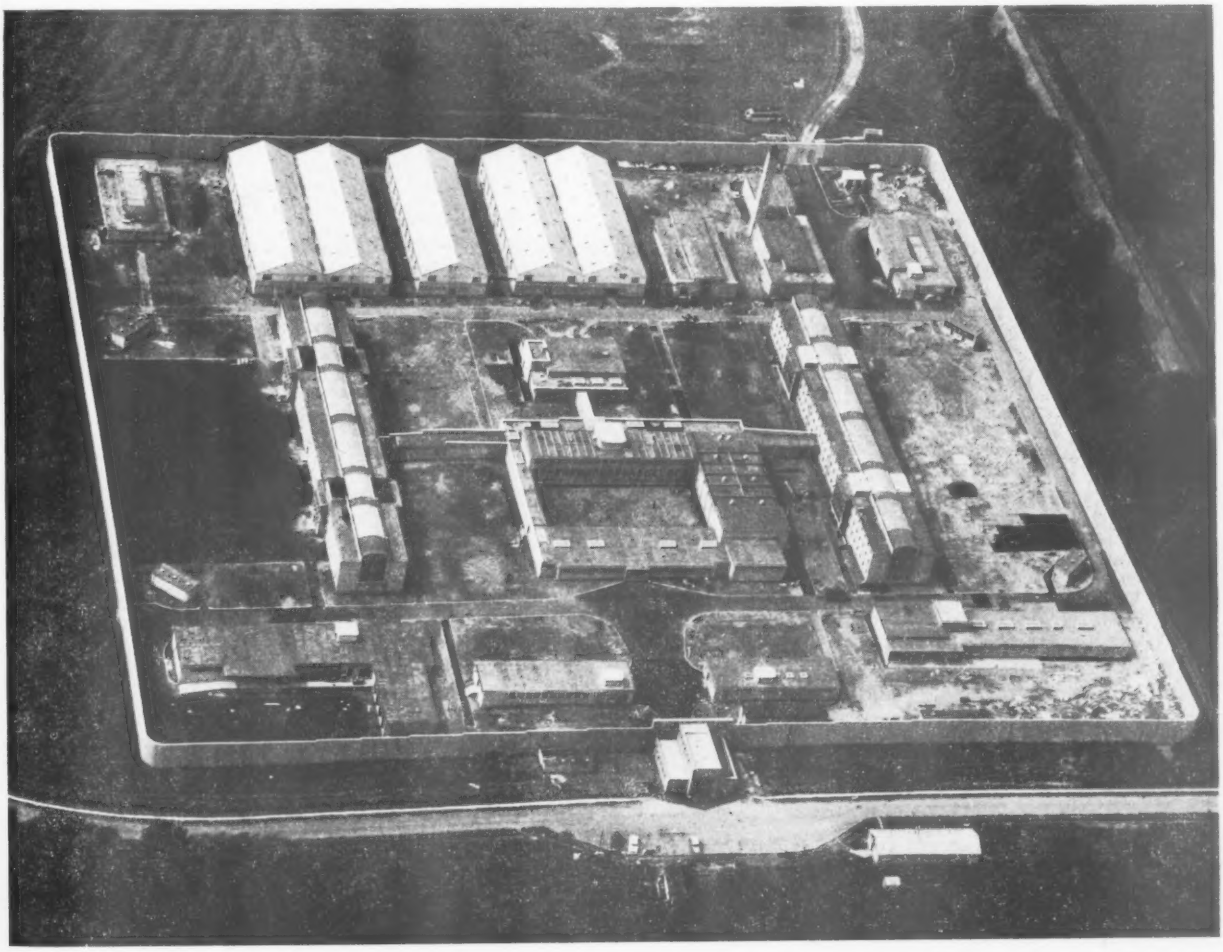


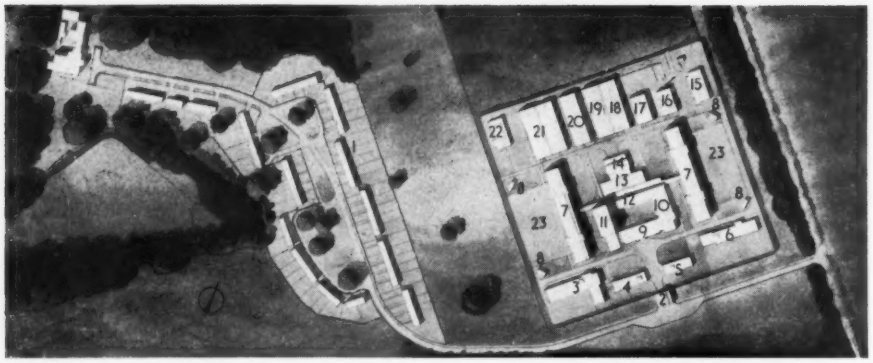
seems possible that a reappraisal might have led to a decision to be content with a more modest perimeter wall, based perhaps on prison camp experience, and to invest the money saved to pay the cost of recapturing the occasional prisoner who chooses to forfeit his good conduct by escaping.

It is impossible not to feel that a preoccupation with this kind of Maginot Line security has pervaded some other thinking that underlines this new prison design. Everything of that kind has to be of the best. The cell windows have noticeably lower sills than such prisons used to offer, and the good prisoners who are allotted a cell on the top floor actually have a view of the trees beyond the wall, but all these windows are guarded on the outside by a type of manganese steel

Fig. 1. View on entering Everthorpe Prison. In the centre are the administrative offices. Attached on right is the assembly hall/gymnasium. Attached on left will be a chapel to be built with prison labour. Flanking the central block are the two cell blocks.

Fig. 2. View of Everthorpe Prison from the air. The five Marston huts at the back are used as training workshops. In the modern training prison the cell blocks constitute quite a small part of the building complex.





KEY:
1. Warders' houses
2. Lodge
3. Main store
4. Visiting block
5. Reception block
6. Hospital
7. Cell blocks (each of two wings)
8. Latrines
9. Administration
10. Assembly hall and gym
11. Future chapel
12. Education
13. Future dining hall
14. Kitchen
15. Stores
16. Boiler house
17. Laundry
18. Wet weather shed
19. Workshop
20. Manufacturers' shed
21. Workshop
22. Punishment block
23. Exercise area.

Fig. 3. Layout plan of Everthorpe Prison.

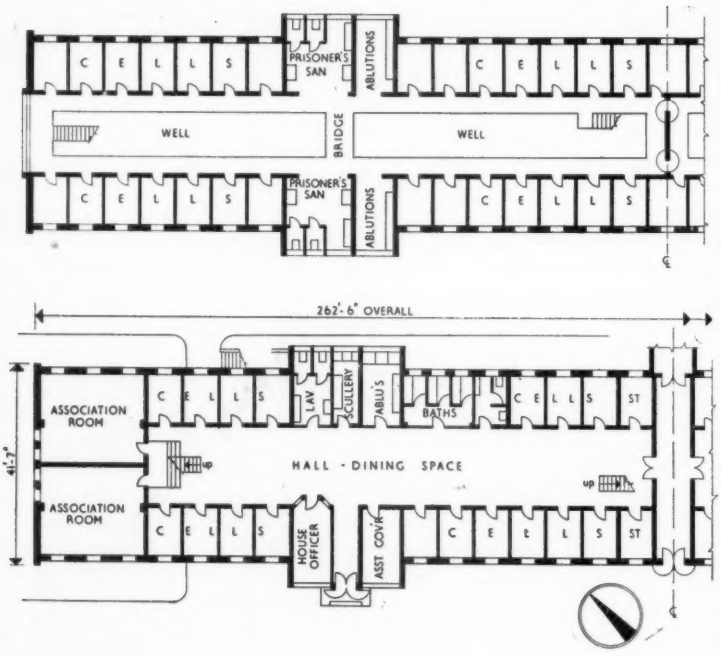


Fig. 4. Plan of the cell blocks at Everthorpe, each of which has two wings, handed. Above, ground floor plan; top first and second floors [Scale: $\frac{1}{32}$" = 1 0"]

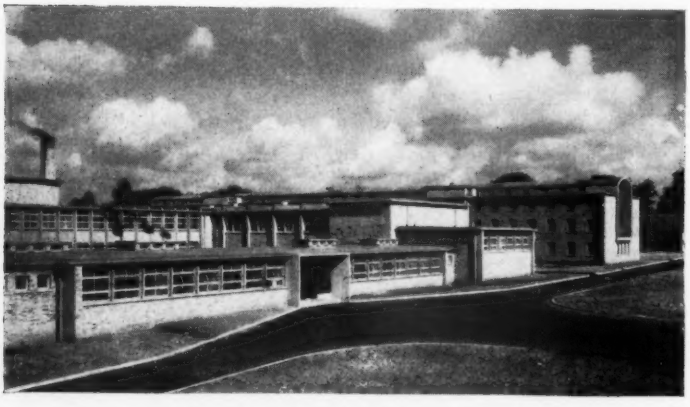


Fig. 5. Administrative offices and assembly hall/gymnasium at Everthorpe, with one cell block behind.

which is so hard and so rare that at one time the contract completion date appeared to be threatened. Much ingenuity and much money were spent in supplying and fixing an impenetrable steel-faced door which incorporates a spy-hole glazed with Georgian wired glass " so that officers cannot be injured while looking through into the cell." In Figure 9 will be observed the traditional steel safety net which is hung across the first floor balconies above the ground floor hall, " to discourage prisoners committing suicide and to protect prison officers underneath from falling objects." Curiously enough, each cell contains a fairly vulnerable looking radiator, only the bracket of which has been given exceptional anchoring, and an absolutely naked electric light bulb; possibly these artifacts are later in date than the code of safety regulations on which the design is based.

A comparison of Figures 9, 10 and 11 shows how faithfully the general layout at Everthorpe follows the British tradition; the only obvious difference is a marked improvement in the lighting of the central hall by the use of glass barrel vaulting and of the nave and transept feature windows at middle and ends. It is not automatically a criticism to note this continuity of layout, which could be found to be more economical than that used, for example, in modern American prisons which retain the characteristic Auburn plan by which the only natural lighting of the cell comes from across the corridor and through the animal-cage bars that front every cell in this type of design. Without careful analysis of needs, and without the experimental comparison of different solutions, it is not really possible to assert that either is the best available solution of the basic cell layout. But was consideration given to the possibility of eliminating the expensive triple height central hall? It is not even certain that the cell—those at Everthorpe Hall are 10 ft. long by 7 ft. wide by about 7 ft. 6 in. high—has the right to survive. It might be, for example, that some provision could best be in the form of dormitories. John Howard's insistence on separate cells was a progressive requirement in his time, but it is quite possible that in the entirely different circumstances of today there is a place for some dormitory accommodation.

Furthermore, at Everthorpe Hall, each wing of the cell block contains 77 cells in three floors and this operates as a unit with one association room on the ground floor. The plan thus determines the size and hence the organization of the basic administrative unit. While this basic unit is considerably smaller than units

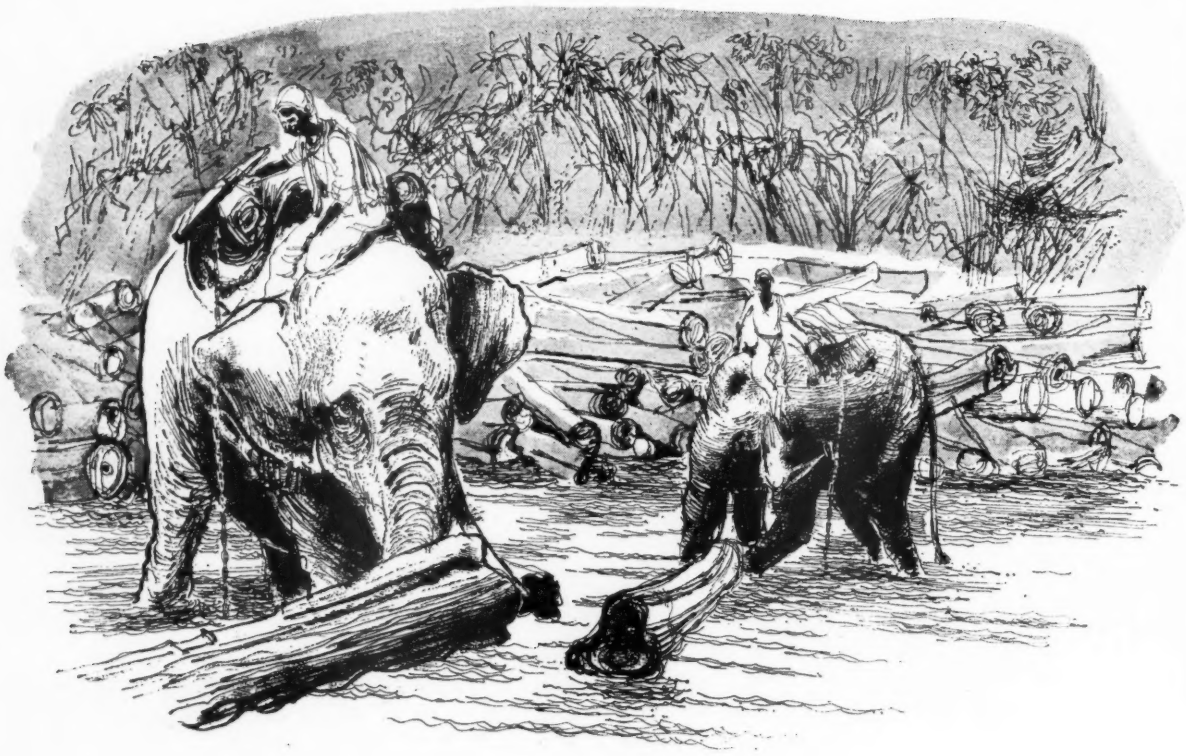
Fig. 6 (*below*). *The old type "silent" exercise yard has at Everthorpe given place to an asphalt playground marked out for games.*

Fig. 7 (*above*). *A typical cell at Everthorpe, though more fully furnished than some. Note the rendered walls, the radiator, the much improved window and the shadow of the manganese steel bars beyond. Fig.* 8 (*below*). *A traditional cell in Holloway prison for women, which has been humanised as far as the building will allow.*

Fig. 9. *Central hall of one cell block. Note the safety net. This could be an extravagant layout for what are in essence extra rugged hotel single rooms.*

Fig. 10. *The nave at Strangeways, Manchester, another very large prison.*

Fig. 11. *A cell block at one of Britain's largest prisons, Wandsworth.*



TEAK –won from the forest by huge endeavour

In the mountainous forests of Burma and Siam, men work with elephants to extract the prized *Tectona grandis*, and send it on the long, slow journey down-river to the world's markets. Machines are useless; the terrain is too wild, the trees marked for felling often too far apart. Creeks run dry between monsoons, and elephants are strong but slow. The journey lasts for years.

Such arduous effort is justified only for a wood of quite exceptional quality, and teak is such a wood. Teak can be used for every kind of joinery. And, though it costs more than most other woods, teak is always an economy in the long run. It lasts for centuries and needs no painting; its shrinkage is less than that of any other commercial timber; and it is highly resistant to moisture, fluctuating temperatures, acids, insect attacks and fungi.

And, because we stock teak in an enormous number of sizes, we can help you to cut down on waste and save still more. Ask us for samples and prices.

M·A·MORRIS·LTD

RAVENSDALE WHARF · STAMFORD HILL · LONDON N.16 · TEL: STAMFORD HILL 6611

found in some earlier prisons there are some authorities, such as Hugh Klare, Secretary of the Howard League for Penal Reform, who look to a development of much smaller basic units of not more than 10 to 15 prisoners under the charge of a prison officer, in the belief that an officer could then really get to know his charges and could provide them with effective guidance for reorientation, and for winning them from the powerful, corrupt and corrupting leadership of the most intractable prisoners. Undoubtedly many difficulties would be encountered in introducing such a change, not least the overriding difficulty of staff shortage, but the prison officer needs all the help that he can get to regain or maintain his moral ascendancy over hardened prisoners, and there is sufficient case to warrant experiments on these lines.

Another issue which may seem trivial to the outsider but which can be very important to a prisoner is that connected with sanitary arrangements. Everthorpe Hall maintains the system of the sanitary annex on each floor; this may serve at present with the Borstal boys, whose cell doors are unlocked throughout the day, but under conditions of full security it can be extremely unpleasant, and hardly in line with contemporary standards of sanitation and cleanliness. Every cell is still equipped with chamber-pot (enamel, with lid) and this is a very necessary provision because in the long evenings and nights the only way to reach the lavatory is to call a duty officer by ringing the bell and, as Sir Lionel Fox has written, "it may be inferred that, particularly in large prisons where several flights of steps have to be climbed and considerable lengths of stone landing traversed to reach a distant cell, the prisoners come to understand that the unnecessary ringing of bells is unwelcome." For some time, prisons in the United States and elsewhere abroad have overcome this difficulty by providing every individual cell with a wash-basin and a w.c. In England, however, an unfortunate experience in the original Pentonville building in 1842, where "the combined malice, ignorance and carelessness of prisoners resulted in such constant stoppage of the drains that the system had to be taken out", has persuaded the authorities that, quite apart from the prohibitive cost, it would not be advisable to instal individual w.c.'s and basins. Here again it is not possible to dogmatise, and it may well be that it is insalubrious to allow such things in a bed-sitting room without the benefit of a ventilated lobby; at the same time there seems to be no reason to suppose that contemporary British prisoners are more malicious, ignorant or careless than criminals in other countries that have successfully adopted the individual sanitary system.

Again, the question of wall and floor finishes might benefit from re-examination. It is not that these are designed for economy. Walls of cells and of the administrative block are generally rendered or plastered, and much use is made of granolithic flooring. But all these surfaces are hard and unforgiving, and the noise in the central halls must be considerable. There are today durable finishes which are easier to live with but not prohibitively expensive. Some at least of these might be made available for prison designers.

The Home Secretary has announced that a large prison rebuilding plan is in the offing. Sites for new prisons are now being chosen, and this is obviously a moment of great opportunity. But these examples suggest that the prison authorities may not at present be seeking new solutions to ancient problems or conducting the necessary reappraisal of their needs. This is not surprising in view of the very minor nature of prison building in living recollection. But the time for reappraisal is now.

The following notes on the architectural design of Everthorpe Prison were supplied by the Ministry of Works.

The prison incorporates features and planning which years of experience have proved to be the most suitable. The buildings are designed in a contemporary manner, and cover a site of about nine acres within a perimeter wall 18 ft. high and 2,480 ft. in length, consisting of precast and pre-stressed concrete units 12 in. thick, bolted together and grouted.

The buildings include: two cell blocks, each for 150 prisoners; punishment block, and buildings for administration, education, gymnasium, kitchen, reception, visiting, hospital, workshops and stores, laundry, boiler house and state lodge. Provision has been made in the plans for the future erection of a dining hall and chapels by prisoners who will be trained in the various building trades and by others who have had previous building experience.

The three-storey cell blocks are constructed of load-bearing brickwork with floors of *in-situ* concrete or precast concrete beam construction and roofs of curved concrete shells with inserted glass block panels. The cells are arranged on either side of a central space which is used for assembly, etc., and for dining until the dining room is built.

Cell windows are of the double-hung sash-opening type with guard bars of manganese steel. Cell doors are of the solid flush type covered with steel sheet on the inside and edges; floor finishes of granolithic, quarry tiles or thermoplastic material. Ample sanitary facilities are provided on each floor. Roofs generally—except to workshops—are flat concrete with overhanging eaves and covered with asphalt.

The central kitchen is equipped with modern steam apparatus and oil-fired baking oven and is planned to serve meals cafeteria fashion in the adjacent dining hall when this is built. Central heating is by oil-fired steam boilers serving hot water radiators to all buildings, including a radiator in each cell, by gravity circulation.

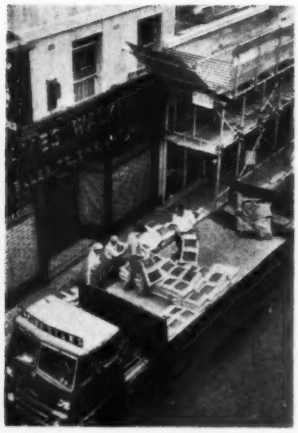
The laundry is equipped with washing machines, hydro-extractors, tumbler dryers, ironing machines, presses and sock dryers. Emergency lighting in case of failure of normal lighting has been provided. An alarm system is available in case of an escape or attack. The original Everthorpe Hall has been adapted and reconditioned to provide welfare accommodation for the officers with quarters for bachelor officers. Fifty-five houses have also been erected for prison officers and their families.

Architect: N. Hinwood, Senior Architect, Chief Architect's Division, Ministry of Works. General contractors for prison and hall, E. Shepherd & Sons; for housing, Stepney Contractors. Sub-contractors, page 836.

Business as usual

. . . thanks to the

ingenuity of GILBERT-ASH



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

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

MARLEY MIXES INCLUDE:

FINE CONCRETE
for all fine finish work.

COARSE CONCRETE
for infilling, path bottoming and similar work.

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

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

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

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

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

Deliveries can be pre-arranged to any required schedule but at present are limited to a 30 mile radius of Aveley (this includes the Greater London area).
The Marley Tile Company Ltd.,
Stifford Road, South Ockendon, Nr. Romford, Essex. *South Ockendon 2201*

A **MARLEY** *product*

News continued from page 808

Ltd.; Wm. Mallinson & Sons Ltd.; Marley Concrete Ltd.; Micanite & Insulators Ltd.; Permanite Ltd.; Treetex Acoustics Ltd.; Twyfords Ltd.; Wheatley & Co. Ltd.

Commended

Entries from the following firms did not conform with the provisions of British Standard 1311:1955 as to size, but were otherwise commended by the Assessors: Allied Ironfounders Ltd.; Crane Ltd.; Formica Ltd.

The entries will be exhibited at the Building Centre from December 3 to 13.

TRAVEL AWARDS

For Study in US.

The College of Architecture, Cornell University, Ithaca, NY, announces that financial aids are available to qualified students for graduate studies in architecture, landscape architecture, city and regional planning, painting and sculpture. In addition to awards of free tuition and fees, there are graduate fellowships ($1,500), scholarships ($175) and assistantships ($1,100). Applications will be received until February 13, 1959.

Cambridge University has established a fund (The Brancusi Travel Fund) to enable young graduates of the School of Architecture to visit the US.

A number of Fellowships and Scholarships are open to application from persons wishing to undertake graduate studies in Landscape Architecture in the University of Pennsylvania. These range in value from free tuition, free board and a stipend of $500 per annum to a minimum of free tuition.

Successful applicants are eligible as applicants for Fulbright Travel Awards which cover all transportation expenses. To be eligible applicants must hold a degree or diploma in landscape architecture or architecture. Enquiries should be directed to Ian L. McHarg, Chairman, Department of Landscape Architecture, University of Pennsylvania. The closing date for completed applications is March 1, 1959.

BIRMINGHAM

Heating Seminar

A Seminar on Heating for Architects was held at the Birmingham School of Architecture on October 23 and 24. On the evening before the seminar started, those taking part, about 25 people, mainly teachers in schools of architecture in different parts of the country, assembled to hear the chairman, William Allen outline purpose and procedure. He stressed the need for those who teach to keep in touch with those in the forefront of practice in specialist fields, said that text books and other papers were not enough and for this reason the idea of such seminars was put forward.

It was hoped that there would be one or two each year—held at a different school and on a different subject each time. Like the acoustics seminars he had attended at MIT, there should be little preparation and no formal procedure—"we shall mould the subject as we go along. . . ."

In the event there was perhaps not quite enough "direction" in the discussions, speakers from the floor chipping in rather at random, so that it is difficult to discern or to summarize the main themes of the two days intensive talking with any clarity.

Glazing and heat loss

On the first day, J. B. Dick, of BRS, led the discussion on five aspects—heat loss from buildings; heat balance of the body; air movement; thermal character of buildings, and ventilation. R. J. Allerton, of Notts. County Council, spoke on relations between architect and heating engineer. Much of the discussion was a rehearsal of already known technical knowledge but under "heat loss" two less familiar aspects emerged. First that sky temperatures, especially on clear nights, may be 20 degrees lower than air temperatures, causing considerable radiation losses and lowering of roof temperatures to condensation point, particularly if the roof soffites are well insulated. The second was that solar heat gains through windows on south and east facing walls can be appreciable and that although many heating engineers criticize modern buildings for "excessive glass"—the actual area of glass is of small significance for the amount of heat lost from the building. Some 90 per cent of solar heat gets in through the glass and with no other heating in the building, it can raise the temperature inside by four or five degrees. Averaged over the heating season, solar heat can be counted on to provide as much as 25 per cent of the total heat input requirement. This applies, of course, only to south and east walls.

Warm surfaces, shallow gradients

Under "heat balance of the body" main themes were: the need to maintain the temperatures of surfaces facing the body at the same or a little above air temperature, and to keep vertical temperature gradients within five degree limits—particularly where the ceiling is the heat source. There was an inconclusive discussion of humidity and its significance for "stuffy" or "dry throat" feelings. It seems that the Americans consider it important, but the English expert, Dr. Thomas Bedford, thinks maintenance of a balance between radiant and air temperatures and of a straight gradient more significant for comfort conditions. When the discussion turned to "air movement" the problem was raised again relative to cross infection, the common cold and dust laden convected air.

The only conclusions seemed to be that experiments in schools with ultra violet bacteria killers had failed and that common beliefs about air borne infection may be fallacious.

Rapid response systems

"Thermal character of buildings" was concerned very largely with the findings of MOE Building Bulletin 13 (and its supplement) on school heating tests. It appeared to confirm the concept of rapid response, flexible control heating systems of small thermal mass in insulated buildings of low thermal capacity which are of intermittent occupation. The fuel savings over more conventional systems are astonishing, but the most spectacular result of the tests was the long time taken by low thermal capacity buildings to cool down—far longer than had been thought previously. It seems that this approach to the design of heating installations will be further developed in the future for other building types.

On the afternoon of Friday, R. J. Allerton spoke about relationships and procedures between architects and heating engineers. His main point was to urge the need for systematic co-operation, based on a planned programme of design work, with comprehensive collaboration between engineer and architect. There were brief arguments between the pro consultant and the pro specialist contractor architects in the gathering, with anecdotes to prove the superiority of both policies. The real problem here, of course, is the lack of a creative type of training for engineers—as L. J. Fowler pointed out.

Unsealed double windows

On the Friday, J. B. Dick talked about double glazing, giving some less familiar points of view. Contrary to accepted ideas, it seems that sealing of double units is not vital to their function and that convection currents in inter-spaces wide enough to allow them, are not significant in increasing heat loss, although Dick said that a ½ in. space gave the best results. Discussion was mainly about interspace condensation. A BRS test with a wood fillet between the glasses gave little trouble on a north wall, but on a south wall, solar heat released moisture from the wood. Painting the fillet made some improvement. A Swedish method of leaving a 1 or 2 mm. "breathing" gap to the outside at the top of the double glazing was mentioned.

American trend

For the remainder of Friday, L. J. Fowler (of Weatherfoil Ltd.) spoke about heating systems in houses, offices and factories. It seems that the cast iron radiator first appeared in this country in 1896, when the American Radiator Co. set up a works at Hull. He described how the Americans have gradually changed from steam to hot water heating, how the c.i. radiator has given way to fined pipes, and how the last eight years have shown a move towards warm air heating. British practice has tended to follow behind American—except that the first wall panel heating system was installed in a library at Liverpool in 1912.

Fowler suggested that all schools of architecture should have a copy of the American ASHAE Guide, referred to MOE Bulletin 13 and emphasied the surprise of the discovery that low thermal capacity buildings cool down much more slowly than was considered possible before.

Nuclear power

Electricity was discussed at some length. Fowler considered that although nuclear generation will increase and become cheaper, the overall cost of all electricity will still be higher than that of other fuels in the next 60 years. He thought nevertheless, that electricity will be used increasingly "before it is economically justified"—because of its cleanliness, ease of control, etc. On house heating, Fowler referred to the sluggishness and condensation problems of ducted air systems; pointed out that if there is a hot water boiler it might as well be used for heating also, but said that only about 1/5th of the heat produced in a h.w. boiler comes out at the taps. It is perhaps more economical to use gas or electric water heaters. He thought that the average man could not afford whole house heating and that intermittency and flexibility of control should be the aim. This implied small pipes, pumped circuits valved for control, and convector heaters.

Speakers from the floor reported costs of £35 per flat for electric floor heating and a saving of £40 on a house using polythene instead of copper for a water borne floor system.

High pressure air

For offices Fowler commended the gilled pipe perimeter wall convector system—of small thermal mass and rapid response and described an American system of "pressure boxes." This consists of small duct or 2½-in. dia. pipe circuits—one of cooled, the other of heated air under a pressure of about 5-in. w.g. These feed into the pressure boxes in each office which have dampers operated by room thermostats to regulate the proportions of cool and hot air fed into the room. He thought that air conditioning or mechanical ventilation was bound to develop for English office buildings. On the subject of factories, discussion centred on direct oil fired heaters of high output—one million Bthu and over which can cost 50 per cent less than radiator or panel systems, and on the concept of local rather than general heating in such large spaces.

JOHN CARTER.

THE INDUSTRY

From the industry this week Brian Grant describes a new range of quarry tiles, fibre pipes, skirting ducts, an oil-fired boiler and an extract fan.

Quarry tiles

A new leaflet (No. 58) from Wheatly & Co. illustrates the stock patterns of quarry tiles, and shows a considerable increase in the range of patterns made. These include square, rectangular and diagonally cut tiles, as well as two non-slip types with a ribbed or a shot-blasted face. Duct edging tiles are also produced, rebated to receive gratings or chequer plate, and most of the quarries and fittings are made in red, blue, brown, tan and buff. (*Wheatly & Co. Ltd., Springfield Tileries, Trent Vale, Stoke-on-Trent.*)

Developments in fibre pipe

Key fibre pipe, which has already been used to a considerable extent for drainage work, is now being marketed with special non-ferrous compression fittings in single stack drainage systems. The fittings allow 1¼-in. and 1½-in. waste pipes to be connected rapidly in any position, while the 4-in. stack can be easily cut to length on site with an ordinary coarse tooth saw. The pipes are quite suitable for internal plumbing, but if used externally they should be given two coats of aluminium-based primer and a top coat of colour.

The same firm, which has for many years been making under-floor electrical ducting, has also introduced a skirting duct which contains (see photograph) a number of wiring compartments so that telephones, power supplies and other services may be kept separate. Points can be added as required, for the duct can be cut with ordinary woodworking tools, and if a point is abandoned the hole is covered with a blanking plate. Removable angle panels at the corners allow wiring to be drawn in without difficulty. If the skirting is used for some other purpose such as heating, a modified duct contoured at top and bottom can be used at dado height, which may well be more convenient for telephones and desk equipment. The ducts are produced in 8-ft. lengths and in thicknesses of 1 and 1⅜ in.: any number of wiring compartments can be included, and a variety of moulded edges is available. (*Key Engineering Co. Ltd., Larkfield, Kent.*)

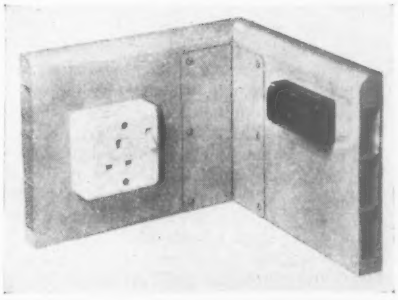
Oil-fired boilers

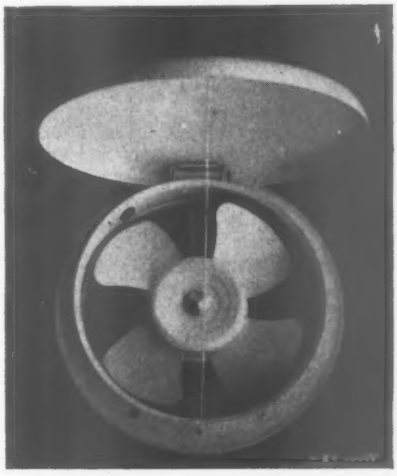
The illustration on the right shows one of the new range of oil-fired boilers made by Delmore. There are three models, with outputs of 25, 35, and 50,000 B.Th.U's per hour, selling at prices of £70, £80 and £99 10s., suitable for radiating surfaces of 150, 210 and 300 sq. ft., though this figure is, of course, reduced if they are required to supply domestic hot water as well. The manufacturers claim an efficiency of 80 per cent., and also maintain that the standard outputs can be increased by 20 per cent. with a drop of only 2 per cent. in efficiency.

The manufacturers have a deferred payments plan which covers not only equipment, but, if necessary, installation costs as well. (*Delmore Engineering Co. Ltd., 113, High Street, Staines, Middlesex.*)

Another extract fan

The photograph below, right, shows the new Coolerway extract fan which, with a 25-watt motor, is claimed to give an air displacement of 16,000 cu. ft. per hour with a 7½-in. dia. fan. Installation involves no more than a 9¼-in. hole in a convenient window pane, or the glass may be removed and a sheet of plywood or hardboard used instead. There is a cover over the outside face of the fan, and this is spring-loaded so that it swings out to the horizontal as soon as the control cord is released. Price is only £5 19s. 6d. and the unit is guaranteed for 12 months. (*Metway Electrical Industries Ltd., Kemp Town, Brighton, 7.*)

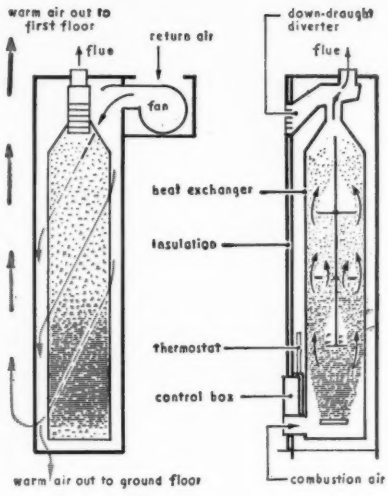


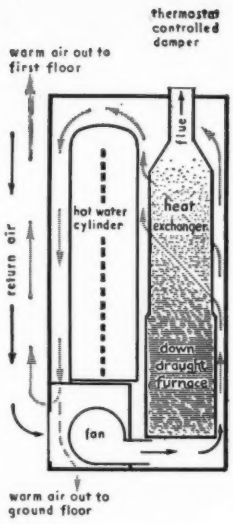


Right, top to bottom: one of the new Delmore oil-fired boilers; section of the Key Engineering skirting duct; the Coolerway extract fan.

DUCTED WARM AIR

gives a HIGHER COMFORT STANDARD than ANY OTHER HEATING SYSTEM





The best DUCTED WARM AIR system is called RADIATION DUCTAIR

These are the main advantages of ducted warm air heating:—

Speed of response—adjustment of the room thermostat alters temperature faster than is possible by any other system (e.g. to raise a room of 1500 cu. ft. from night background temperature of 55°F to 'breakfast-time' 60°F takes only 20 minutes, where insulation is to Egerton standards.) As soon as the thermostat calls, the full rated output of the unit is made available.

Flexibility. Speed of response means fuel economy can be effected by turning down the thermostat when rooms are not in use, knowing that the temperature can be restored quickly when required. (This is very valuable in, e.g., schools where intermittent heating is required.) For further economy whole rooms can be "turned off" by closing outlet grilles.

Uniformity of temperature distribution. *Low level* discharge and high level return allow very low temperature gradients. This avoids that "cold feet and hot head" feeling characteristic of some older systems.

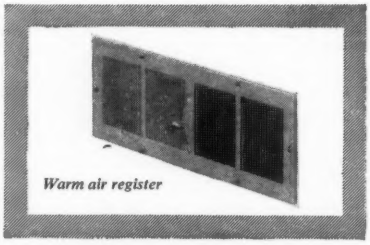
Freedom of planning—by heating the *whole* building *all* the enclosed space becomes useful space. Ducts are easily accommodated at planning stage and they make no demands on wall space. Outlet and return grilles are unobtrusive. Ducted warm air makes both "open" and conventional planning easier and offers scope for new ideas.

Clean heating—since warm air is "moved" into the room—instead of merely rising from an outlet—there is no discoloration of walls. (The warm air has, of course, no contact at any point with flue gases.)

Ventilation—the circulation of warm air is stimulating to the occupants and does away with the "heavy" feeling associated with earlier forms of central heating.

Clothes drying—efficient drying cupboards can be incorporated simply and cheaply. This is of particular value in multi-storey flats.

Drying out. A warm air system can be used


Warm air register

to speed the drying out of new buildings for early occupation.

Here are the reasons why:—

Running costs—Radiation engineers take running costs to be the true efficiency index of an appliance. Here is a short example—many others, in detail, may be seen on request. *Bungalow at Oulton Broad, Suffolk. 1500 sq. ft. insulated to Egerton standard. Heated by Ductair 0.50. Average oil consumption over 2 years (heating period 1 Oct. to 31 March) . . . 625 gallons domestic fuel oil. Standard of heating attained: Living room 60°F. Bedrooms 55-60°F (day and night averages.) N.B.* plus *domestic hot water during heating season. Out of season hot water by immersion heater.*

Installation costs—the Ductair system is cheaper than, for example, a fully thermostatically controlled radiator system using comparable fuel. Detailed comparisons are available.

Precision construction—tailored to the particular requirements of each contract, all Ductair is of the highest workmanship. This is essential in producing units of accurately predictable performance to give years of trouble free service.

Nationwide network of Radiation-trained stockists. To speed design and on-site work, Radiation have established more than 40 fully trained area stockists to provide real "head office" attention near your site. Regional design specialists can be called in by any stockist to meet new or unusual problems. Radiation offers a full after-sales service for Ductair equipment.

10 years' working experience in Britain. After a detailed examination of the best American practice in this field and research, Radiation have developed the Ductair system over ten years. This gives Radiation unrivalled experience *under the actual climatic and living conditions peculiar to this country.*

50 year background of research and experiment Radiation technicians, for well over 50 years, have been concerned with making better use of fuel. This is reflected in the simplicity of the highly efficient equipment they have evolved. It means too that Radiation engineers have an unusual ability to see their own system against a background of many alternative systems—an understanding particularly valuable at discussion stage.

RADIATION DUCTAIR is more than just another central heating system. It offers a fully integrated service to architects and builders. Its aim is to raise comfort standards and to make possible the more efficient use both of fuels and building space.

DUCTAIR units (of all sizes, powered by Solid Fuel, Gas, or Oil) have been successfully installed in buildings of all kinds—from houses to shops, flats to schools, churches to pubs. Write to us about the sort of buildings that are of interest to you. We particularly welcome new problems—we've been solving them all our working lives.

DUCTED WARM AIR *systems offer all these advantages and, where required, hot water can be produced by utilising the heat of the appliance "when idling". There is clearly a strong case for warm air heating as such—but which particular system? We believe that* Radiation Ductair *is best able to answer your needs.*

Radiation DUCTAIR

RADIATION GROUP SALES LTD., WARM AIR DIVISION, 10 MORTIMER STREET, LONDON, W.1

technical section

7 PRACTICE

negotiated contracts

It is always said that " negotiated contracts cost more " despite the chance for better contract preparation that they offer. This article describes a method of reaching an agreed level of competitive prices with the nominated contractor. The authors, James Nisbet and P. F. Bottle, quantity surveyors of the MOE, have used it successfully on some five contracts, totalling over £1 million in value and carried out by building firms of various sizes. The method involves the use of cost planning—the setting of target prices at early sketch stage and the periodical checking of design against these targets.

Many clients and their professional advisers view negotiated contracts with some misgivings because of a fear that they will be committed to paying too much for what they receive. The uncertainty of just how much they may be overcharged only serves to increase their apprehension. The quantity surveyor who usually operates the negotiations is not necessarily to blame; so often he is placed in an unenviable position of weakness because his first contact with the contractor is after the priced bills have been returned. At this stage time is short and if the tender is too high the quantity surveyor is faced with the alternative either of recommending a price with which he is not satisfied or of introducing indeterminate delays while he tries to reach agreement with the contractor. The contractor in adopting an uncompromising attitude cannot necessarily be blamed for exploiting the situation because his normal price level may be unsuited to the particular contract. As a result, it is usually concluded that negotiation is only justifiable when speed is of the utmost importance and cost is of a secondary or even negligible importance.

The authors believe, however, that the careful choice of a contractor in the first instance and his acceptance of certain obligations could overcome these inherent weaknesses so that negotiated contracts could have a wider application. So that an architect may select the most suitable contractor for a particular project it will be necessary to determine the characteristics of several likely firms where these are unknown to him and to measure them against a set of characteristics desirable for the contract under consideration. Such investigations might be conducted under the broad headings of:

Size and organization.
Financial ability.
Resources of supervisory staff, labour force and plant.
Previous contracts and future commitments.
Liaison personnel.
Construction times.
Quality of workmanship.
Methods of co-operation.
Programming and progressing.
Price levels.

Investigation of these characteristics is well enough known and with the exception of the last item is usually put into practice to a greater or less degree. This article, however, focuses attention only on the investigation of price levels—a critical and often neglected aspect of nomination.

Fig. 1. The MOE development school at Amersham, which was built with a negotiated contract based on the method described in this article.

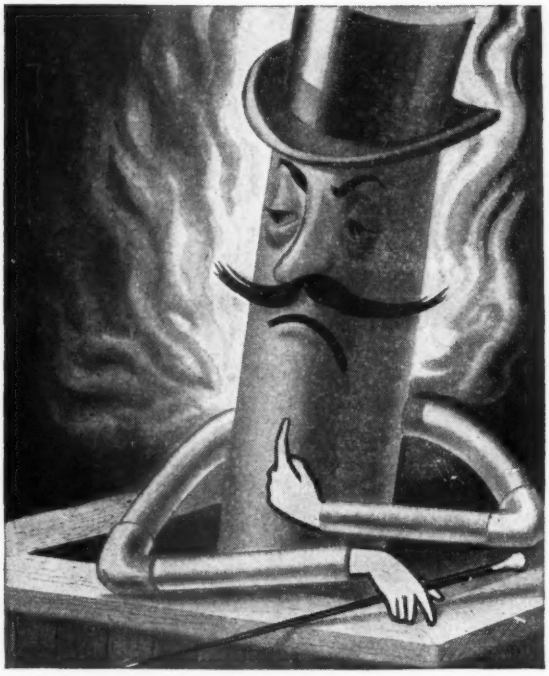
Objective

Architect/builder collaboration has often been advocated as a means of achieving speed and economy in building and the growing interest and confidence among architects, quantity surveyors and clients in the techniques of cost planning as an instrument to control building costs is likely to encourage the practice of nominating a general contractor at an early stage in the design programme.

The plea for building to become a combined operation is generally accepted but hitherto this has been handicapped by the system of competitive tendering which has precluded the builder from the pre-contract organization. It might reasonably be argued that the preference for competitive tendering is sustained less on its own virtues that on a lack of confidence in any alternative. Indeed, it must be admitted that this mistrust is not entirely ill-founded if judgment is based only on those more usual cases where failure to produce a satisfactory tender by negotiation has been the direct

"I WAS A WASTER!"

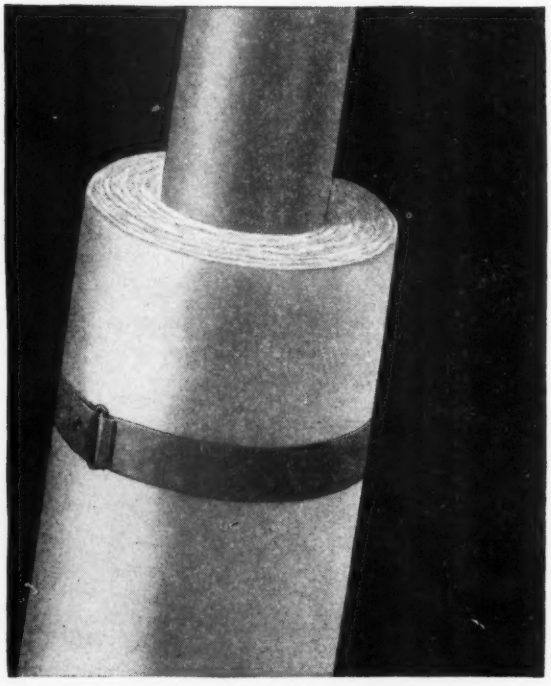
—*Steam Pipe confesses*



"I am a four-inch bore pipe. I work in a factory. It is my job to carry steam at 450°F. from generator to the plant. But I was a waster, a fuel waster, a *very* fuellish waster indeed!

I used to work naked as the day I was drawn. Of course I wasted heat—and therefore fuel—but who cared? Then one day, a bright spark from Fibreglass told the Manager that I was wasting nearly one ton of coal a year through each foot of my length.

I felt naked—and ashamed. Quickly they had me wrapped in a Fibreglass rigid section 1¾" thick. Now, this is saving 18½ cwts. of each ton I used to waste. My conscience is clear; but if pride is a sin, I'd better look out. Because I *am* proud of my slim figure, my neat nesting and my light-weight on hangers."



FIBREGLASS TRADE MARK

"RIGID SECTIONS WERE MY SALVATION!"

—STEAM PIPE TESTIFIES

For the whole story, please write to:

FIBREGLASS LIMITED, ST. HELENS, LANCASHIRE • ST. HELENS 4224

technical section

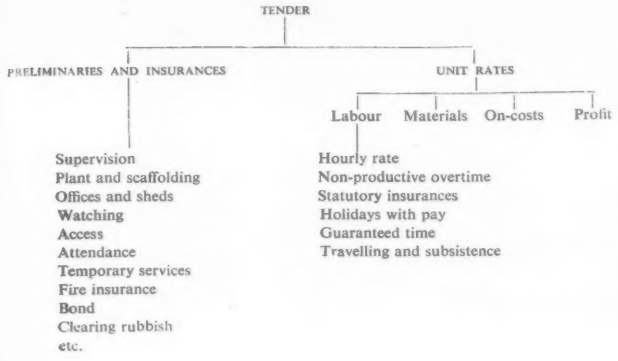


Fig. 2. Typical distribution of cost in a tender.

result of a prior failure to establish an acceptable level of prices.

If then nomination is to be accepted more readily it is necessary to adopt a procedure which will offer the client an assurance that he will only be asked to pay a competitive price and satisfy the builder that he will obtain a fair reward for the work he performs and the risks he undertakes. This, it is suggested, can be achieved by the methods described below.

Method

As a result of interviews the characteristics of each firm are investigated and one or more contractors short-listed for nomination. These are then asked to provide the information which will enable the quantity surveyor to examine and report upon their price levels. In due course the final choice of the most suitable builder is made by the client or his advisers. Before considering the details of this procedure, which are set out in the paragraphs which follow, mention should be made of the procedure subsequent to the contractor's nomination and which leads to the submission of his tender.

On nomination the contractor would, with architect and quantity surveyor, take part in the preparation of the cost plan and as the design work proceeded, in the checking of design element cost targets. The cost checks, which dovetail with the architect's design programme, are made jointly by the quantity surveyor and the contractor's estimator on the basis of the level of prices agreed before nomination and with a mutual knowledge of the architect's aims and intentions. Any significant differences of opinion on prices will thus be brought to light at an early stage, discussed and settled so that by the time final working drawings are prepared the tender is substantially agreed. The preparation of the tender, therefore, becomes largely a formality being a matter of adjusting the agreed cost check prices for labour and material fluctuations and filling in the bills of quantities. Tedious and sometimes unsatisfactory negotiation is thus avoided and an immediate start on the site is made possible. This method does not claim, nor does it seek necessarily to achieve the "lowest" prices obtained by competitive tender. It does claim and, properly handled, will ensure that the client gets the building that he specifies in the time that he states and at a price which he can afford and which would compare favourably with a price obtained in competition.

To return now to the procedure prior to nomination. Each builder should be asked to furnish the following information:

(i) A priced bill of quantities of a recent contract obtained in competition which he considers would represent his level of prices appropriate to the project under consideration. (It would be helpful, though not essential, if the contract were similar in size, type, quality and location.)

(ii) A detailed breakdown of the preliminaries and insurances included in the above bill together with any explanatory notes of certain items. For example, a lump sum in the preliminaries against the clause "offices and sheds" should be analysed to show the number, type and use while the explanatory notes might further indicate which were unlined and which were lined and partitioned. Similarly, an analysis of "site supervision" would be expected to show the number of agents, engineers, surveyors, foremen, time-keepers, clerks, etc., their salaries or wages and whether they are full or part-time. Further information should be provided as to cost, quantity, etc., of items such as scaffolding which could have been priced in the preliminaries but which may have been distributed elsewhere in the bill. Only with this information can an assessment be made of what may be termed "true preliminaries." Generally, all this data will have been prepared by the estimator in building up his tender and will, therefore, involve little or no extra work.

(iii) A detailed build up of the "inclusive" labour rates for both craftsmen and labourers which were used in the calculation of the unit rates in the above bill.

(iv) Details of the build up of any lump sum adjustments.

Examination

A quantity surveyor, by virtue of his training and everyday practice, knows or can determine fair market prices for building operations from the jobs which go through his office. Since different contractors price their bills of quantities in different ways it is essential in any particular instance for the quantity surveyor to know how the contractor has assembled the components of cost when building up his tender so that he can if necessary adjust these to the same basis as his own before making comparisons. Figure 2 shows a typical distribution of cost in a tender and as such might, therefore, represent a basic pattern to which any variants are converted.

The examination falls into two main sections: (*a*) preliminaries and insurances; and (*b*) unit rates. The

The Reliance Loudspeaking Automatic Master Station especially designed for use by the busy executive.

The Reliance push-button intercommunication set suitable for 3 to 21 stations.

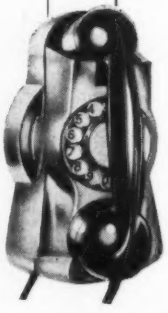
In these days of high labour costs, it is even more essential that employers obtain the fullest possible return from highly paid staff. Key personnel should be kept as much as possible at their desks—you pay them for working and not walking. The answer of course is

Intercommunication

Reliance '1000' telephone. The most recent design which harmonises with all modern schemes of decoration

and that means Reliance. These time-approved Intercommunication Telephone Systems are pre-eminent in their field, are available from 3 lines and on a most advantageous Rental Service saving capital outlay and providing free maintenance. You get something really worthwhile when you

Link up with RELIANCE



The Muraphone 'K' for wall mounting. In black, ivory, red and green bakelite.

The Reliance Rental Service saves capital outlay, gives free maintenance and an all-time guarantee. Please write for full deta

THE RELIANCE TELEPHONE COMPANY LIMITE

(A Subsidiary of the General Electric Company Limited)

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

Telephone: CHAncery 5341 (P.B.X.) Branches throughout the United Kingdom

INTERNAL TELEPHONES · STAFF LOCATION · MUSIC FOR INDUSTR

technical section

purpose of examining preliminaries and insurance is to review the following items so that they may be judged in relation to the requirements of the particular project: the level and quality of site supervision; the amount and type of plant and equipment; the value of prelims. and insurances as a percentage of the tender sum.

The examination of the various categories of site staff will indicate whether or not an adequate and balanced level of supervision would be provided and the quality of this supervision can, to a large extent, be judged from the salaries and wage rates. Similarly, the amount and type of equipment would indicate the speed and efficiency with which the project would be carried out. These two items alone may account for as much as 50 per cent. of the total cost of preliminaries and are, therefore, deserving of close attention. All items, however, when examined are likely to yield some information which will assist in building up the mental picture of the firms' characteristics which will confirm or add to the information obtained in previous interviews. When examining the preliminaries it is important that the inclusive labour rate should be referred to in order to be quite certain where the various components of cost have been included. (Fig. 2 shows all the factors affecting the cost of labour as being in the unit rates. Whereas these may be in part priced in the Preliminaries.)

When this section of the bill has been examined in detail its cost should be related to the tender sum. This is probably best handled by expressing the total of preliminaries and insurances as a percentage of the total tender figure, and comparing the result with similar percentages obtained from previous contracts whose details are equally well known. The percentage will, of course, depend upon the particular circumstances and the range is quite wide. For example, assuming a distribution of cost as in Figure 2, a small simple job might incur preliminaries and insurances of about 1 to 2 per cent. of the total tender while a large complicated contract requiring a high degree of supervision and co-ordination would incur a percentage perhaps as high as 9 or 10 per cent. Nevertheless, a subjective judgment based on experience will disclose the validity of a particular percentage in any individual case.

The examination of unit rates in a bill of quantities is a procedure which forms part of the everyday work of quantity surveyors differing only in degree of detail between one office and another. Here, because the means are at hand, a very precise examination can be conducted with greater confidence and exactness. Moreover, the rates can be judged in relation to the quality of workmanship, a knowledge of which can be derived from visits to other jobs built by the same contractor. Any anomalies so disclosed (for example, high prices for joinery items whose quality is only average) should be further investigated to reveal the reasons and to discover what means, if any, could be taken to reconcile both factors in the proposed contract.

No specific reference has been made to profit and establishment charges. This is intentional because its consideration as a component of cost is not relevant in the widest sense. The builder is in business for financial reward and high on-costs may result in a higher efficiency. The quantity surveyor's only concern is that the price paid for a unit of work is competitive and in this respect his request for the information is only occasioned by the need to ensure a fair comparison and a correct conclusion.

Recording

On conclusion of the examination a report should be sent to the client or his representative containing the quantity surveyor's recommendation for acceptance of the general price level or his reasons for non-recommendation.

As the price levels yielded by the examination will be used in the checking of design against cost targets certain information must be retained and the quantity surveyor should, in the case of the nominated contractor only, and with his permission, make confidential copies of certain portions of the information supplied. In the case of the measured work in the bill of quantities it is only necessary to record the major items in each trade or element, together with their quantities and unit rates. The original documents should then be returned together with the record of queries raised and answers received during the examination. The information so retained establishes a reference of common knowledge as a basis for tendering and for use through the intermediate stage of cost checks.

Conditions of nomination

When nominating the contractor it is usual to require him to accept certain conditions before entering into a contract. As far as cost is concerned the most important may be summarised to the effect that "The nominated contractor shall agree to submit a tender priced in accordance with the general level of prices contained in the bill of quantities submitted for examination and that no contractual obligat on of any kind shall exist between the client and the nominated contractor until such a tender has been accepted by the client." It is considered that this is one of the keys to the active participation of the contractor in the cost check process because it gives him the opportunity and the incentive to take an equal responsibility for cost with the other members of the team.

Conclusion

The method described above is one which has been developed and used frequently with both main contractors and major sub-contractors with satisfactory results. In establishing at the outset a financial basis satisfactory to both sides and by quantity surveyor/builder collaboration in cost planning it should go far towards dispelling the apprehension felt and expressed by many clients and their representatives when contemplating negotiated tenders for the first time.

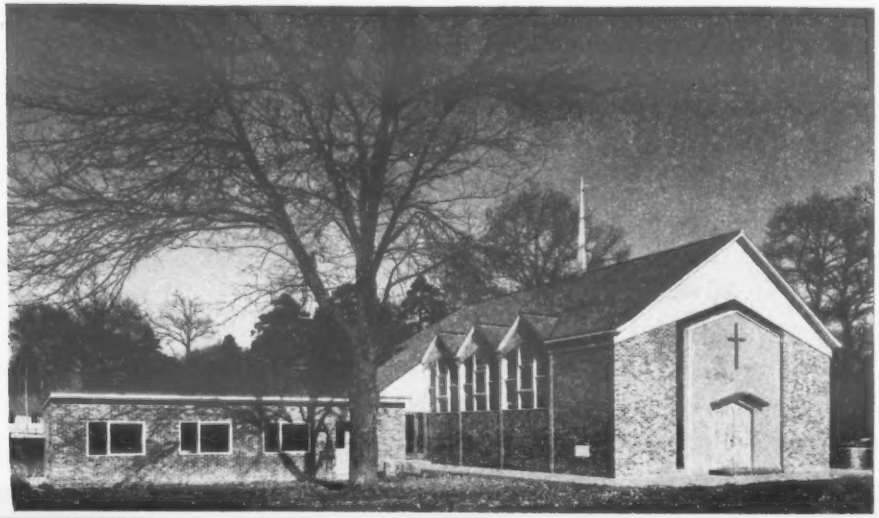
building illustrated

CONGREGATIONAL CHURCHES

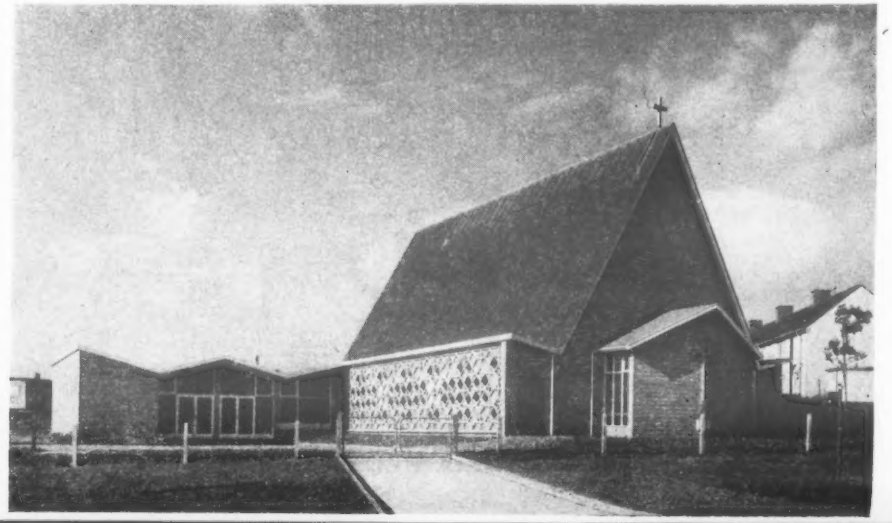
1. at POUND HILL, CRAWLEY, SUSSEX; designed by LOMAS and POOLEY; quantity surveyor S. H. SCALES
2. at CASTLE HILL, IPSWICH, SUFFOLK; designed by JOHNS, SLATER and HAWARD; quantity surveyors CASTON and PORRITT consultant (structural) F. J. SAMUELY

The cost of churches varies considerably for many reasons. The amount of space allocated " per place," the type of plan chosen, the average height in relation to floor area, and the standard of internal finishes, are probably the most variable factors, all of which have an effect on the cost. The two churches described here are perhaps typical in size and general form, of the buildings required by several Nonconformist denominations.

Viewpoint 1: Christ Church, Crawley, from the south-west, with the small hall on the left.



Viewpoint 1: Dryden Road Church, Ipswich, from the south-east.



Church at Crawley

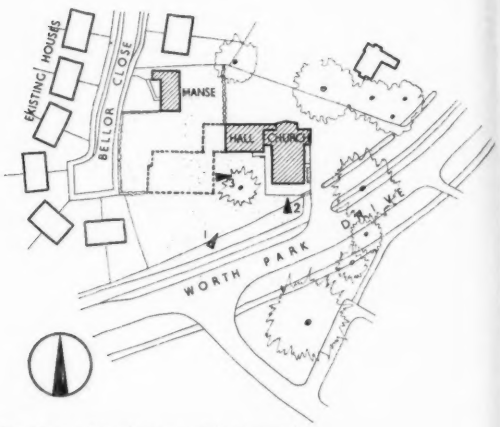
Churches present an unusual problem to the modern architect. His attention has been drawn to them comparatively recently, for while the clients for secular buildings have been fairly ready to give functional principles a chance, church authorities have been, and mostly still are, reluctant to commit themselves. The reason, however, may not be entirely diehard conservatism, for " modern architecture " (if we can use such a loose generalisation) has yet to prove that it can produce really convincing churches.

Most of the writings about modern church architecture betray a sad abandonment of the principles which are supposed to have guided the development of modern secular architecture. The design of a church is commonly seen as an essay in the creation of atmosphere, the definition of atmosphere varying, according to the denomination, from a sombre " religious " stained-glass gloom to a simple, sunlit " prayerful dignity."

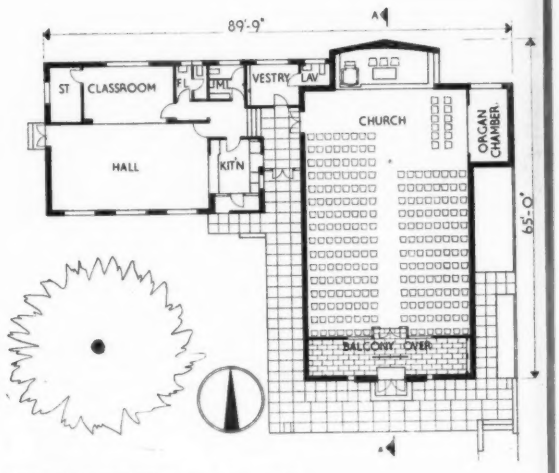
In practice the achievement of " atmosphere " is most often attempted through the discreet use of devices or motifs possessing overtones of the churches of past ages. The awesome vista, high pitched roofs, pointed gable-shapes, mock vaulting, fleches, are of this order. They are all irrelevant (hence the success of Ronchamp which eschews them all), but, if used, their effect can be mitigated by giving due attention to the more fundamental problems, of which the most important is the creation of the proper relationship between the people and the action taking place.

The two churches illustrated here show many signs of the kind of borrowing to which we have referred. Christ Church, Crawley, uses gable-shapes and a fleche externally to give an effect of " churchiness." The high pointed roof of Dryden Road Church, Ipswich, achieves the same end but in a less obvious way.

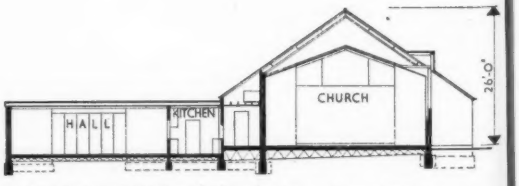
The nature of the services in a Congregational church is twofold: there is a strong preaching bias (which suggests a plan of the passive audience-hall type) but the liturgical action which takes place at the table demands a more active relationship ; the people participate. A square-ish hall with good vocal acoustics, with the table and pulpit at the middle of one side would appear to be a logical plan. Both the churches illustrated here are of this type. There is one point, however, at which a planning compromise has been made in each. The vista is now so much taken for granted as a pre-requisite for church interiors (at least in northern countries) that it must, it seems, be worked into even the squarest plan. In these two examples the length of the church is made apparently greater by the introduction of a recess at the " east " end. This recess in both cases is in the nature of a proscenium rather than of an apse, *i.e.*, it forms a " picture-frame " containing and *separating* the liturgical action, and producing a strong unidirectional effect, as opposed to providing a non-directional focal point. At Ipswich particularly, the directional quality is reinforced by the powerful drive of the roof with its strip of top-light, transforming a completely square plan into an apparently rectangular one.



Site plan with photographic viewpoints

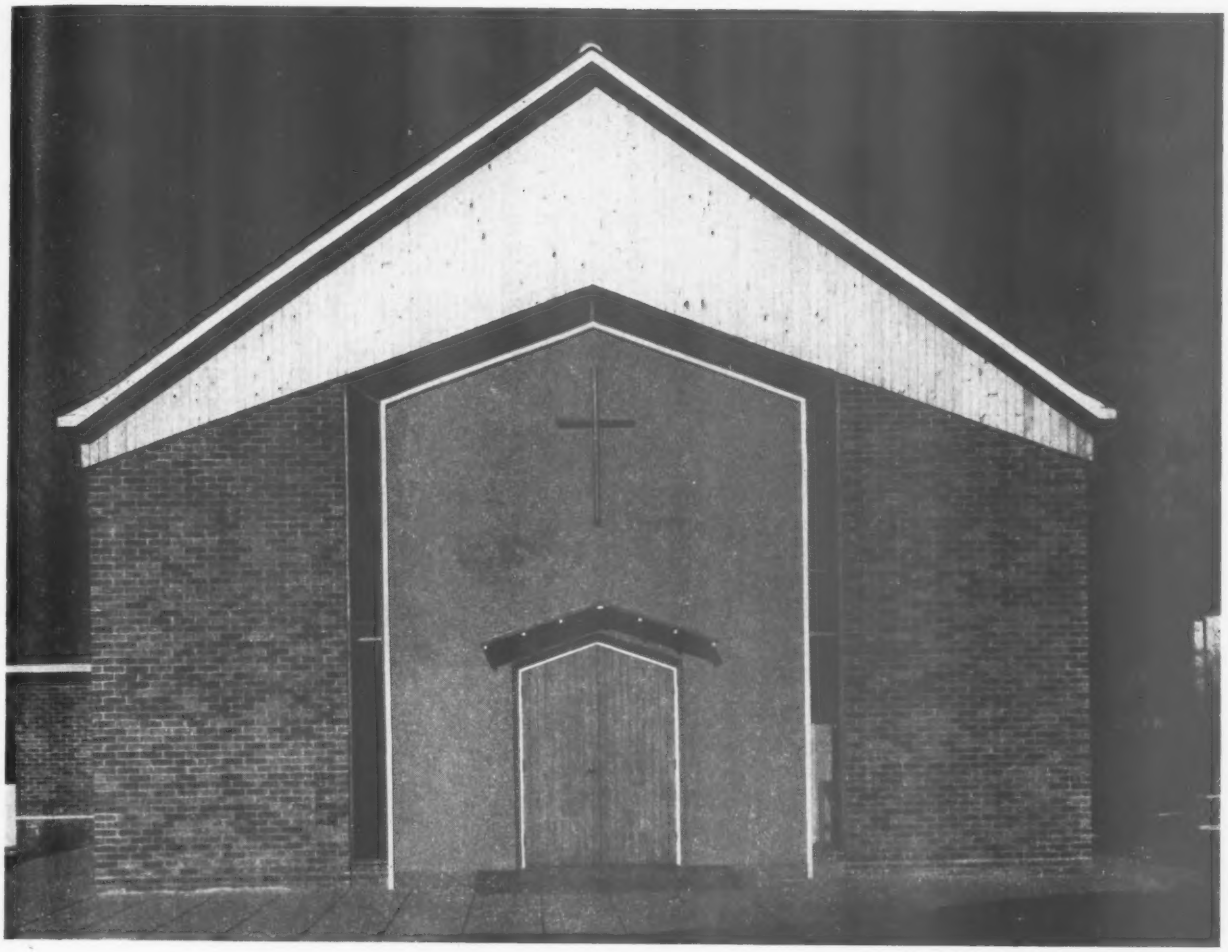


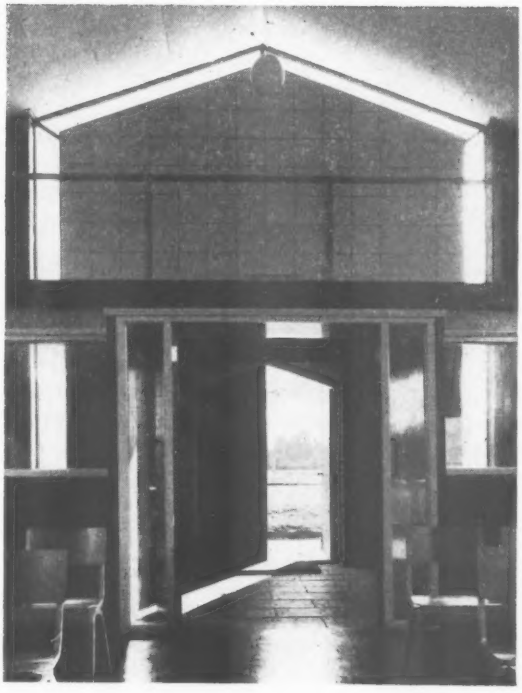
Ground floor plan [Scale: $\frac{1}{32}$" = 1' 0"]



Section through hall and church [Scale: $\frac{1}{32}$" = 1' 0"]

building illustrated

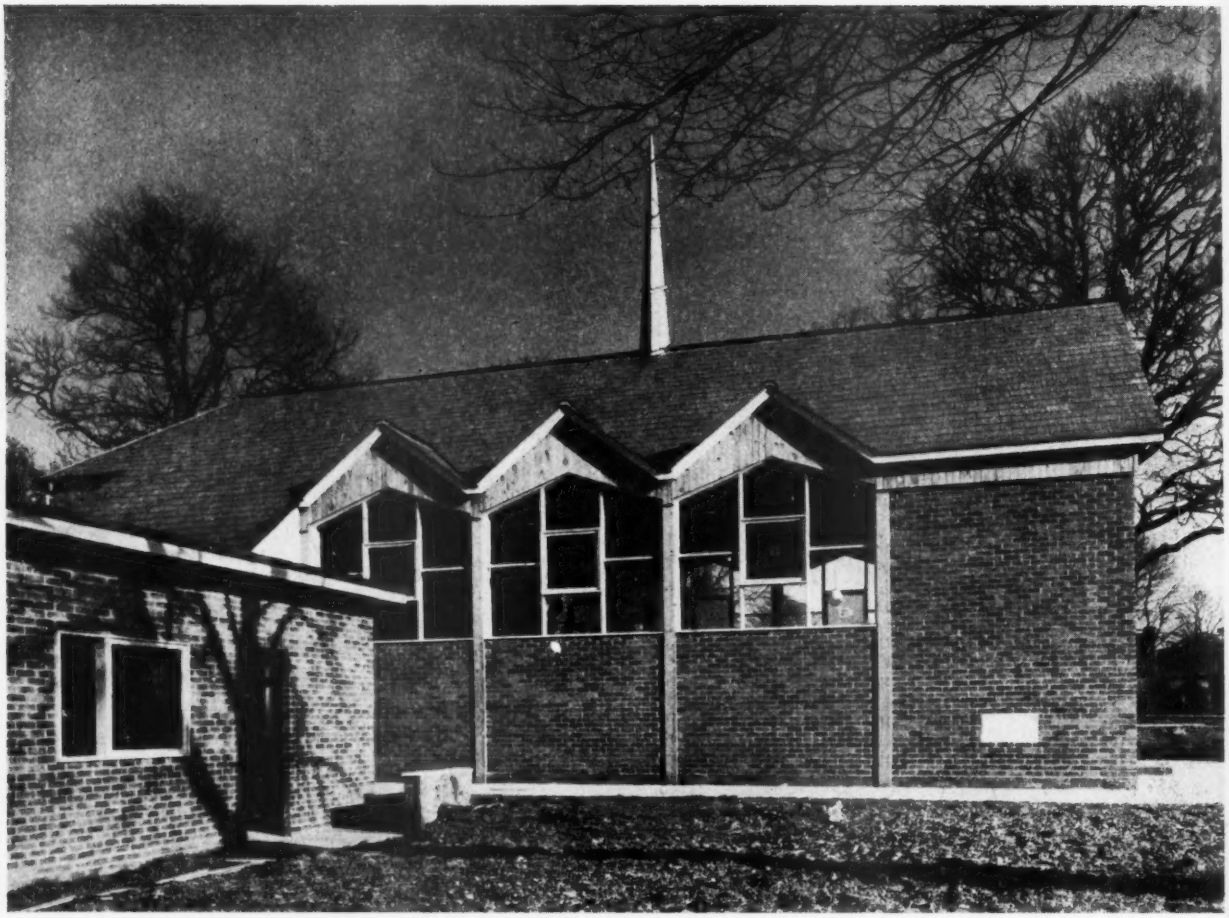




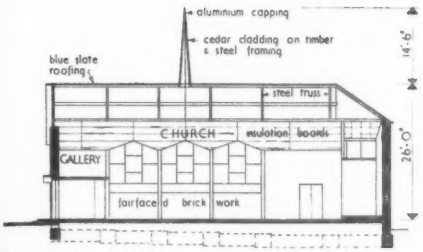
The main entrance to the church (viewpoint 2, above) is set in a wall of similar construction to the other external walls except that it is treated with a pale blue rendering. This, together with the strip of glazing around it, makes the wall appear as a freestanding panel, which it is not; there is a gallery (to be completed later) running across the back of it. This has led to inconsistencies internally, as can be seen left. The bottom part within the entrance lobby is shown as brickwork, while the upper half is covered with acoustic tiling.

building illustrated

Church at Crawley



The main structure of the church itself is of steel trusses supported on r.s.j. columns. Internally and externally these are covered with timber strips, which also conceal the rainwater pipes. Under the eaves there is a strip of vertical softwood boarding which varies in depth corresponding to the depth of the roof space. On the side elevation (viewpoint 3, above) this detail produces a rather fussy effect, for the head of the windows has been pitched at an angle equal to that of the main ceiling within, while the gable roof pitch is similar to that of the main roof. The gable ends so formed therefore echo the big gable over the main entrance, but are too small to carry the unnecessary elaboration. Presumably, however, this has been done to obtain a vaulted effect inside (left) in an attempt to add depth and modelling to an otherwise thin-looking construction. The continuation of the outer leaf of the cavity wall above the inner leaf at sill level answers the same purpose. The device is partly successful, though whether justified is open to question. There seems to be confusion throughout the building as to whether the architects wanted a light "frame-and-panel" appearance, or a more sculptural effect. On the one hand, the use of wallpaper or coloured rendering on an 11-in. cavity wall is not sufficient to turn it, by visual magic, into a light panel; on the other, the stretcher bond of fairfaced 4½-in. leaf does not say "tough brickwork."



Long section through church [Scale: $\frac{1}{32}$" = 1' 0"]

The interior looking towards the sanctuary. The church is small enough for everyone to have a good view, but the formation of the sanctuary into a shallow stage causes it to recede like a picture in a frame.

analysis

CLIENT'S REQUIREMENTS

A church to seat 250 people, with a small hall for youth club and other related activities, with kitchen, minister's vestry and cloakroom accommodation. The church and hall to be laid out on the 0·88 acre site in such a way that a future larger hall and a manse could be added later. Space had also to be allowed for a car park.

PLANNING AIMS

The siting of the church and car park was influenced by the existence of a service road provided by the Crawley Development Corporation, and the manse was placed facing a cul-de-sac serving private housing development. The building was planned to separate church and hall wings as far as possible and so minimise noise from the one disturbing activities in the other. The small classroom for youthwork was planned with a folding partition and curtain track so that a small sectional stage can be used. Provision has also been made in the construction for a small balcony over the vestibule and an organ chamber to take an organ in the future.

SUMMARY

Ground floor area: 3,100 sq. ft.
Type of contract: RIBA with quantities.
Tender date: May 1956.
Work began: June 1956.
Work finished: March 1957.
Tender price of foundations, superstructure, installations and finishes: £11,307.
Final contract price: £11,411.
Tender price of external works and ancillary buildings: £906.
Final contract price: £532.
Total price: £11,943.

	cost per sq. ft.	s	d
Preliminaries and insurances		5	3
Contingencies		1	4½
Work below ground level		7	6¾

Strip concrete foundations, cavity brickwork up to d.p.c., hardcore and oversite concrete, the latter reinforced in the church.

STRUCTURAL ELEMENTS

Frame or loadbearing element	4	11

Steel stanchions and trusses to church. Loadbearing walls to hall wing.

External walls	9	4½

Cavity brick walls faced externally with local stock facing bricks. Panels to main entrances in blue proprietary rendering. The church walls are faced internally with the same stocks and the hall with sand lime bricks.

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

analysis

Church at Crawley

	s	d
Windows	3	2½
Softwood sub-frames with metal opening lights. Hardwood frame with artificial stone surround to front window of church. Ratio: windows / floor area = 0·25 / 1		
External doors		8¾
Double doors to church, in oak. Remainder painted. Ratio: doors / floor area = 0·037 / 1		
Upper floors		1½
Carcassing only for future balcony, area 240 sq. ft. 5-in × 2-in. timber joists with 1-in. boarding over this area, where balustrade and stairs will be constructed later.		
Roof construction	5	9¾
35 deg. roof to church; flat roof to hall wing, of prefabricated plywood units. Area of each type: pitched roof, 2,800 sq. ft.; flat roof, 1,400 sq. ft.		
Glazing	1	1¾
Decorated glass to church, georgian polished plate to screens and entrances, sheet and obscured glass to hall wing.		
Total of structural elements	**25s**	**3½d**

PARTITIONS AND FITTINGS

Internal partitions	1	2
Fairfaced half brick sand lime bricks. Total area: 90 sq. yds.		
Screens		5
Hardwood screen to main entrance lobby, decorated screen to organ chamber and screen to kitchen entrance.		
Internal doors	1	6
Flush type, hardwood faced in church, Douglas fir elsewhere. Wax polished. No. of single doors: 10. No. of double doors: 1. Sliding and folding doors: 1.		
Ironmongery		10½
Solid BMA lever furniture.		
Fittings	1	5¾
Kitchen servery cupboard with hatch, meter and switch cupboards, hat and coat rails, removable pulpit, crosses and notice boards.		
Total of partitions and fittings	**5s**	**5½d**

FINISHES

Floor finishes — 4 9½

Type of finish	*Location*	*Area in sq. ft.*	*Price per sq. yd.*
Oak	Dais in apse	144	80s od
Wood blocks	Church	1,557	43s od
Thermoplastic	Hall	927	19s od
Concrete slabs	Vestibule	324	18s od

	s	d
Wall finishes	1	10½
Fairfaced brickwork, with a proprietary mineral rendering to wall of apse. Acoustic tiles at back of future balcony.		
Ceiling finishes	1	8¾
¼-in. fibreboard linings with V joints.		
Roof finishes	4	3

Type of finish	*Area in sq. ft.*
Asbestos slate to pitched roof	2,800
3 layer felt roofing to flat roof	1,400

Decorations	2	4¾
Ceilings distempered, softwood painted, hardwood waxed, panels over organ chamber and under main windows of the church, wall papered.		
Total of finishes	**15s**	**0½d**

SERVICES

External plumbing	1	10
Cast iron gutters and down pipes, copper lined box gutters to church, lead trays and flashings.		
Hot and cold water installation		10½
Installation in copper piping with electric hot water storage heater in kitchen.		
Sanitary fittings		8¾

Type of fitting	*No. of each type*
W.c.s	3
Lavatory basins	3
Urinals	2
Sink	1

Heating and ventilation	7	1½
Heating by overhead infra-red heaters with half heat control to each. "U" of walls: 0·34. "U" of roof: church, 0·40; hall, 0·28.		
Electrical installation (cost included under heating and ventilation)		

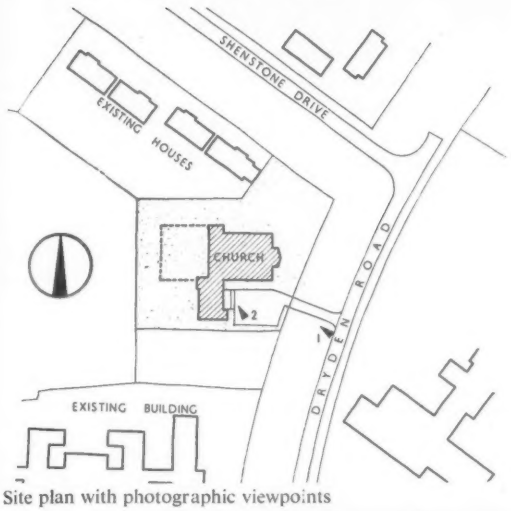
Type of point	*No. of each type*
Ceiling pendants	35
Water-tight external fittings	2
Wall sockets	9

Total of services	**10s**	**6½d**
Drainage	3	1
Stoneware drains connected to main sewers; soil and rainwater, separate systems.		
Other elements	3	3½
Car park, paving and other external works		

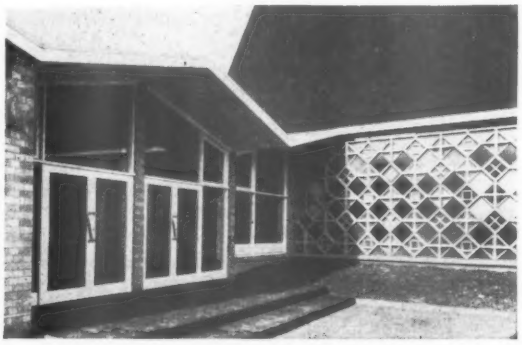
Total per sq. ft.:
£11,411 (net cost excluding external works) / 3,100 sq. ft. (floor area measured inside external walls) = **70s 6½d**

building illustrated

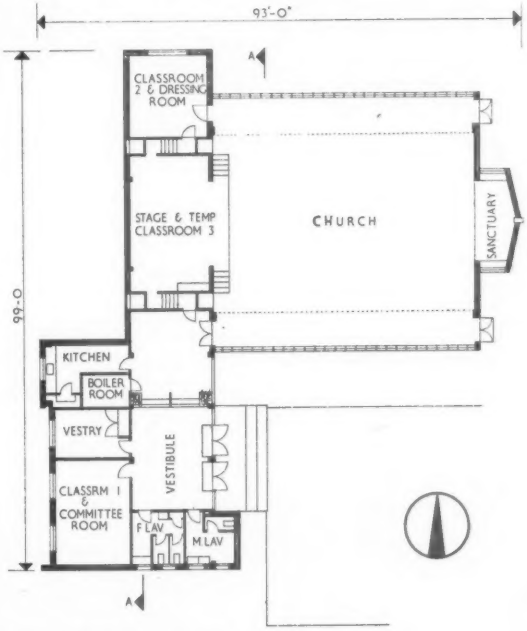
Church at Ipswich



Site plan with photographic viewpoints



The main entrance to Dryden Road Church (viewpoint 2) is in the lower wing to the south of the main building. Inside there is an ample vestibule, divided into two by steps which take up some of the fall in the site.



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

analysis

CLIENT'S REQUIREMENTS

This combined church and church hall was required by the Ipswich Congregational Church Council to serve the needs of the new Castle Hill Estate, Ipswich. A main hall was required which for the present would serve as both church and social hall, with ancillary rooms consisting of a vestry, two classrooms, kitchen, boiler room and lavatory accommodation. Low cost was essential.

SITE

The church stands on a corner site sloping from north-east to south-west, with wide grass verges stretching down to the roads.

PLANNING AIMS

The main part of the building consists of a hall 50 ft. by 47 ft., beyond which, at the west end, projects a 15-ft. deep stage. Later, when a separate social hall is added, this will be constructed beyond, but including, the stage which will then be cut off from the church. At the east end is the sanctuary, which projects 10 ft. from the body of the building. Main entrance and vestibule, together with ancillary rooms consisting of a vestry, classroom, kitchen, boiler room and lavatory accommodation are to the south of the main hall, and there is a second classroom to the north of the hall, at the west end. The two side walls of the hall consist of concrete tracery, inset with glass, some of which is coloured.

SUMMARY

Ground floor area: 4,590 sq. ft.
Total floor area: 4,590 sq. ft.
Type of contract: RIBA.
Tender date: May 27, 1955.
Work began: August, 1955.
Work finished: October 1956.
Tender price of foundations, superstructure, installations and finishes: £15,332.
Tender price of external works: £911.
Total: £16,243.

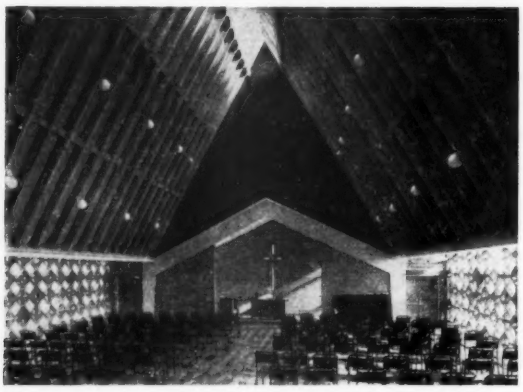
cost per sq. ft.	s	d
Preliminaries and insurances		6¾
Contingencies	1	1
Work below ground floor level	6	5¾
Strip foundations; mass concrete bases to frames.		

STRUCTURAL ELEMENTS

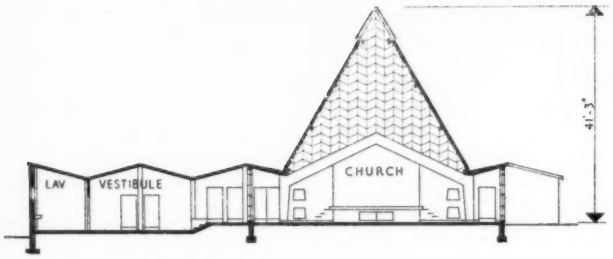
Frame or loadbearing element	3	5
Reinforced concrete columns and trusses (combined).		
External walls	4	4½
Light brown brick. Only end walls to church and sanctuary.		
Ratio: $\frac{\text{solid wall}}{\text{floor area}} = \frac{0{\cdot}863}{1}$		
Windows	3	1¾
Glazed tracery forms the greater part of the side walls of the main church, formed of precast concrete units, 2-ft. × 2-ft. × 9-in. jointed together by means of slate dowels and mortar joints. The units are cast in three shapes, erected and inset with coloured and plain glass to form a symmetrical repeated pattern. In all, 250 units are used together with 1,440 pieces of glass. A special		

building illustrated

Church at Ipswich



The indirect approach through the vestibule to the corner of the church interior is most effective; this has to some extent been dictated by the fact that the west end of the church contains a stage. Later, when a hall is added, the west wall will be closed up and the stage will face in the opposite direction. This is fortunate, for it is doubtful whether a dual-purpose church building can ever succeed; there is always an uncomfortable double-ended quality, like the push-me-pull-you of Doctor Dolittle. The dual purpose also more or less obliges the architect to recess the sanctuary beyond the main space, so that it may be closed when the social function takes over; this has been done at Dryden Road Church although the dual-purpose requirement is a temporary affair, with a similar result to that at Christ Church, Crawley.



Section A-A [Scale: $\frac{1}{32}$" = 1' 0"]

Below, the stage end of the building. The roof construction, described at length in the analysis, has a great robustness, but at this end of the building particularly, this is diminished by the angles of the transverse frame below it, which are rather pointlessly echoed by the details of the warm air heating grilles, stage fascia and acoustic tiling. The side walls are of precast concrete tracery in square units, filled with various types of glass stippled with colours.

analysis

putty was used to set most of the panes well forward but not flush with the frame and a small number are set further back in a different plane to obtain relief.
Other windows, purpose-made, softwood.

Ratio: $\frac{\text{windows}}{\text{floor area}} = \frac{0{\cdot}380}{1}$

	s	d
External doors 2-in. framed and glazed entrance doors; 1⅜-in. external grade ply-faced flush exit doors. 2 pairs of each type. Ratio: $\frac{\text{doors}}{\text{floor area}} = \frac{0{\cdot}003}{1}$		7¼
Upper floors Stage of agba strip flooring on timber joists. Cost included under " Stairs " and " Floor finishes." At the extreme west end is a reinforced concrete frame, unconnected with the roof, which will help to support the floor of an organ loft above the stage, projected for a later date. This was the subject of a separate contract and is not included here.		
Staircases Quarry tile steps with non-slip nosings, between levels in vestibule. Hardwood cantilevered steps from stage down to church. Hardwood steps with wall strings at sides of stage.		3¼
Roof construction A folded concrete slab consisting of two main planes inclined at 60 degrees to the horizontal form a pitched roof with its ridge 31 ft. above the eaves and 40 ft. from the floor. At the eaves, *in-situ* concrete wings cantilever (slightly upwards) for 7 ft. on either side, and act as a continuation of the folded slab, serving to reduce the stresses in the main planes. The main planes are constructed with T-section precast concrete units 35 ft. × 2 ft. × 1 ft., each having four wires prestressed individually on the p.s.c. one-wire system. Diaphragms which provide ducts for the longitudinal prestressing of the roof are cast into these units at three points. The webs of the T-units and the diaphragms divide the underside of the roof into rectangular panels. The three lower bays are soffited with insulation board; the uppermost, smaller than the others, is glazed. The exterior is battened, lined with glass wool mattress, counterbattened and covered with asbestos cement slates. The cantilevered wings are reinforced with mild steel which laps with the steel projecting from the T-units of the main roof. They taper in section from 8 in. to 4 in. and longitudinal prestressing is introduced in the eaves by two cables on the Gifford-Udall-CCL system of post-tensioning. The roof is supported on two transverse reinforced concrete frames, one at the extreme east and the other 15 ft. from the west end. It spans 50 ft. from the former to the latter frame, over which it is continuous and then cantilevers for the rest of its length. Ancillary rooms have low pitched *in-situ* concrete roofs also of folded slab construction. The sanctuary has a similar roof, with a rather steeper pitch. All these are covered with three layers of roofing felt.	18	11¾
Rooflights Two ranges along the top bay of the roof. Area: 550 sq. ft.	1	2
Glazing Glazing to tracery of reeded, large morocco and clear glass stippled light grey, deep yellow and dark blue to geometrical pattern. ¼-in. reeded glass to sanctuary. Red leaded glazing to cross. Cross-reeded glass to lavatories. ¼-in. polished plate to entrance doors and screen. 32-oz. clear glass elsewhere.		10½
Total of structural elements	**32s**	**10d**

PARTITIONS

Internal partitions 4½-in. brick walls. Metal-faced ply partitions to lavatories.	1	3¾
Screens 7-ft. high removable hardwood screen for closing off sanctuary.		4½
Internal doors 1⅜-in. finished plywood-faced flush doors, painted. Similar, but solid core door to boiler house. Number of single doors: 12. Number of double: 2 pairs. Two metal-faced ply doors to lavatories.		7½
Ironmongery Satin chromium plated generally. Swedish-type pulls to entrance doors (hardwood and s.c.p.).		8½
Fittings Hardwood sink drainers and worktop shelving to cupboards. Seats at sides of sanctuary.		5¼
Total of partitions and fittings	**3s**	**5¼d**

FINISHES

Floor finishes Agba blocks to church and sanctuary. Agba strip to stage. Leather-brown quarries, 6-in. × 6-in. in vestibule and lavatories. Granolithic to boiler house. Thermoplastic tiling elsewhere.	4	2
Wall finishes West wall of church is plastered and upper part of gable lined with acoustic fibrous plaster panels which have slotted holes and are backed with vermiculite. Gable panel is dark green. Elsewhere walls are plastered, except in boiler house which is fair-faced.	1	7¾
Ceiling finishes In church, natural brown insulation boards in coffered panels. Suspended ceiling with aluminium-alloy framing on timber stiffeners over stage, lavatories, kitchen, vestry and classroom 1. Plaster to vestibule and classroom 2.	2	3¾

analysis

Church at Ipswich

	s	d
Roof finishes	3	10¾
Church roof: dark blue-grey asbestos slates, almost indistinguishable from best slates in appearance. Elsewhere: three layers of roofing felt with green mineralized finish.		
Decorations	1	11
Generally white and greys. Deep yellow to end walls of vestibule. Dark green to end walls (gables) of church. Ceilings distempered. Walls, some distemper but mostly semi-gloss paint. Concrete frames and overhangs, distemper.		
Total of finishes	13s	11¼d

SERVICES

External plumbing		2
Galvanized iron water supply. Drawn steam barrel rainwater downpipes.		
Hot and cold water installation		6
Galvanized water supply. Ascot sink heater in kitchen.		
Sanitary fittings		8¾

Type of fitting	*No. of each type*
Basins	4
W.c.s	3
Urinal	1
Sinks	2

Heating and ventilation	4	7¼
Hot air blown by electric fans through hot water grilles, heated by a gas-fired boiler.		
Electrical installation	2	5¾
Rubber insulated cable enclosed in heavy-gauge conduit. Light fittings in church, globe fittings with 2 spotlights, for reading desk and organist. 2 fluorescent light opal tubes in sanctuary.		

Type of point	*No. of each type*
Ceiling or wall lights	59
13-amp sockets	6
Wall fire	1
Pump motor	1
Outlets for heater unit fans	5
Thermostats	4
Switches (matt chrome)	21

Total of services	8s	5¾d
Drainage	1	7¼
External site works	2	4¼
Concrete curbs, gates and posts, gravel on hardcore for car park and path, concrete pavement crossing.		

Total per sq. ft. of floor area:
£15,332 (net cost excluding external works) / 4,590 sq. ft. (measured inside external walls) = 66 9¾

COST COMMENTS

A little caution is needed before making direct comparisons between these two analyses. Generally speaking it can be said that the more a building is compressed into a tighter plan the lower the overall cost will be, but the higher the cost per square foot. This should be borne in mind here, since there is approximately 50 per cent. more floor area at Ipswich than at Crawley.

Preliminaries: The greater part of the disparity between 5s 3d and 6¾d is due to the different methods of contractors' pricing. Comparisons of elements or unit rates should take this into account.

Frame: Since the amount included at Crawley for the load-bearing walls has not been given, frame costs of the buildings cannot be compared directly.

External walls and windows: By use of the ratios the average price per square foot of the windows and solid external walls can be worked out as follows:

	Crawley	*Ipswich*
Walls	8s 7¾d	5s 0½d
Windows	12s 10d	8s 3½d

Roof: The analyses throw into sharp relief the amount of 24s 0½d per sq. ft. of floor area spent at Ipswich on the complete roof and rooflights. This represents some 35 per cent of the total cost of the building and gives some idea of the architectural importance attached to it.

Services: The external plumbing element (2d at Ipswich, 1s 10d at Crawley) shows up the use at Crawley of the copper-lined box gutters, lead trays and flashings. Both churches appear to have installed heating and electrical systems at a reasonable cost; both are around 7s per sq. ft., but this represents £1,600 at Ipswich and £1,100 at Crawley.

Generally: It is often difficult for both architect and church authorities to remember at the design stage that annual maintenance costs are borne by voluntary collections and upkeep is often undertaken by voluntary labour, which may have to cope with problems ranging from intermittent heating to replacing a light bulb which is only approachable up a 30-ft. ladder.

CONTRACTORS

CHURCH AT CRAWLEY

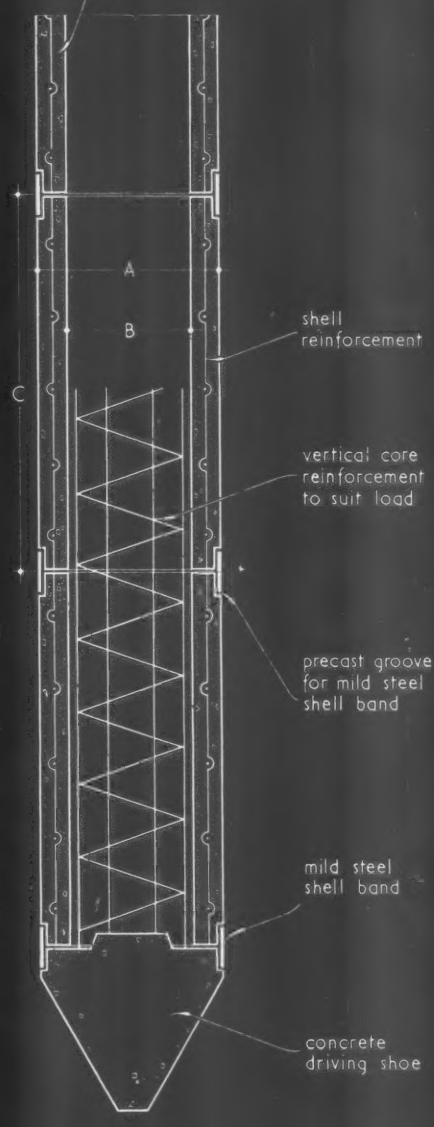
General contractors: Bishop & Clarke Ltd. *Sub-contractors: Asbestos slating:* Maxwell's (Hove) Ltd. *Flat roof coverings:* The Ruberoid Co. Ltd. *Structural steel:* Hotchkiss Engineers. *Artificial stone:* Tarmac Ltd. *Trofdek roofing and fibreboard linings:* James Chandler (Lewes) Ltd. *Mineralite rendering:* Kendell's Flooring Ltd. *Thermoplastic tiles:* Chipperfield Beam Ltd. *Electrical installation:* J. H. Plant Ltd. *Metal windows:* Williams & Williams Ltd. *Glazing:* Aygee Ltd. *Ironmongery:* Comyn Ching Ltd.

CHURCH AT IPSWICH

General contractors: George A. Kenney & Son Ltd. *Sub-contractors and suppliers: Concrete roof units:* Liverpool Artificial Stone Co. Ltd. *Concrete tracery:* Saunders & Co. (Ipswich) Ltd. *Hardwood block floor:* Hollis Bros. Ltd. *Accotile flooring and suspended ceiling:* W. Brown & Co. (Ipswich) Ltd. *Felt roofing:* Standard Flat Roofing Co. Ltd. *Patent glazing:* Crittall Manufacturing Co. Ltd. *Post-tensioning:* Udalls Ltd. *Heating:* Weatherfoil Heating Systems Ltd. *Lighting:* Mann, Egerton & Co. Ltd. *Leaded light glazing:* James W. Willer. *Sanitary fittings:* E. L. Hunt Ltd. *Ironmongery:* Nettlefold & Moser Ltd. *Acoustic tiles:* Claridges (Putney) Ltd. *W.c. partitions:* Flexo Plywood Industries Ltd. *Gates:* Boulton & Paul (Norwich) Ltd.

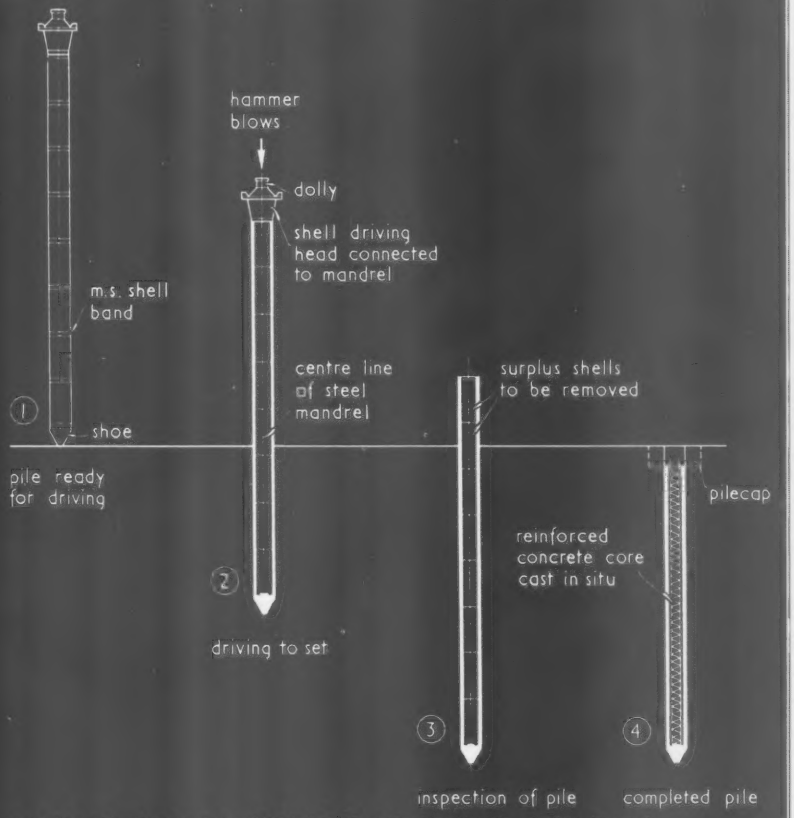
PRODUCTS FOUNDATIONS AND PILING

The Architects' Journal Library of Information Sheets 699. Editor: Cotterell Butler, A.R.I.B.A.

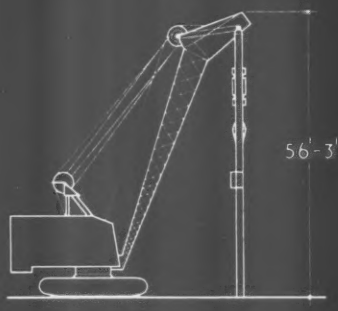


A	B	C
24"	19"	4'-0"
20"	15"	3'-0"
17½"	12"	3'-0"
14½"	10⅞"	3'-0" or 4'-0"

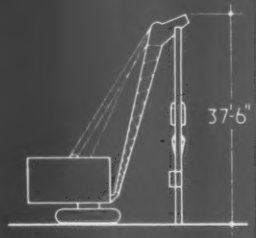
SECTION THROUGH TYPICAL SHELL PILE AND SCHEDULE OF SIZES.



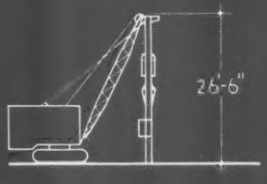
DIAGRAMS SHOWING SEQUENCE OF DRIVING OPERATIONS.



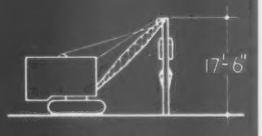
large excavator: 6 to 8 ton hammer



medium excavator: 3 to 5 ton hammer



excavator: for limited headroom, 2 to 5 ton hammer



excavator: for low headroom, 2 to 3 ton hammer

TYPES OF DRIVING EQUIPMENT.

·WEST'S· CONCRETE TUBULAR SHELL PILING. Manufacturer: West's Piling and Construction Co Ltd

26.E1 ·WEST'S· CONCRETE TUBULAR SHELL PILING *Patent Nos. 335620, 576236 and 724765*

This Sheet describes West's precast reinforced concrete shell piles. The pile is formed by driving into the ground precast reinforced concrete tubular sections, 3 ft. or 4 ft. long, preceded by a concrete shoe. Each pile is driven until a desired resistance is obtained. The joints between the shells are kept watertight by means of steel bands treated with a bituminous mastic material.

Advantages of the system are that the bearing capacity of each pile may be calculated owing to the fact that the pile is driven to a predetermined dynamic set by means of a hammer. A minimum of waste is involved as only the last shell to be driven may have to be cut to take the bearing cap. The skin friction arising as a result of the driving of the pile is retained since the technique avoids disturbing the initial set. The precast reinforced concrete shells ensure constant cross section and protect the core concrete from contact with the ground.

Sizes

The following table gives the sizes of standard piles available. Piles may vary in length from 10 ft. to 100 ft. or more.

External dia.	Core		Shell		Maximum loading* (tons)
	Dia.	Reinforcement	Reinforcement	Length	
24 in.	19 in.	4 to 8 main bars of ⅛ in. to 1 in. dia. with spiral binding at 6 in. pitch	12 vertical bars 7 rings	4 ft. 0 in.	100—150
20 in.	15 in.		8 vertical bars 7 rings	3 ft. 0 in.	70—100
17½ in.	12 in.		7 vertical bars 7 rings	3 ft. 0 in.	45—70
14½ in.	10⅞ in.		6 vertical bars 12 rings or 7 rings	4 ft. 0 in. 3 ft. 0 in.	Up to 45

* The loading is dependent upon conditions of strata.

Construction

Shells: The shells are of precast reinforced concrete, recessed at each end to take the mild steel jointing bands. Stocks of matured shells of all sizes and types of cement are maintained in various parts of the United Kingdom.

Reinforcement: Core reinforcement to suit the load which the pile will have to carry is placed inside the shells and anchored in the concrete core.

Filling: The pile is completed by filling the shells and surrounding the reinforcement with concrete. The concrete core and reinforcement are not fatigued as they are placed after the " set " is obtained.

Driving

The hammer blow is delivered direct on to the shoe by means of a mandrel which is located inside the shells, the shoe taking the driving stresses and penetrating the load-bearing stratum. At the same time a cushioned blow is applied to the shells, through a special arrangement on the mandrel driving head, to overcome skin friction and keep the rate of travel of shells and shoe constant.

The ratio between the cushioned blow on the shells and the direct blow on the shoe can be varied.

After the " set " has been obtained the mandrel is withdrawn and any spare shells above ground removed.

Methods of Driving

The method of driving selected depends on the site conditions and the nature of the work. The lower diagrams show various machines which may be used for vertical or raking drive (up to 1 in 3 rake inwards or outwards). An immediate start may be made on any site, with a capacity per machine of 150 ft. to 400 ft. of completed pile each day.

Large Excavator Outfit: 6 to 8 ton drop hammer.

Medium Excavator Outfit: 3 to 5 ton drop hammer.

Small Excavator Outfit: 2 to 3 ton drop hammer.

Special Excavator Outfit: Adapted from medium or small outfit for use under restricted headroom.

Compiled from information supplied by:
West's Piling & Construction Co. Ltd.
Head Office: Bath Road, Harmondsworth, Middlesex.
Telephone: Skyport 5222.
London Office: Columbia House, Aldwych, London, W.C.2.
Telephone: Holborn 4108.
Western Office: 42/44 Triangle West, Clifton, Bristol, 8.
Telephone: Bristol 26906.
Midland Office: 83, Edmund Street, Birmingham, 3.
Telephone: Central 1416.
Northern Office: 103, Hulme Hall Lane, Miles Platting, Manchester, 10.
Telephone: Collyhurst 3049.
Scottish Office: 169, Hamilton Road, South Mount Vernon, Glasgow, C.2.
Telephone: Shettleston 2927.
Australian Office: 247, George Street, Sydney, N.S.W.
Telephone: Sydney, B.U. 5641.
Licensee for Ireland: Farrans Ltd., Dunmurry, Belfast.
Licensee for the Continent: Compagnie Generale de Construction de Fours, 8, Place des Etats-Unis, Montrouge, Paris, France.
Licensee for Southern Africa: The Roberts Construction Co. Ltd., 132, Market Street, Johannesburg.
Associated Company: West's Shell Piling (Australasia) Pty. Ltd., 22, Dynon Road, South Kensington, Melbourne.

46.Z ALPHABETICAL INDEX TO DEC. 4, 1958 (A-FLE)

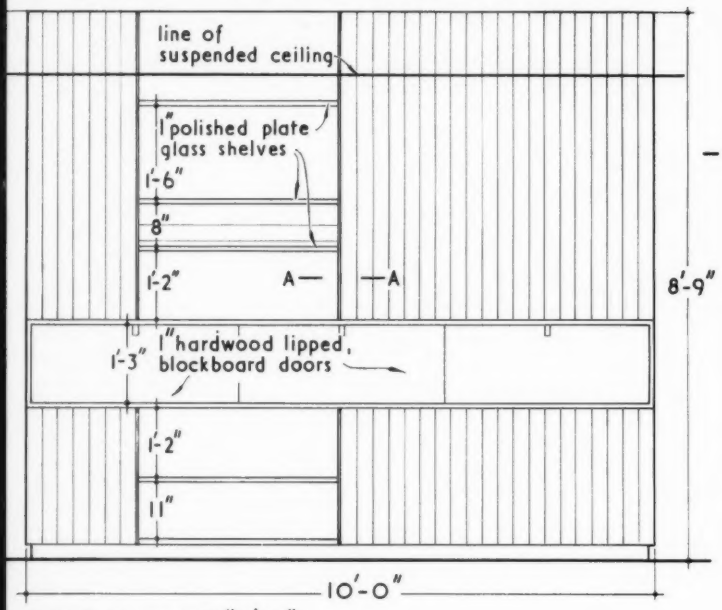
SHOWCASE FITTING: OFFICES IN LONDON, W.1.

Chamberlin, Powell and Bon, architects

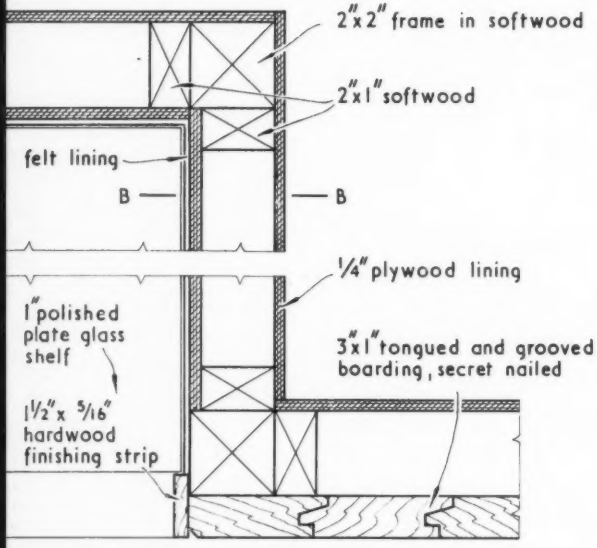
This fitting is in the showroom of a firm of wholesale clothiers and illustrates the sophisticated use of luxury materials. The drawer fronts, which are painted olive green, conceal the telephone, a hatch and a cocktail cabinet. The wood boarding is Loliondo, a heavily-grained hardwood. The case is lined with pillarbox-red felt and lit by an architectural strip above the suspended ceiling. The shelves (for sample books) are of plate glass to ensure that light penetrates behind and below the books. The shelves at the back of the case (visible in the drawing, but not in the photograph) are designed to hold rolls of cloth and are tilted to enable the patterns of the back rolls to be seen from the front. The carpet skirting should be noted.

SHOWCASE FITTING: OFFICES IN LONDON, W.1.

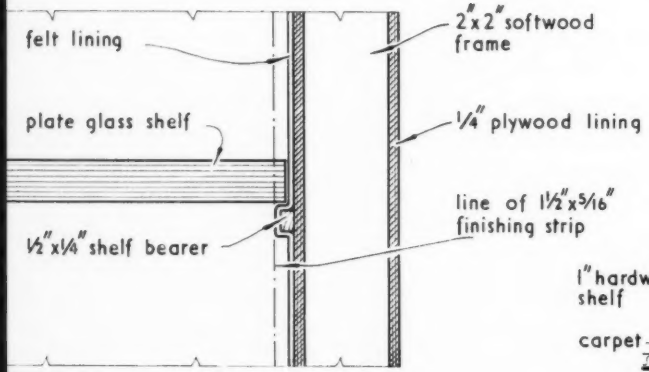
Chamberlin, Powell and Bon, architects



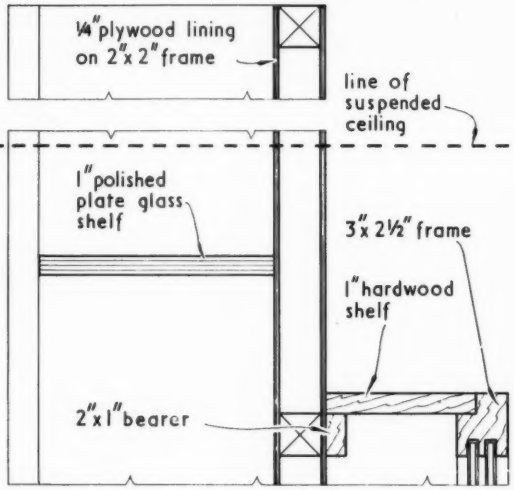
ELEVATION. scale 3/8" = 1'-0"

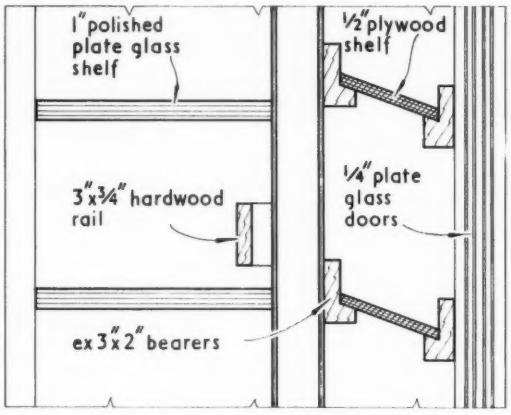


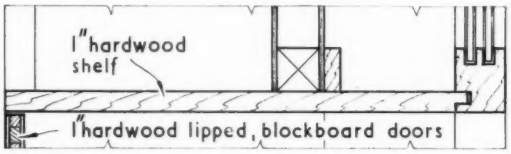
PLAN AT A-A. scale 1/4 full size

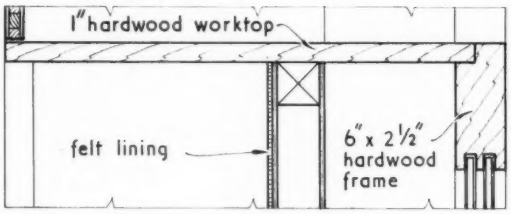


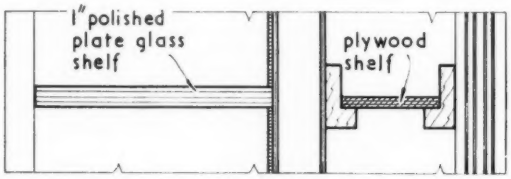
SECTION THROUGH B-B scale 1/4 full size

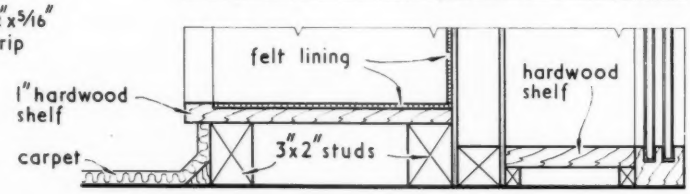




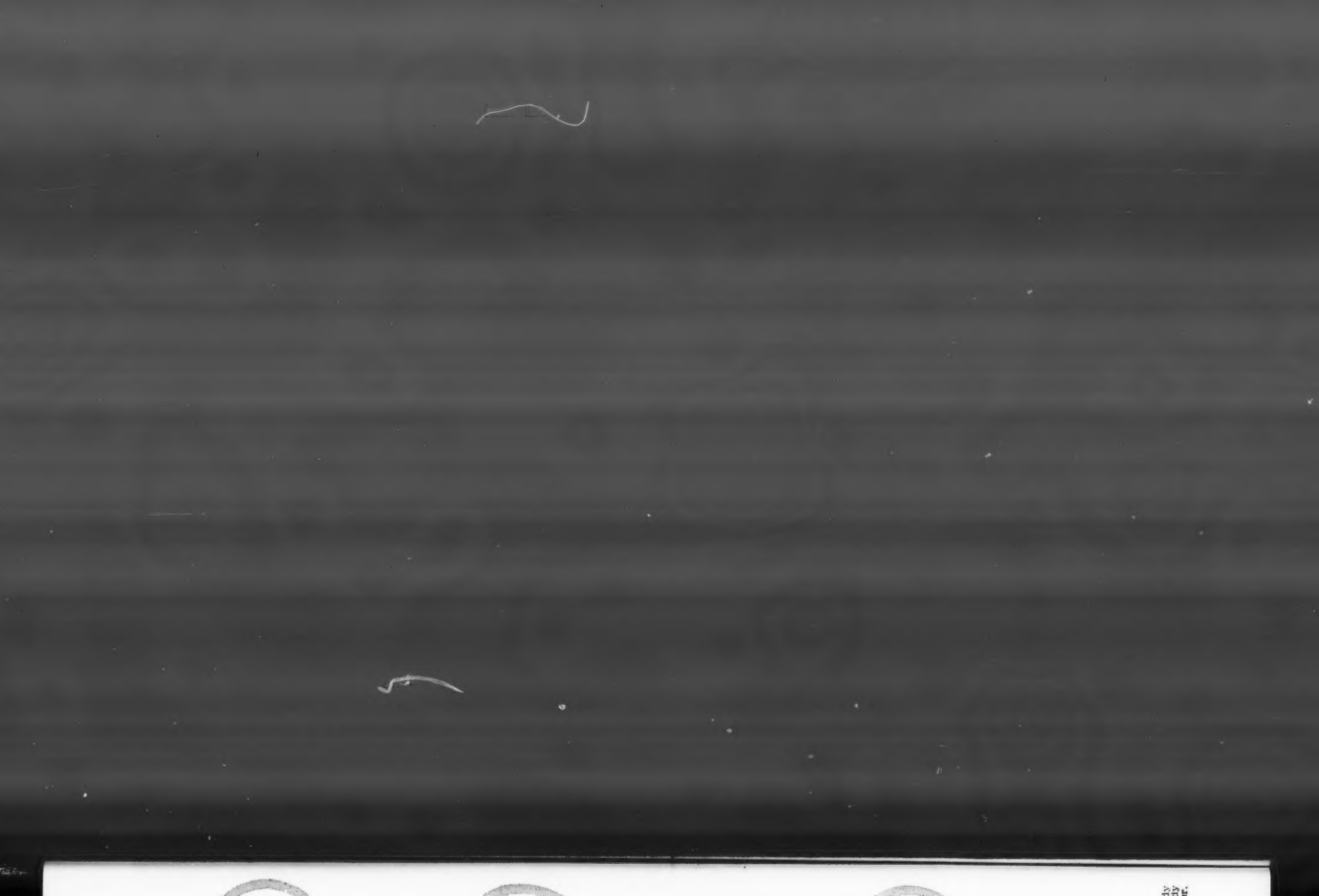








SECTION THROUGH SHELVES scale 1 1/2" = 1'-0"



8-STOREY FLATS AT NORTHFIELD, BIRMINGHAM

Birmingham's newest 8-storey flats, at Hawkesley Farm Moat Estate, Northfield, have been built on a site previously scheduled as an Ancient Monument, and preliminary work on the site was combined with excavations for the Ministry of Works, which found that previous buildings there had been wrecked by farm building in the 17th century, and only the 14th. century moat was worth preserving and this has been the focus of landscaping around the three blocks of flats plus a dozen old-people's bungalows and 39 lock-up garages designed by city architect A. G. Sheppard Fidler, in collaboration with K. W. Bland, of Wates Ltd. The blocks are constructed with reinfocced concrete piers and plate floors and concrete spinal walls running up the centres. Heating is by electric floor warming. Electric elements in tubes buried in the concrete, provide heat at off peak periods, and the concrete acts as a heat reservoir.

Contractors

Everthorpe Prison, Yorkshire (pages 813-818). *Architect:* N. Hinwood, A.R.I.B.A., Senior Architect, Chief Architect's Division, MOW. *General contractors:* (*prison and hall*) F. Shepherd & Sons; (*housing*) Stepney Contractors. *Sub-contractors* (*prison*): *Facing bricks:* Proctor & Lavender Ltd. *Reconstructed stone:* Naybro Stone Ltd. *Structural steelwork:* Depledge. *Hollow tile roofs & floors:* Frazzi Ltd. *Asphalt roofing:* Northern Asphalte Co. *Security guard bars:* Hadfields Ltd., Isaac Robinson & Co. Ltd. *Roof lights:* Lenscrete Ltd. *Metal balustrading:* King & Co. *Metal windows:* Metal Casements Ltd. *Security gates:* King & Co. *Chain link fencing:* Proctor Bros. *Ventilators:* Colt Ventilation Ltd. *Cell door observation panels:* James Gibbons Ltd. *Insulating lining to workshops:* Manchester Slate Co. Ltd. *Iroko hardwood strip floors to assembly hall:* Horsley Smith & Co. *Composition block floors:* Marley Tile Co. Ltd. *Jointless floor:* Veitchi Floor Co. Ltd. *P.V.C. flooring:* Adamite Co. Ltd. *Terrazzo flooring:* O. Toffolo & Son Ltd. *Sanitary appliances:* Taylor Bros. & Miller Ltd. *Plastering:* Soar Bros. *Tiling:* Bryon & Co. *Cold glaze dadoes:* Robbs Cement Enamel Finishes Ltd. *Painting:* F. & S. Pilling Ltd. *Paint:* W. J. Leigh Ltd. *Plumbing:* F. P. Tarren. *Heating and hot water services:* Hopes Heating & Engineering Ltd. *Electrical services:* Electrical Services Installations Co. Ltd. *Boiler house installation:* Davey Paxman & Co. Ltd. *Laundry equipment:* Thomas Bradford & Sons Ltd. *External steam mains:* Clayton Chambers Ltd. *Baking oven:* W. F. Mason & Son Ltd. *Sub-contractors* (*housing*): *Facing bricks:* Proctor & Lavender. *Roof tiling:* Sydney Ellis. *Thermoplastic floor tiling:* Marley Tile Co. *Plumbing:* The Humber Electrical Engineering Co. Ltd. *Electrical services:* James Todd. *Painting:* Haselhurst & Moore, Hessle. *Paint:* Walpamur Co. Ltd. (Renovation of hall) *Hollow tile roofs:* Frazzi Ltd. *Asphalt roofing:* Northern Asphalte Co. *Thermoplastic floor tiling:* Semtex Ltd. *Paint:* Mander Bros. Ltd. *Wood Preservative:* Xylamon Silexine Paint Co. *Heating & hot water services:* Hopes Heating & Engineering Ltd. *Electrical services:* Electrical Services Installations Co. Ltd.

Announcements

PROFESSIONAL

Ronald Smith, DIP. ARCH. (BIRM.), A.R.I.B.A., has opened an office in the Midlands at 28, Victoria Road, Pelsall, Walsall (telephone Pelsall 461). Trade literature and catalogues by post would be welcomed.

Powell and Alport, A/A.R.I.B.A., have opened a branch office at 48/48a, Parsonage Chambers, 3, Parsonage, Manchester, 3, where they will be pleased to receive trade literature.

R. W. Lightfoot, A.R.I.B.A., has joined the firm of Tooley and Foster, Chartered Architects, at Buckhurst Hill, Essex, as an Associate.

James F. Munce, A.R.I.B.A., practising with George R. Smail, M.I.C.E., as Munce and Kennedy, architects and consulting engineers, of Belfast, has taken into associateship L. A. Roche, B. ARCH., A.R.I.B.A., M.R.I.A.I., and W. J. McDowell, B.SC., A.M.I.C.E., A.M.I.W.E.

TRADE

The following members of the staff have been elected to the Board of Directors of Wolf Electric Tools Ltd., Pioneer Works, Hanger Lane, London, W.5: N. McCann, R. G. J. Nisbet, J. A. Jackson, and W. N. Scottorn.

The Carter group of companies is holding an exhibition of its works in various major cities throughout the country. The exhibition, which has already been to Cardiff and Manchester, can be seen at Plymouth (Strathmore Hotel) on December 9 and 10; Birmingham (Engineering Centre) on January 6 and 7; Nottingham (Black Boy Hotel) on January 21 and 22; Liverpool (Stork Hotel) on February 3 and 4; Leeds (Hotel Metropole) on February 17 and 18. Generally the exhibition will be open from 12 noon to 9 p.m. and will include short talks on ceramic design by A. B. Read, F.S.I.A., R.D.I., A.R.C.A.

H. E. Gray has been appointed technical representative for Central London by F. Hills & Sons Ltd., Stockton-on-Tees.

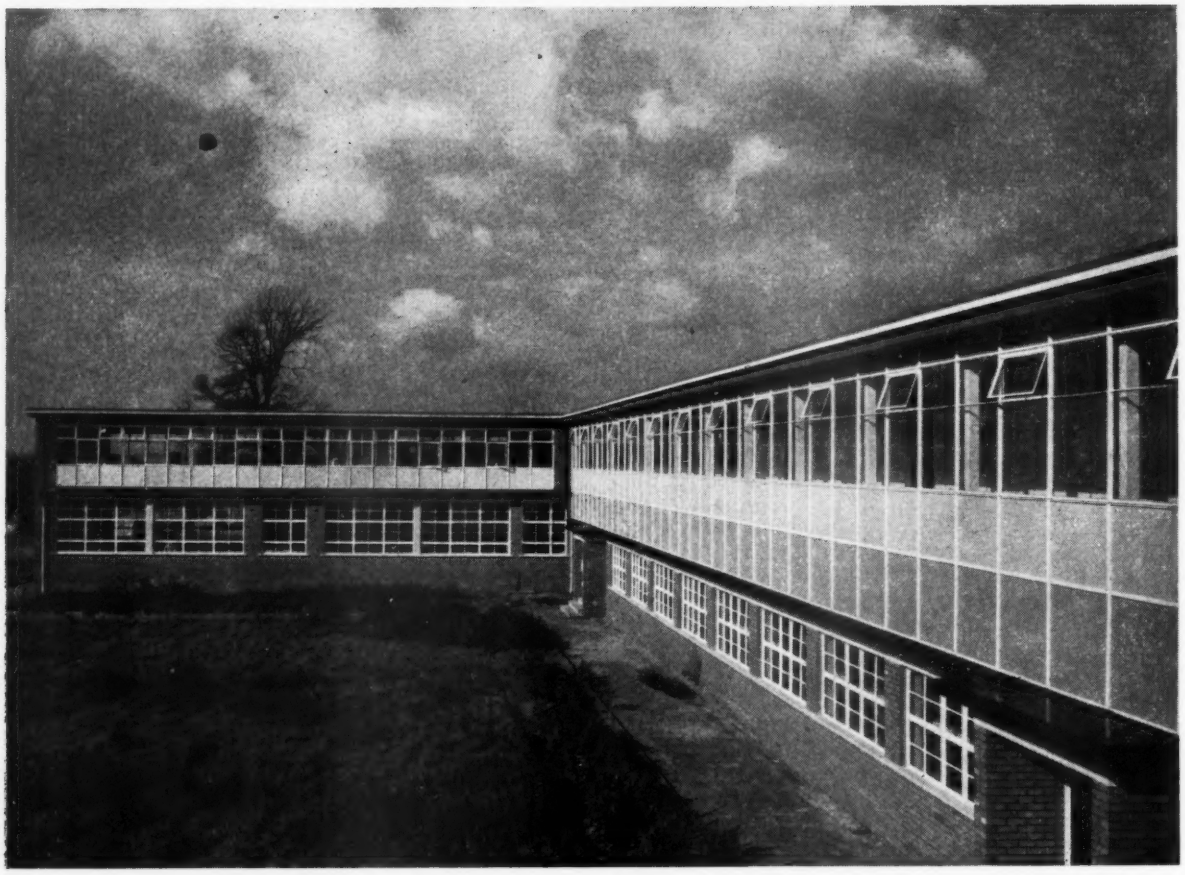
C. N. Tayler has been appointed Home Sales Manager of British Titan Products Co. Ltd. and will operate from their London office at 10, Stratton Street, W.1.

H. C. Janes Ltd., Barton, Bedfordshire, have appointed the following stockists: Ashworth Kirk (Woodwork) Ltd., London Road, Nottingham, to cover Nottingham and Hull area, and Lytle & Pollock Ltd., Duncrue Street, Belfast, to cover Northern Ireland.

Corrections

The A.75 timber prefabrication system used for the extension to Rowan Hill Girls' Preparatory School, described in last week's AJ, was developed by A. H. Anderson Ltd., and not A. H. Henderson as stated.

The Information Centre item published in the JOURNAL for November 20, 1958, under the heading "18.198 Construction: Theory; Reinforced Concrete Columns" should have been numbered 18.199.



TECHNICAL COLLEGE, PORT TALBOT

Metal Window Contractor: John Williams & Son (Cardiff) Ltd.
"TRICO" Infilling Panels: The Rustless Iron Co., Ltd.
1844 sq. ft. Semi matte. Yellow and blue-grey.
224 Panels. Backed with ⅜" Asbestolux.

TRICO

VITREOUS ENAMEL
Weatherproof Building Panels

COMPOSITION: Mild Steel Sheets with or without flanges, covered all over with weatherproof vitreous (glass) enamel. May then have a backing material such as asbestos, cork, insulating board, glass or mineral wool, etc.

ADVANTAGES: Hard, weatherproof, scratch and corrosion-resisting surface of permanent colour. PLUS strength (cannot crack through). Erection possible in all weathers.

MAINTENANCE: Washing down only.

COLOURS: Available in an almost unlimited choice.

TEXTURES: Full gloss, satin finish, stencilled, marbled, stippled, roughcast.

WEATHER RESISTANCE: Permanent.

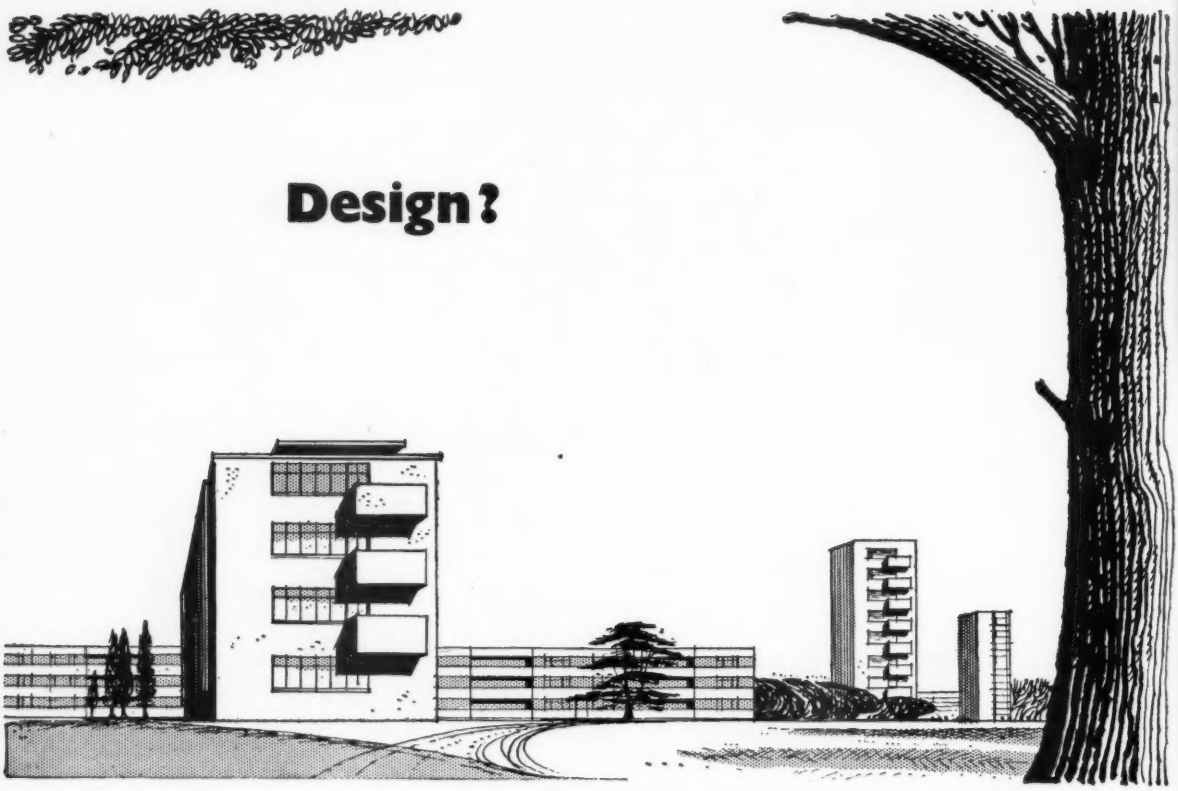
THERMAL INSULATION: Readily obtained down to U=0·2 or lower if required.

PREFABRICATION: Complete at factory. Can be moved entire from one site to another.

WEIGHT PER UNIT AREA: 3-10 lbs. per sq. ft. Average area 12 sq. ft. Preferred maximum size about 6 ft. by 4 ft.

Data Sheets and detailed information available on request.

THE RUSTLESS IRON CO. LTD. Trico Works, Keighley, Yorks. Tel: 3737-8-9



Design?

best call in Helicon

The Helicon Service

FERRO-CONCRETE

Design or Construction

REINFORCEMENT

A complete service in designing, bending, supplying and fixing M.S. Reinforcement for all kinds of R.C. Construction.

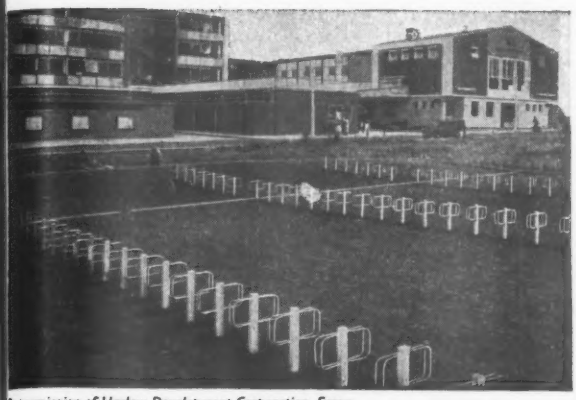
HOLLOW TILE & PRE-CAST FLOORS & ROOFS

Successful designing for ferro-concrete is not just a matter of academic knowledge. To be truly successful a design must show not merely a satisfactory method but *the most* satisfactory *and economical* way possible. Only wide experience and access to the most modern resources can make this sort of design possible. These vital factors you will get from Helicon. Thirty-five years' experience of design and construction plus intimate knowledge of contemporary techniques place them among the leaders in their field. For successful ferro-concrete design, call in Helicon.

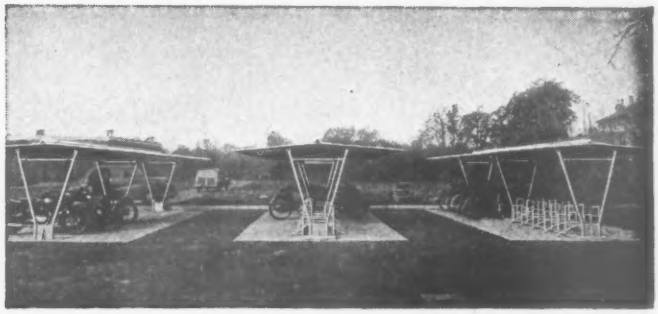
Also at: Birmingham (*Birmingham Midland 5382*) • Manchester • Newcastle (*Newcastle 27744*) Notts (*Gamston 284*) • Taunton (*Taunton 5631*) • **Works:** Charlton (*Greenwich 2971*) Harefield (*Harefield 2176*) • Sutton-in-Ashfield (*Sutton-in-Ashfield 2621*)

THE HELICAL BAR & ENGINEERING CO. LTD

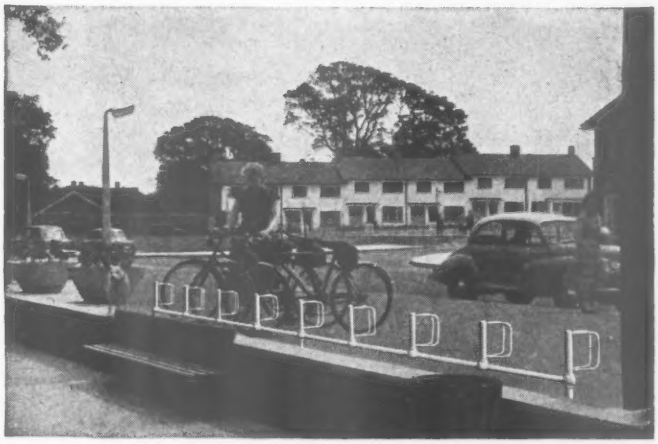
82 Victoria Street • London • S.W.1 • Telephone: VICtoria 6838



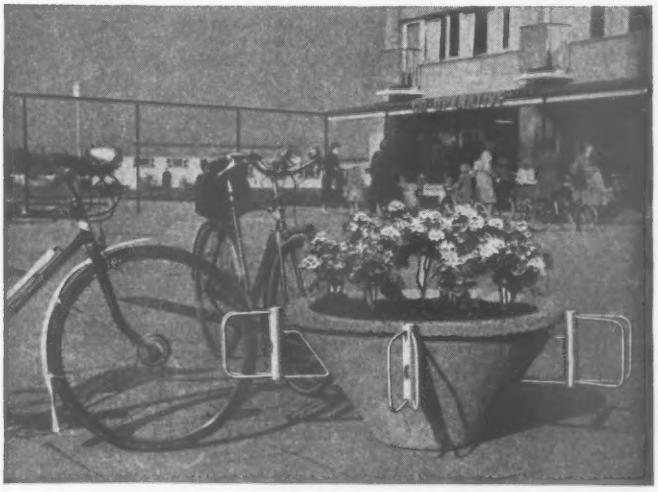
By permission of Harlow Development Corporation, Essex



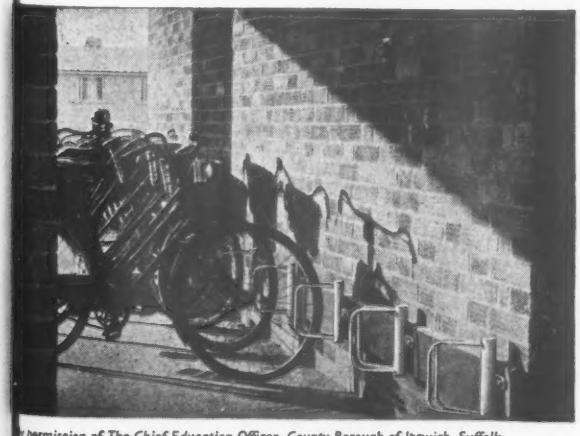
By permission of The Chief Education Officer, Norfolk Education Committee



By permission of The Chief Architect, Crawley Development Corporation, Sussex

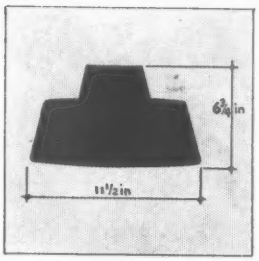


By permission of L. G. Vincent, Chief Architect, Stevenage Development Corporation, Herts



By permission of The Chief Education Officer, County Borough of Ipswich, Suffolk

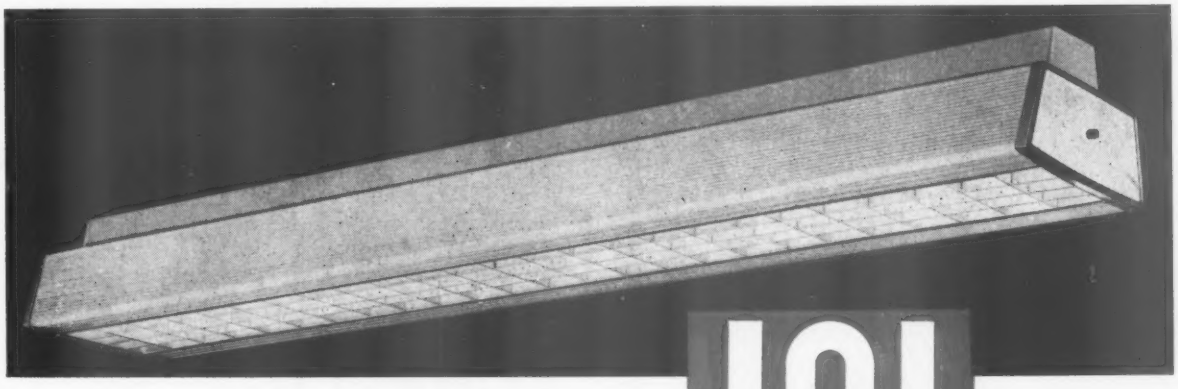
By permission of The County Architect, Middlesex County Council



one of many decorative designs

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

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



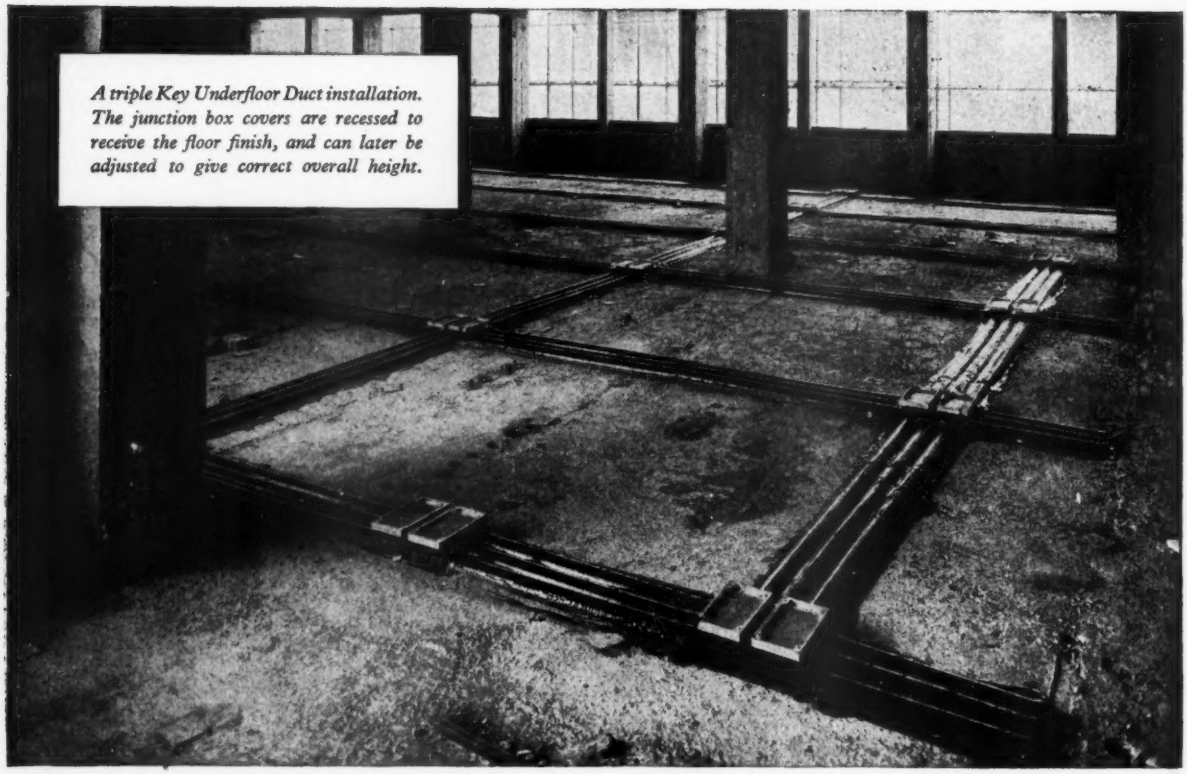
101 range

fluorescent lighting fittings

G.E.C.

THE GENERAL ELECTRIC CO. LTD., MAGNET HOUSE, KINGSWAY, LONDON, W.C.2

Now and for the future—
Key Underfloor Duct
solves wiring problems economically



A triple Key Underfloor Duct installation. The junction box covers are recessed to receive the floor finish, and can later be adjusted to give correct overall height.

Electric power and telephone outlets can be installed and added as necessary when Key Fibre Underfloor Duct is used. On a materials plus labour basis the cost of installations is lower than any metal system. Because of their light weight and ease of cutting and fitting, Key ducts can be quickly laid. Since there is no necessity to pre-position outlets, the architect can install an underfloor duct scheme, and later fit outlets to suit the occupant's requirements. The fitting of these outlets is a quick and simple matter and the most complete range of fittings is available for lighting and telephone systems.

easy to lay—low cost
completely adaptable

KEY UNDERFLOOR DUCT
conforms with B.S. 815 and is the original Underfloor Duct System. Key have the widest experience of Underfloor Duct Systems in the U.K.

Speed the job—cut the cost with the

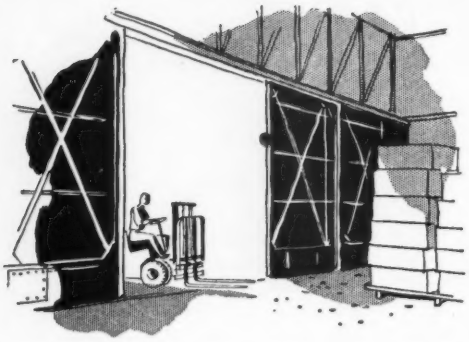
KEY UNDERFLOOR DUCT SYSTEM

ALSO KEY FIBRE CONDUIT FOR HEAVY DUTY CABLES

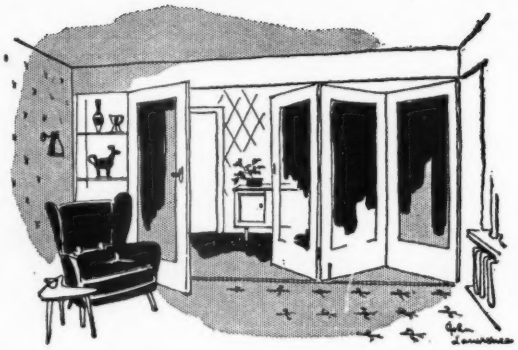
A PRODUCT OF **KEY ENGINEERING COMPANY LIMITED**
Larkfield, Near Maidstone, Kent. Telephone: Maidstone 7461 & 7233

Reed

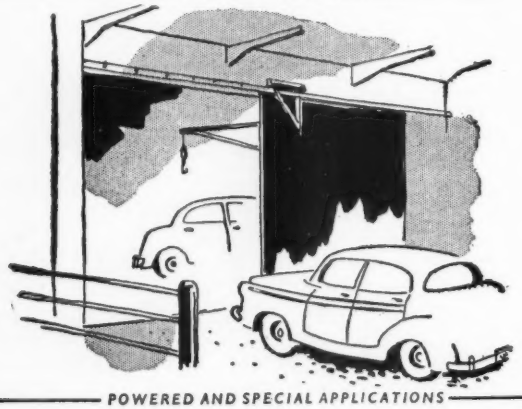
TGA UDI



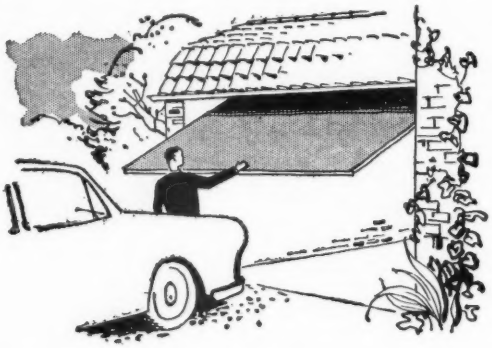
STRAIGHT SLIDING INDUSTRIAL



FOLDING DOMESTIC



POWERED AND SPECIAL APPLICATIONS



THE UPOVER

Door Craft by KING craftsmen

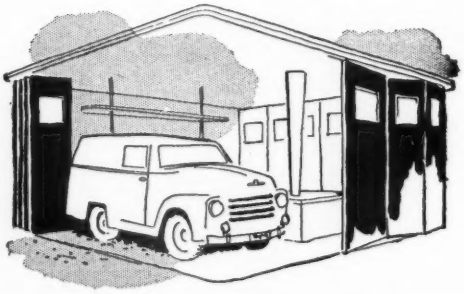
For sheer versatility and dependability, the KING range of doors and door gear is unbeatable. Close supervision at every stage of manufacture ensures the highest possible quality.

KING Door Craft is the result of 40 years experience in the design and construction of doors of every type, from simple domestic to remote controlled power-operated giants.

We can't hope to tell you all about our huge range here, so why not tell us your problem. The KING Technical Advisory Department is always ready to help on the correct application. This specialized knowledge is *free*. You will incur no obligation by enquiring. Early discussion often avoids delay and extra expense. Our representative will be pleased to call on you any time, *anywhere* in the world.

Write for literature to:

GEO. W. KING LTD., 201 ARGYLE WORKS, STEVENAGE, HERTS.
TEL: STEVENAGE 440

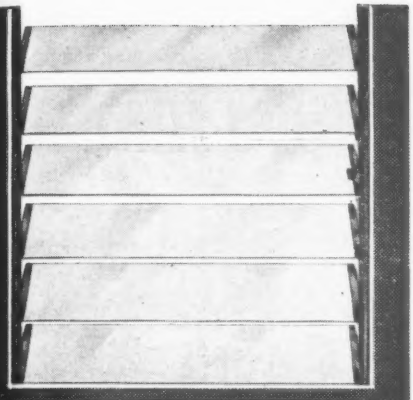


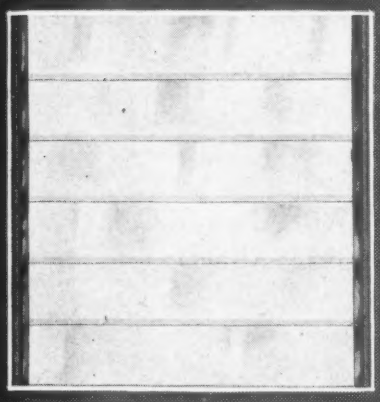
AROUND-THE-CORNER

KING

REGISTERED TRADE MARK

DOOR GEAR CRAFTSMEN FOR 40 YEARS





HIGHLIGHT cost-cutting NACO SUNSASH LOUVRE WINDOWS

FOR COMPLETE, CONTROLLED VENTILATION

Full efficiency and low-cost economy; these factors are assured when Naco Sunsash Louvre Windows are specified. Distributed for many varying applications in 89 countries, they have been acclaimed for weather-proof ventilation under all conditions.

IN THE U.K. costs compare more than favourably with any other kind of window. A simple unit, including glazing, costs six shillings per square foot.

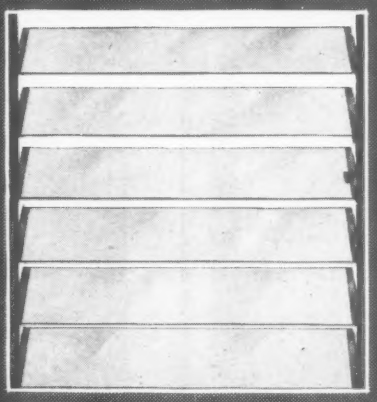
The Ministry of Education (Architects and Building Branch) have recently specified Naco Sunsash for many new developments. Other users include: U.K. Atomic Energy Authority; Ministry of Agriculture; Air Ministry; Ministry of Supply; Ministry of Works; London County Council; Bucks County Council; Herts County Council; The English Electric Co. Ltd., Nestlé Co. Ltd., and Roneo Ltd.

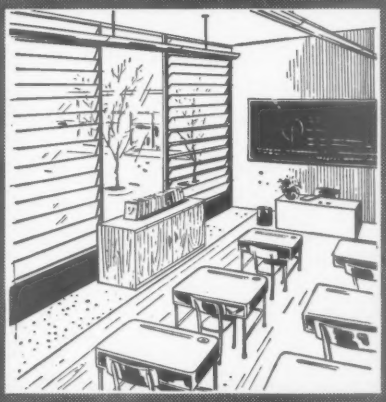
INSTALLATION is simple and when completed permits controlled, draught-free air flow because louvre blades are adjustable through ninety degrees. Any number of louvres can be combined in window apertures with sectional control operating levers as required. In addition to horizontal positioning, interior louvres can be fitted vertically to enhance design features.

SPECIFICATION NACO-SUNSASH louvre window frames consist of a pair of heavy gauge steel or anodised aluminium channels, with from 2-14 adjustable 6" louvre clips, mounted on alloy bearings. Steel components are zinc plated and/or sherardised after processing and finished with an aluminium lacquer. The channels are screwed into place on each jamb of a window opening.

Finishes available are: MILD STEEL; Electro-zinc plated, Aluminium-lacquer sprayed. ALUMINIUM; clear anodised.

An illustrated leaflet containing full technical information is available and will gladly be sent on request.





NACO SUNSASH

The World's Largest Selling Louvre Window

N. V. APPLETON PTY. LTD.
LIVERPOOL ROAD TRADING ESTATE
SLOUGH, BUCKINGHAMSHIRE
Telephone: Slough 25715/25368

CLASSIFIED ADVERTISEMENTS

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

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

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

Public and Official Announcements

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

AIR MINISTRY WORKS Design Branch requires in LONDON and PROVINCES ARCHITECTURAL ASSISTANTS experienced in planning/preparation of working drawings and details for permanent and semi-permanent buildings. Salaries in LONDON up to £1,015 for men and £925 p.a. for women. Somewhat lower in PROVINCES. Starting pay dependent on age, qualifications and experience. Long-term possibilities with promotion and pensionable prospects. Five-day week, 3 weeks 3 days leave a year. Liability for overseas service. Normally natural born British subjects. Write stating age, qualifications, employment details including type of work done to any Employment Exchange quoting Order No. Borough 100. 2033

LONDON COUNTY COUNCIL
ARCHITECT'S DEPARTMENT

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

Application form and particulars from Hubert Bennett, P.R.I.B.A., Architect to Council (HK/62/58), County Hall, S.E.1. (2168.) 1949

BOROUGH OF EALING
ARCHITECTURAL ASSISTANT, Salary Scale £780—£1,050 inclusive. Must hold recognised architectural qualification. Experienced in alterations and maintenance of municipal buildings and schools. Full particulars and application forms from Borough Surveyor, Town Hall, Ealing, W.5. Closing date 8th December, 1958.

E. J. COPE-BROWN,
Town Clerk.

Town Hall,
Ealing, W.5. 2076

COUNTY COUNCIL OF ESSEX
COUNTY PLANNING DEPARTMENT

Applications invited for the following posts:—

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

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

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

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

MANCHESTER REGIONAL HOSPITAL BOARD

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

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

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

National Health Service Conditions and Superannuation.

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

BOROUGH OF WREXHAM

Applications are invited for the appointment of ARCHITECTURAL ASSISTANT, Salary A.P.T. I (£575 to £725 per annum).

Forms of application and particulars obtainable from the Borough Surveyor, 31, Chester Street, Wrexham. House provided if required.

Applications to the undersigned by 12 noon, 15th December, 1958.

PHILIP J. WALTERS,
Town Clerk.

Guildhall,
Wrexham.
20th November, 1958. 2178

BOROUGH OF NEWCASTLE-UNDER-LYME
ARCHITECTURAL ASSISTANT, Grade A.P.T. II (£725 × £30—£845)

Applications are invited for the above appointment. The commencing salary will be in accordance with experience and qualifications. Applicants should have passed the Intermediate R.I.B.A. examination and should be able to prepare working drawings under minimum supervision.

Favourable consideration will be given to the provision of housing accommodation in suitable cases.

Application Forms and Conditions of Appointment may be obtained from the Borough Surveyor, Lancaster Building, High Street, Newcastle, Staffs., and must be returned to him not later than Monday, 15th December, 1958.

C. J. MORTON,
Town Clerk.
2201

JUNIOR ARCHITECTURAL ASSISTANT required by HACKNEY BOROUGH COUNCIL. Salary grade APT 1 (£575—£725 p.a.). London Weighting allowance £20 p.a. at age 21, £30 p.a. at age 25. Commencing salary according to training, qualifications and experience. Candidates must be Students of the R.I.B.A. or Probationers with a good architectural training and several years' experience in an architect's office. Apply Town Clerk, Town Hall, Hackney, E.8. for application form returnable by 9 a.m., 19th December, 1958. 2237

COUNTY BOROUGH OF BOLTON
BOROUGH ARCHITECT'S DEPARTMENT

Applications invited for an ARCHITECTURAL ASSISTANT on Grade APT. I (£575—£725). Commencing salary in accordance with experience. Post superannuable, subject to medical examination. Previous Local Government experience not essential.

Applications, giving full details, including experience, present post and salary, and naming two referees, should be received by me not later than 13th December.

PHILIP S. RENNISON, *Town Clerk.*
2233

WARWICKSHIRE COUNTY COUNCIL
ARCHITECT'S DEPARTMENT

Applications are invited for the following appointments:—

(1) SENIOR ASSISTANT ARCHITECT GRADE APT. III-IV (£845—£1,175)
Applicants must be members of the Royal Institute of British Architects and be competent designers with a good knowledge of modern methods of construction. They must also be capable of handling large building projects from sketch plan to completion.

(2) ASSISTANT ARCHITECTS SPECIAL GRADE (£750—£1,030)
Applicants must have passed Parts I and II of the R.I.B.A. final or special examinations or their equivalent at one of the recognised schools of architecture. The successful applicants will work in teams on large projects, but opportunity will be given to men with enthusiasm and ability to design and carry out smaller projects under a Group Architect.

The appointments are on the established staff and subject to the Scheme and Conditions of Service of the National Joint Council for Local Authorities and the Local Government Superannuation Act, 1937-1953. The Council is unable to offer housing accommodation but consideration will be given to the granting of financial assistance towards the payment of removal expenses. The commencing salary to be determined upon the successful applicant's ability and experience.

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

L. EDGAR STEPHENS,
Clerk of the Council.

Shire Hall,
Warwick. 2236

WEST SUSSEX COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT

Applications are invited for the following Temporary appointment:—

JUNIOR ARCHITECTURAL ASSISTANT at a salary in accordance with Grade I (A.P.T. Division) of the National Scales of Salaries. (£575 per annum, rising subject to satisfactory service, by five annual increments of £30 to £725 per annum). *Commencing salary according to experience.*

Further particulars should be obtained from the County Architect, County Hall, Chichester, to whom detailed applications must be submitted not later than 20th December, 1958.

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

County Hall,
Chichester.
26th November, 1958. 2229

BOROUGH OF SHREWSBURY
BOROUGH SURVEYOR'S DEPARTMENT
ARCHITECTURAL ASSISTANT

Applications are invited for the post of ARCHITECTURAL ASSISTANT Special Grade £750 × £40 — £1,030.

Housing accommodation will be provided if required and removal expenses paid.

Applications stating age, qualifications and experience with the names and addresses of two persons to whom reference can be made, should be submitted to the Borough Surveyor, Guildhall, Shrewsbury, by 15th December, 1958.

S. R. H. LOXTON,
Town Clerk.

Guildhall,
Shrewsbury. 2235

CITY OF PLYMOUTH—CIVIC CENTRE

Tenders are invited from Contractors for road works, drainage and landscape work, forming the first stage of the Great Square in the City Centre. It is expected that the value of the contract will be in the order of £20,000, and that the work will commence in April, 1959.

Applications, accompanied by a deposit of £3 3s. made payable to the Plymouth Corporation, to be made to the Architects (Messrs. G. A. Jellicoe & Partners, 5, Princess Square, Plymouth).

Bills of approximate Quantities and Forms of Tender will be made available on 15th December, 1958, and drawings may be inspected after that date at the office of the Architects.

No tender received after noon on Monday, 12th January, 1959, will be considered. No tender will be received except in a plain sealed envelope addressed to the Town Clerk, Town Clerk's Office, Pounds House, Plymouth, and bearing the words "Tender—Civic Centre Great Square Contract," but no name or mark indicating the sender.

Deposits will be refunded on the receipt of bona fide Tenders not subsequently withdrawn. 2165

BOROUGH OF HESTON AND ISLEWORTH

Applications are invited for the permanent appointment of a SENIOR ARCHITECTURAL ASSISTANT in the Borough Engineer and Surveyor's Department. Salary in accordance with Special Grade (£750 × £40—£1,030 per annum plus London weighting).

Applicants must have had good experience in architectural design and building work under construction, and, other things being equal, preference will be given to applicants who have passed the examination for Associate R.I.B.A. or hold a University Degree or Diploma in architecture accepted by that Institute.

The Council is unable to assist the successful candidate with housing accommodation.

Applications are to be submitted by 22nd December, 1958, on forms to be obtained from and returned to the Borough Engineer and Surveyor, 88, Lampton Road, Hounslow.

D. MATHIESON,
Town Clerk.

Town Hall,
Hounslow, Middlesex. 2222

CWMBRAN DEVELOPMENT CORPORATION
APPOINTMENT OF TWO ASSISTANT ARCHITECTS

Applications are invited for the above superannuable posts in my Department in the salary range £844 × £37—£1,029 with a commencing salary according to qualifications and experience.

Candidates should be Associates of the R.I.B.A. with suitable office experience and should have had good experience in House Design, Construction and Layout.

Housing accommodation will be made available in suitable cases or otherwise lodging expenses in accordance with the Corporation's scale will be paid to married men for a limited period.

Applications stating age, experience, details of present and former employment (together with applicable salaries) and the names and addresses of two referees must reach the undersigned by first post on Monday, 22nd December, 1958.

J. C. P. WEST, A.R.I.B.A., M.T.P.I.,
Chief Architect.

Victoria Street,
Cwmbran,
Mon. 2199

LANCASHIRE COUNTY COUNCIL
PLANNING ASSISTANTS required at PRESTON.

(*a*) Development Control Section;
(*b*) Development Section. The section is concerned with the preparation of development plans, rural land use, landscaping problems, mineral working, tipping, dereliction and reclamation of land.

Applicants should be studying for or possess a qualification in planning, engineering or landscape architecture.

National Joint Council Conditions of Service. Salary rising to £1,030 (N.J.C. Special Scale) for qualified applicants. Candidates with an Intermediate qualification would be appointed on appropriate grade and subject to satisfactory service progress to the Special Scale when fully qualified.

Applications giving age, qualifications, present appointment, experience, etc., and two referees to County Planning Officer, East Cliff County Offices, Preston, by 17th December, 1958. 2203

HERTFORDSHIRE COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT

ASSISTANT ARCHITECTS (salary range £750—£1,030) required. Previous Local Government experience not essential.

Applications, with names of two referees, to County Architect, County Hall, Hertford, Herts, by 15th December, 1958. 2221

BASILDON DEVELOPMENT CORPORATION
DEPARTMENT OF ARCHITECTURE AND PLANNING

GROUP LEADERS and SENIOR ASSISTANT ARCHITECTS with flair for advanced design and ability to build required for the following posts. A large programme of Town Centre, Housing and Industrial buildings gives great opportunity.

(a) Group Leader—Architect, A.P.T. VIII/IX, £1,139—£1,454 per annum.

(b) Assistant Architects, A.P.T. VI, £934—£1,146 per annum.

All posts superannuable, and rented housing is available.

Applications on the special form (obtainable from the Chief Architect/Planner) to the General Manager, Basildon Development Corporation, Gifford House, Basildon, Essex, endorsed with the relevant appointment by Friday, 19th December. 2218

SKIPTON URBAN DISTRICT COUNCIL
ARCHITECTURAL ASSISTANT

Salary within Special Scale (£750—£1,030) according to qualifications and experience.

The appointment is an established post for Capital Works (Houses, Shops, Flats, Municipal Buildings), subject to a month's notice on either side.

House available.

Five-day week in operation.

Applications, stating age, qualifications, present salary, experience and names of two referees to the Engineer and Surveyor, Town Hall, Skipton, by 22nd December, 1958. 2215

BOROUGH OF EDMONTON
BOROUGH ARCHITECT'S DEPARTMENT
JUNIOR ARCHITECTURAL ASSISTANT (temporary) required. Candidates should be about 18-20 years of age and have achieved some progress in their studies for professional qualification. Excellent opportunity of gaining valuable experience in a Borough Architect's drawing office dealing with all aspects of building. Salary on Higher/General grade rising to £560 plus London weighting with opportunities for promotion.

Time off and financial assistance for studies. Five-day week.

Applications on forms obtainable from Town Clerk, Town Hall, Edmonton, must be delivered by 12th December, 1958. 2187

ISLE OF MAN LOCAL GOVERNMENT BOARD
ARCHITECT AND PLANNING OFFICER

Applications are invited for the post of Architect and Planning Officer to the Isle of Man Local Government Board. Commencing salary £1,200 per annum.

Applicants must be Fellows or Associates of the Royal Institute of British Architects and must either hold a diploma recognized by the Town Planning Institute or have had experience in Town and Country Planning.

The post is pensionable on a contributory basis under the Isle of Man Superannuation (Officers of Boards) Scheme 1934, as amended.

Applications stating age, qualifications, experience and particulars of previous appointments held, and accompanied by copies of not more than three recent testimonials should be enclosed in an envelope endorsed "Architect and Planning Officer" in the top left hand corner, and forwarded to the undersigned so as to reach him not later than 5 p.m. on Wednesday, the 17th day of December, 1958.

This 25th day of November, 1958.

W. H. KARRAN,
Secretary.

6, Mount Havelock,
Douglas,
Isle of Man. 2207

WOKING URBAN DISTRICT COUNCIL
APPOINTMENT OF ARCHITECTURAL ASSISTANT

A.P.T. Grade II (£725 × £30—£845)

Applications are invited for the above appointment in the Architectural Section of the Engineer and Surveyor's Department. Applicants should have passed the Intermediate Examination of the R.I.B.A. and have had good general experience.

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

Forms of application are to be obtained from and returned to Mr. H. P. Tame, A.M.I.C.E., M.T.P.I., Registered Architect, Engineer and Surveyor, Council Offices, Woking, not later than Monday, 15th December, 1958.

M. SHAWCROSS,
Clerk of the Council.

Council Offices,
24th November, 1958. 2211

UNITED OXFORD HOSPITALS

Applications are invited for the post of SURVEYOR to the United Oxford Hospitals, who will be responsible for the maintenance of building and plant and for minor capital works. A direct labour force is employed.

The possession of a recognised qualification will be an advantage, and will carry a salary of £1,300 to £1,400 per annum.

Salary without professional qualifications £1,200—£1,300 per annum.

Applications (6 copies) stating age and experience and giving the names of two referees should be sent to the undersigned, within 2 weeks of the date of the advertisement, from whom further particulars may be obtained.

E. J. R. BURROUGH,
Administrator.

The Radcliffe Infirmary,
Oxford. 2210

LONDON COUNTY COUNCIL
ARCHITECT'S DEPARTMENT

Vacancies for SURVEYING ASSISTANTS in Building Regulation Division and District Surveyors' Service for work in connection with applications under London Building Acts, and bye-laws. District Surveyors' Offices are located in Metropolitan Boroughs and work involves negotiations with developers and supervision of works in progress.

Salaries up to £860 with starting rates according to qualifications and experience.

Application form and particulars from Hubert Bennett, F.R.I.B.A., Architect to Council, EK/56/58, County Hall, S.E.1 (2282). 2159

CIVIL SERVICE. QUANTITY SURVEYORS and ASSISTANT QUANTITY SURVEYORS required by Admiralty, War Office, Air Ministry and Ministry of Works (occasionally overseas by War Office). Although unestablished, these posts have long-term possibilities. London salaries for those suitably qualified and experienced over 25 years of age, range from £805 to £1,650 per annum. Vacancies also exist for Quantity Surveying Assistants and others having some experience in Quantity Surveying at salaries ranging from £350 per annum upwards. Write quoting reference J.Q.S. to Room 403, M.L.N.S., Technical and Scientific Register (J), 26 King Street, London, S.W.1. 2226

LINDSEY (LINCOLNSHIRE) COUNTY COUNCIL
ARCHITECT'S DEPARTMENT

Vacancies on the permanent staff for TWO SENIOR ASSISTANT ARCHITECTS. Special Grade, £750—£1,030. Applicants should be A.R.I.B.A. and in special circumstances consideration will be given to starting salary above minimum of the grade.

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

Applications giving age, qualifications, experience, present post and salary, and the names of at least two persons to whom reference can be made, to be sent not later than Monday, 15th December, 1958, to the County Architect, County Offices, Lincoln. 2209

METROPOLITAN BOROUGH OF CAMBERWELL
ASSISTANT ARCHITECTS
(BOROUGH ARCHITECT'S DEPARTMENT)

The Council have vacancies for Assistant Architects within a salary range of £605 to £1,055 inclusive of £30 London weighting (grades A.P.T. I or II or III of the National Scales). The work of the Department includes design and construction of public buildings, housing estates, including multi-storey construction. Application form from Town Clerk, Town Hall, S.E.5. Closing date Monday, 22nd December, 1958. 2220

FEDERAL GOVERNMENT OF NIGERIA
ARCHITECT, PUBLIC WORKS DEPARTMENT

To scrutinize plans and contract documents, supervise the construction of buildings, and prepare certificates.

Contract appointments. Salary range £1,416 to £2,166 p.a. Gratuity of £37 10s. 0d. for each three months' service.

Free passages for officer and wife and refund of up to cost of two adult passages for children. Allowance of £75 each for two children maintained outside the territory. Quarters at low rent. Generous home leave on full salary.

Candidates must be A.R.I.B.A. with wide general experience. A candidate over 28 with five years' experience since election as A.R.I.B.A. would enter the salary scale at the enhanced point of £1,902 p.a.

Write Director of Recruitment, Colonial Office, London, S.W.1, giving briefly age, qualifications and experience, quoting BCD 112/14/05. 2196

Tenders Invited

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

BOROUGH OF EALING

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

(2) Site works only for prefabricated garages at:

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

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

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

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

Architectural Appointments Vacant

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

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

RONALD WARD & PARTNERS require ARCHITECTURAL ASSISTANTS with contemporary outlook, and willing to use own initiative. Salary range £600 to £900. Congenial working conditions. Five-day week. Apply 29, Chesham Place, Belgrave Square, S.W.1. Telephone Belgravia 3361. 1839

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

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

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

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

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

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

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

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

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

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

ARCHITECTURAL ASSISTANT of Intermediate R.I.B.A. standard required by Cadbury Brothers Ltd., to work on a varied and interesting programme. Experience in industrial and commercial building design desirable. Five-day week, attractive working conditions and amenities, pension scheme. Provision of housing accommodation will be considered for suitable applicants. Salary according to qualifications and experience. Write stating age, qualifications and salary required to Chief Architect, Cadbury Brothers Ltd., Bournville, Birmingham. 2078

EXPERIENCED ASSISTANT required to work on a variety of projects in a busy and congenial office. Please apply in writing, giving brief details of age, qualification and experience to Chas. W. Fox, F.R.I.B.A., 22, Parkway, Welwyn Garden City. 2087

ASSISTANT required in busy West End Office. About Intermediate level. Write stating age, experience and salary desired. Box 2081.

H. C. JANES require ARCHITECTURAL ASSISTANT for work in connection with house design and Estate layouts. Staff pension scheme in operation. Apply, giving details of age, previous experience and salary required to H. C. Janes Ltd., 183, High Town Road, Luton. 2079

BIRMINGHAM firm of Architects require ARCHITECTURAL ASSISTANTS of Intermediate to Final standard to work on schemes for a variety of interesting contracts. Scope for initiative and responsibility. Box 2072.

RCHITECTURAL ASSISTANT required in the Chief Architect's office of a large Multiple retail firm with offices in London. Five-day week, pension scheme, dining room. Applicants should state age, qualifications, experience and salary required. Box 2103

SENIOR ASSISTANT ARCHITECT, qualified and experienced, is required for a responsible position with a company specialising in the use of systems of prefabrication applicable to a large range of building types. Please give details of experience, age and salary required. Box 2105.

NOTTINGHAM Architects require ASSISTANT of approximately Intermediate standard for working drawings, surveys, etc. Salary by arrangement. Bartlett & Gray, Castle Gate Chambers, Castle Gate, Nottingham 53214. 2110

ARCHITECT'S ASSISTANT required by Manchester firm of Architects. R.I.B.A. Intermediate standard with some previous office experience. Write stating age, experience, qualifications and salary required. Box 2108.

ROBERT MATTHEW & JOHNSON-MARSHALL have vacancies in their Edinburgh office for experienced ASSISTANTS. Wide variety of University, Hospital and Housing projects. Applications should be marked "Confidential," and addressed to 31, Regent Terrace, Edinburgh, 7. 2115

W. S. ATKINS & PARTNERS announce that they have vacancies for qualified ARCHITECTS for work on major industrial projects. Applications giving full particulars to Personnel Manager, 158 Victoria Street, London, S.W.1. 2157

ASSISTANT urgently required for West End office. Intermediate standard. Quick and accurate draughtsmanship essential. Box 2195.

ARCHITECT'S ASSISTANT of about Intermediate R.I.B.A. standard required for busy Provincial office. Apply: Stevens & Partners, 49, Havelock Road, Hastings. 2194

ARCHITECT'S ASSISTANT required for country town Cotswolds. Intermediate R.I.B.A. or R.I.C.S. standard. Knowledge of agricultural buildings an advantage. In reply please state age, details of experience and salary required. Box 2193.

STEPNEY MBC require ARCHITECTURAL ASSISTANT, £1,055—£1,205, commencing according to experience. Applicants must possess suitable architectural qualifications and be experienced in design, construction and in the administration of large building contracts. Application forms and other particulars from the Town Clerk, 227, Commercial Road, E.1. 2192

ARCHITECTURAL ASSISTANT required for small busy London office. Experience preferred to qualifications. Box 2191.

ASSISTANT ARCHITECT, with experience in preparation working drawings, etc. Varied and interesting work in busy office. Apply, giving training, experience and salary required. T. Alwyn Lloyd & Gordon, F/A.R.I.B.A., 6, Cathedral Road, Cardiff. 2190

FREDERICK GIBBERD requires ASSISTANTS, recently qualified or of about Intermediate standard, in Harlow office. Varied and interesting work. Salaries according to qualifications. Apply in writing to Frederick Gibberd, 29, The Rows, Stone Cross, Harlow, Essex. 2189

ASSISTANT required by London Office for work overseas. Capable working drawings. Salary according to experience. Reply Box 2200.

INTERMEDIATE and FINAL STANDARD ASSISTANTS required. Minimum two years' office experience. Salary according to ability. Phone: LAN. 7236. 2198

ARCHITECTURAL ASSISTANT required in Bristol. Intermediate standard, salary between £500—£700 with annual increments, depending on age and experience. Arrangements for part-time study available. Apply to Kenneth Nealon & Partner, F/A.R.I.B.A., 28, Orchard Street, Bristol, 1. 2197

DIOCESAN SURVEYOR requires part-time ASSISTANTS for two or three days per week in the South London Area and Reigate Area. Experience in repairs, reconstruction and restoration important. Age not important. Car available. Box 2206.

ARCHITECTURAL ASSISTANT up to Intermediate standard required in progressive Architect's Office, Chester. Salary by arrangement, depending upon experience. Reply, giving age, full details of experience, qualifications, etc., to Box 2205.

EXPERIENCED JUNIOR ASSISTANT required by Manchester Practice for work on various interesting projects, including some fairly large-scale contemporary designs. Able to take over from sketch design stage and use own initiative, with supervision as required. Congenial office, and good salary offered to suitable applicant. Please write in first instance to Box 2204.

YOUNG, progressive Baker Street firm require ASSISTANTS with Intermediate and three years' experience, for varied work particularly on private housing and estate layout. Write with details of age, experience and salary required, to Box 2202.

ARCHITECT'S ASSISTANT of Intermediate standard, R.I.B.A., required by Consulting Engineers. Applicants should have had several years' experience in design and construction. Salary by arrangement. Apply Sir Bruce White, Wolfe Barry & Partners, 1, Lygon Place, Grosvenor Gardens, London, S.W.1. Tel.: SLOANE 3433. 2162

ARCHITECTURAL ASSISTANT, Intermediate standard, required by a large Birmingham firm for work on interesting contemporary multi-storey projects in Birmingham. Preferably capable of working with minimum supervision. Five-day week. Telephone Edgbaston 4571 or write J. Seymour Harris & Partners, 3-4, Greenfield Crescent, Five Ways, Birmingham, 15. 2184

ARCHITECTURAL ASSISTANT required for busy West End office. Salary according to age and experience. Apply in writing to Maurice Sanders, F.R.I.B.A., 24, Harley Street, W.1. 2161

ARCHITECTURAL ASSISTANTS required. Must be good draughtsmen and have not less than five years' office experience. Apply in writing to Llewellyn Smith & Waters, 103, Old Brompton Road, S.W.7. 2164

KEEN, young Architect requiring professional practice experience in order to qualify will be welcomed in a Worcester architect's office. Young, enthusiastic staff, very pleasant offices, interesting work. Five-day week. Box 2166.

SENIOR ASSISTANT required in Westminster Office. Must have experience of contemporary industrial and commercial buildings. Salary £900—£1,000. Box 2167.

ASSISTANT required in Westminster Office. Mainly industrial and commercial buildings of contemporary character. Salary £700—£900. Box 2168.

INTERMEDIATE STANDARD ASSISTANT required for busy practice in W.R. Yorkshire. Engaged mainly on Schools, Public Houses and general work. Person appointed must be neat and accurate draughtsman. Housing accommodation available. Apply, giving full particulars and salary required to Dyson, Cawthorne & Coles, 25, Regent Street, Barnsley. 2169

TREHEARNE & NORMAN, PRESTON & PARTNERS have vacancies for SENIOR and JUNIOR ASSISTANTS. Salary according to experience and qualifications. Apply: 85, Kingsway, W.C.2. (HOL. 4071.) 2171

ARCHITECTURAL ASSISTANTS (age 28—38) are invited to apply for a new position in our Drawing Office at York. The work is varied, interesting and of a substantial nature. A keen interest in building design and construction, initiative and the capacity for hard work are essential. This permanent, progressive position offers a good salary, non-contributory pension scheme, superior staff conditions and assistance with housing. Applications in confidence, stating age, training and experience, qualifications, availability and present scale of remuneration should be addressed to: D. W. Shepherd, M.I.O.B., Deputy Managing Director, F. Shepherd & Son Ltd., Building & Civil Engineering Contractors, Blue Bridge Lane, York. 2173

YORKE, ROSENBERG & MARDALL require school-trained ASSISTANTS. Apply in writing to 2, Hyde Park Place, W.2. 2174

ARCHITECTURAL ASSISTANT of sound experience for Office with varied and interesting practice. State age, qualifications and salary to Gerald Shenstone & Partners, 34, Bloomsbury Way, W.C.1. 2175

GEORGE WIMPEY & CO., LIMITED

THE ARCHITECT'S DEPARTMENT seek SENIOR and INTERMEDIATE ASSISTANTS, with experience in, and ability to apply their knowledge to, new construction techniques covering Multi-storey Flats, Houses, Offices and Industrial Buildings for contracts in the U.K., and overseas.

Permanent appointments at Head Office, Hammersmith. Five-day week.

Salaries will be commensurate with qualifications and experience and, subject to satisfactory service, there is a Pension Scheme available.

Immediate short-term appointments, for periods up to 12 months, are also available for ASSISTANTS on working drawings and detail work.

Written applications, giving full particulars, to: E. V. Collins, A.R.I.B.A., Chief Architect, 27, Hammersmith Grove, London, W.6. Ref. 617B. 2176

VIC HALLAM LIMITED invite applications for the following posts:

(*a*) QUALIFIED ARCHITECT. Salary range £950—£1,150. Experience in prefabrication desirable although not essential.

(*b*) INTERMEDIATE ASSISTANT. Salary range £750—£950. Student of Intermediate standard.

Starting salary according to experience. Interesting and varied work. Superannuation scheme. Congenial surroundings. Apply, stating age, experience and salary required, to the Company Architect, Vic Hallam Ltd., Langley Mill, Nottingham. 2177

RAPIDLY expanding London firm of dry partition distributors require the services of an ARCHITECTURAL ASSISTANT for layouts, detailing and site supervision. Substantial salary and excellent prospects for suitable applicant capable of assuming responsibility. First class references essential. Reply Box 2188.

LEEDS: ASSISTANT: Intermediate R.I.B.A. standard. Work on University Hostel and School programme. Draughtsmanship and knowledge of construction. Starting salary £600. Write, giving experience, to Messrs. Jones & Stocks, 7, Blenheim Terrace, Leeds, 2. 2186

ARCHITECTURAL ASSISTANTS of Intermediate standard required in London Office. Wide and varied practice. Pleasant working conditions. Box 2217.

FRY, DREW, DRAKE & LASDUN have vacancies for experienced qualified ASSISTANTS in their London office for work in England. Write, giving details of training, qualifications, experience and salary required, to the Secretary, 63, Gloucester Place, W.1. 2216

ARCHITECT'S ASSISTANT required in small London Office with a large variety of work. Must be a good draughtsman and keen to learn, but previous office experience not essential. Please write with full particulars to L. K. Watson & H. J. Coates, F/A.R.I.B.A., 6, Gray's Inn Square, London, W.C.1. 2219

EXPERIENCED ASSISTANT urgently required. Must be keen and have initiative and be prepared to cope with all aspects of an expanding E. Midlands practice with interesting work on hand. Work-shy need not apply. Good salary and prospects. Box 2223.

ARCHITECTURAL ASSISTANTS, preferably of Intermediate standard, are invited to apply for posts in the Architect's Department at Ericsson Telephones Limited, Beeston, Nottingham, to work with group architects on a programme of modern industrial building.

Starting salary will be in accordance with qualifications and previous experience, but it will be helpful to know salary expected by applicants.

The department at present works a five-day week. Good canteen facilities are available. Participation in superannuation fund after qualifying period.

Please write, stating age and giving full details of training and experience, to the Personnel Manager. 2224

ARCHITECTURAL ASSISTANTS, Senior and Junior, required. Interesting work in extensive general practice, especially Churches and Schools. Excellent opportunity for experience and progress. State age, experience, qualifications and salary required. Sandy & Norris, 134, Newport Road, Stafford. 2225

R. J. BESWICK & SON, F.R.I.B.A., 10, Victoria Road, Swindon, Wiltshire, have vacancies for ARCHITECTURAL ASSISTANTS. Salaries in accordance with qualifications and experience. Apply in writing or telephone SWINDON 2857. 2227

EDINBURGH.—ARCHITECTS (ASSISTANT) required now and early next year. Salary according to qualification and experience. Write, giving full particulars, to David Carr & Stuart Matthew, 3, Randolph Cliff, Edinburgh, 3. 2231

Architectural Appointments Wanted

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

F.R.I.B.A., aged 38, with some 17 years' experience in private practice seeks change and interesting new outlet in private practice or in a responsible position in industry. Experience over the last twelve years has included laboratories for nuclear research, hospital laboratories, specialised school buildings, large and small commercial offices, a research station for a major firm in the aircraft industry, university work and many other types of buildings. Box 2080.

COMPETENT and experienced Associate, 31, requires position in provincial office, preferably Southern England or East Anglia. Salary by arrangement. Box 2234.

A. R.I.B.A., experienced, seeks responsible position. Would consider part-time or temporary work. Car owner. Box 2228.

Other Appointments Vacant

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

ASSISTANT TECHNICAL EDITOR, full time or part time, required by THE ARCHITECTS' JOURNAL. Applicants must have had at least three years' experience in architectural or engineering practice or in building. Applications, stating age, qualifications, present salary and whether full or part-time employment is sought, should reach the Secretary, THE ARCHITECTS' JOURNAL, 9-13, Queen Anne's Gate, S.W.1, by December 8th, 1958. 922

FIELD AND SHAW, 40, Station Road, North Harrow (Tel. HARrow 7502), require LADY ASSISTANT. Intermediate standard; good and speedy draughtsmanship. Work varied but largely housing. 2173

TECHNICAL SALES REPRESENTATIVE required to contact, at top level, architects, local authorities and builders in connection with the application and installation of a new and advanced form of domestic space heating. Responsible and remunerative post, with excellent prospects, open to applicant with sound knowledge of modern building construction able to discuss with architects and engineers the best use of advertiser's services and products. Applications will be treated with strict confidence and must include full details of education, technical training, past experience, age, and approximate salary required. Address to:—William Sugg & Company Ltd., 67-73, Regency Street, Westminster, S.W.1. Mark envelope "AJ" in top left hand corner. 2214

EXPERIENCED DESIGNER to assist with preparation of working drawings for shopfitting and other interior works urgently required. Reply giving full details of experience, training and salary required to Eugene C. Kent, F.R.I.B.A., M.T.P.I., 6, Gray's Inn Road, Holborn, W.C.1. 2096

ARCHITECTURAL DRAUGHTSMAN up to Intermediate standard required for firm in Westminster. Five-day week—bonus and pension schemes. Please write Box 2208.

LEEDS: ARCHITECTURAL DRAUGHTSMAN: Knowledge of Construction, Roads, Drainage. Qualifications not essential. Starting salary £600, or to be discussed. Write, giving experience, to Messrs. Jones & Stocks, 7, Blenheim Terrace, Leeds, 2. 2185

APPLICATIONS are invited from suitably qualified men for the post of SURVEYOR, to take charge of department controlling maintenance of approximately 14,000 houses. The Surveyor would also be responsible for a certain amount of supervisory work in connection with new schemes. Only professional men with considerable experience of property maintenance need apply. The commencing salary would be not less than £1,250 per annum, according to qualifications and experience. Contributory pension scheme in operation. Car provided. Applications in writing, stating age, qualifications and experience to the Secretary, The North Eastern Housing Association Limited, 5, Windsor Terrace, Jesmond, Newcastle upon Tyne, 2, not later than Tuesday, 9th December, 1958. 2183

DESIGNER required by NORTH THAMES GAS BOARD at KENSINGTON, W.8.
The duties include the design of showrooms, exhibition stands, window displays, etc. Applicants should preferably have had previous experience in this field.
Starting salary will be within the range of £808—£888 per annum with good prospects of promotion, and the appointment will be permanent and pensionable.
Applications should be sent to the Staff Controller, North Thames Gas Board, 30, Kensington Church Street, W.8, quoting reference AJ/663. 2182

BUILDING SURVEYOR'S ASSISTANT (Intermediate standard) required for West End appointment with Multiple Company. Some experience of property surveys, dilapidations, specification writing, property maintenance, settlement of Builders' Accounts, etc. Write with details of experience and salary required to Box 2181.

THE BIRMINGHAM CO-OPERATIVE SOCIETY LIMITED invites applications for the position of ASSISTANT WORKS MANAGER. The Works Department is responsible for the erection of new premises and the maintenance and repair of all existing buildings. The number of staff employed in the Department is approximately 360. Application form and further information supplied on request. Completed application form, endorsed "Assistant Works Manager," to be received by the Secretary, Birmingham Co-operative Society Limited, 27-36, High Street, Birmingham, 4, not later than Saturday, 20th December, 1958. 2163

SHOPFITTING ESTIMATOR for Melbourne, Australia, preferably single and under 35, fully experienced in estimating shop fronts, interior fittings, architectural metalwork, etc. Salary about £1,250 (Austr.) p.a. Passages paid (British subjects). Write in first instance with full details to O. W. Roskill, Industrial Consultants, 14, Great College Street, London, S.W.1. 2180

BUILDING SURVEYOR required, age between 24-30. Experienced in dilapidations, schedules condition including party wall matters, with ability to prepare specifications for and handle small building works. Salary according to experience. E. H. D. Hillier, Parker, May & Rowden, 77, Grosvenor Street, London, W.1. MAYfair 7666. 2179

Services Offered

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

"DON" ARCHITECTURAL MODEL MAKERS. We offer the highest grade work with speed and reliability.—Please 'Phone Erith 3843 or Hastings 1366. 1673

THE SITE SURVEY COMPANY
Blackheath, S.E.3. Tel.: LEE Green 7444-5
Fully equipped to undertake urgent Engineering and Architectural surveys in any part of the country and abroad. Specialists in ¼ in. scale detailed surveys for extensive city development areas. 1890

MODELS FOR ARCHITECTS. Charles Longbotham 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

INTERNATIONAL FIRM of consulting engineers prepared to enter into competition with developers and architects for development schemes. Box 1894.

ASSOCIATE, widely experienced, with London office, offers professional assistance to Architects. Box 2139.

WORKING Drawings, Detailing or Surveys efficiently carried out by experienced Architect A.R.I.B.A. on Part-time or Temporary basis. PARk 2750. 2155

NAMEPLATES, PLAQUES, CRESTS, etc., in bronze, brass, and plastic; quotations and lay-outs submitted.—Abbey Craftsmen, Ltd., Abbey Works, 109a, Old Street, London, E.C.1. CLE. 3845. 4165

ARCHITECTS, CONTRACTORS SPECIALISTS. Designs, Working Drawings, Details. Surveys Efficiently Executed. 'Phone: Wallington 9883 (near Croydon) and I will call anywhere and take your instructions. Privacy Guaranteed. 2232

DRAUGHTING, Perspectives, Project Drawings executed. Moderate charges. Tillotson & Leyland, c/o 26, Abercromby Square, Liverpool, 6. 2170

SENIOR ARCHITECTURAL ASSISTANT, 10 years' experience, offers freelance assistance to Architects, London or postal service. ¼ scales, working drawings and specifications. Fees by arrangement. Box 2213.

STRUCTURAL Design and Drawings carried out for Architects and Contractors at home. Box 2212.

Premises To Let

Six lines or under, 15s.; each additional line, 2s. 6d. Box No. including forwarding replies, 2s. extra,

TO LET.—Suitable for Drawing Office. Third Floor, comprising 3,000 sq. ft., centrally heated, with good top and side lighting. Lift. Rent £1,650 exclusive. W.1 area. Apply: Secretary, Book Centre Ltd., Neasden, N.W.10. Telephone WIL. 1222. 2230

Miscellaneous

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

A. J. BINNS, LTD., Specialists in the supply and fixing of all types of Fencing, Gates and Cloakroom Equipment.—Harvest Works, 96/107, St. Paul's Road, N.1. Canonbury 2061.

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

ARCHITECTURAL METALWORK of all types supplied and fitted. Gates, doors, balustrades, staircases, steel structures. Design staff available.—Clayton & Bamber, Ltd., Cartersfield Road, Waltham Abbey, Essex. 5823

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. Phones: Loughborough 2446/7. 1609

LONDON Quantity Surveyors have small amount of office accommodation available W.C.2 area suitable brother professional or Architect commencing practice. Reception and telephone facilities available. Apply Box 2138.

Educational Announcements

4 lines or under, 9s. 6d.; each additional line, 2s. 6d. 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. TEM. 1603/4.

TUITION—Correspondence and Personal Tuition given for the R.I.B.A. Institute of Builders and Clerk of Works Institute Examinations, also in all aspects of Building, Engineering and Draughtsmanship. C. W. Box, F.R.I.B.A., 115, Gower Street, W.C.1. Euston 3906. 9911

You are invited to write for an illustrated

(free) catalogue of

BOOKS *on architecture, planning,*

and kindred subjects to The Architectural

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

COURSES for all R.I.B.A. EXAMS.
Postal tuition in Draughtsmanship, Design, History, Construction, Building Science, Structures, Materials, Testimonies. Professional Practice. etc.
Also Courses for G.C.E.
ELLIS SCHOOL OF ARCHITECTURE
Principal: A. B. Waters, M.B.E., G.M., F.R.I.B.A.
103B, Old Brompton Rd., London, S.W.7.
and at Albany House, Worcester

GUARANTEED EXAMINATION COACHING
for R.I.B.A., R.I.Ch. Surveyors, I. Qty. Surveyors, I.Mun.E., I.Struct.E., etc.
FIRST-CLASS INSTRUCTION COURSES
in all aspects of Architecture, Building, Draughtsmanship, Surveying, Civil, Municipal, Structural, and Sanitary Engineering.
Write for FREE prospectus.
INTERNATIONAL CORRESPONDENCE SCHOOLS,
71 Kingsway, (Dept. 472), London, W.C.2.

BROAD-ACHESON
BLOCKS for *unvarying quality*
PRODUCTION OF ALL SIZES NOW CENTRALISED AT GREENWICH WORKS
BROAD & CO. LTD. PADDINGTON, W.2

MODELS
Invaluable to Engineers, Consultants, Work Study experts and laymen alike.
For details of our stage-by-stage model scheme consult:—
Architectural & Industrial Model Co., Ltd.,
The Basement, 33 North Audley Street, W.1
Telephone: Mayfair 1697

CARDIFF MODELS LIMITED
Models combining first class workmanship with realism and accuracy to clients own drawings and specifications.
351 NETHER STREET, FINCHLEY, LONDON, N.3.
Telephone: FIN 2314

ANCHORAGES TO CONCRETE
SPEARPOINT Floor Clips to anchor wood floors to concrete.
DOVETAIL Masonry Slot and Anchors to anchor brick and stone facings to concrete.
ANKORTITE Box Fittings.
ABBEY BUILDING SUPPLIES CO.
26 Glenburnie Road, London, S.W.17
Telephone BALham 4451-4452

DALE ELECTRIC
CONTRACTORS (B'HAM) LTD
25, BRISTOL ROAD,
BIRMINGHAM, 5. CAL. 3641

Buying new FURNITURE?
BE SURE YOU VISIT THE
FURNITURE
EARLS COURT JAN. 28-FEB. 7
TRADE PREVIEW JAN. 26-27
EXHIBITION

VERMICULITE CLADDING LIMITED
Fire Resisting Casings
London Road, Chalfont-St.-Giles
Telephone Nos. 45 & 46

WHITE FACING
BRICKS
(S. P. W. BRAND)
Telephone: BULwell 27-8237 8 9 • Telegrams: "Machine", Bulwell, Nottingham
M. McCARTHY & SONS, LTD
BULWELL • NOTTINGHAM

LIGHTNING PROTECTION
FURSE
W. J. FURSE & CO., LTD.
14 TRAFFIC STREET, NOTTINGHAM
LONDON, 22 ALIE ST. ALDGATE, E.I. ALSO AT MANCHESTER BIRMINGHAM BRISTOL.

'SYSTON' ROLLING SHUTTERS
IN STEEL, WOOD AND ALUMINIUM
'SYSTON' SERVERY HATCHES
MANUFACTURED TO YOUR OWN SPECIFICATION AT COMPETITIVE PRICES WITH RAPID DELIVERY
J. TAYLOR (SYSTON) LTD. • SYSTON • LEICESTER
TEL: SYSTON 2133 - MANCHESTER: RINGWAY 3996

We've got the doors you want

We have over 40 designs—over 180 items—to choose from. Send for our lists. Bryce White doors are price right doors!

BRYCE WHITE
BRYCE WHITE & CO. LTD., DESERONTO WHARF, LANGLEY, BUCKS.
Tel: Langley 232
and London, Bristol, Southampton.

FIRST FOLD HERE

AJ enquiry service

If you require catalogues and further information on building products and services referred to in the advertisements appearing in this issue of the Architects' Journal please mark with a tick the relevant names given in the index to advertisers overleaf. Then detach this page, write in block letters, or type, your name, profession or trade and address in the space overleaf, fold the page so that the post-paid address is on the outside and despatch. We will ensure that your request reaches the advertisers concerned.

FOLD HERE

Postage will be paid by Licensee

No Postage Stamp necessary if posted in Great Britain or Northern Ireland

BUSINESS REPLY FOLDER
Licence No. S.W. 1761

THE ARCHITECTS' JOURNAL

9-13 Queen Anne's Gate

London, S.W.1.

FOLD HERE

TUCK IN THIS END

Alphabetical index to advertisers

For Appointments (Wanted or Vacant), Competitions Open, Drawings, Tracings, etc., Education, Legal Notices, Miscellaneous, Property, Land and Sales, see 118, 119, 120, 121, 122

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_____

4.12.58

CODE
0402

0969
0413

1148

0435
0816
0985
0443
0176

0454
0828
0848
0470
0473
0481
1037

0494
0765
1147
1121
0526
1108
0995
0531
1114
0996
0917
0535
0538
0743
0928

0541
0542
0544
0547
0554
0555
0550
0653
0558
0561
0563
0566

1048

0811
1130
1135

0586
0590
0589
0591
0593
0600
1039

0609
1125

Printed in Great Britain for the Proprietors of "THE ARCHITECTS' JOURNAL" (The Architectural Press Ltd.) 9, 11 and 13, Queen Anne's Gate, Westminster, S.W.1. by HARRISON & SONS LTD., by Appointment to Her Majesty The Queen, Printers, London, Hayes (Middx.), and High Wycombe.
Editorial illustrations engraved by THE ENGRAVERS' GUILD LTD., Windsor House, 23/26, Cursitor Street, London, E.C.4.