

THE ARCHITECTS' JOURNAL



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

standard contents

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

NEWS and COMMENT

Diary

News

Astragal's Notes and Topics

Letters

Societies and Institutions

TECHNICAL SECTION

Information Sheets

Information Centre

Current Technique

Questions and Answers

Prices

The Industry

PHYSICAL PLANNING

SUPPLEMENT

CURRENT BUILDINGS

HOUSING STATISTICS

Architectural Appointments
Wanted and Vacant

IEE	Institution of Electrical Engineers. Savoy Place, W.C.2.	Temple Bar 7676
IES	Illuminating Engineering Society. 32, Victoria Street, S.W.1.	Abbey 5215
IGE	Institution of Gas Engineers. 17, Grosvenor Crescent, S.W.1.	Sloane 8266
IHVE	Institution of Heating and Ventilating Engineers. 75, Eaton Place, S.W.1.	Sloane 3158
IIBD	Incorporated Institute of British Decorators. Drayton House, Gordon Street, W.C.1.	Euston 2450
ILA	Institute of Landscape Architects. 12, Gower Street, W.C.1.	Museum 1783
I of Arb.	Institute of Arbitrators, 35/37, Hastings House, 10, Norfolk Street, Strand, W.C.2.	Temple Bar 4071
IOB	Institute of Builders. 48, Bedford Square, W.C.1.	Museum 7197
IR	Institute of Refrigeration. Empire House, St. Martin's-le-Grand, E.C.1.	Monarch 7391
IRA	Institute of Registered Architects. 47, Victoria Street, S.W.1.	Abbey 6172
ISE	Institution of Structural Engineers. 11, Upper Belgrave Street, S.W.1.	Sloane 7128-29
IWA	Inland Waterways Association. 11, Gower Street, W.C.1.	Museum 200
LIDC	Lead Industries Development Council. Eagle House, Jermyn Street, S.W.1.	Whitehall 7264
LMBA	London Master Builders' Association. 47, Bedford Square, W.C.1.	Museum 3891
MARS	MARS Group (English Branch of CIAM). 34, Gordon Square, W.C.1.	Euston 2158-9
MOA	Ministry of Agriculture and Fisheries. 55, Whitehall, S.W.1.	Whitehall 3400
MOE	Ministry of Education. Curzon Street House, Curzon Street, W.1.	Mayfair 9400
MOH	Ministry of Health. Whitehall, S.W.1.	Whitehall 4300
MOLNS	Ministry of Labour and National Service. St. James's Square, S.W.1.	Whitehall 6200
MOS	Ministry of Supply. Shell Mex House, Victoria Embankment, W.C.	Gerrard 6933
MOT	Ministry of Transport. Berkeley Square House, Berkeley Square, W.1.	Abbey 7711
MOTCP	Ministry of Town and Country Planning. 32-33, St. James's Square, S.W.1.	Whitehall 8411
MOW	Ministry of Works. Lambeth Bridge House, S.E.1.	Reliance 7611
NAMMC	Natural Asphalte Mine-Owners and Manufacturers Council. 94, Petty France, S.W.1.	Abbey 1010
NAS	National Association of Shopfitters. 9, Victoria Street, S.W.1.	Abbey 5277/8
NBR	National Buildings Record. 37, Onslow Gardens, S.W.7.	Kensington 8161
NCBMP	National Council of Building Material Producers. 2, Caxton Street, S.W.1.	Abbey 5111
NFBTE	National Federation of Building Trades Employers. 82, New Cavendish Street, W.1.	Langham 4041
NFBTO	National Federation of Building Trades Operatives, Federal House, Cedars Road, Clapham, S.W.4.	Macaulay 4451
NFHS	National Federation of Housing Societies. 13, Suffolk St., S.W.1.	Whitehall 2881/2/3
NHBRC	National House Builders Registration Council. 82, New Cavendish Street, W.1.	Langham 4041
NPL	National Physical Laboratory. Head Office, Teddington.	Molesey 1380
NŞAS	National Smoke Abatement Society. Chandos House, Buckingham Gate, S.W.1.	Abbey 1359
NT	National Trust for Places of Historic Interest or Natural Beauty. 42, Queen Anne's Gate, S.W.1.	Whitehall 0211/2
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.	Whitehall 9936
RIAS	Royal Incorporation of Architects in Scotland. 15, Rutland Square, Edinburgh.	Edinburgh 20396
RIBA	Royal Institute of British Architects. 66, Portland Place, W.1.	Langham 5721/7
RICS	Royal Institution of Chartered Surveyors. 12, Great George St., S.W.1.	Whitehall 5322
RFAC	Royal Fine Art Commission. 22A, Queen Anne's Gate, S.W.1.	Whitehall 3935
RS	Royal Society. Burlington House, Piccadilly, W.1.	Regent 3335
RSA	Royal Society of Arts. 6, John Adam Street, W.C.2.	Temple Bar 8274
RSI	Royal Sanitary Institute. 90, Buckingham Palace Road, S.W.1.	Sloane 5134
RIB	Rural Industries Bureau. 35, Camp Road, Wimbledon, S.W.19.	Wimbledon 5101
SBPM	Society of British Paint Manufacturers. 20, Piccadilly, London, W.1.	Regent 6347
SCR	Society for Cultural Relations with the USSR. 14, Kensington Square, London, W.8.	Western 1571
SE	Society of Engineers. 17, Victoria Street, Westminster, S.W.1.	Abbey 7244
SFMA	School Furniture Manufacturers' Association. 30, Cornhill, London, E.C.3.	Mansion House 3921
SIA	Structural Insulation Association. 14, Moorgate, London, E.C.2.	Central 4444
SIA	Society of Industrial Artists. Room 243, Empire House, St. Martin's-le-Grand, E.C.1.	Metropolitan 8344
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. 75, Cannon Street, E.C.4.	City 4771 (6 lines)
TGC	The Gas Council. 1, Grosvenor Place, S.W.1.	Sloane 4554
TPI	Town Planning Institute. 18, Ashley Place, S.W.1.	Victoria 8815
TTF	Timber Trades Federation. 81, Cannon Street, E.C.4.	City 1476
WDC	War Damage Commission. Devonshire House, Mayfair Place, Piccadilly, W.1.	Mayfair 8866
WEDA	Welfare Equipment Development Association. 61, St. Paul's Churchyard, E.C.4.	City 4263/4
ZDA	Zinc Development Association. Lincoln House, Turl Street, Oxford.	Oxford 47988

No. 2879]

[Vol. 111

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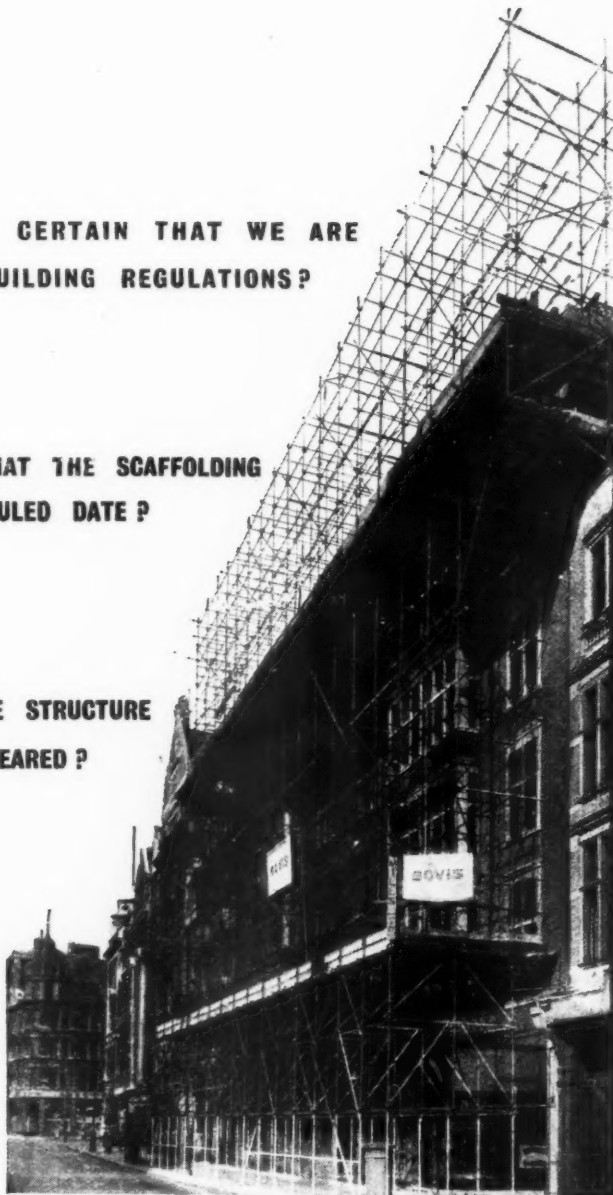
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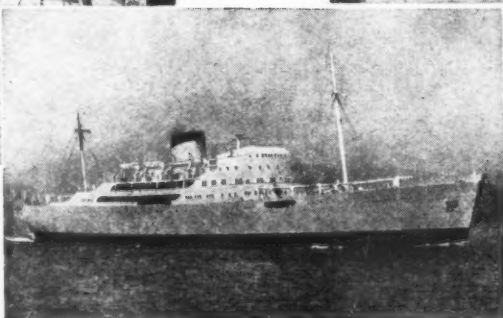
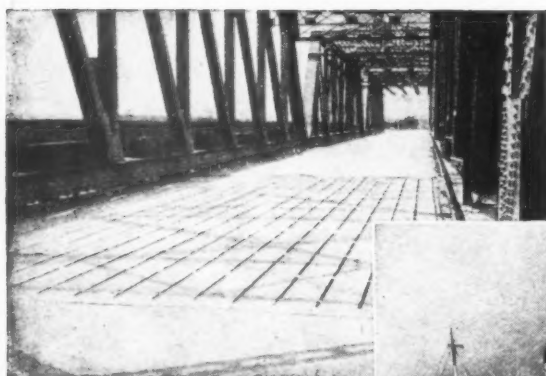
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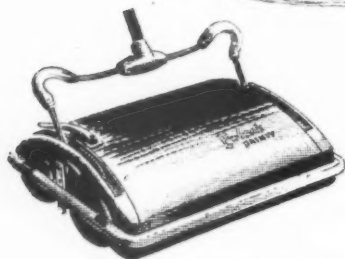
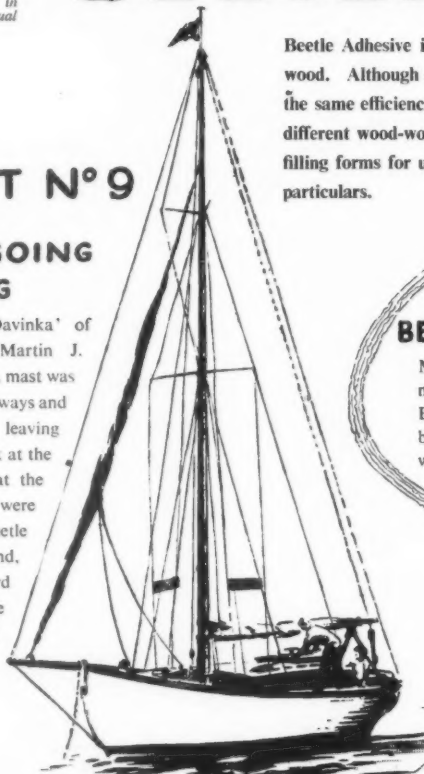
A LITTLE **BEETLE** GOES A LONG WAY—

This is the third in a series of factual announcements.

FACT N° 9

STILL GOING STRONG

This shows 'Davinka' of Ipswich (Mr. Martin J. Slater). Her 38 ft. mast was cut in half lengthways and hollowed out, leaving walls 1½ in. thick at the foot and ¾ in. at the head. The halves were joined with Beetle Adhesive 'A' and, after three hard seasons, there are no signs of deterioration.



FACT N° 11

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Beetle finds its way into many domestic as well as industrial applications. It is used to bond the curved, laminated, streamlined cover of the Ewbank Carpet Sweeper. "Entirely satisfactory," say the makers.

FACT N° 10

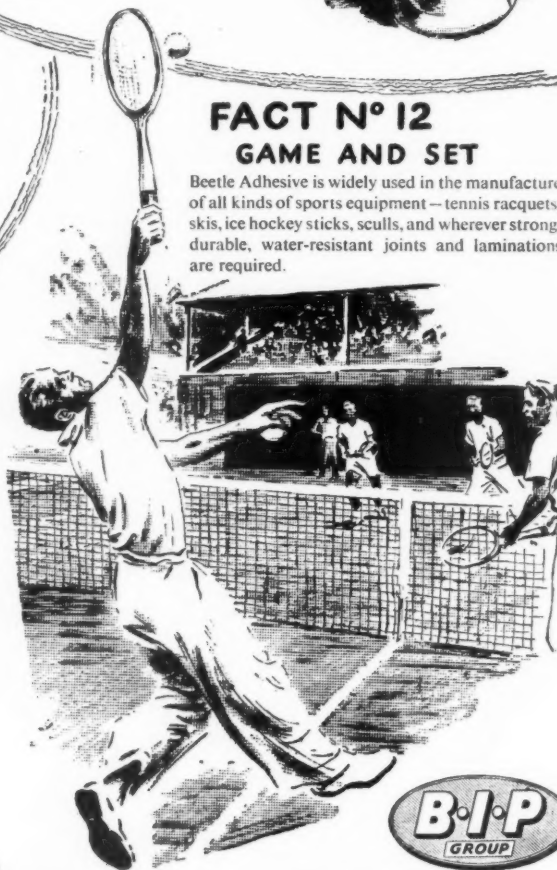
BEETLE IN THE NURSERY

Moulded dolls' heads are nowadays being made from wood-waste, bonded with Beetle Adhesive. Even when dolly gets a bath, no damage results, thanks to the water-resistant properties of Beetle Adhesives.



FACT N° 12 GAME AND SET

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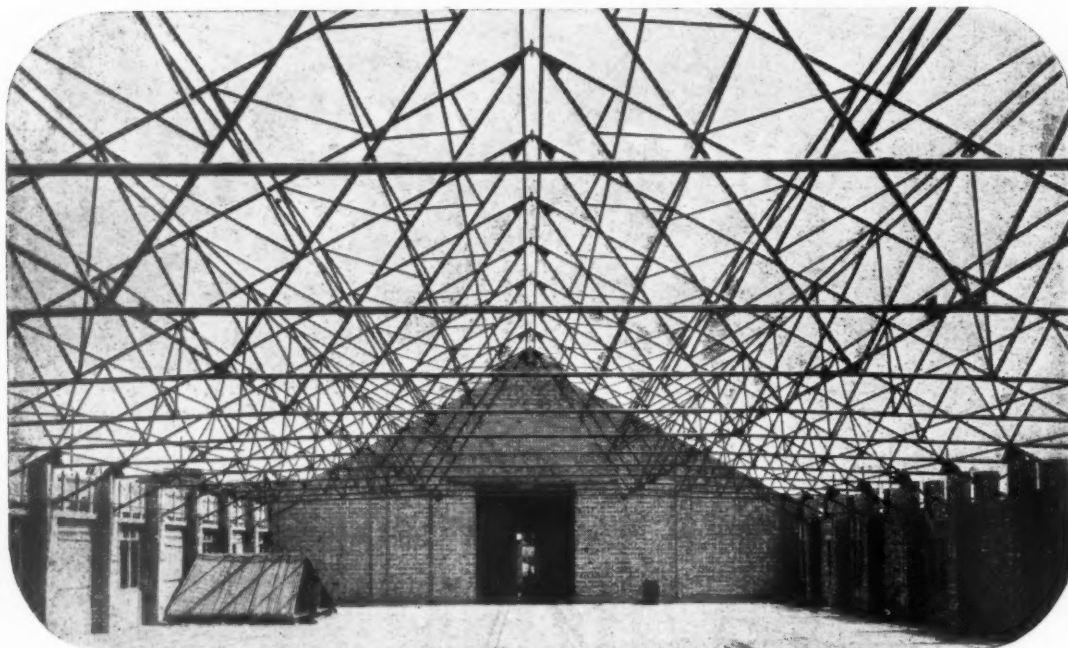


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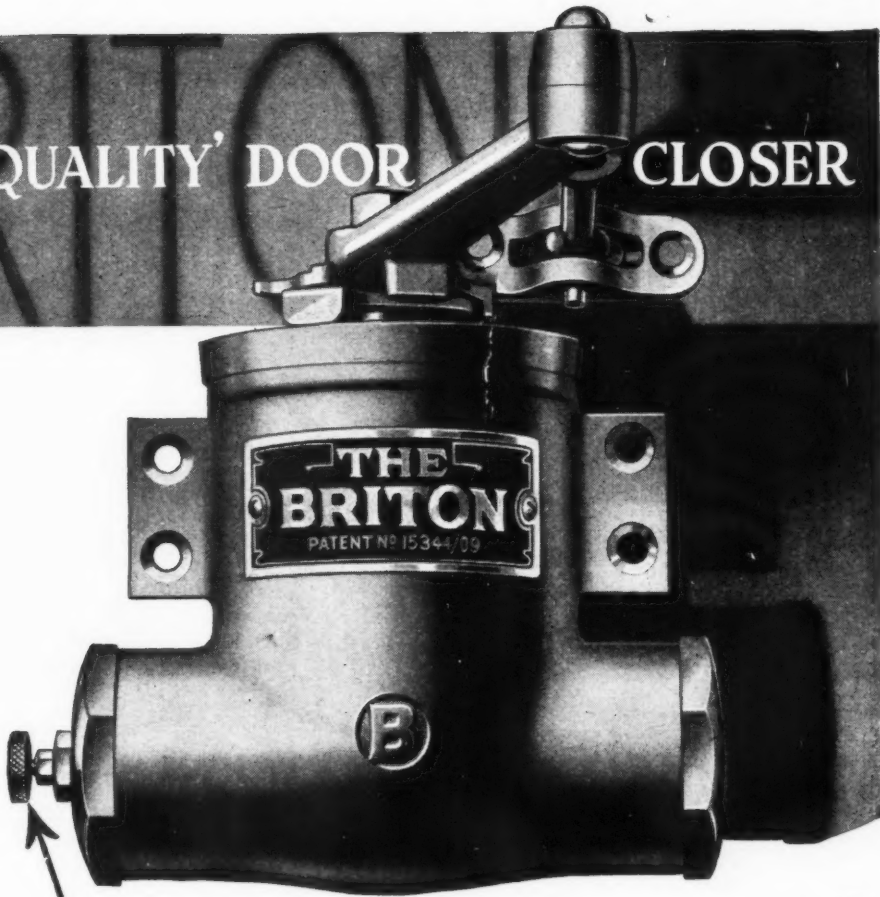
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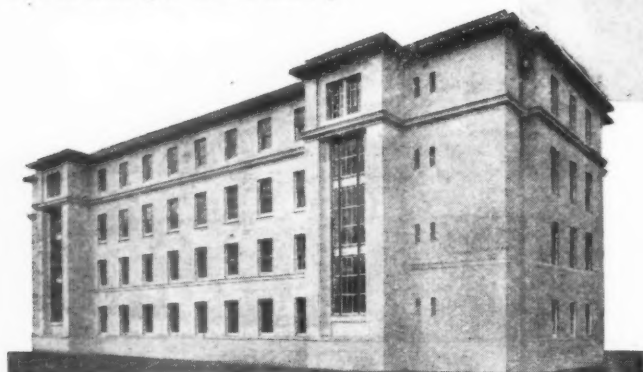
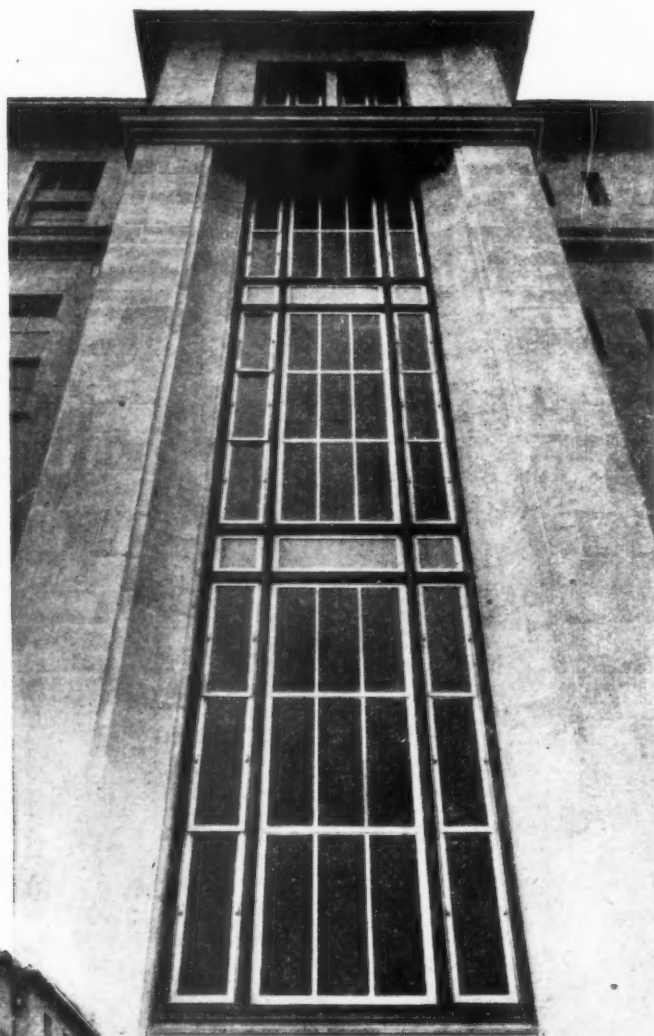
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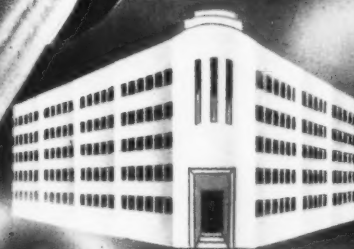
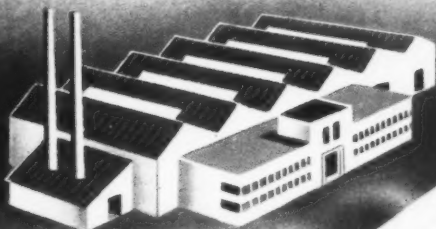
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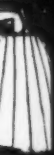
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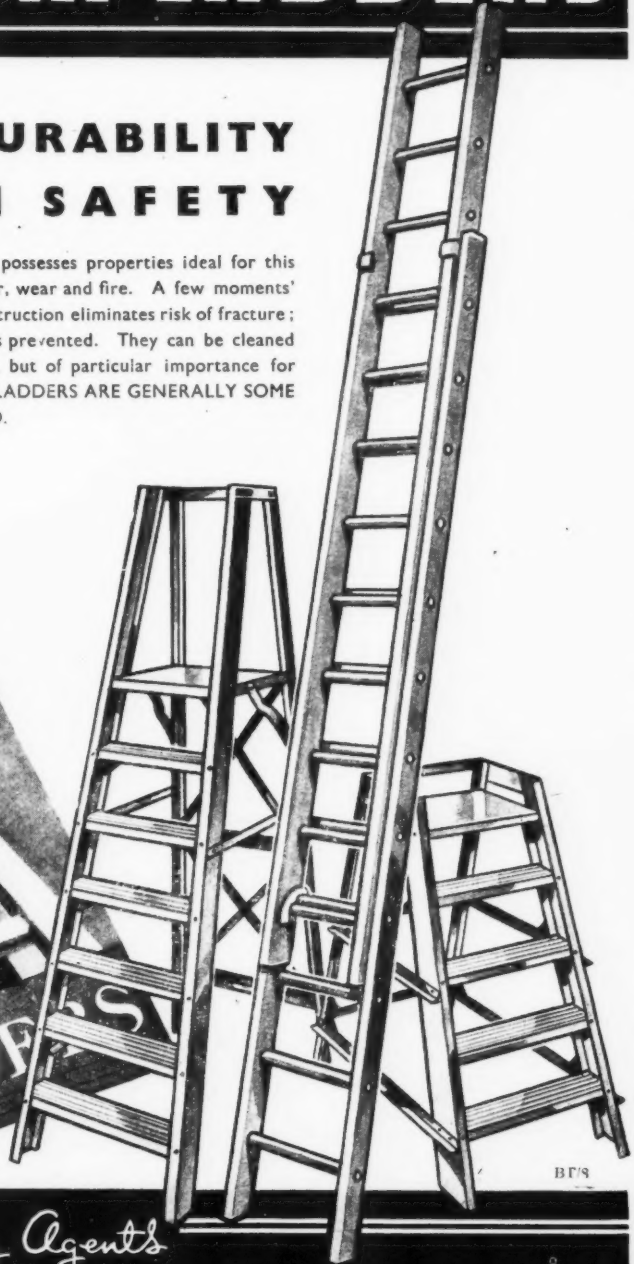
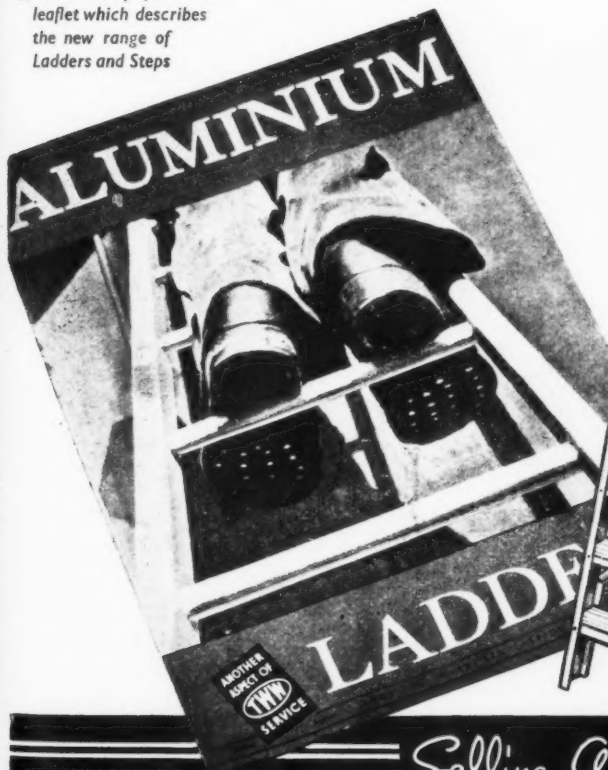
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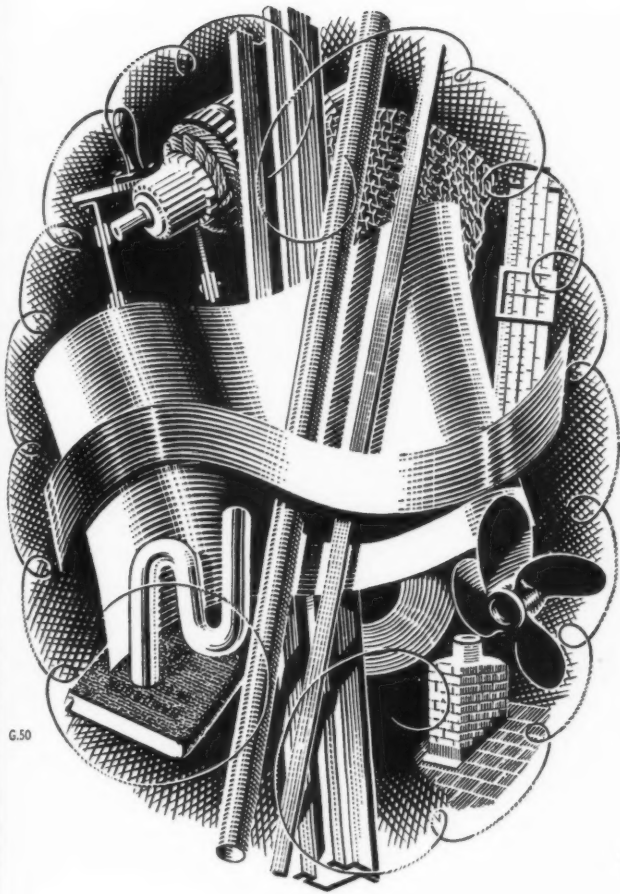
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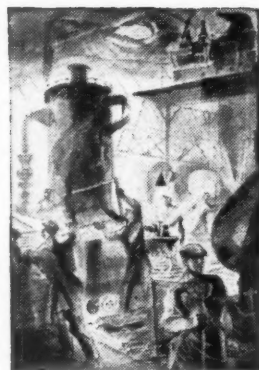


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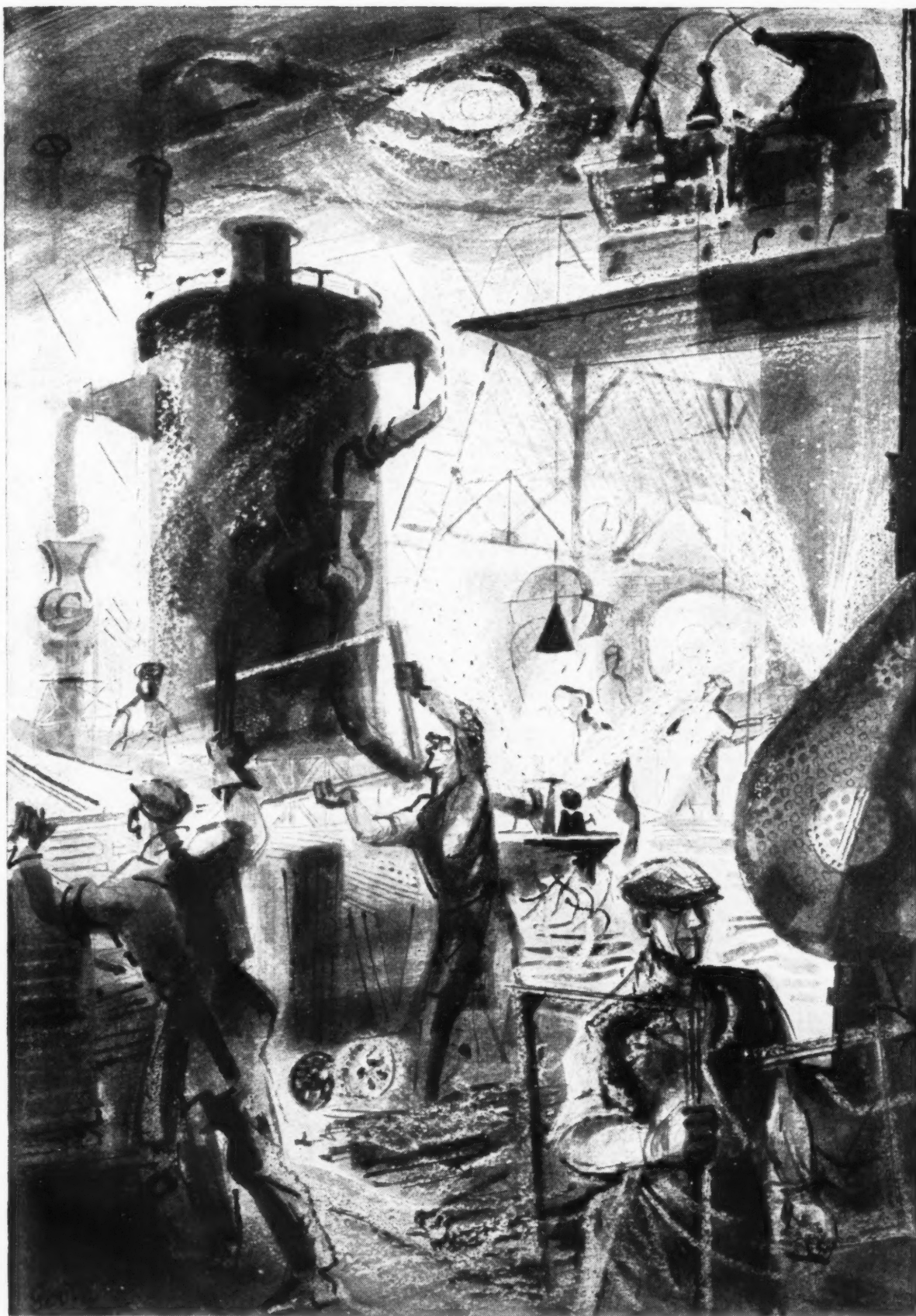
Window-making is designing sections, cutting, drilling, welding, assembling, fitting, inspecting;

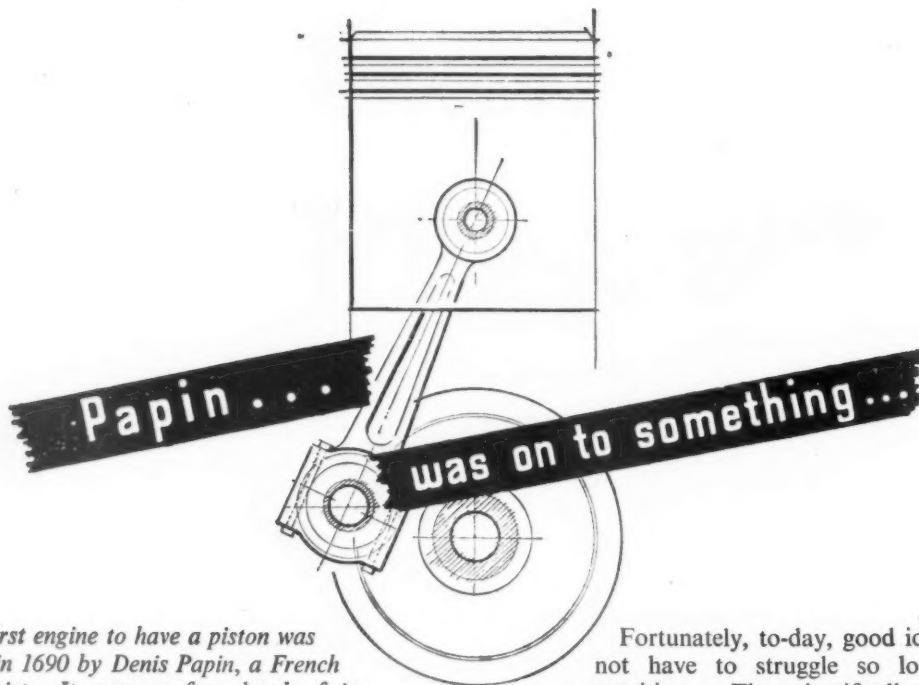
then, at Chester, zinc-spraying and stoving to ensure good windows stay good. Architects who know them specify Williams and Williams windows by name.

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RELIANCE WORKS · CHESTER

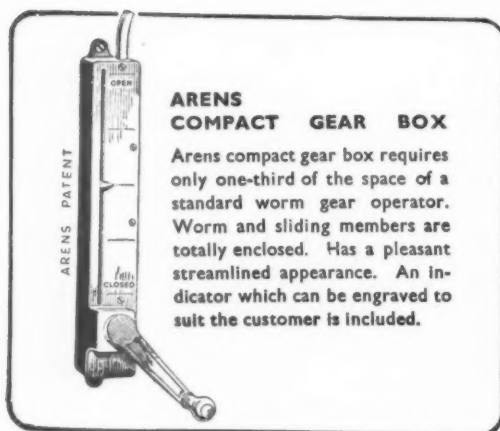




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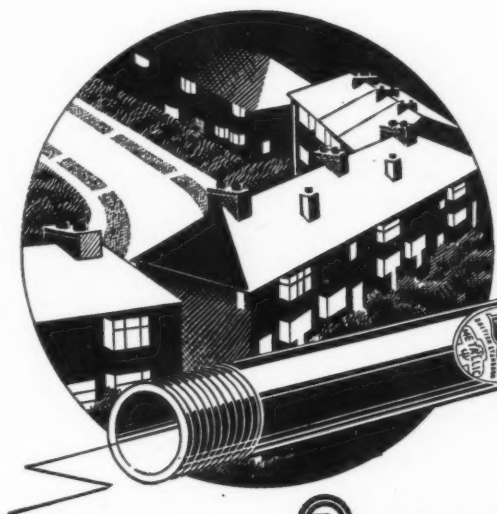


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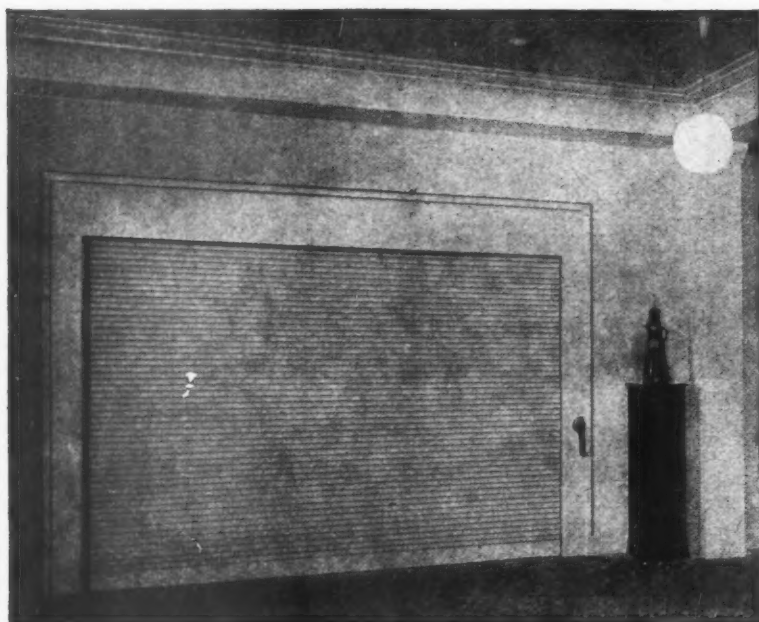
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THE METALLIC SEAMLESS TUBE CO. LTD.,
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FIREPROOF ROLLING SHUTTERS

Match modern decorations.
Leave clear floor space
when not in use.

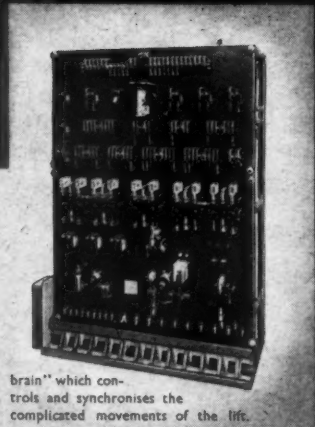
APPROVED BY THE LONDON
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DREADNOUGHT FIREPROOF DOORS (1930) LIMITED
26, VICTORIA STREET, WESTMINSTER, S.W.1 'Phone: ABBEY 1411

It's what's behind the button that counts!



These two photographs show front and back of a lift control panel... The "electric




brain" which controls and synchronises the complicated movements of the lift.

LOAD 8 PERSONS

ALARM EMERGENCY

BELL STOP

1 2 3 4 5



HAMMOND & CHAMPNESS LTD.

LIFT MANUFACTURERS

GNOME HOUSE, BLACKHORSE LANE,
LONDON, E. 17. Tel: LARKSWOOD 1071

Victim OF NOISE-FATIGUE

She works in a machine-room, day in, day out, in a noise that she can almost see. And she is suffering from *noise-fatigue*—you can see it in her face, in her eyes—and her employer can see it in her work, and in the work of dozens more like her. She is a potential absentee. It is not the noise only from her own machine that grinds and pounds her nerves, but the build-up of noise echoing from others like it. How can she escape this noise? The answer is in Acousti-Celotex. Properly applied, Acousti-Celotex will blunt the sharp edge of noise; the noise will be softened and quieted. Installation is quick and can usually proceed without any interference with production. Practical experience has proved that desired results can be achieved.

Let us arrange an 'on the spot' analysis of your own noise problem.

noise can be quieted with

ACOUSTI-CELOTEX

CELOTEX LIMITED, NORTH CIRCULAR ROAD, STONEBRIDGE PARK, LONDON, N.W.10

The advertisement reproduced here is appearing in various Industrial Journals.

In most factories sound-conditioning is as essential as air conditioning. The best time to tackle this problem is at the planning stage in collaboration with an Acoustics specialist.

BICC Installations in new Acid Plant



Sulphuric acid is a basic product used in many of Britain's vital industries. Large quantities of acid—as well as important titanium pigments—are now being made at the new factory of British Titan Products at Pye-Wipe, near Grimsby.

To supply the electrical power extensively used for the modern machinery, BICC manufactured and their subsidiary, BIC Construction Co. Ltd., installed approximately three miles of mains cables. This is a further example of the wide variety of specialised industrial installations undertaken by this Company.



CABLES for all INDUSTRIAL INSTALLATIONS

BRITISH INSULATED CALLENDER'S CABLES LIMITED
NORFOLK HOUSE, NORFOLK STREET, LONDON, W.C.2

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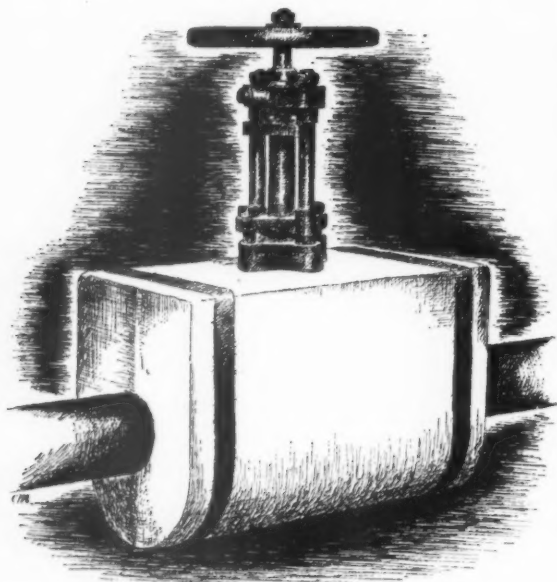
Loading Bay at the works of MESSRS. LATHAM & CO. Bromborough.

Architect: KENMURE KINNA F.R.I.B.A.

WORKS RADIANT HEATING BY SUNZWAY PANELS

RICHARD CRITTALL

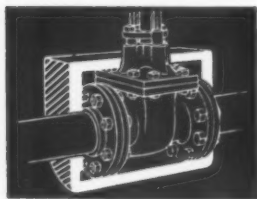
RICHARD CRITTALL & COMPANY LIMITED, 151 Great Portland Street, London, W.1. Tel. Museum 3366
and at Martins Bank Building, Liverpool, Central 3283, Prudential Buildings,
St. Philip's Place, Birmingham, Central 2478. and 136 Wellington Street,
Glasgow, C.2. Douglas 8761



OPEN TO INSPECTION. You don't have to break down insulation coverings when VERSIL pre-formed flange and valve boxes are used. Clean, tidy, and easily fixed with metal clip-on bands, they can be removed in a

VERSIL

matter of seconds for inspections and replaced without any effect on their high efficiency. Pre-fabricated from VERSIL glass silk fibres, these removable flange and valve boxes provide all the advantages of permanent insula-



Valve boxes can be specially made to accommodate all types of valves. The illustrations show how neatly a 3in. parallel slide valve can be enclosed in a pre-formed rigid valve box.

tion without the disadvantages of a rock-like fixture. For further information please write to Versil Limited, Rayner Mills, Liversedge, Yorks. Phone Cleckheaton 640.

glasssilk

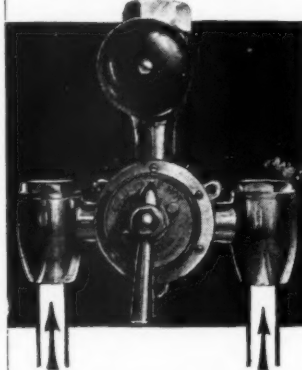
ALL PURPOSE INSULATION

CFW

Wherever WARM WATER is used *Leonard-Thermostatic* **MIXING VALVES** are **ESSENTIAL!**

HOLDS THE
TEMPERATURE
STEADY

WARM WATER



STEAM COLD WATER

If you have available

STEAM AND WATER

You can obtain an unlimited quantity of warm water at whatever temperature you require. The two supplies are simply connected to the valve, and the thermostat in the mixing chamber does the rest! It holds the temperature steady.

Please write for leaflet S-B-2



SAFETY

The Thermostatic control makes it virtually impossible for the valve to deliver water at any temperature other than that which is required. Consequently the risk of scalding, or the risk of damage in process work is eliminated.

ECONOMY

Where there is a Leonard Valve there is no wastage; hot, warm, or cold water is delivered from the one tap, as and when required. No heat storage is necessary, and consequently radiation losses do not occur.

SIMPLICITY

The Leonard Thermostatic Mixing Valve can be quickly and easily introduced into your existing hot water system, and is as simple to service and maintain as an ordinary stop valve.

WALKER, CROSWELLER & CO., LTD.
WHADDON WORKS, CHELTENHAM, GLOS.

Telephone: Cheltenham 5172 (3 lines)

London Office:

Manchester Office:

4, VERNON PLACE, LONDON, W.C.1.

1, RIDGEFIELD, DEANSGATE, MANCHESTER

Telephone: HOLborn 2986

Telephone: Blackfriars 0058

61-1908



M A Y

8-19

Britain has invited the World!

Preparations for this year's British Industries Fair began before B.I.F. closed in 1949. To build up the greatest commercial event of 1950 organization has been continuous.

DURING THE SUMMER 3,050 manufacturers applied for a million square feet of display space. Exhibitors in 90 trades were allocated to 32 groups of allied industries.

IN AUTUMN 120,000 buyers throughout the world began to receive personal invitations.

THROUGH THE WINTER 63 advertising campaigns were launched in 33 languages—and a special campaign was prepared in America.

IN THE NEW YEAR 27,000 advance* catalogues were sent exclusively to buyers abroad.

BY SPRINGTIME 10,000,000 pieces of printed information has been distributed within business communities overseas.

NOW—some 15,000 importers are travelling here to see what we can make.

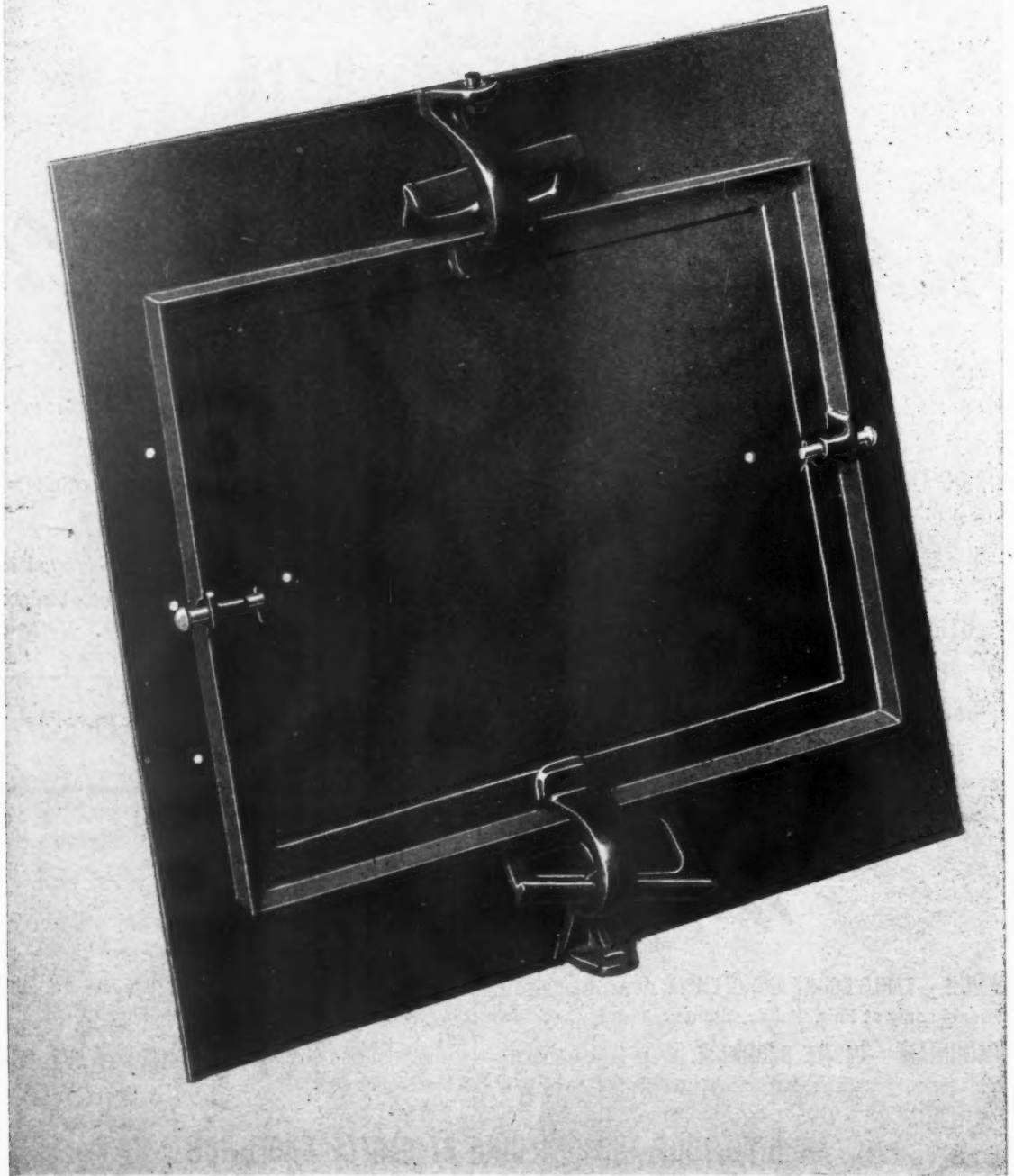
Will you be there?

LONDON — EARLS COURT AND OLYMPIA. Weekdays 9.30 a.m. — 6 p.m. Buyers Badges and *Catalogues, 2/6 each, obtainable only at Fair. Public admitted Saturday and Wednesday (May 13 and 17) 1/6 each building.

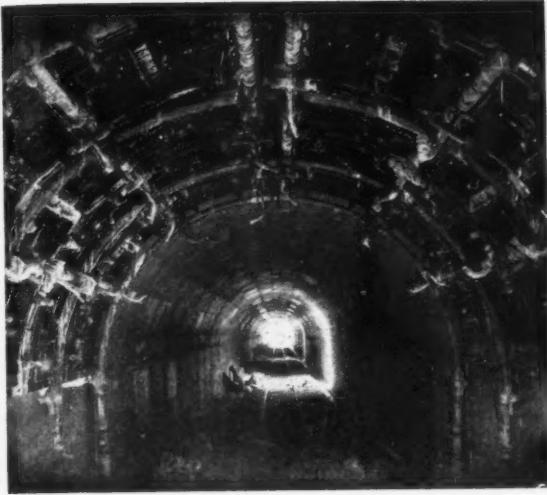
BIRMINGHAM — CASTLE BROMWICH. Weekdays 9.30 a.m. — 6 p.m. Buyers Badges and *Catalogues, 2/6 each, obtainable only at Fair. Public admitted daily from 2 p.m. (all day Saturday) 2/6.

ARCHITECTURE AND BUILDING AT CASTLE BROMWICH

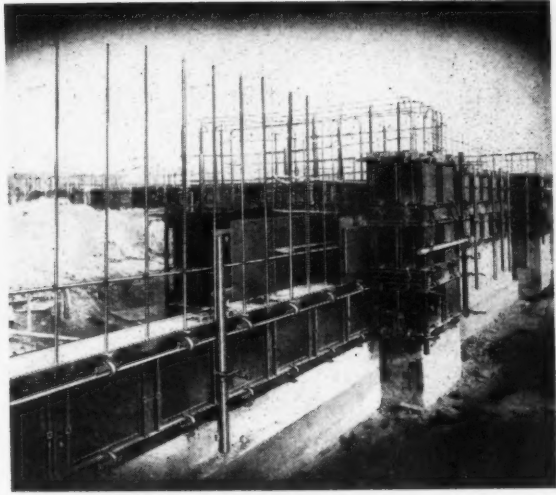
KWIKFORM



KWIKFORM LTD., WATERLOO RD., BIRMINGHAM 25. *London Office: 66 Victoria St., S.W.1*



Service tunnel constructed with standard formwork.



Foundation works for large Midland Iron Works.

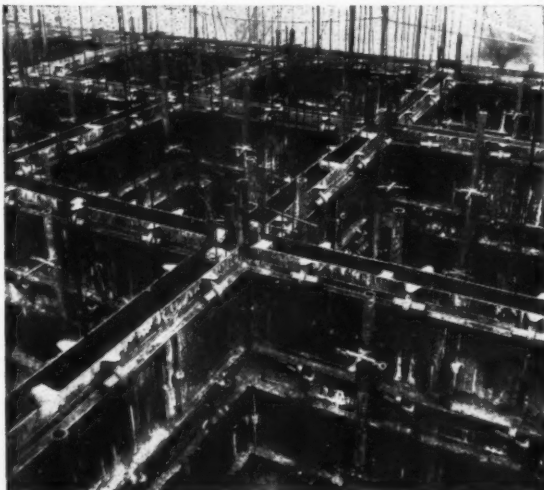
...the adaptable concrete formwork

is designed to meet the widest possible variety of uses: Double or Single Face work, Columns, Beams, Piers, Battered retaining walls, etc., etc.

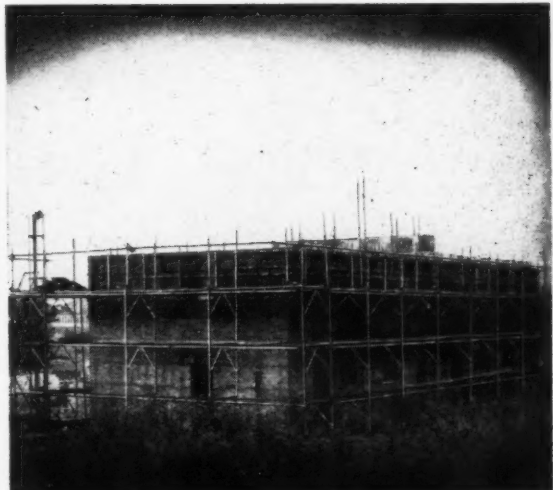
Patents granted or pending in all principal countries of the world.

Descriptive schedule No. 2599 with terms for hire or purchase will be sent on request.

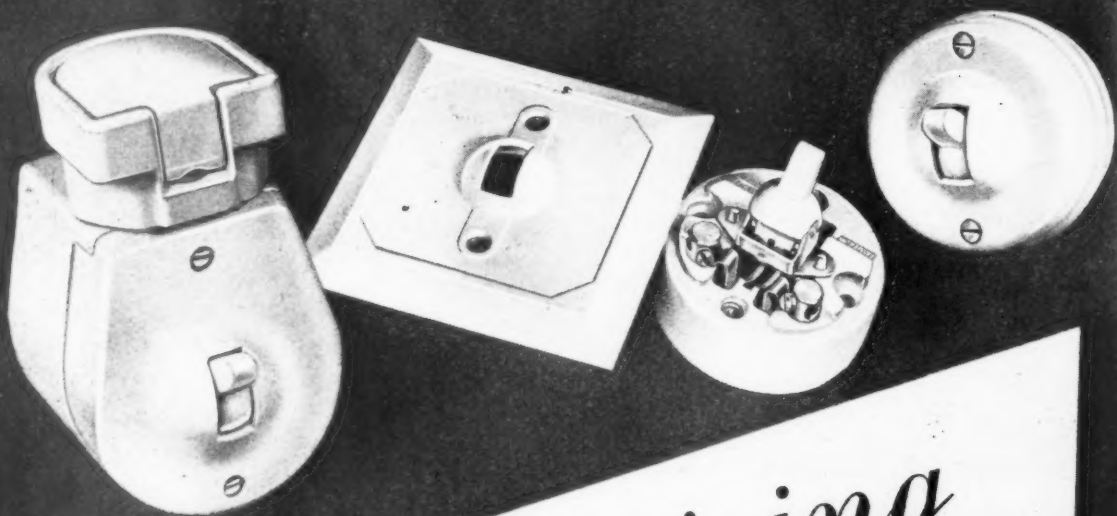
Formwork erected for construction of Silos.



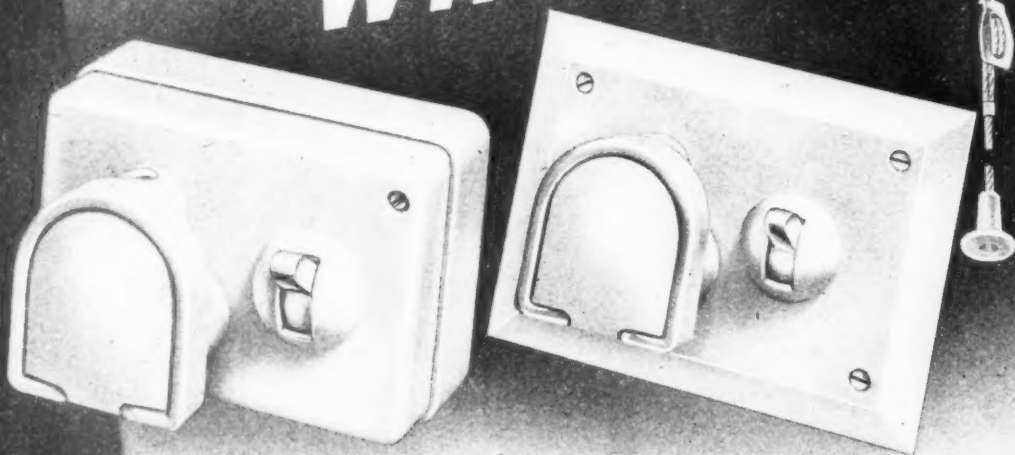
Construction of houses in 'No-Fines' concrete for large Government Authorities.



L.G.B.



TEMCO wiring
accessories are
available in
WHITE



List numbers are clearly quoted in our Accessory Catalogue,
Series 2, a copy of which will be sent on request.

Manufactured by: **TELEPHONE MANUFACTURING COMPANY LTD.**
and Marketed by their Sales Organisation: **T.M.C.-HARWELL (SALES) LTD.**
37 UPPER BERKELEY STREET, LONDON, W.1. Tel: Paddington 1867-8-9

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THE

Dependable Protection against all Fire risks in every type of Building

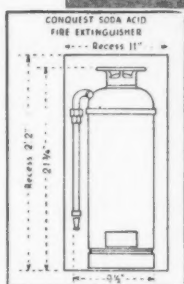
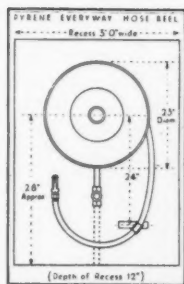
Close collaboration between Fire Protection Engineers and Architects, Surveyors and Consultants is the ideal basis for the establishment of effective fire-fighting equipment comprising the right type and quantity of fire extinguishers, portable appliances, hose, hose reels and other forms of fire protection sufficient to cover every fire danger in the building or buildings concerned.

The Pyrene Company have specialised for many years in the provision of complete fire-fighting equipment for all classes of industrial premises and public buildings including hotels, institutions, schools, hospitals, theatres and cinemas.

We shall be pleased to co-operate in any Fire Protection problem and to submit complete Fire Protection schemes. The unique 'Pyrene' Hire Maintenance Plan is available for Architects' clients—a service which not only installs the most effective Extinguishers, but maintains and services them.

Full information on this Plan or illustrated literature on any 'Pyrene' Fire Appliances will be forwarded on request.

The illustration on the right shows the 'Conquest' Soda-acid Fire Extinguisher and the Pyrene 'Everyway' Hose Reel both housed in a recess 12" deep. Architects' information sheet No. 36B1 (revised) giving full dimensional details will gladly be sent on application.



CONQUEST

(C.I.) Soda-acid Fire Extinguisher is pre-eminent against freely-burning materials (wood, paper, etc.) This "turnover" type ensures speed and simplicity in operation.



CONQUEST

C.53 Type Soda-acid Extinguisher operates in the upright position by striking a plunger, which breaks the sealed bottle containing a small quantity of acid.



PYRENE

Carbon Dioxide (CO₂) Extinguishers provide effective protection against both inflammable liquid and electrical fires. Hand Extinguishers are made in four sizes CD.2½, CD.5, CD.10 and CD.15, the figures representing the capacity in lbs. of liquefied CO₂. Portable CO₂ Trolleys are made in three sizes of 20 lbs., 50 lbs. and 100 lbs. capacity.



PYRENE

Fire Extinguishers effectively deal with incipient fires particularly those involving highly inflammable materials. Recommended for electrical risks.



PHOMENE

Foam Type Extinguishers are recognised as the most efficient method of overcoming oil and spirit fires. They project a dense layer of foam over the surface of blazing liquids, completely blanketing the flames.

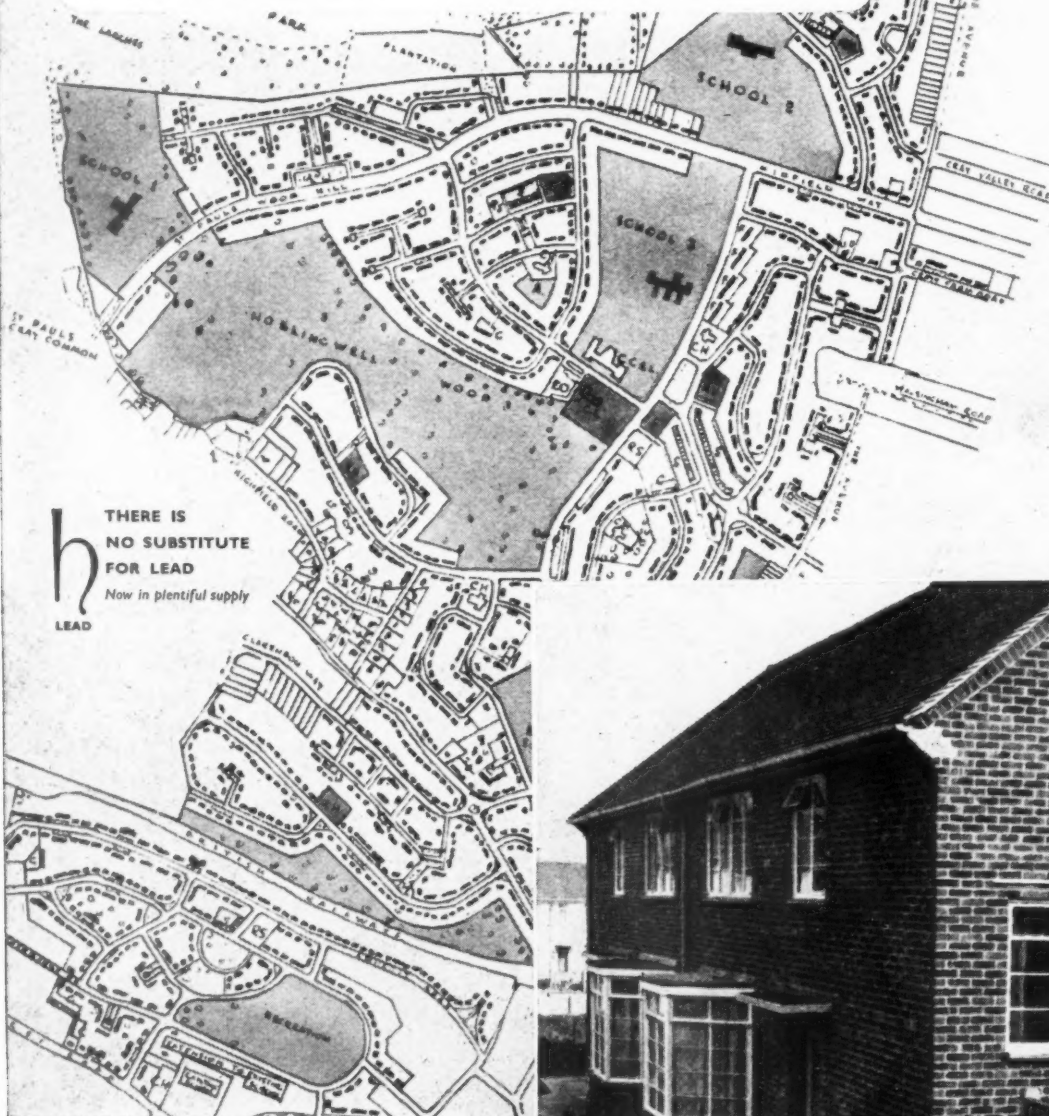


THE PYRENE COMPANY LTD. (Dept. A.J.), 9, GROSVENOR GARDENS, LONDON, S.W.1. TELEPHONE: VIC 3401.
Head Office & Works: Great West Road, Brentford, Middlesex. Telephone: EAL 3444.

LEAD PLUMBING *for* *L.C.C. Housing at St. Pauls Cray*

A typical house on this vast new estate with flashings and flats to bay windows and porches in **LEAD**

Cyril H. Walker, O.B.E., M.C., F.R.I.C.S., F.R.I.B.A., M.I.Mun.E., Director of Housing and Valuer.
S. Howard, L.R.I.B.A., Housing Architect.



The Technical Information Bureau of the Lead Industries Development Council exists to give assistance on problems relating to the use of lead sheet and pipe in building work. Details of its application are given in a series of *Information Sheets*. These Sheets are available to architects, surveyors, builders, plumbers and other technicians interested upon application to the Council. "Students" applications should be endorsed by an instructor or master of a technical school.

LEAD INDUSTRIES DEVELOPMENT COUNCIL, EAGLE HOUSE, JERMYN STREET, LONDON, SW1
LEAD TECHNICAL INFORMATION BUREAU, 25 LOWER BELGRAVE STREET, LONDON, SW1 TELEPHONE: SLOANE 0474

B82/2/50



COVER ALL THESE POINTS AT THE SAME TIME



- THERMAL INSULATION
- ANTI-CONDENSATION
- FUEL SAVING
- FIRE PROTECTION
- DUST EXCLUSION
- ANTI-CORROSION

The thermal conductivity ('K') of the standard quality of Sprayed "LIMPET" Asbestos is 0.4, but when required, special grade fibres can be employed with a 'K' value as low as .32 (N.P.L. test figure).

The standard industrial finish is Grey colour, but coloured textured and fibrous plaster finishes can also be provided.

SPRAYED
"LIMPET"
REGD. TRADE MARK.
ASBESTOS

TURNERS ASBESTOS CEMENT CO LTD

A MEMBER OF THE TURNER & NEWALL ORGANISATION

TRAFFORD PARK

MANCHESTER 17

CRITTALL WINDOWS

MAGNIFICATION $\times 630$

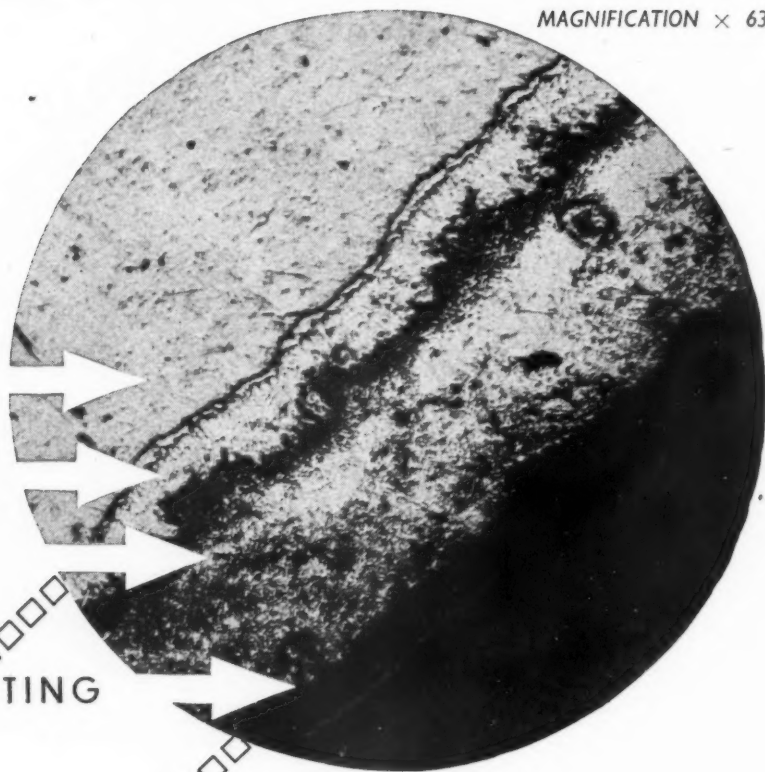
STEEL BASE

ALLOY LAYERS

ZINC LAYER

SURFACE
READY FOR PAINTING

△ .0035 — .0045 INS △
COATING THICKNESS



HOT-DIP GALVANIZED

are really protected against corrosion. They are completely dipped in molten zinc at 835°F, which alloys into the steel, and forms a tough coating of approx. 2 oz. to the square foot: Frequency of repainting is halved: maintenance costs therefore are very much reduced wherever Hot-dip Galvanized Finish is specified.

THE CRITTALL MANUFACTURING CO. LTD.
BRAINTREE, ESSEX

Recommended -

- ★ The **GLOW-WORM "DERWENT" Combination Grate** is in the Ministry of Health's Approved list of improved appliances recommended to all local authorities.

THE compact, sturdy, Glow-worm "Derwent" Combination Grate has behind it, years of the best foundry experience and has stood up to the most exacting tests. Its high performance, pleasing appearance, rapid assembly and easy maintenance make the "Derwent" the architect's and builder's first choice in Combination Grates.

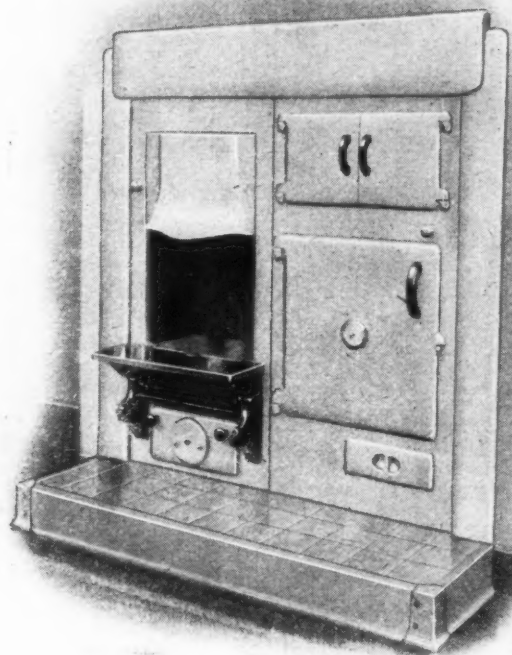
One efficient and economical fire provides heat for a

- ★ Large and uniformly heated oven.
- ★ Fast boiling machine ground hot-plate with extension hob.
- ★ Hot closet.
- ★ Supply of hot water for an average family household.

The cooker may be adjusted to stay alight overnight, and is capable of giving the performance specified in B.S. 1252, 1945, on both coal and anthracite. Other solid fuels, such as coke, wood, or patented fuels may be used if the cooker is not required to stay alight unattended for a very long period.

The cooker has been selected for inclusion in the Ministry of Health's Approved List of improved appliances as recommended to all local authorities.

*Send for
Illustrated Leaflet No. A.2.*



SPECIFICATION

GRATE.—Overall size, 38 in. by 38 in. by 14½ in.
Brickwork opening required, 44 in. high by 40 in. wide and 15 in. deep.

MANTEL.—Overall size, 45½ in. wide by 44½ in. high.

KERB.—To suit 44 in. by 12 in. tile hearth.

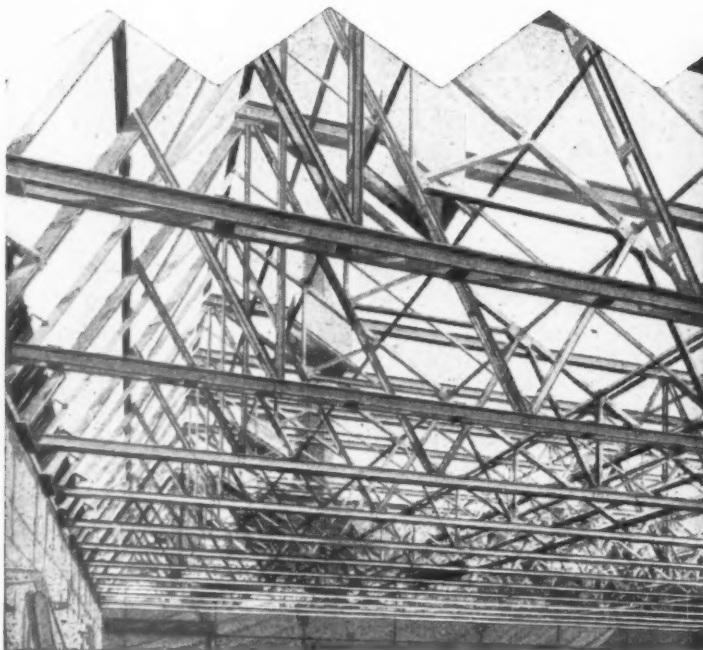
Grate supplied in mottled fawn, mottled green, or black vitreous enamel. Mantel is supplied in mottled fawn, mottled brown (to tone with the mottled fawn grate), mottled green vitreous enamel or fine-cast and primed one coat. Kerb is supplied in mottled fawn, mottled green or black vitreous enamel. A bolster can be supplied to restrict heat losses from firebox in its closed position.

GLOW-WORM

"Derwent"

COMBINATION GRATE

GLOW-WORM BOILERS LTD. DERWENT FOUNDRY, MILFORD, NR. DERBY



Why endure

**A RUSTY
ROOF ?**

Warren girder roof, 85 ft. clear span for textile mill

'ALFRAME' ROOFS

Specially designed for
**TEXTILE MILLS • FOOD PROCESSING FACTORIES
PAPER MILLS • DYE WORKS • LAUNDRIES • ETC.**

Our photograph illustrates the aluminium alloy roof construction specially developed by S.M.D. for use in textile mills, food processing factories, paper mills, etc. Fabricated from a high-purity alloy these roofs are clean-looking and hygienic. They are not painted and yet never rust or corrode and therefore there is no interference with production for overhead maintenance. Also, in humid atmospheres, the condensate does not stain and is non-toxic.

**NEVER RUST
OR CORRODE
AND YET
REQUIRE
NO PAINTING**

Whether for a new factory or extension,
or for a replacement roof for an existing
building, send your enquiry to

S • M • D

STRUCTURAL & MECHANICAL DEVELOPMENT ENGINEERS LTD

2 BUCKINGHAM AVENUE • SLOUGH • BUCKS

Telephone: SLOUGH 23212

IN ASSOCIATION WITH **ALMIN LIMITED** FARNHAM ROYAL-BUCKS

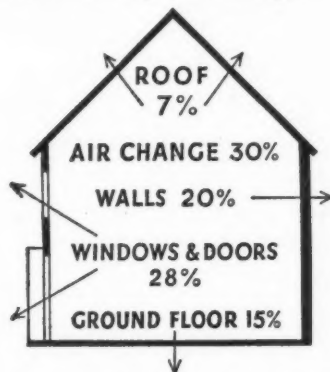
FACTS

about Thermal Insulation of Houses

Thermal insulation of houses, of course, is no new development. The results of Government research have been widely publicised, and many houses now being built are insulated in accordance with official recommendations, which are unbiased, and make due allowance for the fact that :

- A house is not a hermetically sealed chamber, but something to be lived in.
- As long as houses have doors, windows and means of ventilation, they will always be subject to heat losses, however the inner surfaces are treated.
- Thermal insulation must be both practical and economical.

The following diagram shows the heat losses likely to occur from a small terrace house of good modern construction, with insulation up to recommended standards and a reasonable degree of heating.



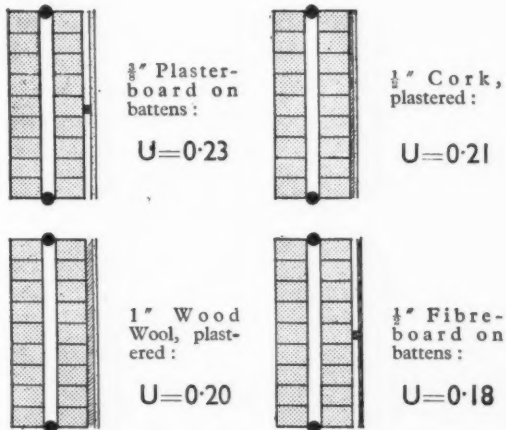
It will be seen that five factors must be taken into account when computing heat losses, that certain losses must be tolerated in all practical and economic house building, and that the loss through walls when insulated to recommended standards is only about one-fifth of the total.

RECOMMENDED STANDARDS FOR WALLS

In the Official Housing Manual, the recommended U-value for walls under normal conditions of exposure is 0.3, with a suggestion that, where the type of construction permits, this figure should be improved to 0.15. In the Post-war Study Committee Report No. 19, it is suggested that external walls should, if possible, have a U-value of not more than 0.2, and that round the living room, where the greatest heat loss occurs, the value should be not more than 0.15, if the mode of heating is capable of close control. Where careful regulation of the heating is not possible, however, e.g. with an open fire, the recommended value for all walls is 0.2.

EFFICIENCY OF BRICK WALLS

Brickwork normally provides reasonably good insulation, and the thicker the wall the lower its thermal conductivity. Cavity construction, particularly when the cavity is unventilated, is more efficient than a solid wall. 9" solid brickwork, plastered on the inner face, has a U-value of 0.43. An 11" unventilated cavity wall, plastered on the inner face, has a U-value of 0.30. When it is desired, in the interests of fuel economy, to reduce heat losses still further, a lining or decorative panelling may be applied to the inner face. The following diagrams show a few of many alternative treatments, and the results thereby achieved :



Those fortunate enough to live in brick houses know that good brick construction ensures warmth and comfort. When additional thermal insulation is desired, it may be applied as easily and economically to brick walls as to any other form of construction. But the BRICK house alone possesses all the following important characteristics :

AMPLE STRENGTH AND DURABILITY; RESISTANCE TO RAIN PENETRATION, FIRE, FROST DAMAGE and EXPOSURE; PERMANENCE OF EXTERIOR FINISH; FREEDOM FROM MAINTENANCE.

Issued by The National Federation of Clay Industries, W.C.I.

MODERN HOUSING ESTATE



PETERBOROUGH CORPORATION HOUSING SCHEME, PETERBOROUGH, NORTHANTS.
(BY KIND PERMISSION OF F. J. SMITH, ESQ., CITY ENGINEER AND SURVEYOR)

Some 400 houses on this modern estate are each fitted with a pair of sliding doors dividing the dining room and lounge, enabling these two rooms to be opened up into one large room for entertaining, etc., and allowing sunshine into opposite aspects of the houses simultaneously.

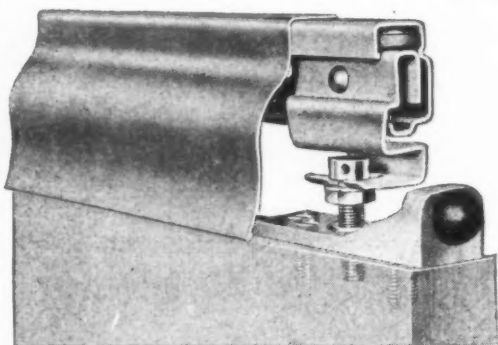
After comparison and trial, the fittings chosen for this scheme were :—

“ESTATE”

SLIDING DOOR GEAR

(Supplied through Messrs. Hayward & Tourell, Ltd., Wholesale Ironmongers, North Street, Peterborough)

The salient features governing this choice are summarized thus :—



- | | |
|--------------------|--------------------|
| ★ Silent operation | ★ Neat appearance |
| ★ Inexpensive | ★ No maintenance |
| ★ Clear threshold | ★ Speedy fixing |
| ★ Rustproof finish | ★ Full adjustments |

“Estate” sliding door gear is used extensively in blocks of flats where kitchenettes and other small rooms necessitate space economy.

An exclusive “snap-on” pelmet conceals all fittings and will harmonize with picture rail or panelled effect.

“Estate” gear is stocked by hardware firms throughout the British Isles, also in many countries overseas, and supplies are quickly available from your local merchants.

MAY WE SEND YOU DESCRIPTIVE LITERATURE AND ERECTION DATA ?

Clarke Ellard Engineering Co. Ltd.

WORKS ROAD

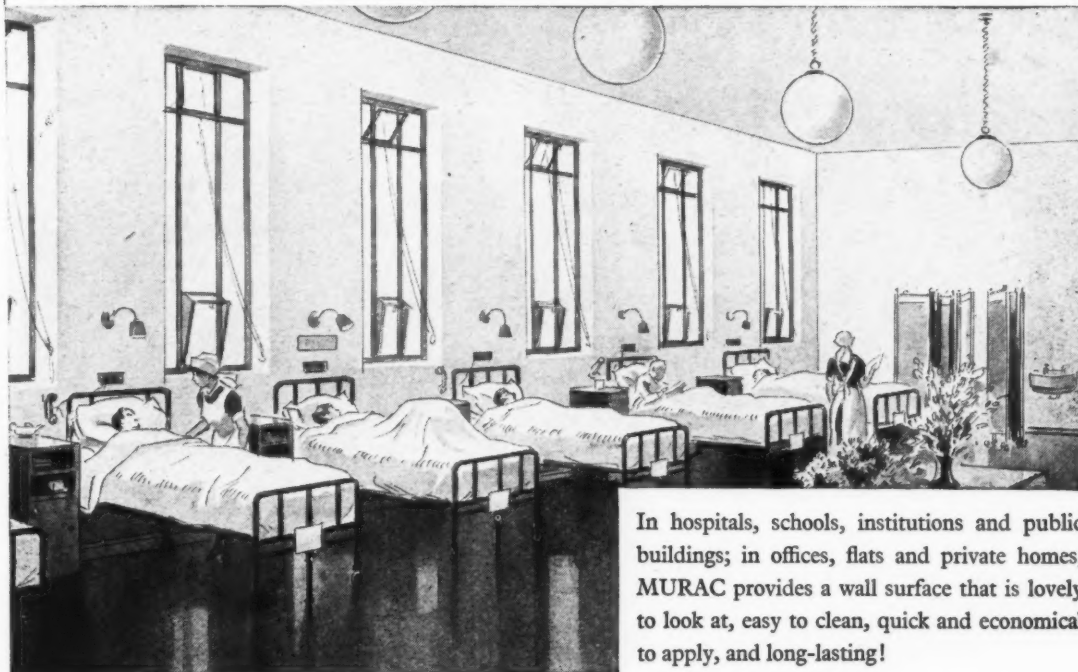
LETCHWORTH, HERTS

Telephone : Letchworth 979

SEE OUR EXHIBITS AT THE BUILDING CENTRE, 9, CONDUIT STREET, LONDON, W.1
& THE SCOTTISH BUILDING CENTRE, 425-427, SAUCHIEHALL STREET, GLASGOW, C.2.

NEW *matt* FINISH FOR WALLS

supersedes distemper and water paint!



In hospitals, schools, institutions and public buildings; in offices, flats and private homes, MURAC provides a wall surface that is lovely to look at, easy to clean, quick and economical to apply, and long-lasting!



Stains, grease and dirty fingermarks easily washed off!



You can wash it...rub it...scrub it!

Send for FREE
colour scheme booklet

Made in the BROLAC works by JOHN HALL & SONS (Bristol and London) LTD., HENGROVE • BRISTOL 4

MURAC COSTS NO MORE TO APPLY THAN DISTEMPER

- ★ *Special new matt finish for wall decoration*
- ★ *Tested in use over the past fifteen years*
- ★ *Applied with large flat wall brush*
- ★ *Dries matt with attractive dull sheen*
- ★ *Long-lasting; no powdering or flaking*
- ★ *Can be washed and scrubbed over and over again*
- ★ *Available in eighteen basic colours*
- ★ *Easily blended to any shade*

MURAC

NEW MATT FINISH FOR WALLS





SWITCH ON THE RIGHT LINES

MEM

tumbler switches look right in any setting because they are right—right through. Their simple functional form is in fact first-rate design. And their engineering quality is extremely high because MEM make every part themselves in the world's most self-contained low-tension switchgear factory. There is even a MEM porcelain works to make certain of consistent excellence in the porcelain parts. This MEM policy shows savings too, as you will soon see if you compare *the new low prices*.

Send for folder No. 293 for full details of the range—one and two-way, 5 amps, 250 volts, surface, semi-recessed and flush mounting—also flush plates and wood and iron boxes.

MEM

Switch, fuse and
motor control gear,
electric fires and localised
lighting equipment

MIDLAND ELECTRIC MANUFACTURING CO. LTD. BIRMINGHAM II
Branches in London and Manchester



'Celastoid'
CELLULOSE ACETATE
EXTRUSIONS
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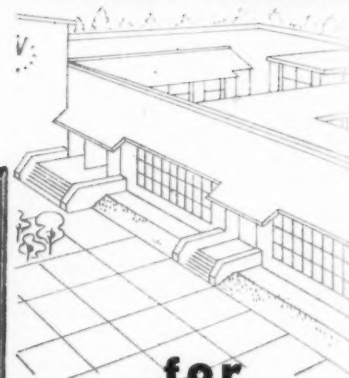
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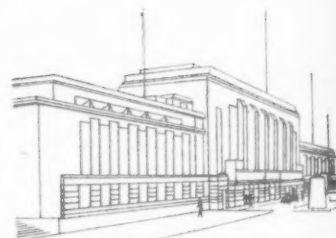
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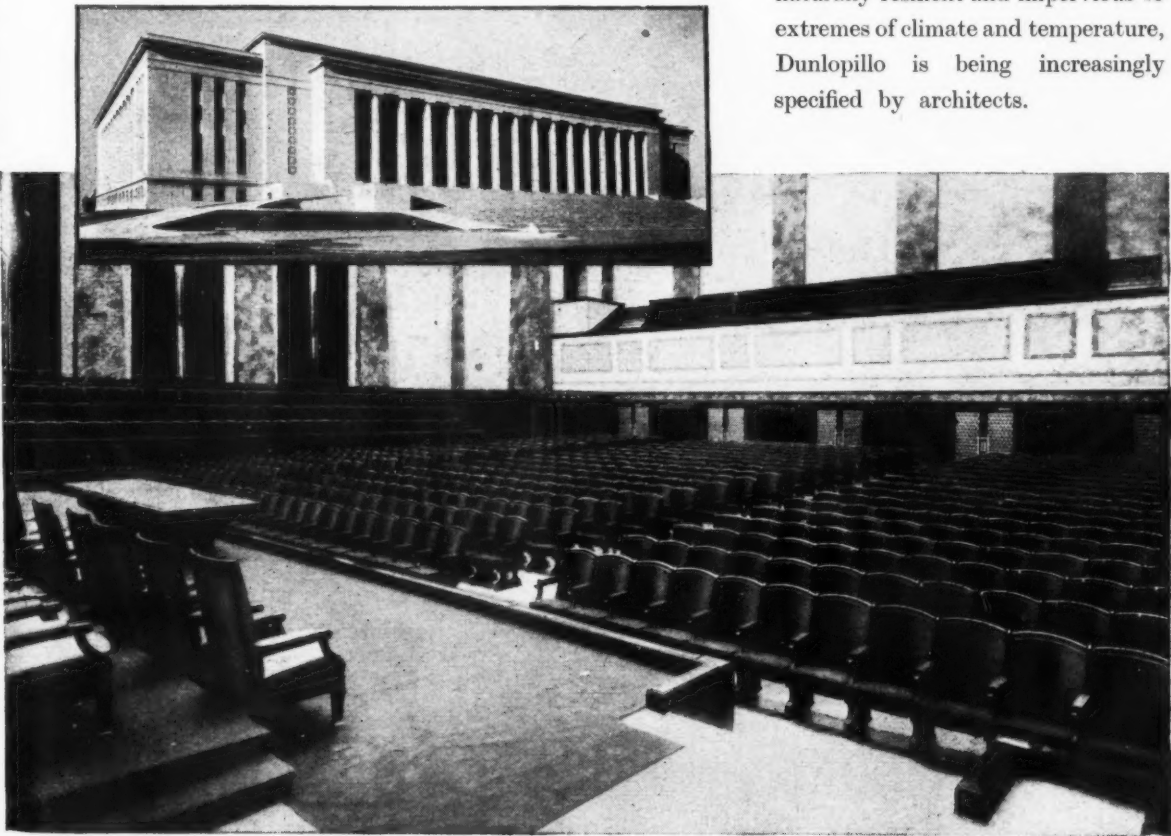
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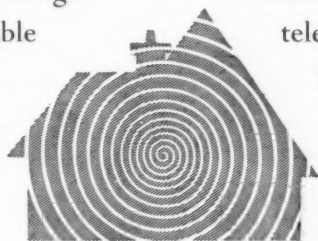
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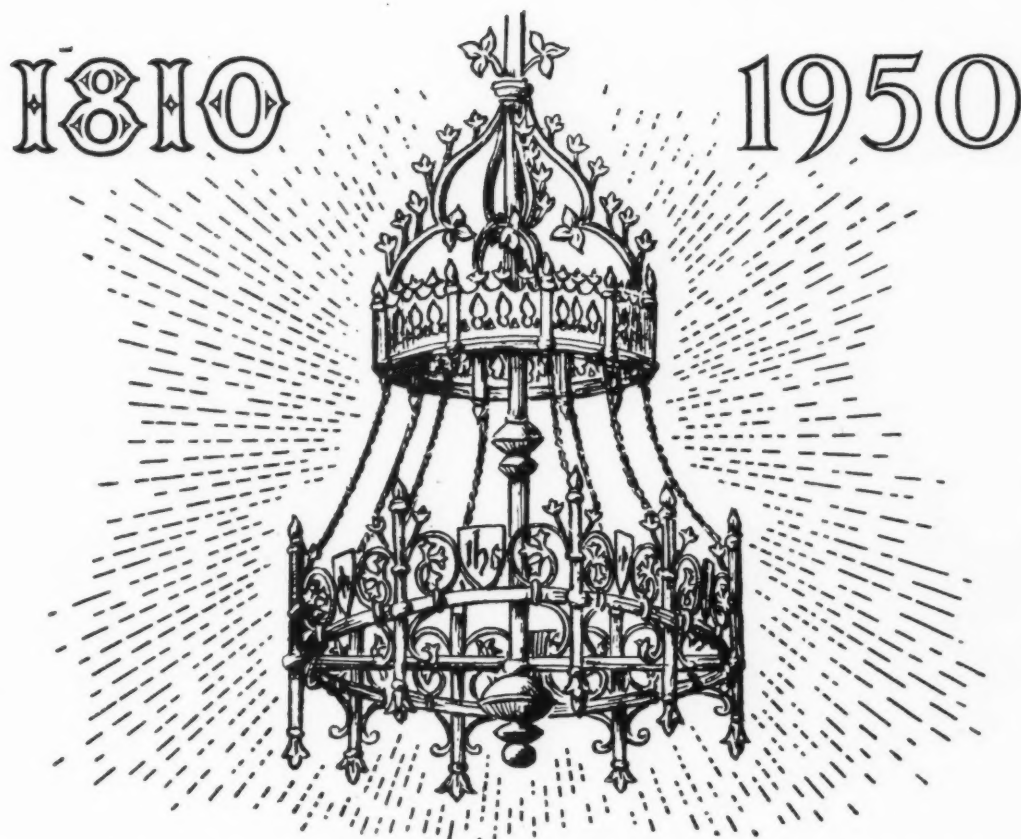
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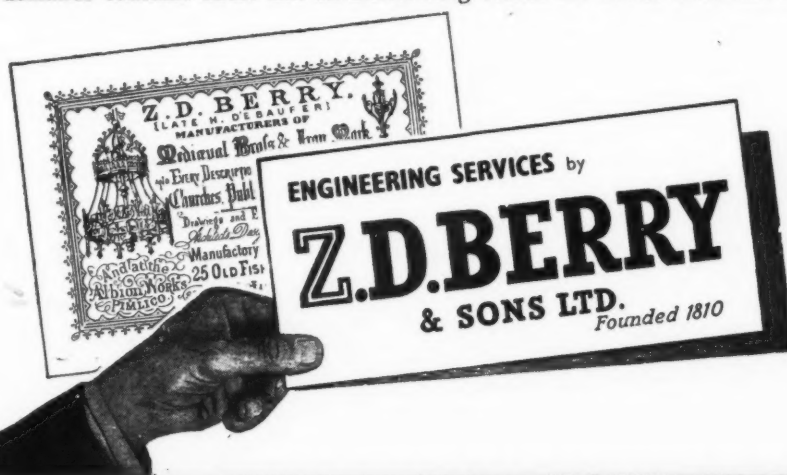
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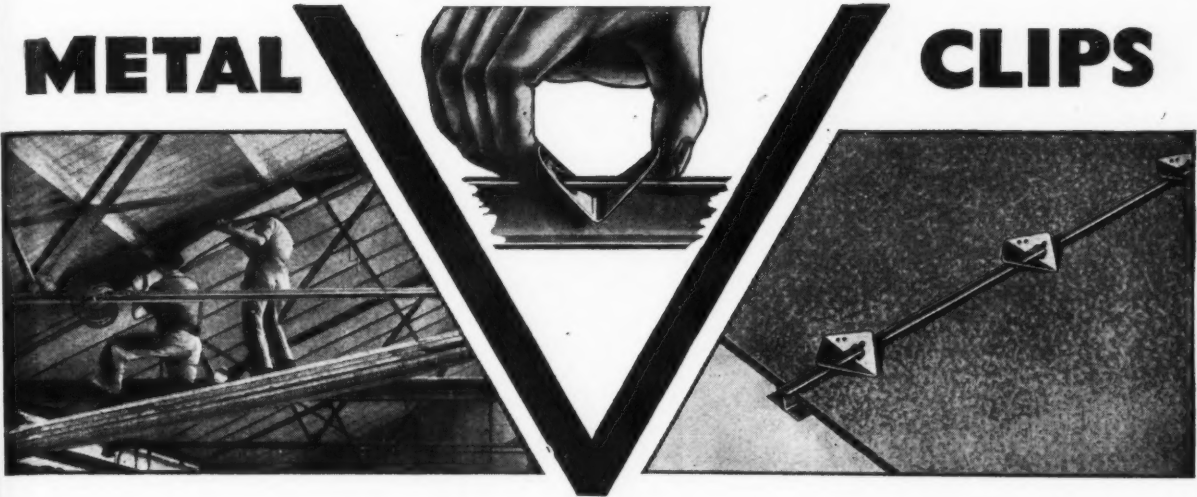
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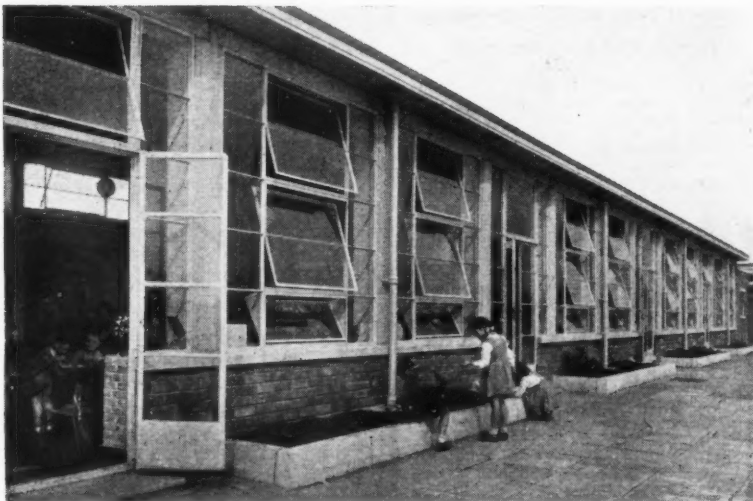
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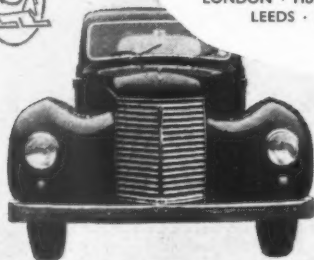
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THE ARCHITECTS' JOURNAL

No 2879 13 April 1950 VOL 111

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THE LESSOR SCHEME

Mr. J. M. Richards' article in the JOURNAL on the Lessor Scheme of the Ministry of Works must have aroused wide interest. Most architects knew of the scheme, but few appreciated its scale, and even less realized that it had been organized to a large extent by the Ministry.

*

The article will have been read with special interest in the City of London which, in spite of some westward movement of offices in the 'thirties, was the principal office centre of London before the war. Nearly one third of the City's floor space was destroyed by bombing and so far little has been rebuilt, the reason given being that the country cannot afford the necessary labour and materials.

The City will now notice that the licences already granted under the Lessor Scheme are sufficient—even at today's cost—to provide about 2½ million square feet of office space. If a third of this had been granted to the City for comprehensive redevelopment of cleared areas, three or four City street blocks of average size, covering 6 to 8 acres, could have been rebuilt. A scheme of this kind would have contributed in a vital manner to the City's architectural recovery—to say nothing of being one of the best exhibits for 1951.

*

As it is, none of the buildings which were illustrated in Mr. Richards' article are in the City (although some Lessor Scheme buildings are in fact under construction there.) It would be interesting to pinpoint on a map of London every building approved under the Scheme and consider how each is served by transport. There can be little doubt that few areas are as well served as the City, for its system of communications was built up with great enterprise and at a large cost at a time when the City really was the centre for London's office workers.

AT THE V AND A

It was a remarkable sight last Tuesday to see Sir Leigh Ashton, Director of the Victoria and Albert Museum, Lord Ismay, Chairman of the 1951 Festival, and Mr. Bradfer-Lawrence, an important north-of-England brewer, standing in a row behind a grained-oak bar as though about to serve pints of mild and bitter to the crowd in front of it.

*

In fact Lord Ismay was opening the Museum's exhibition of the results of

The Architectural Review's pub competition, Sir Leigh Ashton was there to introduce him and Mr. Bradfer-Lawrence, who spoke for the brewers. And the bar was part of the local colour installed in the gallery to put the competition designs against an appropriate background and remind visitors of what the English pub tradition consists. The exhibition looked well and a great interest was being taken in it from the start. It should have a big influence; readers must go along and see whether they agree with ASTRAGAL that it will be an influence for good.

ICA DESIGNS

A very brief tour of inspection of the many student designs for a centre for the ICA, now on view at No. 7, Bedford Square, rather disappointed me. Many architectural schools participated in the schemes, and the standard of presentation of the designs is, on the whole, high. It is much better than the average standard for competitions, for instance. There are several models as well, and these, bearing in mind the length of time the students had to complete their designs, are well made. My disappointment is caused by two things.

*

First, and this is just sheer perverseness, there are no designs in the classic manner. Can it be that there are no schools left in the British Isles who practise the art? (I do not refer, of course, to the adulterated neo-classical style such as is applied to post-war office blocks in London.) The only alternative to this modern "clean-lined" style which is so fashionable today, came from Manchester. This was a design with a large Dudok-ery tower.

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I can imagine a few purists writhing at my phrase "modern style." But, I'm afraid, in so many of the designs that is just what it is. A style which is fashionable and plastered over any odd-shaped building just as so many of the old styles were. Which brings me to my second disappointment. There seemed very little experimental work on the part of the students. Perhaps I am being rather harsh and unfair, but I expect rules to be broken and experiments made by students. These designs looked too safe, too typical of work to be seen on the drawing boards of many of the "advanced" architects of to-day. Poor students, I do not mean to be unkind. You realize, and your designs show it, that a five-year course under instructors, many of whom have not designed and constructed a building for ten years, if at all, is but an inadequate beginning to a job which now requires a lifetime of study.

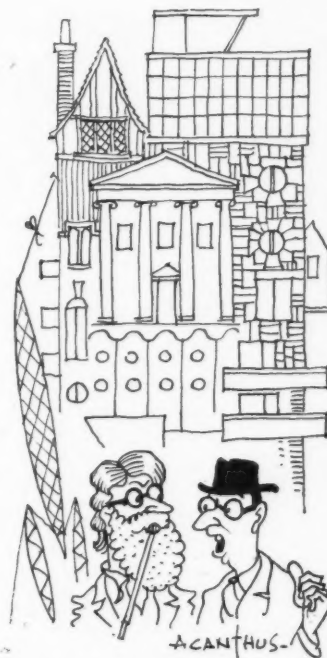
A PLANNER FOR UNDOSA

For some years now one of the most indefatigable workers on the JOURNAL'S Technical Section has been Miss Ellen Schoendorff. A member of the staff of APRR, she seems to know all there is to know, and most of what has been known, about planning. Much of the benefit of all this knowledge is now in the hands of those zealous readers who cut and paste up the weekly items in the JOURNAL'S Information Centre. I hear, however, with regret, that Miss Schoendorff's contributions have now ended, as she has recently been appointed as a senior Social Affairs Officer in the Housing and Town and Country Planning Section of the United Nations Department of Social Affairs. Some title, but some job, too. Miss Schoendorff will have to "select and assemble technical articles, bibliographies, summaries and studies on housing and town and country planning, for bulletins, programmes, papers and reports." Miss Schoendorff will be working in the UNO Building in New York, and, to judge from the amount of paper on planning which swamps my desk, she will need every floor of that multi-storey slab on which to keep her filing cabinets. Good luck, Miss Schoendorff, and good indexing.

CITY ARCHITECT WANTED

Some time ago I registered a protest about the fifty years' development plan for Glasgow, having seen the gargantuan model of the City Engineer's plan. It is therefore with relief that I read in *The Glasgow Evening News* that the scheme has been virtually knocked on the head by the unconditional approval, by the planning committee, of six proposed new buildings in the heart of the city. They felt the fifty years' plan was impractical, not only on economic grounds, but also because of the "difficulty of actual physical implementation."

I was sorry, however, to find that the Engineer's plan was considered "ideal, but the trouble with planners is that they insist on working out their visions to the last detail, and so scare the practical men who have to carry them into effect."



"That's what happens when too many architects chase too few jobs."

I have already pointed out the Glasgow plan was done by the City Engineer and not by a town planner. But the Engineer has now retired, so surely this is the time for the second largest

city in Britain (or do I upset Brummager citizens?) to follow the sane advice of the Glasgow Institute of Architects. This organization has advocated that the Corporation should now appoint a City Architect and re-



Frank Lloyd Wright, who for the greater part of his eighty years has been presenting surprises to the world, has reserved one very charming one for his guests. At his home, Taliesin, in Wisconsin, he has arranged the beautiful Chinese figure, shown here, in such a way that visitors going up from their bedrooms to breakfast see it framed against the sky. This figure is one of many that decorate the Wright home.





Tomorrow's Pub

Lord Ismay, chairman of the 1951 Festival, opened *The Architectural Review's* exhibition, "The Pub of Tomorrow," at the Victoria and Albert Museum on April 4. On his right in this picture is Sir Leigh Ashton, director of the Museum. The exhibition, which will remain open daily from 10 a.m. to 6 p.m., and on Sundays from 2 p.m.

to 6 p.m., until April 29, was designed by Donald Dewar Mills. The winning designs of the *Review's* Pub Competition, which are displayed here [together with all other designs submitted and a selection of live exhibits], were illustrated in last week's JOURNAL. Photographs of the prizewinners appear on page 450 of this issue.

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allocate the duties of the Master of Works, City Engineer and possibly Housing Director.

WE SHOULDN'T BE AMUSED

"This," said John Betjeman, turning over and over his notes, "is an historic event in English architecture. For the first time there is being held an exhibition of Victorian architecture." Mr. Betjeman was speaking at the opening last week of a special exhibition in Bristol entitled "100 Years of Architecture in Wessex." It was to mark the exact centenary, on April 3, of the formation of the Bristol Society of Architects.

*

The exhibition is tucked away on the top floor of the Bristol Museum; it consists of simple screens with a text which is well written and beautifully illustrated with some excellent photographs. ASTRAGAL, having cautiously skirted past the late darling of the city, a stuffed gorilla called Alfred, and a most attractive early fire engine emblazoned with splendid lettering worthy of inclusion in *The Architectural Review's* recent feature on the subject, spent a most enjoyable hour trying to trace back over the hundred years the influence of the master on the artful pupil. This was a pastime recommended by John Betjeman in his opening speech. The creation, that is to say, of a family tree for Bristol architects.

*

Mr. Betjeman, however, rather overstated his case for Victorian architecture. It was not the Victorians who ruined the country, he said; they did only thoughtful creative work. England was ruined between the wars by ribbon development, petrol stations and wire. In twenty years' time, when the Victorian Preservation Society is in full swing, I am confident a Mr. Betjeman will be extolling the virtues of the petrol pump, and of the sweeping pattern of the pylon-carried cables. "We can look at Victorian architecture without a patronizing air," said John Betjeman. And, given time, we will look in the same way at the more recent and still unpopular periods too.

ASTRAGAL

The Editors

HOUSING AND RESEARCH

THE second report published by the MOW on new methods of house construction* is not a very encouraging document. It describes investigations completed by the Ministry since 1947 into the possibilities of economy of man-power and materials by using non-traditional building methods. The first report, published in 1948, detailed the results of similar investigations into nine new types of house construction. The latest report deals with another five. It compares these houses, as regards the quantities of materials used, and the number of man-hours, and the costs, with the traditional brick house for a yardstick.

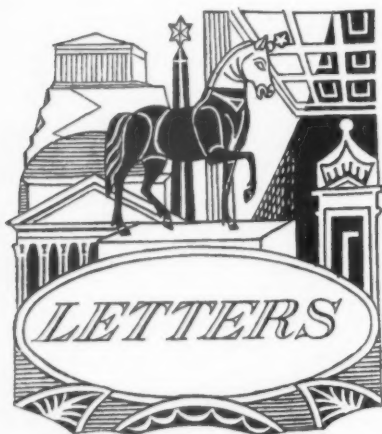
Two of the five types examined have a steel frame construction. One has an external cladding of precast concrete panels with an internal lining of wood wool. The other has two-storey external panels consisting of a timber frame covered partly by aluminium sheeting and partly by a rendering on steel mesh. Another house type is of "no-fines" concrete cast *in situ*. The fourth has precast light-weight concrete posts to which are bolted inner and outer foamed concrete panels. The fifth and last type examined is built of storey height precast hollow concrete panels, which are handled by cranes and are fixed in position with cast *in situ* columns and beams.

Of these five houses, only the "no-fines" (No. 12) and the last (No. 13) compare in costs with the traditional brick house, the former being slightly cheaper and the latter having approximately the same cost. The factory man-hours of No. 13 for the walls only are 405, and the site man-hours (the total per house, except for ancillaries) are 1,090. This compares with 285 and 2,140 for a brick house. In other words, a standard semi-detached pair of houses can be erected at about the same cost, and with considerable saving in time of erection as a pair of brick houses. Can this be considered a reasonable advance in the knowledge of house building for the past decade? Or does it not rather suggest that these studies are still too superficial and do not go to the root of the problem?

For instance, what is there to be learnt from the architect's point of view from this report? Unfortunately, not a great deal. The report is concerned only with the speed and cost of erection and not with the performance of the house itself. Questions of sound, heat, insulation, of repair and maintenance, of appearance, and of flexibility of planning are not considered at all, and, no doubt, for the sake of simplicity, were not intended to be. Yet it is these items which to the architect are of equal importance. This is not to decry the information to be found in this report but merely to emphasise how essential it is that some central body should be guiding all building research along organized lines. Too much building research work today is unco-ordinated—particularly in construction methods.

* National Buildings Studies, Special Report No. 10. HMSO, 9d.

Repeatedly it is being stated that the country's post-war housing programme is inadequate. The problem of putting up houses at greater speed and at less cost is still unsolved. The MOH, who are reducing the housing target for this year, do not appear to be unduly concerned with this failure, but failure it is, both on the part of the various Ministries and on the part of the building industry itself. The President of the ABT, Mr. Kenneth Campbell, stated recently that "the building industry itself is one of the greatest obstacles to progress. In nearly every way it remains a nineteenth century anachronism, unwilling to face contemporary needs and incapable of meeting them." These are hard words, but there is some justification for them when it is realised how inadequate is the extent of building research in the industry itself in this country today, as exemplified by this small report.



A. C. S. Hickes, Dip.Arch.,
A.R.I.B.A.

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The Lessor Scheme

SIR.—Although the poor quality of the design of the buildings representing the Lessor Scheme, as illustrated in your issue for March 30, will doubtless surprise many of your readers, surely the question that will be asked is: how was a building licence obtained for such a displeasing form of construction and wastage of valuable materials?

The nonsense which has been planted on to these façades had to be built from good-class materials which we are all clamouring to use for, we trust, a far more essential and refined purpose.

I imagine that little surprise will be expressed by the fact that "the usual town planning and other consents" were so easily

granted, as one is fast becoming used to the fact that the '47 Act has apparently done little of practical value in enhancing good design other than preventing the vandalism created by the majority of pre-war estate developers. What a tragedy that the powers possessed by the planning authorities as a result of the Act cannot be better applied.

Eastbourne.

A. C. S. HICKES.

Salaries of the Future

SIR.—The JOURNAL's recent editorials on "The profession's average salary," and "Salaries of the future" were topical and up to a point useful. Low wages and unemployment make "a depressing picture" and the AJ rightly calls for steps to be taken "to avoid the danger of an architectural slump."

Other professions and our own industry indicate one essential step. The doctors, as we have seen, are very effectively organized in the BMA. The teachers are increasingly being driven to act together in the NUT by their equally depressing future. In our own industry, the site workers have for decades been organized into unions with the same aims in view. They gain additional strength by affiliation to the National Federation of Building Trades Operatives and the TUC. Such is the traditional way of maintaining or improving salaries and conditions. In our profession the degree of organization is low. Neither doctors, teachers nor building workers employ their colleagues. This distinction prevents the Royal Institute from tackling the issue effectively. The Association of Building Technicians, on the other hand, can and does work to improve our salaries and conditions, as proved by its numerous recent negotiation successes. The association with engineers, surveyors and clerks of works adds strength. Affiliation on an industrial and non-political basis to the NFBTO and TUC fulfils the same purpose.

Continued employment, and, in the final analysis, speedier reconstruction, necessitate opposition to the Government's policy of the Building Cuts. The ABT has taken every opportunity of exposing this fatal trend, realizing that organizations are more effective than individuals in reversing it.

Step one, therefore, is to get more colleagues into the ABT.

Nottingham.

H. DESSAU.

SIR.—Your leading articles on the salaries of the future seem somewhat ill-timed. While many architects are at their wits end to find

competent assistants you are scaring these away from private practice. Please pity the poor subscriber to your *Appointments Vacant* pages. From time to time more or less people will seek employment in our profession than are warranted by the work to be done. The way in which you present reputed facts suggests that so many assistants must be employed by architects that all must be grossly underpaid.

Assuming that £7,962,500 is really the proportion of fees available for division into the annual personal incomes of principals and technical staff, a fair presentation of the picture would seem to be:—

(1) 3,000 principals averaging £1,433 total: £4,300,000.

(2) The 3,000 "practice units" will average £2,650.

(3) Not more than three assistants are needed, with one principal, to earn £2,650. The number of assistants required would, therefore, be 9,000. Their salaries will range up to £1,000 a year and will average £405.

(4) "The average annual income of those working in or for a private practice will be in the region of"—£663, not as you state £366.

If, as you say, there are to be 18,000 assistants available the conclusion to be drawn is that this is twice as many as will be needed. Unless, however, it can be proved true it is an irresponsible and dangerous statement based on vague statistics.

The only reliable conclusion supported by your figures is that architecture is *not* a profession likely to attract twice as many recruits as are required. Enough (perhaps) is offered for those who are keen, but not enough for those ambitious to be rich. Events may show that nine of the eighteen thousand will prefer to seek riches and leave the rest of us with our future salaries intact.

MICHAEL TORRENS.

Taunton.

SIR.—As a student, I find these articles disturbing, realizing that the profession is much easier to enter from the bottom than from near the top.

I am afraid my one glimmer of encouragement in your assumed salaries for the next few years has been omitted. This is the death-rate among practising architects, provided of course, it is large enough to have some effect on the annual income of the profession.

KEITH S. DICK.

Nottingham.

Mecklenburgh Square

SIR.—I have today sent the following letter to the Lord Mayor of London: "The sketches of the proposed development of Mecklenburgh Square—the material result of the great national thanksgiving fund you have launched—were a bitter disappointment when they were published in the Press recently.

"Such buildings, insincere and pompous, are unworthy of the spirit of gratitude which is promoting the fund; such nondescript monumentality is quite contrary to the vigour and spirit of collegiate life; and as a serious proposal for execution in the second half of the twentieth century they are a tragic survival of the deplorable taste that prevailed in this country between the wars.

"In the speeches from the Guildhall recently this realistic scheme was described as a living memorial. May not the architecture be alive too? If these buildings are erected, as the sketches predict, they will be still-born. My Lord, bury them now before it is too late, and charge the architect to design this area in a manner fit for the many students of the future who will use it with gratitude."

It is hoped that many people who have reacted against such buildings will do all in their power to avert a tragedy.

C. T. STURGES,
Secretary,
AA Students' Club Committee.
London.

Housing for Immigrants

SIR,—Mr. Martin is quite right to draw attention (March 16) to the shortage of housing in New Zealand and to the long waiting list for State rental houses. He is also right in suggesting that no State houses have been allotted to immigrants as such. All Government sponsored immigrants are, however, guaranteed accommodation on arrival, and all intending immigrants, whether assisted or not, who have sought the advice of the appropriate officials at the High Commissioner's office in London have been warned of the gravity of the housing shortage.

It must be remembered that the shortage of accommodation has existed since before the second world war, and that, in the words of the Prime Minister (the Hon. S. G. Holland), "the new Government is determined to press ahead with immigration and housing. The housing of New Zealand's own people is a first priority, but where immigrants can be accommodated without impinging on the housing needs of New Zealanders, then they cannot come fast enough."

A. T. CAMPBELL,
Public Relations Officer,
New Zealand Government Offices.
London.

Architects Registration Act

SIR,—Apropos recent correspondence in this JOURNAL relating to the above I have just seen a very good "get out" by a person submitting plans to a local planning authority for approval. Where the form is signed by an agent on behalf of the owner the agent's profession is shown as "architectural." This, I feel, may be within the letter but not the spirit of the law.

D. JENNINGS SMITH.
Birmingham.

The Planning Act

SIR,—Astragal, in his column on March 9, deploras the "passing" of Mr. Silkin without a tribute and intends to correct what he terms "this injustice." He goes on, however, to praise Mr. Silkin's skill in the piloting through Parliament of the 1947 Town Planning Bill as if this were something to be proud of.

With the majority which the late Government enjoyed, any old Bill, however iniquitous, was assured of a safe passage. As a well-known architectural press columnist, could not Astragal save his bouquets for a future Minister or member who, we hope, will soon be entrusted with the repeal of this ill-designed, unwanted and almost non-understandable Act, which is causing, unnecessarily, so much chaos and cost to all connected with the building industry.

J. E. KEWELL.
Altrincham.

The EDITORS reserve the right to shorten letters from readers. Whenever possible, however, they are published in full.



LCC

New Appointments to Housing Division

The LCC has appointed Colin A. Lucas, Mrs. R. Stjernstedt, and H. G. Gillett to the new Housing Division of the Architect's Department.

Mr. Lucas was formerly a partner in the firm of Connell, Ward and Lucas, and in recent years has been engaged in research, including research on the planning and equipment of houses, with the Ministry of Home Security, the DSIR and the Chief Scientific Adviser's Division of the MOW.

Mrs. Stjernstedt (née Owen Smith) worked for a number of years in Sweden under prominent Swedish architects and has been employed more recently as a senior architect by the Stevenage Development Corporation.

Mr. Gillett, who obtains promotion, has been a member of the Architect's department since 1936, and was seconded to the department of the Director of Housing and Valuer in 1946.

MOH

Housing figures for February

The MOH announces that the number of permanent houses completed in Great Britain during February was 14,069, compared with 14,356 in January. The total number of houses completed under the post-war programme is now 808,918 (651,772 permanent and 157,146 temporary). During February, homes were provided by new building, repair of uninhabitable houses and conversion for 15,418 families, compared with 15,887 in January. This brings the total number of families rehoused by these methods under the post-war programme to 1,082,190. This total does not include homes provided in service camps or requisitioned houses.

The Department of Health for Scotland announce that 2,160 new permanent houses were completed in February, bringing Scotland's total of new houses under the post-war programme to 101,077—68,901 permanent and 32,176 temporary. Including accommodation made available by conversion and adaptations of existing premises, requisitioning and in service camps, altogether 114,394 homes have been provided in Scotland since the war.

Of the permanent houses completed during the month, 2,047 (including houses completed by the Scottish Special Housing Association) were erected by local authorities, 55 by private enterprise and 58 by Government departments.

LCC

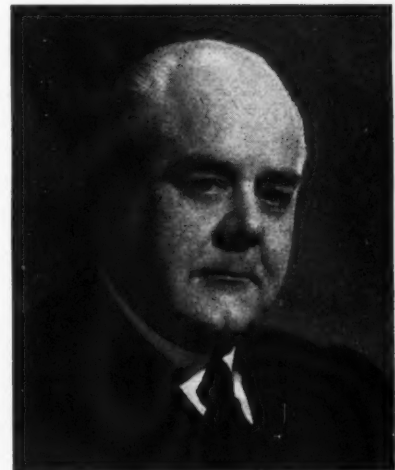
Heating of Concert Hall

The LCC is to co-operate with the Ministry of Fuel and Power in a proposal to install a heat pump on the South Bank for experimental use and demonstration during the 1951 Exhibition. The plant will be located in one of the arches under the Hungerford railway viaduct.

By means of a mechanical compressor, using town's gas as the most economical fuel for the purpose, low grade heat extracted from the Thames will be used to provide part of the interior heating for the Council's new Concert Hall. The process can be reversed, and in warm weather the installation will be capable of providing a certain amount of cooling in the Hall.

The installation of the heat pump will not interfere with that of the permanent gas fired heating plant already approved for the Concert Hall. No permanent refrigeration plant for the hall is at present proposed.

The Ministry has suggested that, if the heat pump is successful, the LCC might later agree to acquire as much of the installation as would be of permanent use to heat the smaller hall and to supply summer cooling for both halls. No practical demonstration has yet been made in this country showing the heat pump in its most favourable light, and the Ministry of Fuel and Power is particularly interested in the demonstration of this installation on the South Bank, because of the saving in fuel that might follow the adoption of plant of this type.



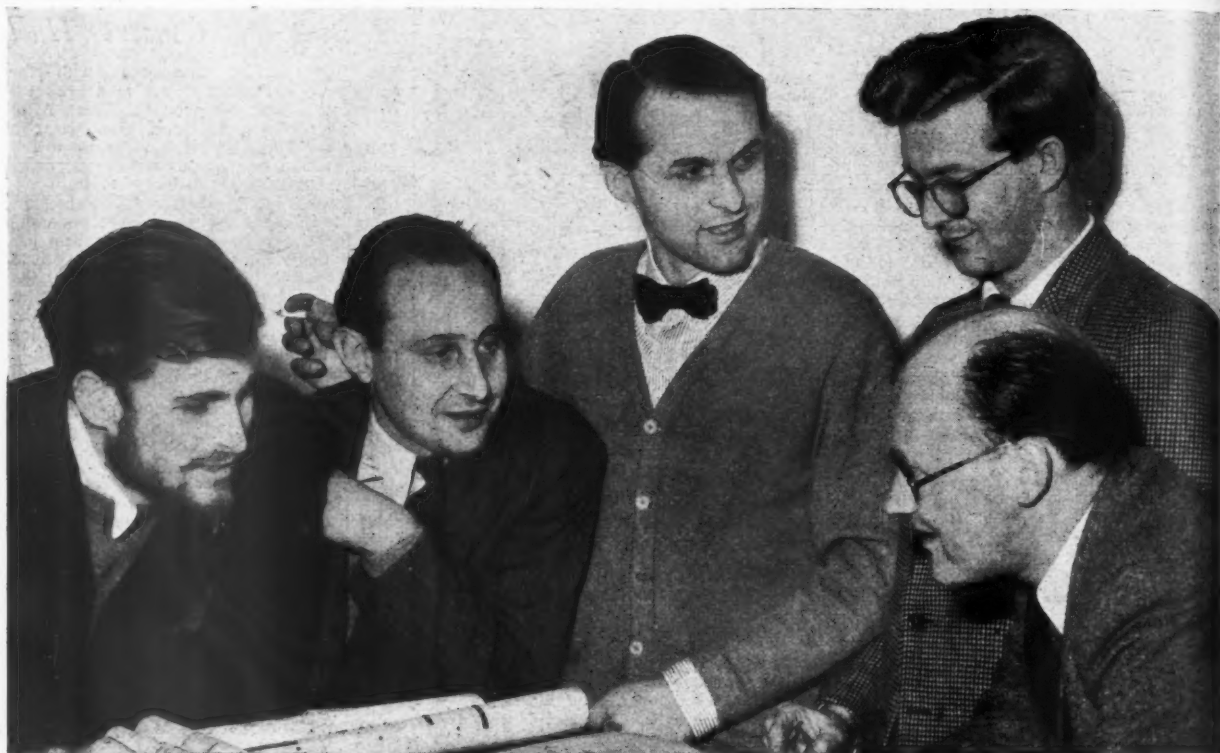
Mr. W. E. Rice, president of the LMBA in 1942, is to be the next Mayor in the City of Westminster; He will take office on May 25.

MOE

State Scholarships

The MOE has announced that the number of Technical State Scholarships available this year is to be increased from 100 to 120. Eighty of the scholarships will be available to candidates under the age of 20 on July 31, and up to 40 scholarships available for candidates aged 20 or over at that date. There is no upper age limit for the latter awards. These scholarships will be offered to students to enable them to pursue full-time degree courses—normally leading to an honours degree—or courses of equivalent standard at universities, university colleges or establishments of further education.

WINNERS OF THE ARCHITECTURAL REVIEW'S PUB COMPETITION



On this page are shown the winners of *The Architectural Review's* Pub competition, whose designs were illustrated in last week's JOURNAL and are now on view at the Review's exhibition, "*The Public House of Tomorrow*," which will remain open at the Victoria and Albert Museum until April 29. Above are the

first prizewinners. Reading from left to right they are:—Richard Negus, Ernst Pollak, Victor Prus, Philip Sharland and Charles Hasler. Below, left, G. Dunn and, bottom left, M. Russell, winners of the second prize. The third prize-winners, shown below, are D. B. Bullivant and Ian Grant.



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Candidates must have completed a course leading to an ordinary National Certificate or Diploma or course of equivalent standard, and normally have been in full-time or part-time attendance at an establishment for further education for not less than two years immediately preceding August 1 next. All applications must carry a recommendation from the principal of the establishment which the candidate has been attending.

The award of a Technical State Scholarship will not exempt the holder from the normal admission requirement of a university. Successful candidates must make their own arrangements for acceptance by a university, university college or technical college. Candidates are strongly advised to secure provisional acceptance by the institution they choose, making it clear that they are candidates for a Technical State Scholarship.

Explanatory leaflets and application forms may be obtained from principals of further education establishments or from the MOE, Curzon Street, W.1. Applications must be submitted through principals to reach the Ministry not later than June 30.

PLASTICS

Exhibition in 1951

A British plastics exhibition and convention are to be held at Olympia, London, early in June, 1951. The exhibition, which will be the first trade exhibition representing the whole industry, will be open to all British firms who produce, mould and fabricate plastics materials or supply raw material or equipment to the plastics industry. While primarily for the trade, it will be open also to the public. The exhibition and convention are being organized, with the full approval and co-operation of the British Plastics Federation, by *British Plastics*, one of the journals published by Associated Iliffe Press.

KENT

Penshurst Place on View

Until October 14, Lord De L'Isle and Dudley, v.c., will admit visitors to Penshurst Place, Kent, each Wednesday, Thursday and Saturday from 2 p.m. to 5 p.m. It will also be open on Whitsun and August Bank Holidays. Special days for connoisseurs will be as follows: May 5, June 2, July 7, August 4, September 1, October 6 (Fridays); and April 16, May 21, June 18, July 16, August 20, September 17 (Sundays). On Wednesdays, Thursdays and connoisseurs' days visitors are also admitted to the formal gardens.

DSIR

Handbook on Brickwork

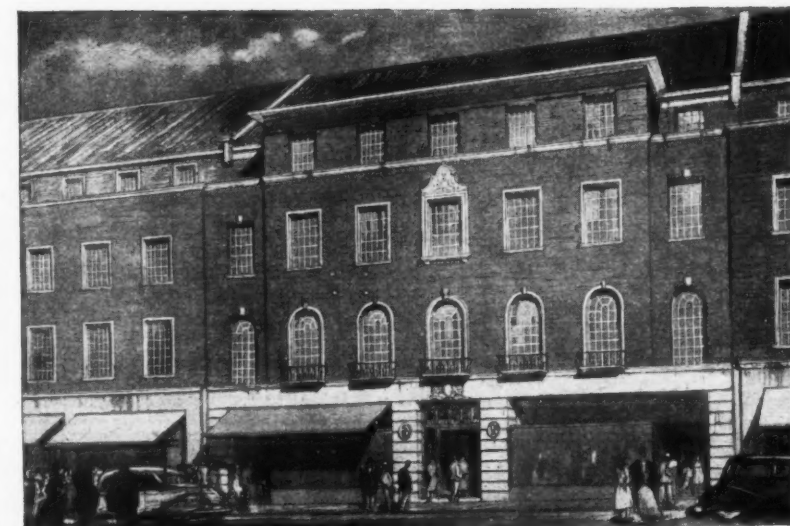
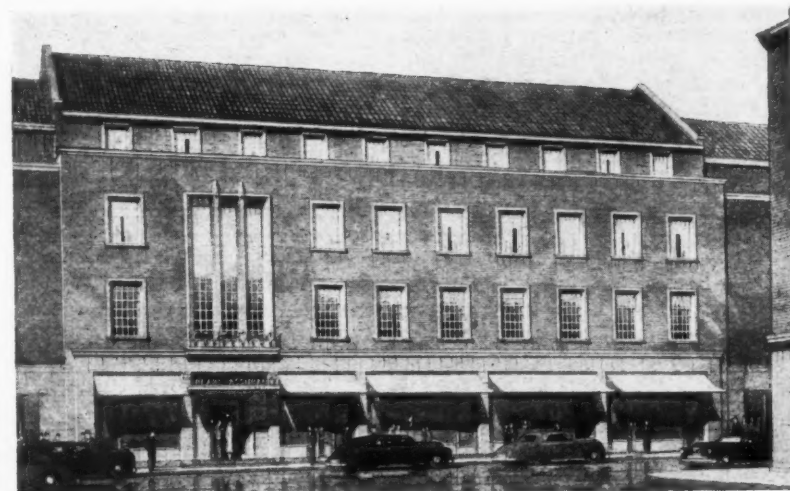
A booklet for the practical builder, "Some Common Defects in Brickwork," National Building Studies, Bulletin No. 9, has just been published by HMSO for DSIR, price 1s. 3d. (by post 1s. 4d.). Six common causes of defects are given and their diagnosis, methods of prevention and repair are explained. Brief notes on keeping brickwork reasonably dry, and thus free from some of the defects, are given in an appendix.

The six causes are sulphate attack on mortars and rendering; unsound materials; frost action; corrosion of iron and steel; crystallization of salts; linear changes resulting from changes in moisture content. Each type of defect is shown in photographs.

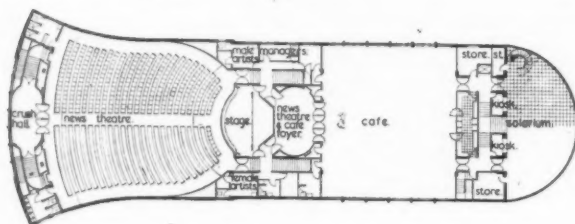
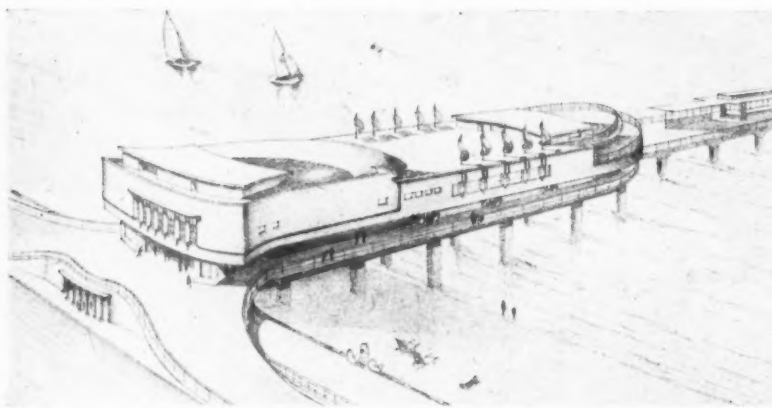
OFFICES AND SHOPS FOR HIGH STREET, EXETER



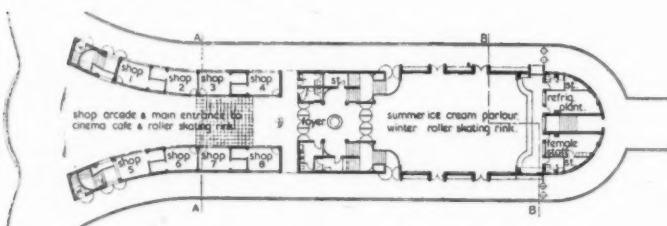
Messrs. Lucas, Roberts and Brown, of Exeter, have designed three blocks of offices and shops for the High Street, Exeter, which are either being erected or are about to be erected. Left, a block containing two shops, for Messrs. Willsons and Messrs. Wymans, designed in conjunction with Messrs. L. H. Fewster and Partners. Below, Pearl Assurance House, containing offices and shops. Bottom, the Commercial Union Assurance Company's block of offices and shops, which will be completed in about fifteen months time.



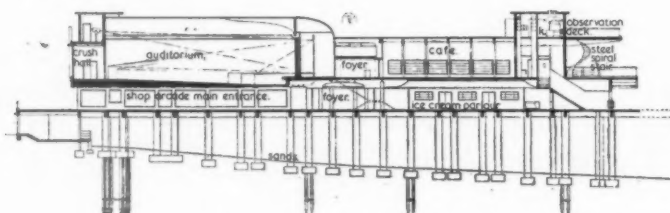
PROPOSED PIER AT PAIGNTON, DEVON



News theatre and cafe deck plan



Promenade deck plan



Longitudinal section [Scale: 1/4" = 1'0"]

The existing pier at Paignton, which was requisitioned during the war, has become derelict and it is proposed to dismantle it and lift the 88 piles and cast iron columns. The new pier, to be erected on the same site, will have a superstructure carried on prestressed concrete piles with reinforced concrete caps, piers and beams. The pier promenade deck will be reached by reinforced concrete ramps which raise the deck 9 ft. above the esplanade. The main entrance arcade will contain eight lock-up shops with private offices and two steamship offices.

The news theatre will have seating for 650 and a small stage and the café seating for 400 with kitchens above. Eventually it is intended to provide at the sea end of the pier, which is 719 ft. long, a theatre, amusement arcade, yacht and angler's clubs, a dance hall for 2,000 and a floating pontoon. The architects are Eric P. Lambert and W. Norman Oliver.

NEW TOWNS

Corporations' Accounts Published

The accounts of the corporations of the new towns, published recently (Stationery Office, 1s. 6d.), show that up to March 31, 1949, total advances of £1,061,688 had been made to the corporations of 11 new towns, of which £911,850 was for nine English and £149,838 for two Scottish corporations. Loans for new town developments in 1949-50 were estimated at £6m.

In his report on the accounts, the Comptroller and Auditor-General explains that under the New Towns Act, 1946, advances are limited to a total of £50m., to cover the requirements of about five years. The total expenditure on a new town for 50,000 people was originally estimated tentatively at £19m., of which £15m. would be provided by the corporations and £4m. would be borne initially on the rates. The Public Accounts Committee of 1948-49 was informed that the cost of each new town to the corporations might be nearer £25m. than £15m.

The Auditor-General notes that houses erected by corporations are subject to the control of the Rent and Mortgage Interest Restrictions Acts. As a consequence certain corporations expect difficulty in fixing economic rents.

CID

New Members Appointed

The BOT announce that the President has appointed G. Dunn, W. Haigh, W. Johnstone, Sir William Palmer, and A. Whitaker to be members of the CID.

He has also re-appointed Sir Leigh Ashton, Noel Carrington, G. W. Lacey, Major F. J. Stratton, Sir Charles B. L. Tennyson and Dr. W. J. Worboys to be members of the Council on the termination of their existing appointment.

Andrew Nairn and R. Lyon Scott have been re-appointed to the Scottish Committee of the CID on the termination of their existing appointments.

ICA

Exhibition Opened by Professor Holford

Professor W. G. Holford opened an Institute of Contemporary Arts' exhibition of architectural students' designs at the AA, 7, Bedford Square, on April 3.

For several months students of nine of Britain's architectural schools have been working to design an arts centre for the ICA, in which all the arts—painting, sculpture, architecture, the film, drama, music, ballet, television and literature—could be practised under ideal conditions.

The purposes of the project were to accustom the students to working for a client with complex and exacting requirements; to allow the Institute itself to learn from the problems which arose and the solutions evolved by the students; and to interest the students and the public generally in the aims and activities of the Institute of Contemporary Arts, and to assist in its fund for the acquisition of premises.

Professor Holford said that he had been asked, "Why an Institute of Contemporary Arts; have we not enough institutes already?" One reason why it was needed was because one did not want to see only modern art in a centre of that kind, but to take an interest in the work of past artists.

APPROVED SCHOOL, SKEGBY, NOTTINGHAMSHIRE

In the Museum of Modern Art in New York, which he had visited recently, he had been interested to see an exhibition of the work of Frank Lloyd Wright. It had been said that one's father's work was boring, one's grandfather's a little better, and that it was only when one got to one's great-grandfather than it became interesting.

It was a very great aim to put together in one building the work of contemporary artists. It was important to have a place where people were looking forward rather than backward. There was not much adventure in reminiscence.

Speaking of the value of the ICA's scheme to the schools, Professor Holford said that when he had been responsible for drawing up the programmes for schools of architecture he would have been very grateful for assistance of that kind. The designs in the exhibition were a contribution, not only to the functions of the centre, but to architecture itself.

"Not a mile from here you can find a certain number of recent buildings which are not architecture in any sense of the word," he said.

The exhibition, which will be open free to the public from 10 a.m. to 5 p.m. until April 20 (except on Sundays), will later be shown in other parts of the country. (See pages 457 to 459 for illustrations.)

Mr. F. Jordan, principal of the School of Architecture, introduced Prof. Holford, and a vote of thanks was proposed by Mr. R. Penrose, vice-chairman of the ICA.



Skegby Hall, built about 1710, is situated near Mansfield. The extensions, shown blacked-in on plan, consist of a three-storey sanitary wing and a single storey block containing recreation room, dining room and kitchen, linked with the main building, as seen above. The architect was E. W. Roberts, County Architect. The general contractors were H. Baggaley and Sons, Ltd. For list of sub-contractors, see page 472.

MOTCP

Firm's Appeal Dismissed

The Minister of Town and Country Planning has dismissed the appeal by Messrs. Paripan Ltd., Windsor Road, Egham, Surrey, against the refusal of the Surrey County Council to permit alterations and enlargements to the Paripan works in Windsor Road, Egham. The site is in the Green Belt, adjacent to Runnymede and nearby Cooper's Hill, where stretches of open country have been acquired for the public enjoyment.

The immediate area was described in the Greater London Plan by Sir Patrick Abercrombie in 1944 as "a horrible outbreak of bungalows and, most tragic of all, a big single-storey factory," and he asked that a "life" should be placed on these buildings with a view to their ultimate demolition.

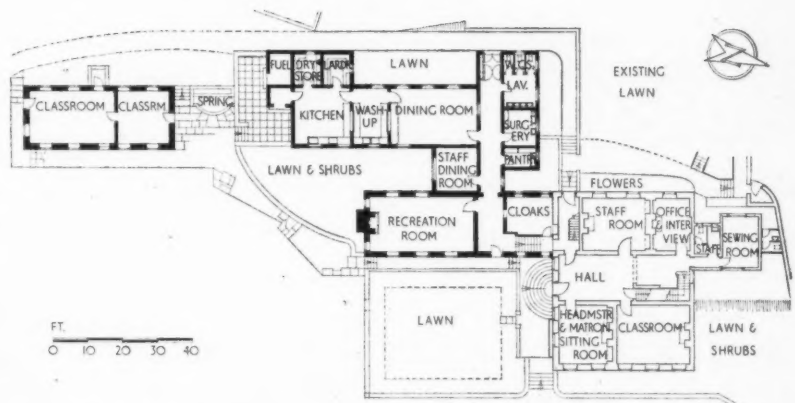
In the letter announcing his decision the Minister has expressed full agreement with the longer term aim of the Surrey and Buckinghamshire County Councils to clear up both banks along this stretch of river, and he has no doubt that the eventual removal of the factory from its present site is desirable in the public interest, and that any reconstruction should be carried out on some new site. An alternative site close at hand has been suggested.

RSI

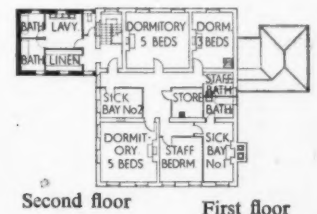
Essay Competitions

The Council of the Royal Sanitary Institute have announced particulars of the prize essay competitions for 1950. Two prizes are offered: the John Edward Worth prize of £40 for an essay on "The Provision of Water Supply and Sanitation for Nine Houses Not Served by a Water Undertaking or by a Sewerage Authority," and the John S. Owens prize of £15 for an essay on "Atmospheric Pollution."

Entries must be submitted by December 31, 1950. Intending competitors should apply to the Secretary of the RSI, 90, Buckingham Palace Road, S.W.1, for a copy of the general conditions.

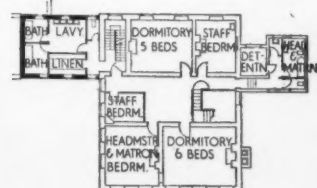


Ground floor plan



Second floor

First floor



DIARY

The Public-house of Tomorrow. Exhibition at Victoria and Albert Museum, Kensington, W.1. (Sponsor, The Architectural Press.) Daily, 10 a.m. to 6 p.m. Sundays, 2.30 p.m. to 6 p.m. UNTIL APR. 29

BBC Third Programme Talks. *Town Planning Since the War.* (April 13.) Prof. Gordon Stephenson. *Ebenezer Howard.* (April 18.) F. J. Osborne. APR. 13 AND 18

Annual Reception of the A.A. 34, Bedford Square, W.C.1. 8.30 p.m. APR. 13

Annual General Meeting. Institute of Registered Architects, 47, Victoria Street, S.W.1. 6.15 p.m. APR. 14

Building in the Tropics, Research into Housing in the Tropical Countries, especially in the Commonwealth. G. A. Atkinson. At RIBA, 66, Portland Place, W.1. (Sponsor, Architectural Science Board.) 6 p.m. APR. 18

Building Trades Exhibition. The City Hall, Deansgate, Manchester. (Sponsors, Provincial Exhibitions, Ltd.) Daily, 10.30 a.m. to 7.30 p.m. APR. 18 TO APR. 29

Little-known Furniture Designers of the 18th Century. R. W. Symonds. At John Adam Street, W.C.2. (Sponsor, RSA.) 2.30 p.m. APR. 19



This feature covers aspects of legislation, parliamentary news and statutory rules and regulations which are of special significance to the architectural profession.

ERNEST WATKINS

The Architect and Current Affairs

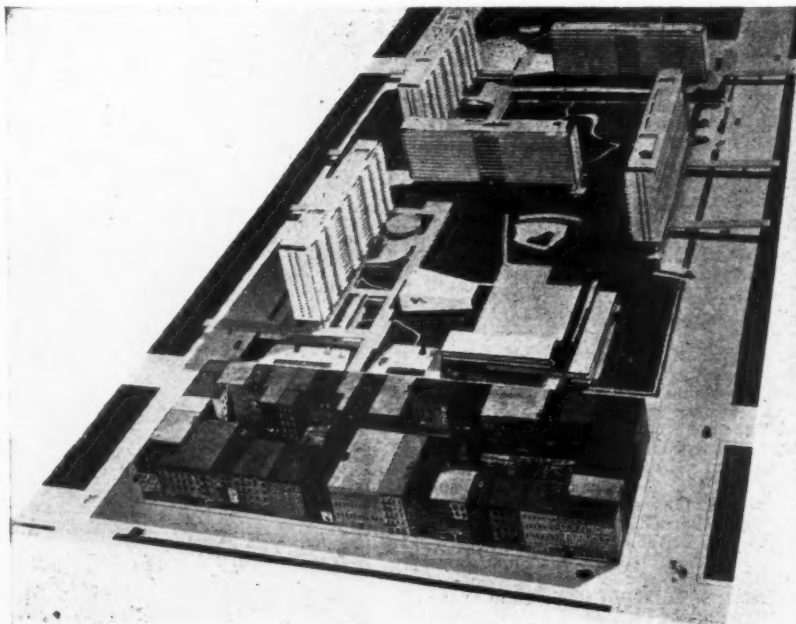
Tedious as it may sound (and with apologies for that suggestion to their lordships), it is worth while reading the whole of Hansard on the recent House of Lords debate on the Town and Country Planning Act, for the speeches, read together, do ventilate pretty well every point of criticism made in respect of the Act; not only that, they provide two speeches from Labour peers that have some interesting contrasts in emphasis. And, as a final parenthesis, the debate underlines the value of the work done by so many members of both Houses in the investigation and explanation of individual complaints.

In summary, I would draw these conclusions from the debate: First, the Government does not at the moment contemplate producing in this present Parliament any

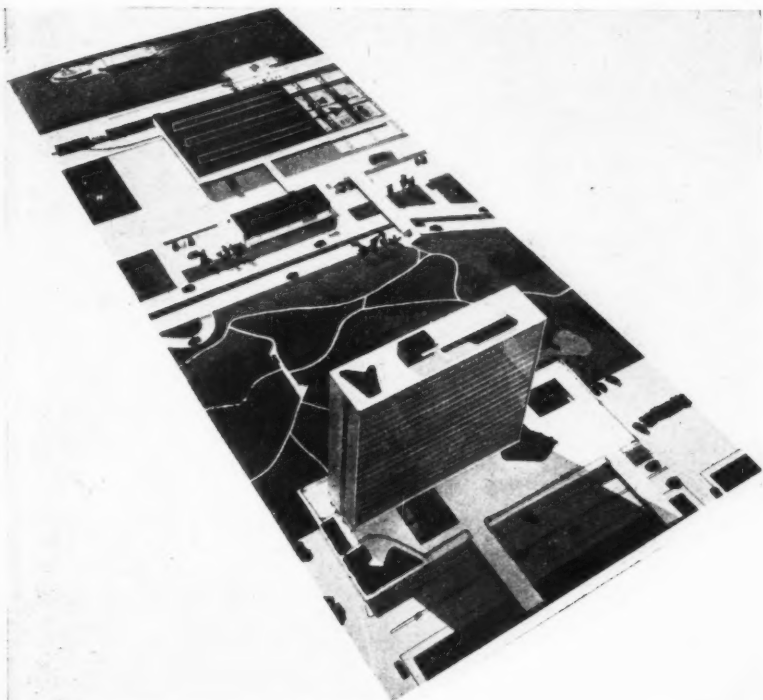
MODELS DESIGNED FOR ARCHITECTURAL



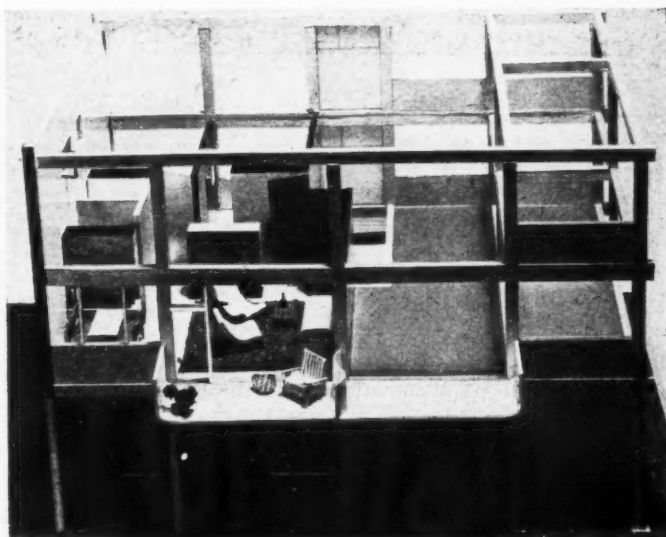
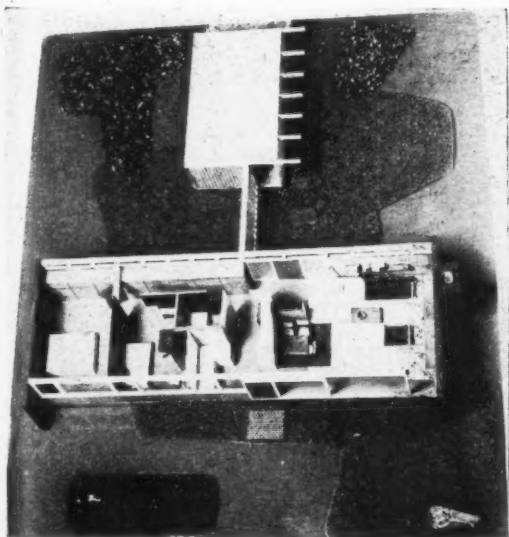
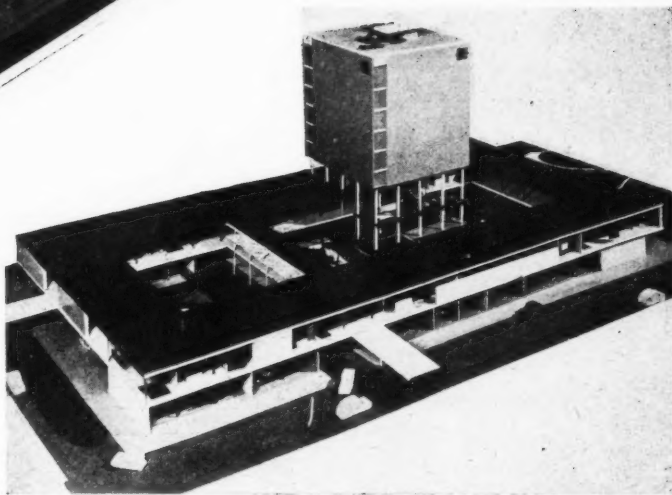
The models shown here were prepared under the direction of Professor Olindo Grossi, chairman of the Department of Architecture, Pratt Institute, Brooklyn, New York, with the help of two students of the school. The work, which was sponsored by the American Institute of Architects, through funds made available by the Arnold Brunner Scholarship, was carried out in order to provide students with an introduction to architectural values, an appreciation of the need for planning and a reminder of the need for personal participation in neighbourhood and city planning for better housing, better working conditions and better living. Above, a model of a typical planned satellite community within 25 to 30 miles of New York City. It is designed so that 50 per cent. of the population (4,000 to 5,000 people) can live in detached houses, 25 per cent. in garden type row houses and 25 in apartment houses. Below, a model of a planned city neighbourhood unit which would house the same number of people per acre as the old tenement buildings shown.



STUDY AT PRATT INSTITUTE, BROOKLYN, NEW YORK



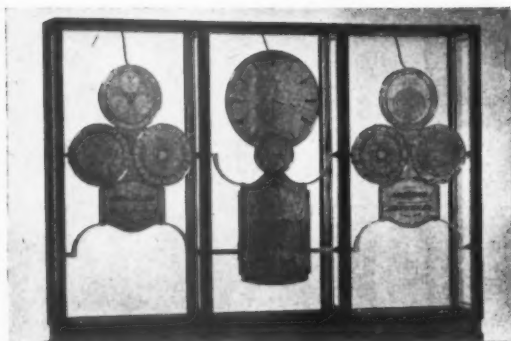
Above, a model illustrating a well laid-out office building, demonstrating the fact that higher buildings would allow parking and air space which do not exist in the normal city block where clutter and congestion cause waste, fatigue and undue expense. Right, a shopping centre which provides off-street parking and deliveries, organized interrelation of shops and direct covered "walkways." The small house shown below, has an uncomplicated plan which combines entrance, dining and living areas in one free continuous space. Below, right, an apartment which provides for cross ventilation, and ample sunshine and gives a sense of spaciousness.



DESIGNS BY GUNNAR BILMANN PETERSEN



The illustrations on this page show something of the work of Danish architect, Gunnar Bilmann Petersen. Above is a tea trolley of mahogany and brass made in 1948. The electrical clock, above, left, has an engraved steel dial with a brass frame. The astronomical clock, beneath the desk on the left, was invented and calculated by Jens Olsen and designed by Petersen. Below, left, is a 'bus body which he designed in 1948, and below is an example of his work as an architect, the Electrolyte Condensator Factory at Copenhagen.



legislation amending the 1947 Act. Second, the new Minister is well aware that there are points over which the working of the Act can be criticised and where it should be improved, but that he has neither decided quite what they are, what their relative urgency is, nor on the best form an investigation into the Act should take. But I doubt (both from what was said in the debate and from the form previously shown by the new Minister) if he is likely to appoint any independent committee of enquiry or to allow any such committee to sit in public to hear public complaints. For that reason, I would suggest that everyone working in close contact with the Act should take what chances he has of stating publicly where and how the Act should be amended. Those comments are not likely to pass unnoticed and unheeded in official circles. And this course of action is, I feel, even more important to those who feel that the main provisions of the Act are sound and that it would be deplorable if its small percentage of defects sank the ship.

The comments and criticisms made in the debate fall, I think, under three heads. One is delay—delay in all the mechanisms associated with the Act; and delay is always a source of extreme annoyance to the client. I can see no simple solution to this, yet some solution must be sought. The trouble is that haste is dead against the tradition of the Civil Service—and, fairly enough, rarely a component of good planning. The civil servant still thinks it more important that every interest should be consulted and considered before a decision is made than it is that action should be taken within a definite period of time. It is difficult to say that the civil servant is wrong, save that, in this imperfect life, the result may be that no action—good or bad—will in fact follow his meditations.

The second is the 100 per cent. development charge. Logically, I think that this is fair. Practically, I am beginning to doubt it. The practical aspect comes from this circumstance. The development charge is, in practice, virtually fixed by the District Valuer. It is his duty to get as much as he can for his client, the State, and a sense of duty can drive a harder bargain than an acquisitiveness. In commerce, both sides wish the bargain to have some advantage for each—they may meet to do business again some other day. The official can allow no such softening influence in his decisions. I still think that to leave the landowner, or the developer, with a sense that he is receiving some advantage from the projected development will prove to be a useful, perhaps an essential, ingredient in the proper working of the Act.

But this is part of a larger question: Should the Central Land Board be given any discretion in the fixing of the development charge or not? It was hoped, in fact argued during the debates on the Bill, that the development charge could and would be used as an implement in securing "good" development and in preventing "bad" development. But that cannot be if the Central Land Board is tied by a specific direction. Nor is it easy to see how it would work even if the Central Land Board were not so tied. It is not for the Central Land Board to influence development. That is the task of the planning authority, and no good would come of any division of authority between Board, authority and, as a last resort, Ministry.

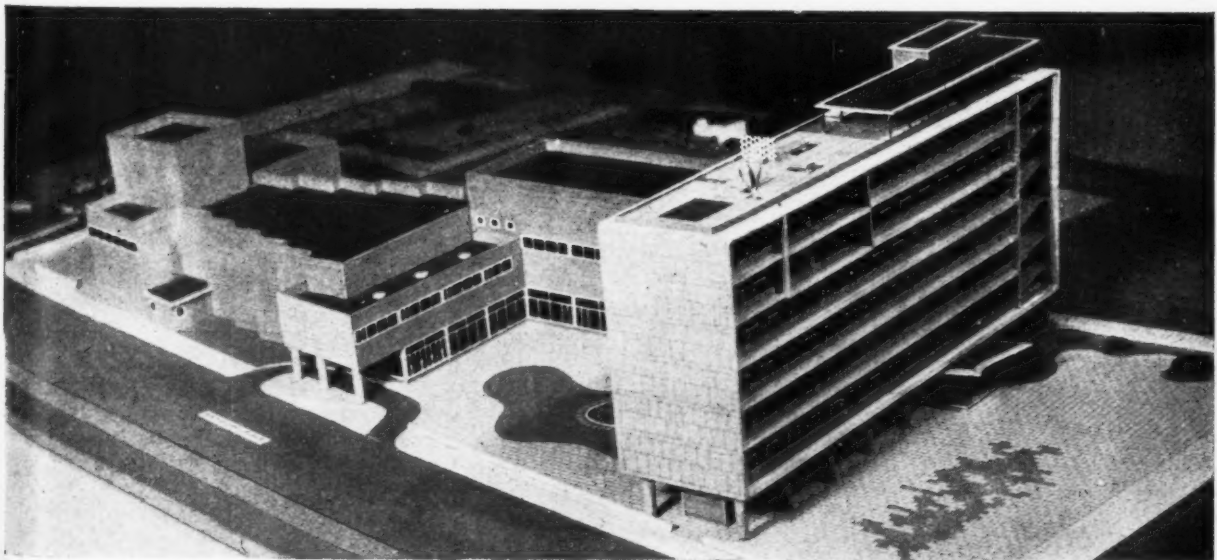
The final point is the £300 million compensation fund. Why should a man have to pay for the exercise of a former right before he has been compensated for the loss of that right, before he even knows if he will be given any compensation for the loss of that right? If MOTCP does not induce the Treasury—and everyone else—to speed up the answer to this, the Act as a whole is in grave risk of foundering on this one flaw in it alone.

EXHIBITION OF STUDENTS' DESIGNS FOR AN ICA CENTRE

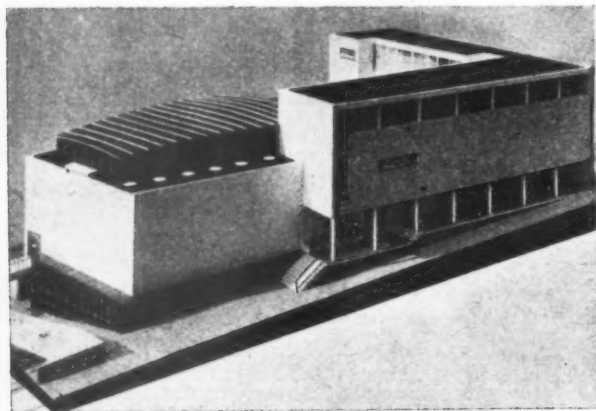
For the past few months students of nine architectural schools in Britain have been working to design a building to house the Institute of Contemporary Arts. An exhibition is at present being held at No. 7 Bedford Square, London, W.C.1, consisting of three or four schemes selected from the work submitted by each school. For the purpose of the scheme the ICA has been acting as if it were the client actually commissioning a building, and the students have been in the position of architects carrying out a design for a building to suit the requirements and functions laid down by their client. It has been necessary to assume that the ICA has enough capital available to enable it to commission the erection of its own building. The purpose of the project has been to accustom the students to working for a lay client with certain complex and exacting requirements, to allow the Institute

itself to learn from the problems which arise and the solutions evolved by the students, and to interest the students and public in the aims and activities of the ICA and to assist in its fund for the acquisition of premises. Maximum and minimum schedules of accommodation were provided by the Institute. The sites were chosen individually but had to be one of three types, a closed urban site, a semi-open or a large open site.

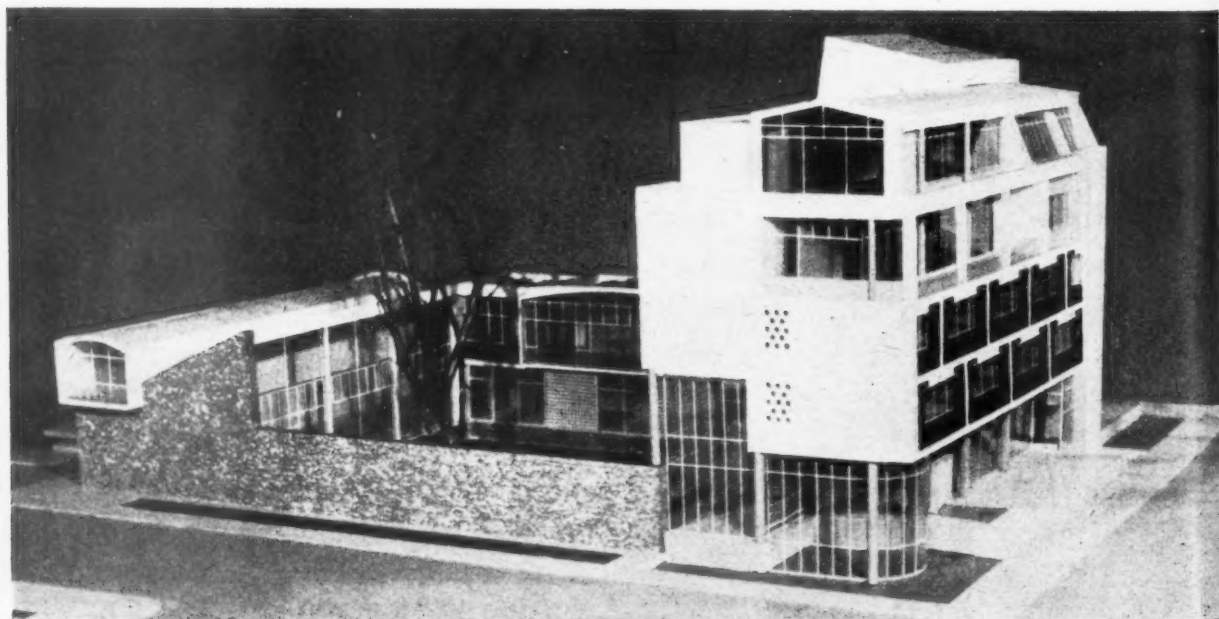
Below is a model of the scheme by A. C. Abbott, A. Craig and D. Hinton of the Architectural Association School of Architecture, and bottom, a model of the scheme by E. K. Parker, J. C. Teasdale, P. J. Burton, W. Cadwallader and H. R. Phillips of the Birmingham School of Architecture. Both groups chose the same island site, which faces Piccadilly.



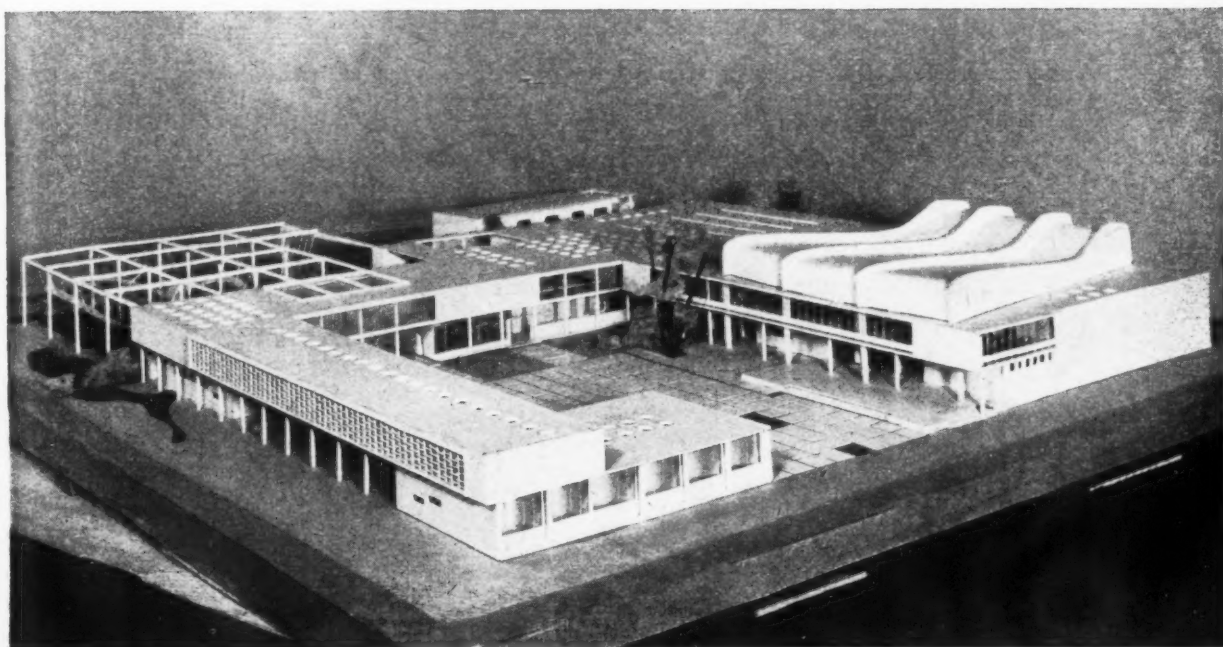
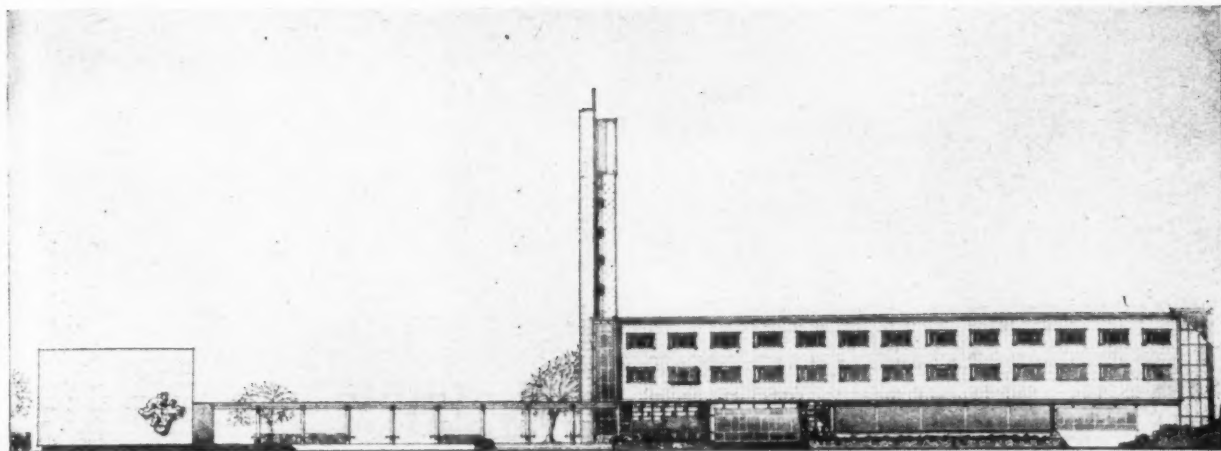
EXHIBITION OF ARCHITECTURAL STUDENTS' DESIGNS



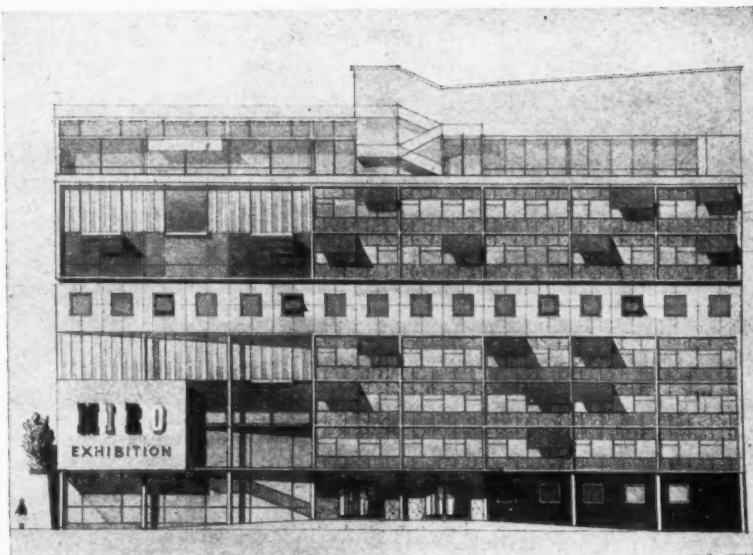
The schedule on which the students based their designs required the incorporation of a theatre and cinema, art gallery, television viewing room, library (including films and slides), a restaurant and club rooms, as well as administrative offices, etc. On the left is a model of the scheme by E. D. Marsh of the College of Arts and Crafts, Nottingham. Below, a perspective of the scheme by J. F. Porteous of the School of Architecture, Polytechnic Institute, Regent Street. The site is in Russell Square, London. Bottom, a model of the scheme by B. Smith of the Northern Polytechnic School of Architecture. This site is also in Russell Square.



FOR AN INSTITUTE OF CONTEMPORARY ARTS CENTRE



Top, an elevation of the scheme by G. G. Wimpenny of the School of Architecture, University of Manchester. The site is in Regents Park, London. Above, the model of a scheme by J. Buzuk, K. Kopolka and B. Fijalkowski of the School of Architecture, Polish University, London. Right, an elevation of the scheme by J. Vaughan of the Bartlett School of Architecture. The site is in Russell Square. This exhibition of schemes designed by students in their fourth or fifth year of training, is open free to the public from 10 a.m. to 5 p.m., excluding Sundays, and will close on April 20.

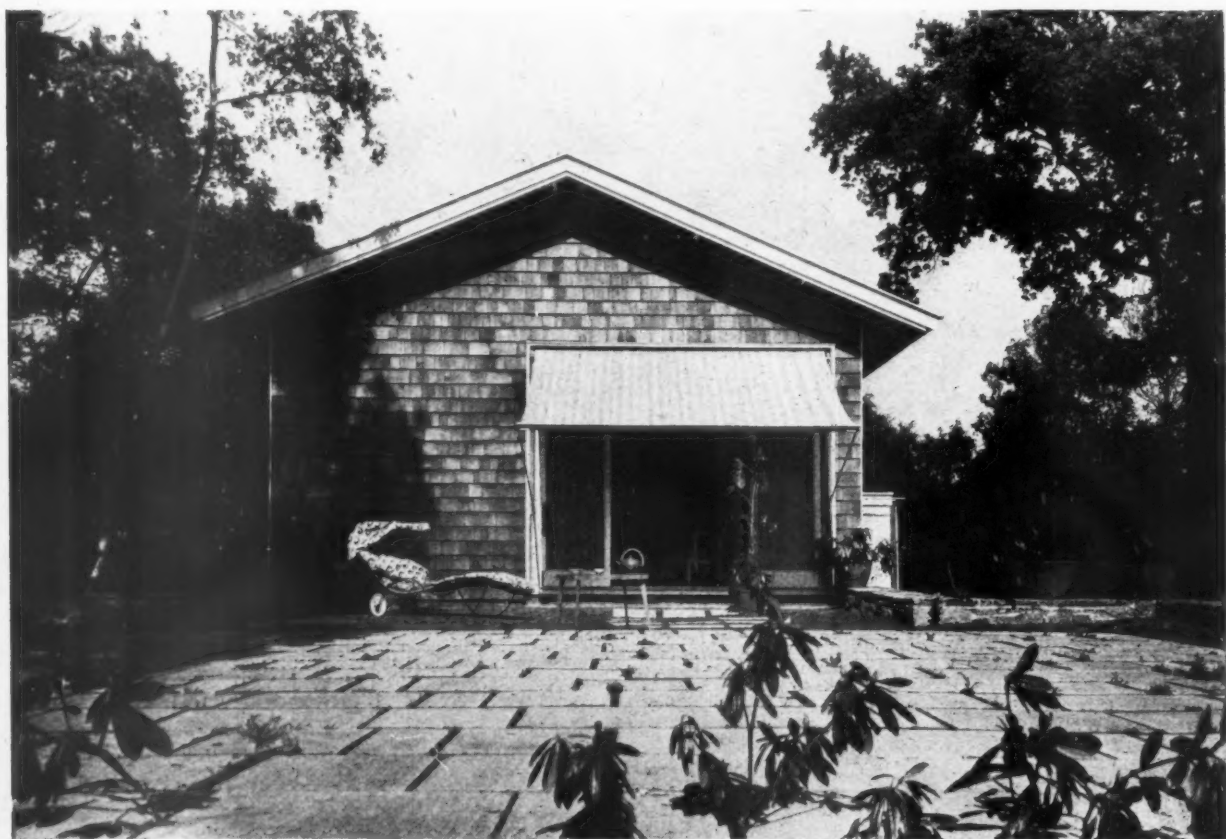


HOUSE

at KINGSTON-ON-THAMES, SURREY
designed by TAYLER and GREEN

On a site of about one acre, which is part of a hill and thickly wooded with oaks, sweet chestnuts and silver birches, a small house has been built within the restrictions of size and cost permitted. In order to facilitate the extensions to the house shown by plans and elevation on page 463, the two end walls and the roof are of temporary construction and the house as it now stands will eventually form the core of the finished building. The considerable fall both across the site and along its length slopes away from the south and down from the road. The best view is to the north, over the golf course and common: These factors have affected the design of house and garden.

The south-west façade from the paved terrace.



Plan
floor

Plan
floor

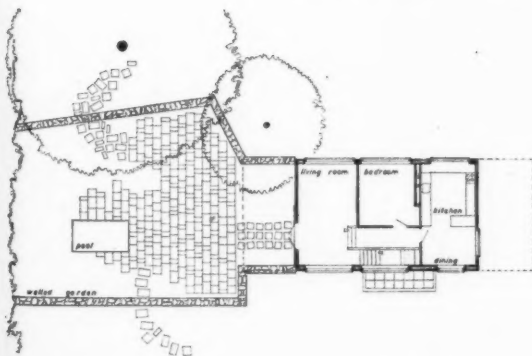
Right, the garden front from the north-west. Below right, the living room end, seen on the right of the picture across a corner of the walled garden.



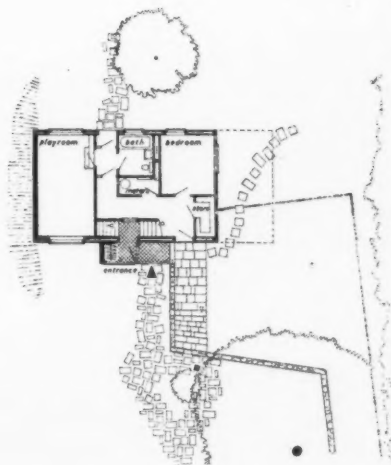
SITE.—Instead of being placed on a levelled platform, the house is fitted to the existing ground slopes, although these were slightly remodelled near to the house to suit windows and doors. There is access from the house to the garden at three levels; from lower ground floor to the drive (or future garage) and back garden, from the ground floor living room to the walled garden and from the front door at a level half-way between the two floors. The garden will not be affected by extensions to the house. The garden is divided into three distinctive areas: the open front garden with two large trees, the walled garden forming a level open-air living room, and the woodland garden, which has distant views. The front garden, which faces south to the road, has a plain slope of grass crossed by a paved entrance path, kept separate from the car

drive. The walled garden will eventually be enclosed within brick walls standing on the present stone base and is the only part of the garden which has been levelled. It is paved and has a tiled children's bathing pool with a fountain. Distant views will still be visible through plate glass "windows" in the future enclosing walls. The woodland garden has been carefully thinned and reshaped by new planting to form a central open glade. There is a ha-ha at the lower boundary to give the illusion of connection between the garden and landscape beyond. The garden store building and tea-house are yet to be constructed.

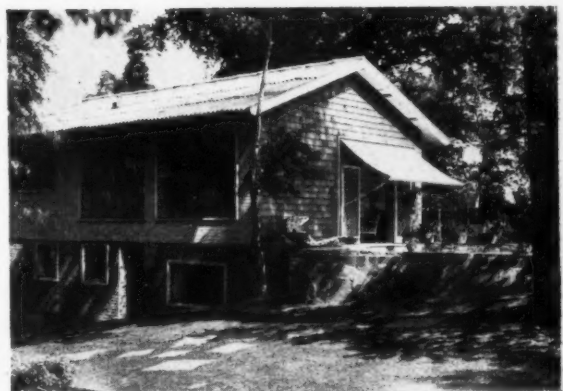
PLAN.—The rooms for the future house are planned to give privacy to parents, children, guests and staff. On the top floor, parents and children will have separate bedrooms and bathrooms; on the lowest floor will be guest and staff accommodation. Separating these two floors will be the ground floor living rooms and kitchen. On this floor also, parents and children will have their own living space, both indoors and out, the parents having the living room and walled garden, and the children, the nursery and roof deck over the garage. In the existing house there is only one bathroom (the future guest bath) and two bedrooms, not now occupying their future permanent positions. The existing entrances will remain and casement doors on the front dining wall will open on to a flat roof deck over the garage.



Plan of upper ground floor



Plan of lower ground floor [Scale: 1/4" = 1'0"]



HOUSE

at KINGSTON-ON-THAMES, SURREY

designed by TAYLER and GREEN



Left, the north-east façade which is a temporary wall to allow for further extensions. Below, the entrance front and living room side from the south.

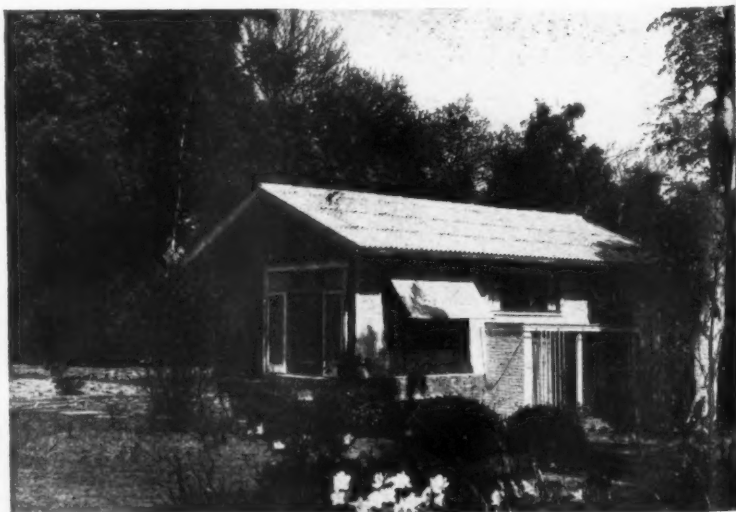
CONSTRUCTION.—The two external walls at front and back are of cavity brickwork, the two end walls of timber frame, fabricated in sections and bolted together for future removal and re-use for house extensions, and the playroom retaining wall is of reinforced concrete. All internal walls are non-load bearing, either 4½-in. brick for permanent partitions or wood studs for temporary partitions. Floors are of reinforced concrete, arranged in three bays, with four steel joists spanning from front to back external walls. The stairs are also of reinforced concrete.

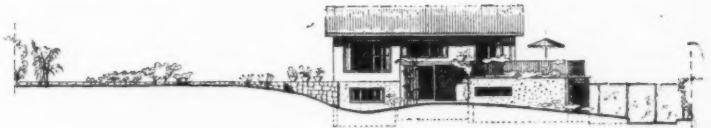
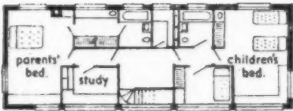
FINISHES.—Windows are standard metal casements in special wood frames. Casement doors are wood, purpose-made. Front and back walls are of yellow stock facing bricks for lower portion and of lemon-yellow coloured, washed rustic flettons for the upper part. The end walls are faced with cedar shingles. The temporary roof is of grey corrugated asbestos; the future roof will have grey slates. The paintwork is white except on metal casements. The garden retaining walls are of

York stone slabs, and paving is of rough texture precast concrete slabs. The garden planting consultant was Michael Haworth-Booth.

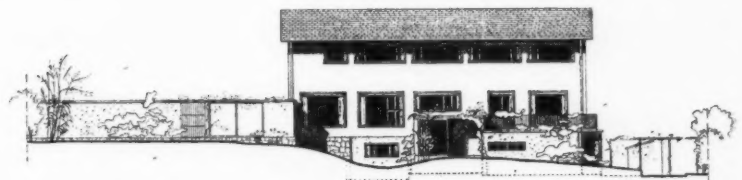
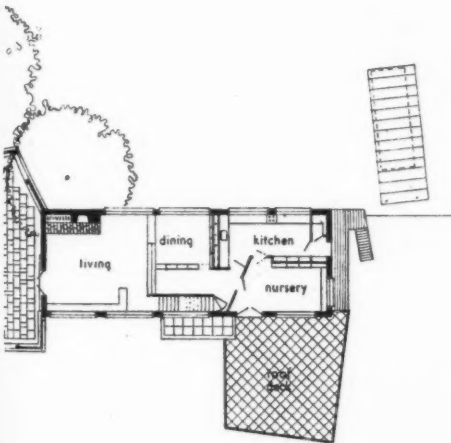
The general contractors were Messrs. H. Firth & Co.

For list of sub-contractors, see page 472.



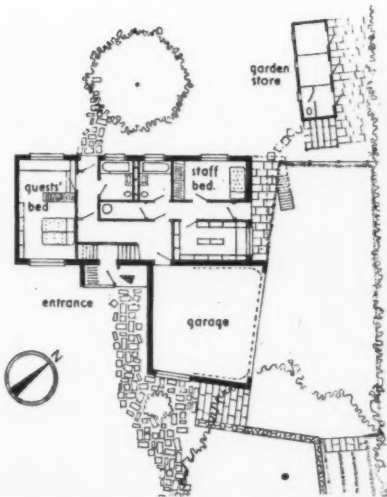


South-east elevation of existing house.



Elevation after proposed extensions. [Scale: $\frac{1}{8}'' = 1'0''$]

Future house plans; first, ground and lower ground floors. [Scale: $\frac{1}{8}'' = 1'0''$]



Top, the entrance front from the south-east. Below, the walled garden and woodland, looking north west.



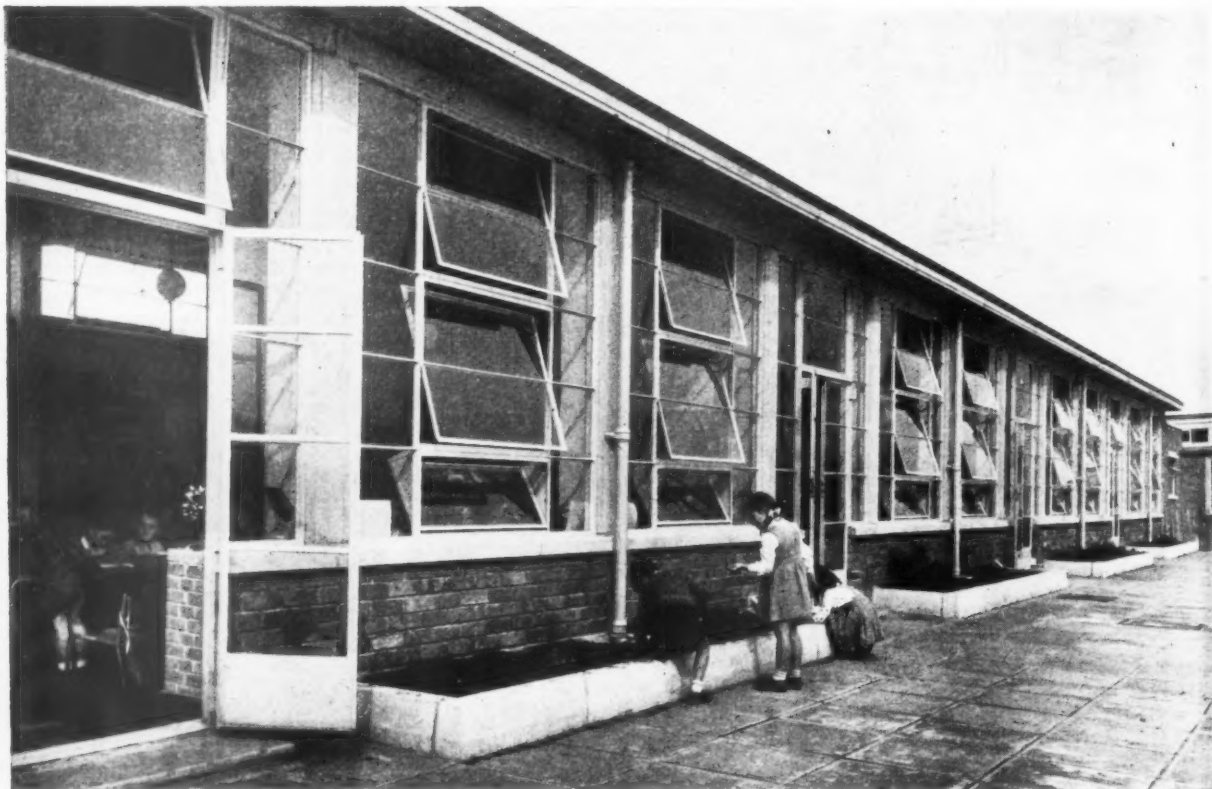
SCHOOL

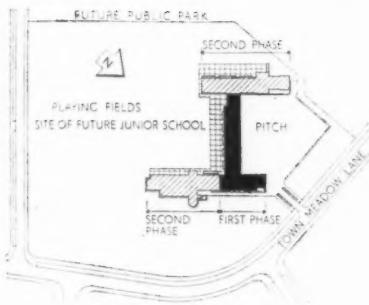
at MORETON, CHESHIRE

designed by W. B. CLAYTON, BOROUGH ARCHITECT, WALLASEY

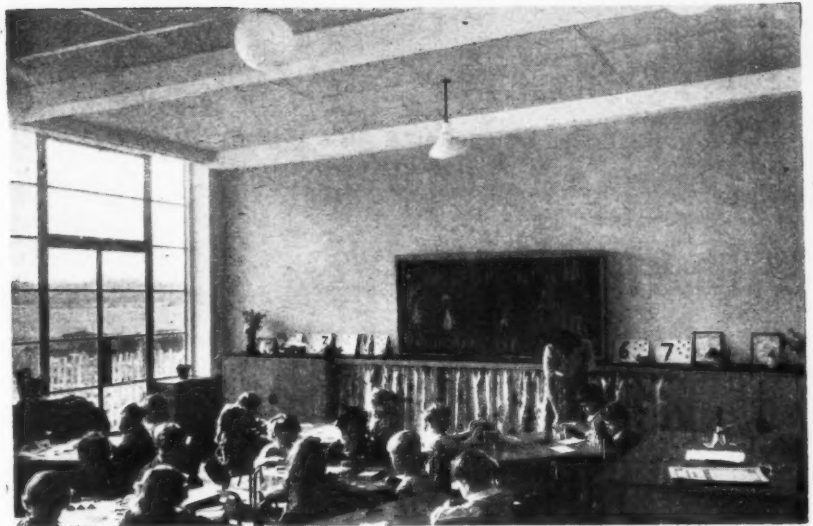
The Lingham County Primary Infants' School is the first post-war school for the Borough of Wallasey and is designed to accommodate the increase of children in the western area of the borough, where there has been rapid housing development. The area is at present served by a temporary wooden building erected in 1930, which will be released for use as a junior school. The new school provides accommodation for 200 infants and comprises 5 classrooms, cloakrooms, lavatories, store room, teachers' workroom and boiler house. Work is now proceeding on the second stage, comprising assembly hall, dining room, kitchen, staff room and additional classrooms and cloakrooms. A new Junior Mixed School will eventually be erected on the southern part of the site which is at present used for playing fields.

Classrooms seen from the terrace used for open air teaching.





Site plan



Above, typical classroom interior. Below, the classroom corridor, which has a ceiling of spray painted wood wool slabs.

SITE.—Owing to the shape of the 6-acre site, which has a curved frontage and a general level below that of the road, the building has been set well back.

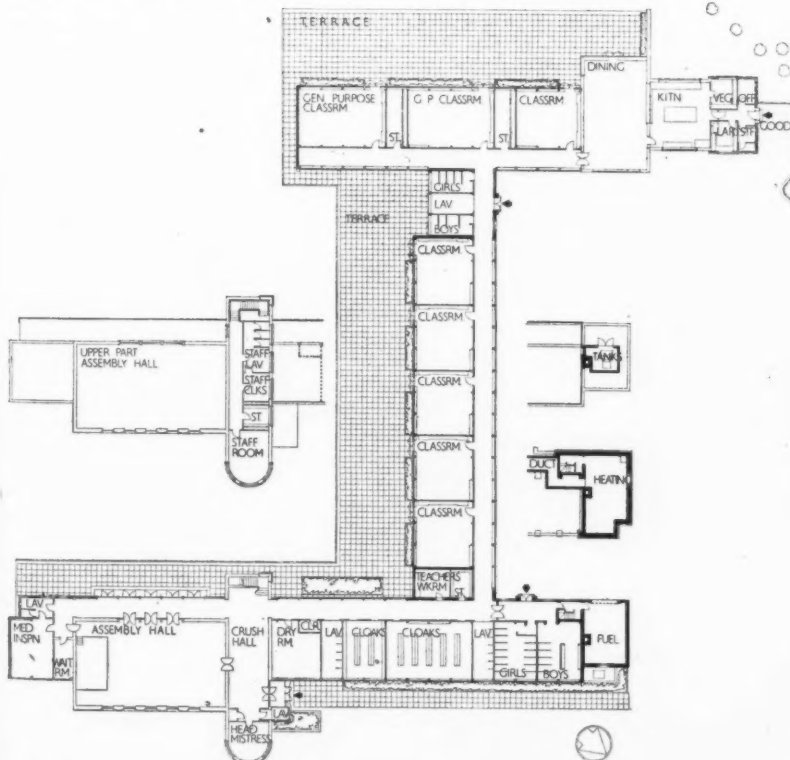
PLAN.—The classrooms face south on to a paved terrace for teaching in the open air. Washbasins and w.c.'s are provided at each end of the building.

CONSTRUCTION.—The light rolled steel welded frame has an outer cladding of rustic facing bricks and an internal skin of common bricks forming cavity walls. An additional skin of 2-in. buff coloured facing bricks to window cill height has been added internally to classroom and corridor external walls. This enables the venetian blinds to be fixed at a sufficient distance from the window frames to allow the windows to be open while the blinds are in use. The rolled steel stanchions are cast in

precast concrete. Floors are of 5-in. concrete on hardcore filling.

FINISHES.—Cills, mullions and window heads are of artificial stone and the windows are metal sashes. The 4½-in. brick partition walls are plastered and the internal decorations are in light pastel shades, each classroom having a different colour scheme. Floor finishes are of a non-magnesite composition in classrooms, linoleum in corridors, plastic tiles in cloakrooms and quarry tiles in w.c.'s. The contract price for the first stage was £25,299 and the estimated cost of the completed school, excluding dining room and kitchen, £50,000.

The general contractors are The H.G.B. Construction Co. (Liverpool), Ltd. For list of sub-contractors, see page 472.



Plan

[Scale: 1/4" = 1'0"]

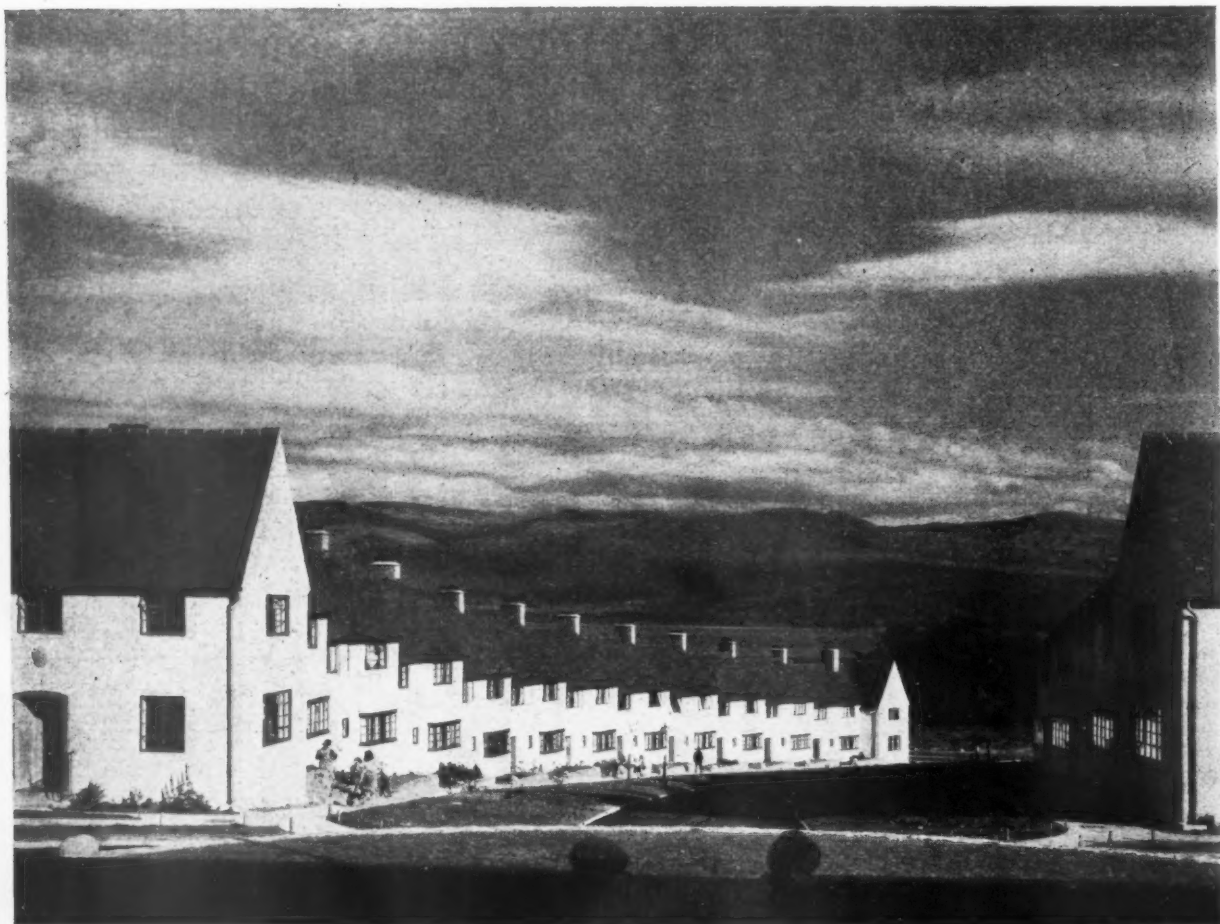


HOUSING

at BEAUMARIS, ANGLESEY
designed by S. COLWYN FOULKES

As it is almost invariably necessary in Wales to build on a hill, the conventional pairs of houses 12 ft. apart are inordinately expensive in foundations and a satisfactory grouping of the individual units, when separated in pairs, is almost impossible. What is suitable for the flat counties of England is wholly inappropriate to the conditions encountered in Wales, and this group of 70 houses has been constructed on a typical, steeply sloping, site.

Type A terrace houses, looking south-east.



DESIGN DATA | TRANSPORT | COMMERCIAL VEHICLES

4.E2

The Architects' Journal Library of Information Sheets 265. Editor: Cotterell Butler, A.R.I.B.A.

COMMERCIAL VEHICLES : TURNING CIRCLES AND CHASSIS DIMENSIONS

All dimensions given in this selected list are in feet to the nearest six inches above the manufacturer's size.

Make and Model	Turning Circle Dia. (ft.)	Chassis Length (ft.)	Chassis Width (ft.)
Ambulances			
Austin Welfarer K8	39	15.5	6.5
Karrier Ambulance	45	15.5	6
Goods Carrying Vehicles			
A.E.C.			
3451 Monarch	55	23	7.5
3472 Matador	55	23	7.5
3671 Mammoth	62	28	7.5
3871 Mammoth	69	30	7.5
Albion			
FT. 21	36	16.5	7.5
FT. 23	36	16.5	7.5
FT. 3A	45	19	7.5
FT. 35 Clansman	45	19.5	7.5
FT. 37 Chieftain	45	19.5	7.5
CX. 3A	50	23.5	7.5
CX. 5A	65	28	7.5
CX. 7A	72	30.5	7.5
Atkinson			
L. 644	46	22	7
S. 744	50	18	7.5
L. 744	55	23.5	7.5
L. 745	55	23.5	7.5
S. 1266	55	21.5	7.5
M. 1266	65	28.5	7.5
L. 1586	75	29.5	7.5
Austin			
25-cwt. 3-way van (K8) ..	40	15.5	6.5
2-ton (K2)	53	17	6.5
5-ton L.W.B. (K4)	54	19.5	6.5
Tipper 5-ton S.W.B. (K4) ..	38	15	6.5
A40 van G.V.2	38	13.5	5.5
Bedford			
PCV 10/12 cwt.	48.5	14	5.5
KZ 30 cwt.	43	16.5	6.5
MSZ 2 3/4 ton short	43	16.5	6.5
OSAZ 3/4 ton short	39	16	7
OSBZ 5 ton short	42	16	7
Commer			
8-cwt. Supervan	33	13.5	5.5
25-cwt. Superpoise	44	16	6
25-cwt. F.C.	42	15.5	6
2 3/4-ton Superpoise short ..	38	17.5	7
.. .. long	47	20.5	7
3 1/4-ton Superpoise short ..	38	17.5	7
.. .. long	47	21	7
4 1/2-ton Superpoise short ..	46	17.5	7.5
.. .. long	50	22.5	7.5
5-ton F.C.	47	21	7.5
7-ton F.C.	47	21	7.5
6 1/2-ton F.C. tipper short ..	40	16.5	7.5
.. .. long	42	16.5	7.5
Dennis			
Pax short	36	17.5	7
.. long	50	22.5	7
Horla	34	16	7
Max	48.5	18.5	7.5
Jubilant	65	30	7.5
Dragon	35	15	7.5
E.R.F.			
LK 44	51	21	7
44	56	24	7.5
54	56	24	7.5
64	56	24	7.5
56 TS	68	26	7.5
56	68	28	7.5
66	68	28	7.5
68	74	30	7.5
Foden			
FG. 4 7 1/2	52	23	7.5
FG. 5 7 1/2	52	23	7.5
FG. 6/7	52	23	7.5
FG. 6/12	64	27.5	7.5
FG. 6/15	76	30	7.5
Fordson			
Fordson 5-cwt.	35	11.5	5
Fordson 10-cwt.	36	13.5	5.5
Thames 2-ton	45	17	7
Thames 3-ton	45	17	7
Thames 4-ton	45	17	7
Thames 5-ton	45	17	7
Sussex	51.5	20.5	7
Guy			
Wolf	58	20	7
Vixen	58	20	7
Otter	58	20	7
Jensen			
JLC	61	27.5	7.5
JEN-TUG Articulated	22.5	20	6.5
Jowett			
CB van	34	12	5
Karrier			
2-ton Bantam	30	16	6.5
3/4-ton CK3 short	33.5	18	7
.. .. long	39.5	20	7
Leyland			
15 S1	70	25.5	7.5
19 H1	60	27	7.5
22-0/1	68	30	7.5
CO 1	60	21.5	7
CP 1	60	21.5	7
12 B/1	57	24	7.5
Maudslay			
Mogul Mk. II	54	23	7.5
Mustang	82	25.5	7.5
Maharane	31	14	7.5
Maharajah	73	26	7.5
Meritor	73	30	7.5
Militant Mk. II	54	23	7.5

4.E2 COMMERCIAL VEHICLES : TURNING CIRCLES AND CHASSIS DIMENSIONS

Make and Model	Turning Circle Dia. (ft.)	Chassis Length (ft.)	Chassis Width (ft.)
Morris			
10-cwt. van, series "Y" ..	32	13	5.5
5-cwt. van, series "Z" ..	34	11.5	5
Morris-Commercial			
PV	36	13.5	6
LC	40	16	6
FV 12/5	53	21	7
FVO 12/5	53	21	7
Scammell			
R8	75	30	7.5
ART. 8 articulated	45	33	7.5
20-ton articulated	55	40	7.5
Scarab 6-ton articulated	31	24	7.5
Scarab 3-ton articulated	28	23	6.5
Seddon Diesel			
Mk. 5L	54	21.5	7
Mk. 5S 10 tipper	40	15.5	7
Thornycroft			
Nippy	45	17	7
Sturdy Star	56	21.5	7
Sturdy Two Star	56	21.5	7.5
Trident	56	21.5	7.5
Trusty 6/7-ton	66	27	7.5
Trusty 11/12-ton	70	30	7.5
Trusty 14/15-ton	70	30	7.5
Trojan			
15	36	13	6
Vulcan			
6 VF	55	21.5	7
6 PF	55	21.5	7
Gulley Emptiers			
Karrier			
CK 3	33	20	7
Industrial General Purpose			
Rover			
Land-Rover	33	11	5.5
Refuse Collectors (Electric)			
N.C.B.			
4/5-ton	46	21	3
Refuse Collectors (Petrol and Heavy Oil)			
Karrier			
2-ton Bantam	30	16	6.5
3/4-ton CK3 short	33.5	18	7
" " long	39.5	20	7
Pagefield			
Prodigy (Barrier)	46	19	7
Paragon	46	21.5	7
QM	50	19	7.5
Road Haulage Tractors			
Bedford			
OSS articulated tractor	39	14.5	7
David Brown			
Taskmaster	10 rad.	9.5	6
Heavy	14 rad.	12	6.5
Commer			
8-ton articulated short	38	16.5	7
" " long	38	17.5	7
Dennis			
Dragon	35	15	7.5
Guy			
Otter	48	17.5	7
Karrier			
Bantam J-type articulated	25	12.5	6
Bantam BK-type articulated	25	14	6
Leyland			
CO/3	40	15.5	7
CP/3	40	15.5	7
12 B/7	38	14.5	7.5
Seddon Diesel			
Mk. 5S9/2	34	14.5	7.5
Unipower			
Forestry or road haulage	40	15.5	7.5
Taxicabs			
Austin			
FX3	25	14.5	8
Wolseley			
Oxford	25	14	5.5

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I.A.2

The Architects' Journal Library of Information Sheets 266. Editor: Cottrell Butler, A.R.I.B.A.

ARCHITECTURAL PHOTOGRAPHY

This Sheet sets out general recommendations for architectural photography for the guidance of architects. Sheet 1.A3 sets out a fault-finding chart giving photographic examples of faults, together with their diagnosis and remedy. The practising architect wishing to take photographs of buildings rarely has the time or facilities for taking round with him the bulky equipment carried by a professional architectural photographer: the following description of apparatus, therefore, is of the minimum required for practical purposes.

Choice of Camera

Size: The size of plate selected depends on the purpose for which the final picture is to be used, but generally speaking the smallest practical size is $3\frac{1}{2}$ in. by $2\frac{1}{2}$ in. to ensure best results.

Types: The camera may be a "field" type, a folding plate, or single-lens reflex type, but in any case *it must be fitted with a rising front* to enable the full height of a building to be included in the picture without tilting the camera. Other movements, such as swing front and back, are extremely useful refinements for architectural work but are not essential. Unlike twin lens reflexes, single lens reflex cameras are available with rising front and provision for the use of plates or cut film.

The "field" type camera, using plates or cut film, is to be preferred by the serious worker owing to its great versatility, but the image must be focused under a black cloth on the screen and although single exposures may be made the weight of slide holders is far greater than roll film and loading has to be carried out in darkness or in a rather inconvenient "loading bag." Plate cameras in general involve more paraphernalia and are slow to use. With a reflex the image can be seen on the ground glass screen up to the instant of exposure, but since architectural subjects are usually static, this advantage is negligible.

The "field" camera includes provision for interchangeable lenses, and a great variety of movements which will be described later. Short focus wide angle lenses or telephoto lenses may be attached in a moment. Reflex cameras cannot use wide angle lenses owing to the space occupied by the reflecting mirror.

In spite of the foregoing special consideration of the twin lens reflex camera taking roll film is worth while. In this type of camera one lens is used for actually forming the picture image, and the other for throwing the image on to a ground glass screen, where it is composed and focused. Such a camera will do excellent work provided that the limitations of the instrument are fully appreciated. Since there is no rising front care must be taken that the camera is held perfectly level or the vertical lines in a building will converge towards the top of the picture. With such cameras it frequently happens that in order to include the full height of a building, without tilting the camera, the exposure must be made from a considerable distance. This will give a large expanse of uninteresting foreground but since it can be cropped in the printing this is no great disadvantage.

These cameras are fitted with a 7.5 cm. lens as standard and other lenses cannot be used.

Although with careful handling and development remarkably fine results may be obtained, 35 mm. cameras should not be selected except for very general

record work. The very small negative size, and eye-level operation are their chief disadvantages for serious architectural work.

Eye-level roll film cameras are not to be recommended because of the difficulty of composing a picture with the eye screwed up to a tiny window.

Lenses

Cameras are generally fitted by the makers with a "normal" lens, that is one in which the focal length is not less than the diagonal of the plate. Thus a $3\frac{1}{2}$ in. by $2\frac{1}{2}$ in. camera has a "normal" lens of $4\frac{1}{2}$ in. or $4\frac{1}{2}$ in. as standard. Lenses of shorter or longer focal length are termed wide angle or telephoto lenses according to whether they record more or less of the subject on the negative. Wide angle lenses should be used with extreme caution, as promiscuous use of them will give bad distortion, objects in the immediate foreground being recorded too large in relation to more distant objects. Telephoto lenses have the opposite effect and tend to flatten the perspective.

A hood should always be used over the lens to prevent stray light reflecting off the surface and causing "glare" on the negative.

Shutters

Most cameras are fitted by the makers with a shutter of the leaf type. These give a range of speeds from 1 second to 1/500 second depending on the make. The most useful speeds are those from 1 to 1/25 second; for architectural subjects high speeds are seldom, if ever, used.

It is well to have an untried shutter tested by a reliable instrument maker for speed and consistency before purchase because frequently the marked speeds are very different from the actual speeds. Some of the older types which are worked pneumatically are unreliable and should be avoided.

Most single lens reflex cameras and some plate cameras of the press type are fitted with focal plane shutters. These should be thoroughly tested to see that the blind travels across the plate at a continuous speed. If, as sometimes happens, there is acceleration at the beginning or end of its travel the negative will be unevenly exposed and trouble will arise in printing.

Tripods

Whatever type of camera is chosen a tripod should be used for all exposures. A really strong tripod is almost as essential as the camera itself and it is sheer waste of money to purchase a flimsy one simply because it is convenient to carry about. It must give a perfectly rigid support without any risk of movement when the plate holder is being inserted or when the release trigger is pressed.

Negative Material

For all subjects where a correct monochrome rendering of bricks, trees, sky, etc. is required, medium speed *panchromatic* plate or film should be used. High speed plates are unnecessary; unless great care is exercised in processing the negatives will be very grainy.

Developers

It is well known that certain developers tend to make the grain in the emulsion clump together more than

1.A2 ARCHITECTURAL PHOTOGRAPHY

others. Others, by the addition of certain chemicals, avoid this and produce finer grain. Generally speaking these latter fine grain developers should be used wherever possible. All the well-known makers produce excellent fine grain developers and satisfactory results can be obtained provided that their instructions are followed carefully. One thing to remember is that once a developer has been found which consistently gives the results required, it should always be used. Chopping and changing from one brand of developer to another will never produce consistent negatives. When ordering photographs to be developed always ask for fine grain development.

Exposure

Modern negative materials possess considerable latitude so that under or over-exposed negatives can still produce passable prints, but for first class results accurate exposure is essential. For this purpose there are many calculators and meters on the market ranging from a few shillings to many pounds. An acceptable set of tables is provided by B.S. 935:1948 *Photographic Exposure Tables*. Undoubtedly a photo-electric meter is by far the quickest and most reliable, but good results have been obtained with a calculator. No meter or calculator will give the exact exposure simply by reading off the figure indicated on the dial. Common sense must be used as well and, generally speaking, a reading midway between the highest and lowest reading will give a passable result. Practice is the only way to become proficient in the use of an exposure meter whether it is photo-electric or a simple calculator.

Filters

Filters can be used over the lens to produce certain effects. Thus the use of a red filter reduces blues and intensifies reds, producing very dark skies, and bringing up the textures of red brickwork. Greens appear very dark with a red filter. A red filter can only be used with panchromatic material. Orthochromatic film is "blind" to red.

Yellow filters perform the same function but to a lesser degree, and may also be used with orthochromatic negative material.

Whatever filters are used some increase in exposure is necessary. A red filter may require an increase of from six to ten times, while a yellow may only require from $1\frac{1}{2}$ to 4, depending on the strength of the filter and the negative material being used. The makers' instructions as to the exact filter factor should be consulted and trial shots made before using a filter for any important work.

Lighting

For outdoor work sun is essential for good architectural photographs. It should be preferably behind and somewhat to one side of the camera to obtain the best results. Direct frontal lighting is flat and uninteresting when translated into monochrome. Backlighting can produce dramatic effects provided that there is an interesting skyline.

Interiors can be photographed with natural light

provided that the windows admit sufficient light, but generally speaking photofloods are required to lighten the shadows. Flash bulbs can be used for this purpose but as control is very difficult much practice is required before good results can be relied upon. When taking a photograph of a room which includes a window care must be taken to see that the light outside the window is not too bright or halation will appear round the edges. Exposures of this type are best made on a grey day or late in the evening, when photofloods can be switched on inside the room to balance the light outside. An exposure meter is essential for interior work, particularly when daylight and tungsten light is mixed. There are too many variable factors such as the colour of walls, carpets, furnishings, etc., to make any generalisation possible.

Models

The remarks which apply to general architectural photography are equally applicable to model photography. The lights should be placed to simulate natural lighting as closely as possible. Two lights are used: one, the modelling light, should be placed so as to cast a shadow at approximately 45° , and the second, or "fill-in" light, placed near the camera. This will illuminate the shadows and prevent a soot and whitewash effect. Again, an exposure meter is essential for best results although, once the correct exposure has been determined for a given arrangement of lights, duplication of this arrangement or calculation from this basis on other models will produce satisfactory results.

Refinements on Cameras

Swinging front: This is chiefly used for photographing models at close quarters. By swinging the lens panel forward objects in the immediate foreground and distance are brought into the same focus without stopping down the lens aperture to too great an extent. With some lenses, when the rising front is used to its full extent, the top corners of the picture are cut off. This may be rectified by swinging the lens panel back. The aperture must be stopped down very drastically, however, to secure sharp focus over the whole negative area.

Swinging back: When the full height of a building cannot be included on the negative without tilting the camera, even when using a rising front, the camera may be tilted and the back swung to an upright position again. As long as the negative is vertical the lines in the picture will be vertical. The front swing must then be adjusted to secure sharp focus.

Lateral swing back: The lateral swing may be used for securing sharp focus when photographing a building obliquely at close quarters. The back must be swung so that the side of the picture which represents the lesser distance between the camera and object is at a greater distance from the lens than the other side. This refinement may be used alone or in conjunction with the vertical swing and front swing. After a little practice, it will be found that by combining back and front swings, sharp focus can be obtained over large areas without resorting to stopping down.

PLAN.—The conditions of the site affect the type of house plan chosen. It is much less expensive to build the houses in a row and thereby a unity is attained in the composition as a whole. This method eliminates the necessity for a back road or for the wasteful, and often unsightly, passages between every other house, thus ensuring complete privacy in the gardens at the rear of each house.

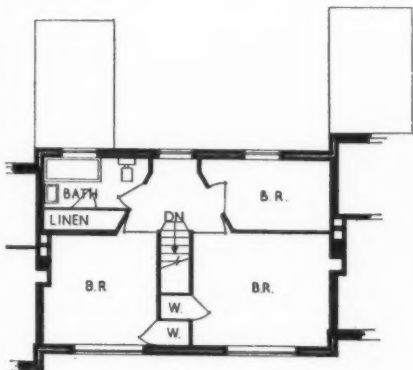
CONSTRUCTION.—The 11¼-in. cavity walls are constructed of cement bricks of local manufacture and the roofs are covered with Welsh slates.

FINISHES.—The walls are covered with two coats of cement and pebble-dashed. The level row at the top of the site is colour washed white, and where the houses climb up the contours they are coloured alternately pink, white, blue and cream.

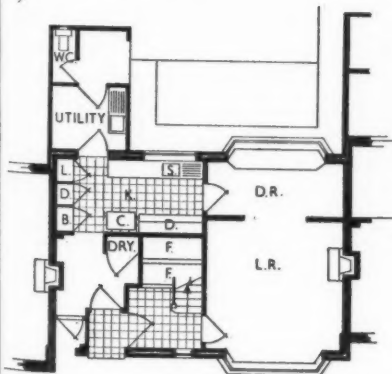
The general contractors were Messrs. John Hughes (Contractors), Ltd.



Site plan

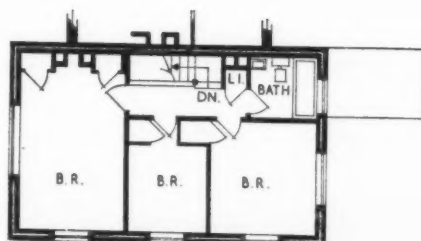


Type A first floor plan

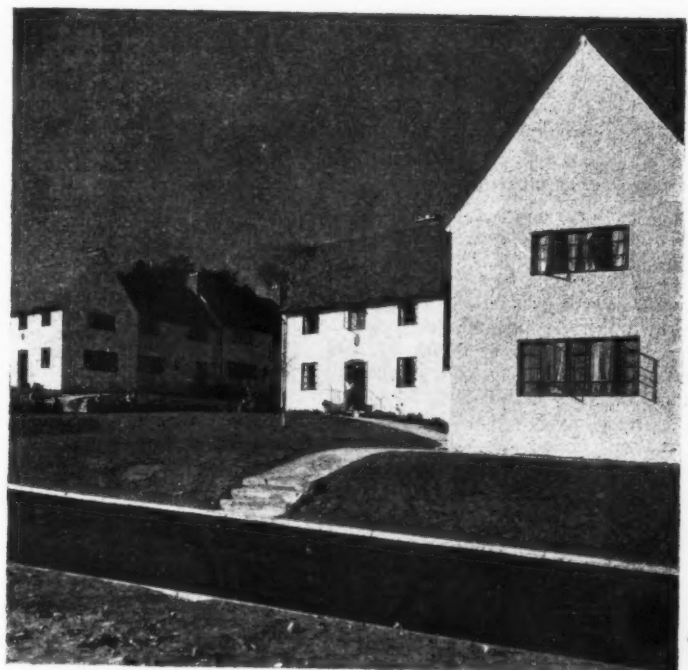


Ground floor plan [Scale: 1/8" = 1'0"]

- KEY:**
- B Brush cupboard
 - C Cooker (hot storage)
 - D Dry goods
 - F Fuel
 - L Larder
 - LI Linen cupboard
 - S Sink
 - W Wardrobe

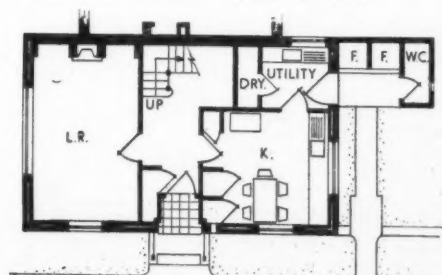


Type B first floor plan



The south-west corner of the site showing type B houses.

Ground floor plan [Scale: 1/8" = 1'0"]



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QUESTIONS AND ANSWERS • CURRENT TECHNIQUE
THE INDUSTRY • PRICES • TECHNICAL ARTICLES

TECHNICAL SECTION

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

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12.41 materials: metal

ANODIZING ALUMINIUM

Anodic Oxidation Finishes for Aluminium and Aluminium Alloys. (BS 1615:1949. British Standards Institution. 3s.)

Methods of testing; performance requirements; no standardization of details of process by which required film is produced. Characteristics covered by British Standard are: Thickness of anodic coating; reflection factors; resistance to abrasion; fastness to light. Work on corrosion resistance still proceeding. Mainly of value to manufacturers.

23.122 heating and ventilation HEATING COSTS

Study in Comparative Costs of District Heating and Gas and Electric Heating. Dr. Geoffrey E. Foxwell. (The Municipal Journal, Nov. 25, 1949. 1s.)

Comparison between district heating, and heating and hot water supply by gas and electricity.

Much has been said and written about district heating in the past few years; not always by those well informed. This article, by Dr. Foxwell, the well-known expert on gas, is intended to show how other methods of distributing heat may be better value both from the point of view of economy and efficiency. Many of the points raised are controversial, and not everyone will agree with them; but the main object of the article appears to be the laudable one of stressing the necessity, where district heating is being considered, of going very carefully into the claims of other heat sources—gas, solid fuel, and electricity—before coming to any decision.

The author states that the gas and electrical industries are not basically opposed to district heating, but insist that, before another public utility is introduced, a very

careful inquiry into costs should be made; they claim that the existing public utilities can supply heat and hot water to the same standards, at less cost in money and coal, and with at least equal effectiveness.

Many people of importance in national and local government seem to start with the premise that district heating is the most desirable; the author's object is to give, as impartially as possible, the contrary considerations.

Of these, the first is cost; no properly audited accounts for a district heating scheme, including all expenditure, have been published. Capital cost is frequently above that estimated; two cases recently show that in the one the cost was 36 per cent. and in the other 210 per cent. above that estimated. As far as running costs were concerned, the charges made in Dundee of 5s. 6d. for a two-roomed and 6s. 6d. for a three-roomed apartment had recently been stated to be insufficient to meet running costs. There are other charges in addition, and it is unfair on others to expect them to subsidize those who are supplied with district heat.

In America, the capital cost of district heating is higher than that of individual systems, and deficits on running costs, in the case of low-cost housing, are met by the Federal Government.

Again, one cannot cook a meal by district heating; gas and electricity must still be brought into the house. If the district heating is used to provide background heat only, one or the other of these will have to be used for "topping up." This would involve the carrying of the steady, paying base load by the district system, while the others carried the occasional peak, a most unsatisfactory state which could only result in the raising of the price of these heat sources.

The author very properly stresses the importance of proper insulation of houses, whatever method of heating is used. In America, insulation plays a large part in enabling a high standard of heating to be maintained; 70° F. throughout the house is the usual practice. There is no reason why it should not be attained here, by gas or electricity, as well as by district heating. The estimate of heat requirement for a small house was shown, in the Abbot's Langley experiment, to be of the order of 700 therms annually, a figure considerably exceeding previous estimates; plans for district heating schemes would have to be amended accordingly.

District heating means less work for the housewife, when compared with solid fuel; it does not mean less when compared with electricity or gas. It means less atmospheric pollution when the alternative is burning bituminous coal; it does not mean less when compared with the use of electricity, gas or coke.

Of the claim that district heating is a source of economy in the use of coal, Dr. Foxwell states that the Institution of Gas Engineers has computed that it would be possible for individual appliances using solid fuel, gas or electricity to supply the same general standard of heat for the expenditure of less fuel. The claim is therefore not necessarily well founded.

One great source of heat loss is wastage by the consumer. Gas and electricity are metered, and coal and coke weighed, with considerable accuracy, as laid down by Act of Parliament. Heat can be metered, but the equipment is costly and less reliable.

Where supplies of hot water are unlimited, great wastage takes place; a weekly figure of 500 gallons per household is quoted. The use of "restrictive" calorifiers helps to overcome this, but adds greatly to the capital cost.

In view of the foregoing, it is suggested that all proposed district heating schemes should be examined with the greatest care and submitted, before acceptance, to independent investigation by a fuel technologist.

Such an article, by a scientist who is foremost in his own line, certainly deserves consideration. While one cannot but agree with many of the statements, there are some which at least need further explanation.

The suggestion that as or electricity can be made to give "whole house" heating as economically—in terms of money—as district heating must come as a surprise; it is likely to be challenged by the district heating enthusiasts, and it would be valuable to have the figures on which the statement is based. Those available from the Abbot's Langley trials do not, of course, cover district heating, but they give something of a guide. For whole house heating, hot water and cooking, over one year, including amortization allowance, gas cost £37, electricity £37, and solid fuel £28. One estimate recently published for the weekly cost of full house heating and hot water supply by district heating is 9s. 4d. for a normal 1,000 sq. ft. house. Allowing 2s. 6d. on this for cooking, we find 11s. 10d., or about £31 per annum. In fairness to the latter, it should be remembered that the cost of the other three sources of heat has advanced by some 15 per cent. since the figures were computed, while the estimate for the district heating system has gone up very considerably because conditions precluded the installation of the larger and more efficient system originally proposed.

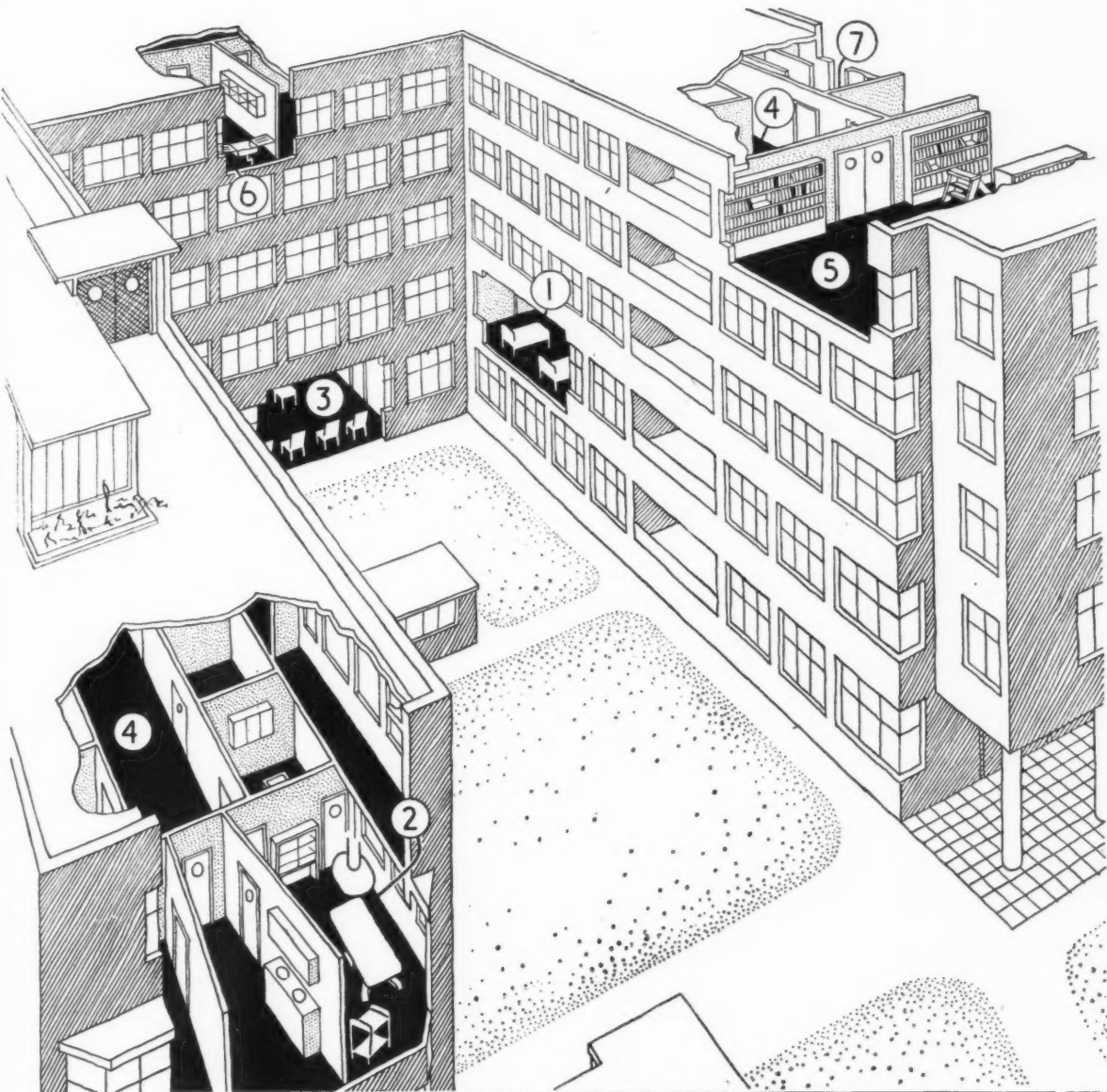
On this basis, the figures are as follows:—

1. Solid fuel (anthracite) boiler for heat and hot water; electric cooker £32
2. Gas heating (fires and convector); gas cooker; solid fuel (coke) water heater £42 10s.
3. Electric heating (fires and tubular heaters); electric cooker; solid fuel water heater £42 10s.
4. District heating for heat and water; gas or electric cooker ... £31

All exceed the suggested maximum weekly amount which should be paid by a lower-wage worker for heat, hot water and cooking—£20 to £25—and the question must arise whether he can in fact afford the comparative luxury of whole-house heating by any means.

For anything less than whole-house heating, district heating is not economic, and, for the reasons stated in the article, the use of gas or electricity for topping up in severe weather is unsound. The statement that it is necessary to have gas and electricity where district heating is used, since one cannot cook, light, clean or listen by district heating, may cause comment. Certainly, electricity has become essential; few would wish to go back even to gas lighting nowadays, and to operate a radio or vacuum cleaner by gas, though not scientifically impossible, is scarcely likely to commend itself to the user. So, having brought electricity into the district-heated house for one purpose, we may as well use it for all and cut out the gas altogether; the more so since both heat and power may come from the same station, with great advantage in thermal efficiency.

A most important point in connection with the cost of district heating is planning. In a compact, high-density scheme, especially one embodying terrace houses and blocks of flats, such heating may prove highly economical; in a spread-out scheme of semi-detached houses, it will doubtless prove less economical than its rivals, and here, indeed, is the place for their use.



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The table on right indicates the principal floor finishes which are in normal circumstances available for consideration for various parts of a hospital. In any particular instance, special factors might weigh in favour of one or other of the alternatives shown. Semtex Ltd. is equipped to advise on all floor finishing problems, and to undertake contracts for all the finishes mentioned other than terrazzo or wood block.

(The information panel has been prepared without prejudice to any special claims made by manufacturers of the materials listed.)


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2. OPERATING THEATRES	*†	—	*†	—	*	—	—
3. WAITING ROOMS	*	*	*	*	—	—	*
4. CORRIDORS	*	*	*	*	*	—	*
5. LIBRARIES	*	—	*	*	—	—	*
6. KITCHENS	*†	*	—	—	*	*	—
7. DISPENSARIES & LAVATORIES	*†	—	—	—	*	*	—

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The figure quoted for the unrestricted use of hot water—500 gallons per week per household—is very high. American experience showed a consumption of 30 gallons per day where heat was paid for, and 50 where it was free. It is believed that the high figure quoted was taken from a scheme where a commercial laundry was provided with free hot water from the system for the use of the residents. But these, like the good Scots they are, invited their friends from all over the town to come to make use of the facilities provided. Certainly, "restrictive" calorifiers add to the cost; but one wonders if the addition is "enormous." And one wonders, also, what will be the outcome of Swindon's experiment with water meters. Perhaps they will prove more reliable than Dr. Foxwell fears.

But upon one point all will agree with him: in general, the saving to be effected by district heating is marginal, if, indeed, there is one; and it is essential, in view of the high capital cost of such a system, that it should receive the closest scrutiny before a decision about it is made.

23.123 heating and ventilation NEW DISTRICT HEATING SCHEME

New English District Heating Scheme. Robert J. D. Powdrill. (The Surveyor, Nov. 25, 1949, 6d.)

Description of new district heating scheme for Swindon housing scheme.

Since district heating is much in the public eye at the moment, and much that has been written, both for and against it, is based on theoretical considerations only, or on installations abroad where conditions may be different, a description of an actual scheme in this country, and of its economics, may be of interest.

The author of this paper commences by summarising the advantages of district heating when compared with our traditional methods of heating by open fire. The latter consumed, before the war, some five tons of high grade coal a year per household, with an efficiency of 15-25 per cent., and gave but intermittent heat to one room only, with some cooking and water heating. District heating could give full house heating and constant hot water for less consumption of low grade fuel. In addition, the housewife is relieved of the dirt and labour of tending the fire, there will be less cleaning and less frequent re-decoration. Hot water will always be available and laundry and clothing bills reduced. Atmospheric pollution will be reduced: there will be a saving by elimination of door-to-door fuel delivery and ash collection. A saving in house building costs is possible, if chimneys are omitted: the cost of purchasing and maintaining winter woollies may be avoided.

A system which gives such advantages will, however, only be feasible if it can be provided at a weekly cost within the range of the working man's pocket. In this respect, each scheme must be examined on its merits: a compact scheme with a high load factor is more likely to be successful than a scheme supplying smaller numbers of scattered dwellings.

At Swindon, the proposal to install district heating in the neighbourhood unit at Moredon was first considered in 1947. Originally it was intended to include 1,535 dwellings, and ancillary buildings, covering 190 acres, and 38 acres of light industry. Adjoining the site is the electrical generating station—then belonging to the corporation—while on a nearby site, a fifty-ton per day refuse destructor was proposed. The following estimates of weekly cost per dwelling were made:—

- (1) Supplying Heat from independent Boiler House: 6s. 10½d.

- (2) Supplying Heat from spare boiler capacity in Power Station: 6s. 5d.

- (3) As above, but using waste heat boiler on Destructor in addition: 6s. 1d.

Eventually, it was proposed to rebuild the generating station, with back pressure or pass-out turbines to supply the heat. This would give an overall efficiency of 85 per cent. for combined heat/electric output, compared with less than 30 per cent. for electrical generation only. In addition, it was proposed to use methane from a sewage works adjoining: the daily amount available would be 30,000 cu. ft. per day, with a calorific value of 650 B.Th.U's./cu. ft. The charges shown include for heating seventeen hours per day during the winter months, to the following temperatures, even in severe weather:—

Living Rooms:	60°-62°F.
Kitchen:	58°F.
Bedrooms:	52°F.

They also provide for a constant supply of hot water, all the year round, at a temperature of 130°F.-140°F.: 30 gallons per day is allowed in the inclusive charge; all above this is charged at 7d. for 100 gallons extra. The charges were based on 1947 costs: increases since then would have raised the cost to some 6s. 9d. per dwelling per week for the full scheme.

Unfortunately, for economic reasons, the destructor cannot be built yet, and the BEA has taken over the generating station and finds itself unable to supply the steam: the industrial area has yet to be developed. In consequence, it is necessary to provide the heat for two groups of dwellings—134 and 280, the latter with three schools, from two boiler houses. The weekly charge will now be of the order of 9s. 4d.

Here, the author points out the prime importance of planning in the economies of a district heating scheme: to this end, the collaboration of architect, town planner and engineer must be complete from the outset. He envisages the heating station at the thermal centre of the site, with the larger public buildings grouped near to it and the industrial buildings also arranged nearby: the dwellings, with their lighter load, being planned further out. Dwellings should be in compact groups, with open space concentrated in large units. Terrace houses and blocks of flats included in the site make for economy in heat losses from the distribution system. Proper insulation of the houses is essential.

In the new scheme, two boiler plants are used. Welded mild steel sectional boilers are installed, with underfeed stokers designed to burn low grade fuel, such as coke breeze. At peak loads, output can be increased by mixing coke and small coal. Storage calorifiers for domestic hot water are provided at the heating stations. The boilers will normally operate at about 230°F., with a pressure of 20-50 lb. per sq. in. A modulator valve is used to control heating flow water temperature, operated by a pilot compensator, which varies the temperature according to weather conditions. In normal circumstances, a flow temperature of about 180°F. is used, with return 140°F. Domestic hot water is stored at 150°F.

Four-pipe transmission with three-pipe distribution is used. Heating pipes are mild steel, class B, with oxy-acetylene welded butt joints. Copper pipes are used for domestic hot water distribution, with bronze welded joints. For the hot water circuits in the houses, copper tube is used. An interesting experiment is the use for one section of 7-in. diameter asbestos cement pressure pipe, suitable for a pressure of 260 lb. per sq. in. All mains are tested to 100 lb. per sq. in. for one hour. Pipes are laid to falls, with drain cocks at the lowest points, and automatic air vents where necessary. An original system of duct construction is adopted, based on American practice. It is

most important that the ducts should be watertight, to prevent infiltration of ground water: at the same time, they must be economical to construct. After experiment, the system evolved is the use of a 4 in. *in situ* concrete base, with 4-in. precast, lightly reinforced slabs as walls, bedded in water-proofed cement mortar in rebates formed in the base to receive them. The cover is cast *in situ*, and is lipped and weathered. Joints between slab and slab are double rebated and made in cement mortar. Tests are carried out from time to time, by sealing off a length of duct and filling with water; so far, no leakage has occurred in any test. Agricultural pipes are laid beneath the base, where ground water is expected, and taken to a suitable outfall. For the main transmission, the cover slab is usually 1 ft. 6 in. below ground: for distribution, at ground level, or just below.

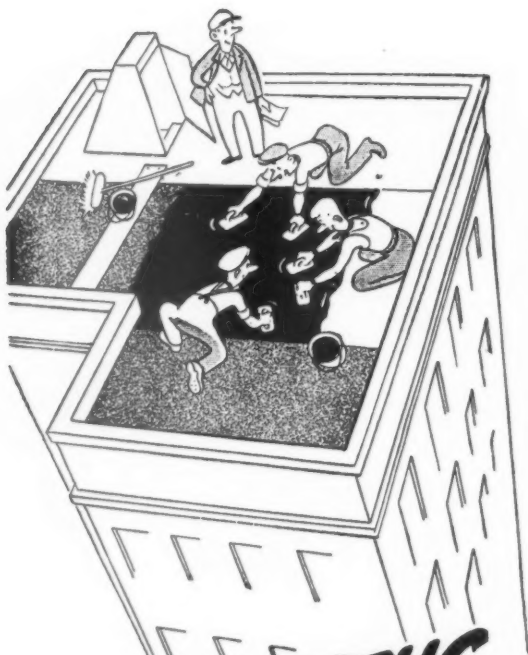
The question of pipe insulation is of great importance. The requirements are:—

- (1) Low thermal conductivity.
- (2) Easily applied to the pipes.
- (3) Ability to resist weather or other deteriorating conditions.
- (4) Sufficient strength to support *in situ* slab, where this construction is used.

Cellular concrete was chosen as it possesses these properties. The specification called for thermal conductivity not exceeding 0.50 B.T.U. per sq. ft. per 1-in. thickness per 1°F., with minimum compressive strength of 60 lb. per sq. in. at 28 days: against the American requirement of $K=60$ and strength 45 lb. at 28 days. Aerated concrete, produced by a new Proprietor process fulfilled these conditions. This concrete, produced by means of a special foam compound in a rapidly revolving mixer, weighs 20 lb./cu. ft., and was found to vary by no more than a few ounces throughout the work. This represents a considerable advance on American aerated concrete, which was stated to depend largely on "the skill or whim of the operator." 4 in. above, and 3 in. below and beside the pipes is allowed as the minimum. Pipes are oiled before the concrete is placed, to permit thermal movement.

Local Authorities already possess powers to permit district heating installations in their area. The BEA is under a statutory obligation to investigate the subject of district heating, and is empowered to assist in its provision: in the author's opinion, wherever conditions seem suitable, the possibilities of its installation should be thoroughly investigated.

On this paper, one observation must be made. It is on the ever-present source of worry: Cost. It has been suggested that 10s. per week is the most which should be paid per week, by the lower-paid worker, for heat, hot water and cooking. Of this, some 2s. 6d. would be accounted for by the cooking, leaving 7s. 6d. for heat and hot water. If this could be provided at 6s. 7d. as originally intended, then the cost comes within the maximum, with a fair margin: but if the heat and hot water alone are to cost 9s. 4d., then there will be a considerable excess, when the 2s. 6d. is added: the total being some £31 per annum. This may be compared with £32 for solid fuel central heating, £42 10s. for gas, and £42 10s. for electricity in the Abbots Langley trials; the interest on the cost of installation being in each case included. There has been some increase in cost since the publication of these results: to obtain an accurate comparison, therefore, some 10 per cent. must be added. There is a strong prejudice, amongst working-class folk, to anything which involves a considerable fixed charge, by way of extra rent, for any service. Local appliances are under his control: he can spend more or less money on heat, as his circumstances permit. With district heating, he has to pay, whether he can afford the heat or not.



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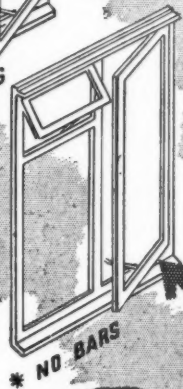
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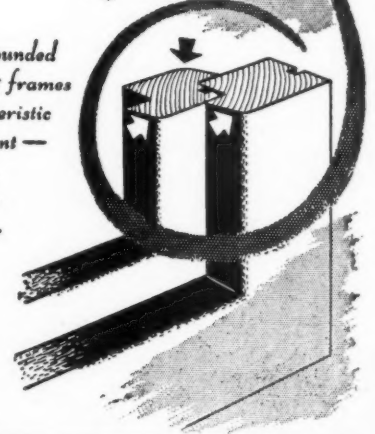


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THE INDUSTRY

IDENTIFYING ALUMINIUM ALLOYS

The BSI has now revised its specifications for aluminium alloys suitable for general engineering purposes and has brought both the cast and wrought alloys into a single system of nomenclature. In the past there have been the old BS numbers, the DTD specifications evolved by the Air Ministry's Directorate of Technical Development, and thus widely used in the aircraft industry, and the Services Schedule of Non Ferrous Metals and Alloys which are usually known as the STA/7 specifications.

The Aluminium Development Association, in a praiseworthy attempt to sort out some of the confusion, has prepared a wall chart which gives the new BS specification numbers and relates them to the old DTD, STA/7 and previous BS specifications, and at the same time gives the percentage compositions of the major constituents of the various alloys.

From the architects' point of view, however, it must not be forgotten that nearly all the firms producing aluminium alloys have reference letters of their own which may or may not conform to the specifications set out above. At least one firm of producers has been sensible enough to publish a list comparing its own alloys not only with the nationally accepted specifications but with the alloys produced by other manufacturers, a useful piece of work which will now presumably have to be revised in the light of the new BSS.

The list of alloys is, of course, pretty formidable and many of them are not really concerned with building industry applications. In selecting an alloy it is still probably true to say that the simplest and most satisfactory method is to tell the manufacturer the conditions in which it will be used and to accept his advice. He will probably use his own references, perhaps the BS ones as well: either way you ought to get the right alloy for the job. This may sound a sloppy or defeatist line to take, but there are far too many alloys in current production for the architect to be justified

in trying to keep up with them. (*The Aluminium Development Association, 33, Grosvenor Street, London, W.1.*)

ALUMINIUM FOR FLASHINGS

British Aluminium are now offering super purity (99.99 per cent.) aluminium as a material for flashings, weatherings and gutter linings. The requirements for an alternative to the more usual lead, zinc or copper are exacting in that it must compare favourably with them in durability, and must be sufficiently soft or ductile, and at the same time be competitive in price. It must not demand any serious changes in building practice and must have the required degree of workability. With these points in mind the building industry has made considerable progress with the use of commercial purity aluminium of 99.0 per cent. 99.7 per cent. purity for flashings. However, the general adoption of normal commercial purity for flashings and weatherings has been hampered by a certain lack of ductility in comparison with lead.

To overcome this problem and to maintain the development of uses of aluminium in the building industry, British Aluminium have installed extensive production facilities for super purity sheet, which is now available in substantial quantities. This super purity metal has a remarkably high measure of ductility and in this respect compares favourably with lead. Super purity aluminium is not a new metal, but it has only recently been made available on the general market in considerable quantities. Production had started before the war but upon the outbreak of hostilities the limited amounts then available were mainly restricted to the manufacture of reflectors for the services. Since the war British Aluminium have developed large scale production of this metal and have devoted the output of one of its Norwegian factories to the manufacture of super purity ingot. Under present conditions super purity metal thus has the advantage of being drawn from sterling area sources. It is now freely available and combines its greater durability and much improved ductility with a much slower rate of work hardening than commercial purity aluminium. It can be worked close to shape in a way that is much nearer to lead than other non-ferrous metals.

22 swg super purity aluminium, as recom-

mended for flashings, costs less than both copper and zinc, and gauge for gauge is only one-third the price of lead commonly employed for this work. So far as corrosion resistance is concerned, commercial purity aluminium is known to last in sheet form for at least 50 to 60 years from examples of existing roofs, and super-purity should have an even longer life. The only precautions to be taken in fixing is to use aluminium or heavily galvanized nails and clips and to avoid any form of fastening which contains copper. Similarly, rainwater from copper roofs should not be allowed to run off on to aluminium. Washings from aluminium are not harmful to other metals, and will not stain other materials.

For flashings and weatherings, super-purity is supplied in 56 to 80 lb. rolls in widths up to 30 in. and with a thickness of 0.028 in. (22 gauge). Wider strip and heavier gauges are available, but it is suggested that 22 gauge should be a minimum thickness. (*The British Aluminium Co. Ltd., Salisbury House, London Wall, London, E.C.2.*)

FIXING STEEL DOOR FRAMES

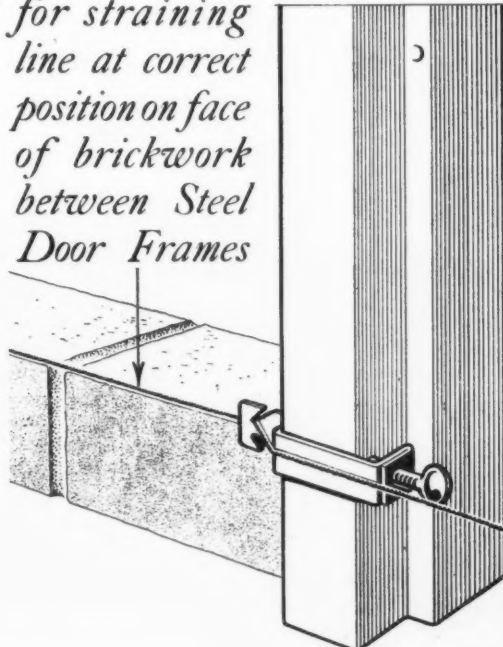
Steel door frames are supplied complete for building in, and there are no loose architraves to be cut and fitted afterwards. It is normal practice to set up the frames and build them into the brickwork, and this saves time and labour on the site, but owing to the fact that the steel frame projects beyond the face of the brickwork it is often difficult for the bricklayer to line his work through between two or more frames. To overcome this difficulty Hope's have just introduced a line guide, illustrated on this page, which they are prepared to supply, free of charge, to all builders who apply for it.

The guide consists of a steel clamp, notched on one side to take the line, while on the other side there is a thumbscrew for fastening it on to the door frame, the notched side of the clamp being joggled so that the line is brought in to the face of the brickwork. A simple and apparently effective device. (*Henry Hope & Sons Ltd., Smethwick, Birmingham 40.*)

PRESSED STEEL RADIATORS

I have just received some details of Dimplex pressed steel steam and hot water radiators, which are light in weight, about 17 lb. per 10 sq. ft. of radiating surface,

for straining line at correct position on face of brickwork between Steel Door Frames



Above, super purity aluminium as a gutter lining. Right, Hope's fixed steel door frame.

and are rustproofed inside and out. Double and treble sections are produced by welding the standard 10 sq. ft. unit; larger assemblies are produced by coupling extra units as required. The radiating surfaces are smooth and easy to clean, and are finished in stove enamel, the standard colour being beige, but with alternative colours to order. With the standard fixing brackets the total projection from the wall is just under 3 in., while the height is 26½ in.

The makers also produce a modified version of this radiator, which is filled with a special low-expansion oil and has an electric heating element, thermostatically controlled, at the foot. This is suggested as suitable for space heating at the rate of 1 kW. per thousand cubic feet, each half-kilowatt of heating consisting of a single 10 sq. ft. unit of the type described above. The thermostat has an excess temperature cut-out which operates if the radiator should become too hot or be completely covered with clothing or such things as blankets. Small articles can be placed on it for airing, and this overload device can be reset by push button. Price of the 1-kW. unit is £13 10s., plus £9 17s. 5d. purchase tax. (*Habin Ltd., High Street, Totton, Hants.*)

Buildings Illustrated

Approved School, Skegby, Nottinghamshire. (Page 453.) Architect: E. W. Roberts, F.R.I.B.A., County Architect. General contractor: H. Baggeley & Sons Ltd. Sub-contractors: Demolition, excavation, foundations, dampcourses, joinery, H. Baggeley & Sons Ltd.; asphalt, the Val de Travers Paving Co. Ltd.; pre-cast concrete floor

slabs, Concrete Ltd.; bricks, Nottingham Patent Brick Co. Ltd.; stone, stonework, Gregory Quarries Ltd.; artificial stone, Evans Bros. (Concrete) Ltd.; structural steel, George Sands & Sons Ltd.; glass, plumbing, Robert Howarth Ltd.; woodblock flooring, patent flooring, Hollis Bros. Ltd.; central heating, John Hughes & Co.; cooking equipment, Crypto Ltd.; boilers, Beeston Boiler Co. Ltd.; electric wiring, electric light fixtures, electric heating, H. W. Bower Ltd.; sanitary fittings, Doulton & Co. Ltd.; door furniture, Wing & Webb Ltd.; casements, window furniture, Crittall Manufacturing Co. Ltd.; painting and decorating, Borley & Storey Ltd.

House at Kingston, Surrey. (Pages 460-463.) Architects: Tayler and Green A.F.R.I.B.A. General contractors: H. Firth & Co. Fletton bricks, London Brick Co.; yellow stock bricks, Eastwoods, Ltd.; porch roof, Frazzi Ltd.; roof covering, Asbestos Cement Co.; windows, Williams & Williams Ltd.; steelwork, Dorman Long & Co.; steel reinforcement, B.R.C. Engineering Co.; asphalt tanking, Permanite Ltd.; bath and basin, Ideal Boilers and Radiators Ltd.; insulating board, Celotex Ltd.; wc suite, John Boldring & Sons; electrical and metalwork, Alfred Imhof Ltd.; door furniture, Dryad Metal Works; blinds, J. Avery & Co.; water heater, Aidas Electric Ltd.; interior furnishing, Heal & Son, Bentalls Ltd., Edinburgh Weavers, Dunns of Bromley, Troughton & Young; folding doors, Westland Engineers Ltd.. Garden.—General contractors: L. H. S. Ellis Ltd. Plants, Hillier & Sons; paving, Neolite Ltd.; name plates, Supersine Co.; gate, Wellington Tube Works Ltd.

School at Moreton, Cheshire. (Pages 464-465.) Architects: W. P. Clayton, A.R.I.B.A., Borough Architect, and C. A. Caven, A.R.I.B.A., Deputy Borough Architect.

Assistants: E. A. Morgan, A.R.I.B.A., G. C. Dovey and L. Taylor. Quantity Surveyors: W. M. Law & Son, of Liverpool. Consulting Heating Engineers: Ernest Griffiths & Son, of Bromborough. General Contractor: The HGB Construction (Liverpool) Ltd. Sub-contractors: Asphalt, J. H. Bradshaw Ltd.; bricks, Buckley Junction Metallic Brick Co. Ltd.; artificial stone and concrete roof units, Ferroconcrete (Lancashire) Ltd.; structural steel, Edward Wood & Co. Ltd.; special roofings, Wm. Briggs & Sons Ltd.; glazed partitions, James E. Beard & Co. Ltd.; flooring, The Granwood Flooring Co. Ltd.; cloakrooms, lavatories and patent flooring, Semtex Ltd.; central heating, C. Seward & Co. Ltd.; boilers, The Beeston Boiler Co. Ltd.; electric wiring, McBride & Nutall Ltd.; electric light fixtures, The General Electric Co. Ltd.; sanitary fittings, Rowe Bros. & Co. Ltd.; door furniture, Parker, Winder & Achurch Ltd.; casements, Rea Metal Casements (1932) Ltd.; folding gates, Haywards Ltd.; rolling shutters, Thornborough & Sons (Manchester) Ltd.; sunblinds, J. Avery & Co.; insulating board ceilings, Sundeala Board Co. Ltd.; flush doors, Yelverton Darnbarn Bros.; children's lockers and fixed furniture, Sotos Ltd.; playgrounds and bituminous paving, The Penmaenmawr & Trinidad Lake Asphalt Co. Ltd.; cloakroom fittings, Parker, Winder & Achurch Ltd.

Housing at Beaumaris, Anglesey. (Pages 466-467.) Architect: S. Colwyn Foulkes, M.A.R.C.H., F.R.I.B.A. General contractor: John Hughes (Contractors) Ltd. Sub-contractors: Concrete bricks, Penmaenmawr Welsh Granite Co.; glass, metal windows, etc., W. G. Kaleyards Ltd.; stoves, H.S. Cookers, Smith & Wellstood Ltd.; plumbing, R. Roughley & Sons Ltd.; sanitary fittings, James Payne; door furniture, Laidlaw & Thomson Ltd.; metalwork, Stainless Steel Sink Co. Ltd.

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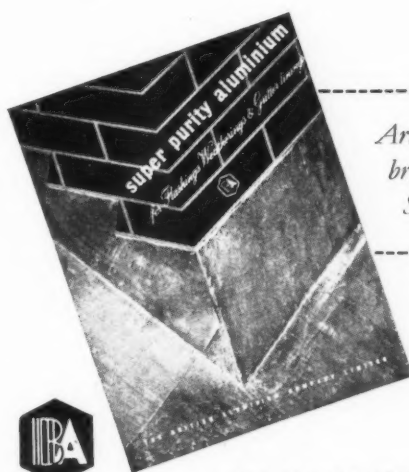
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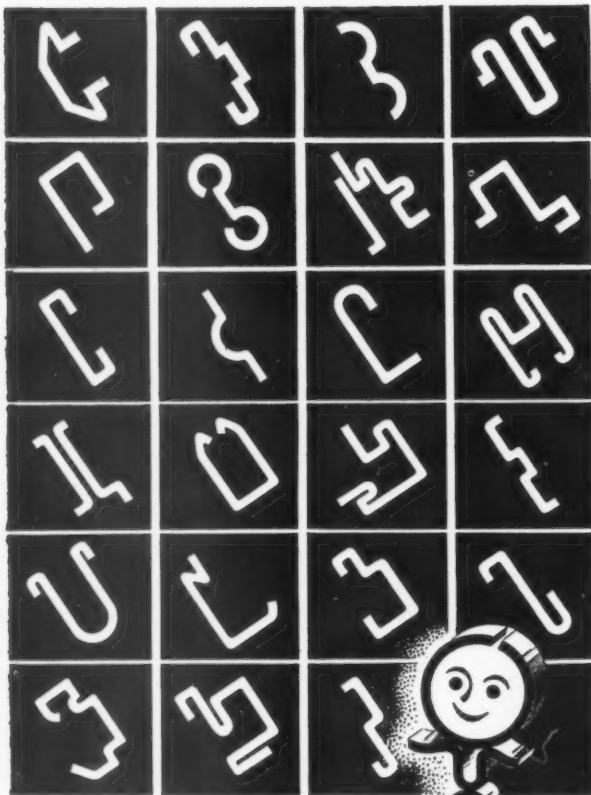
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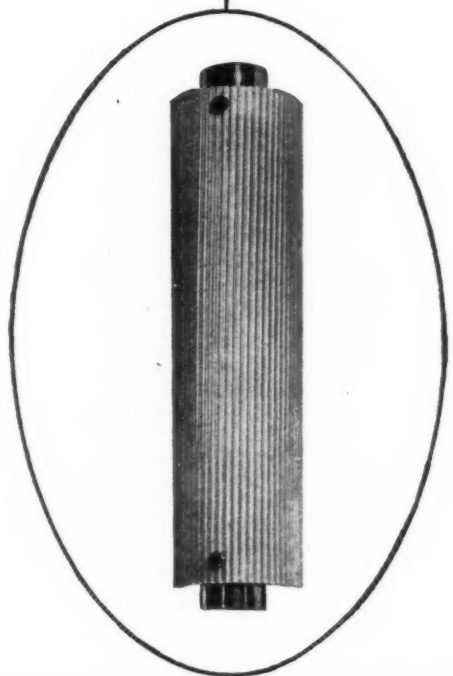
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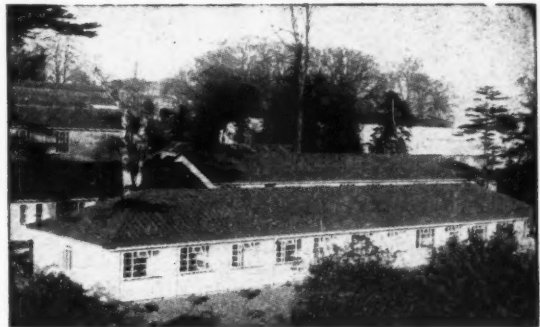
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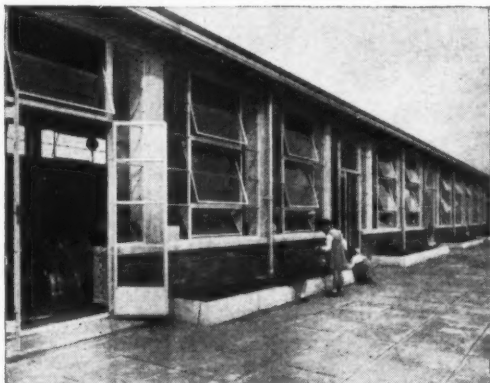
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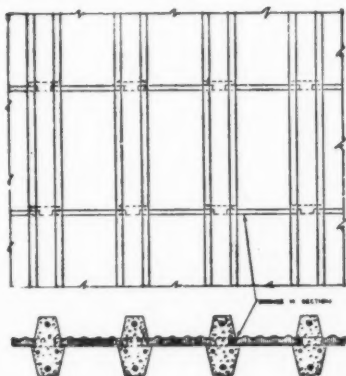
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		W. B. McKay · brickwork
		Philip Scholberg · light metals and plastics
		C. C. Handisyde · insulation

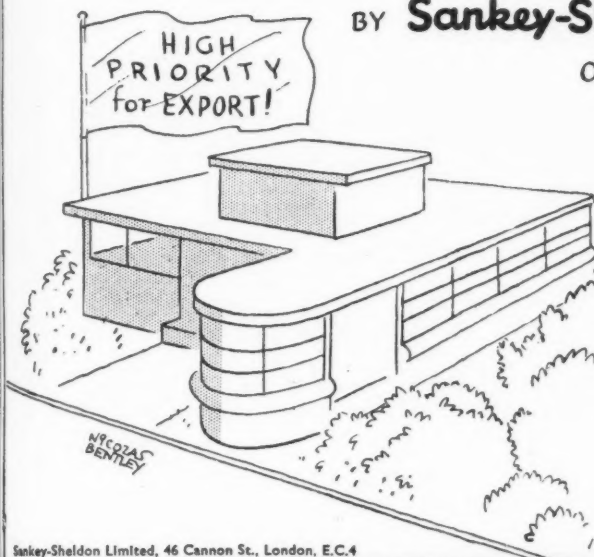
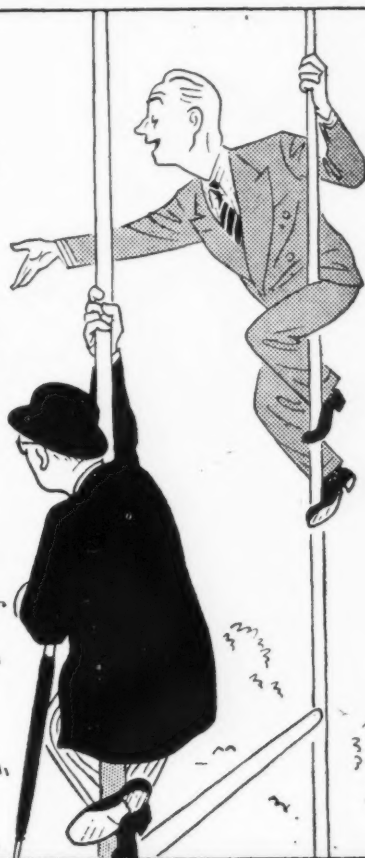
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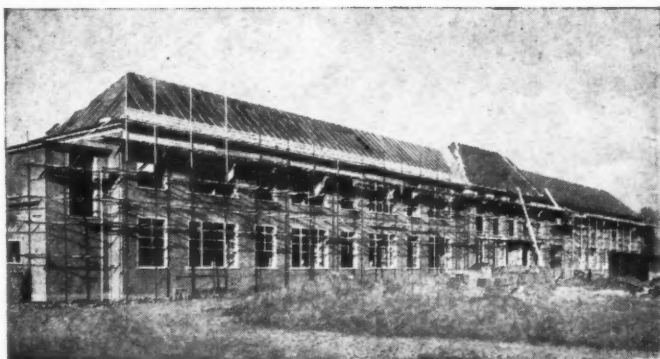


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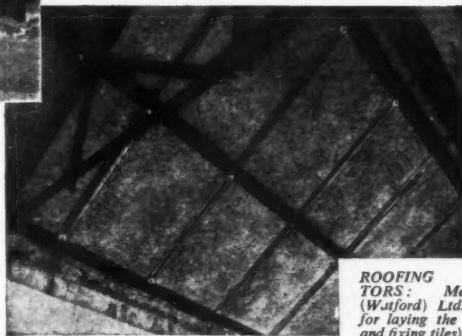
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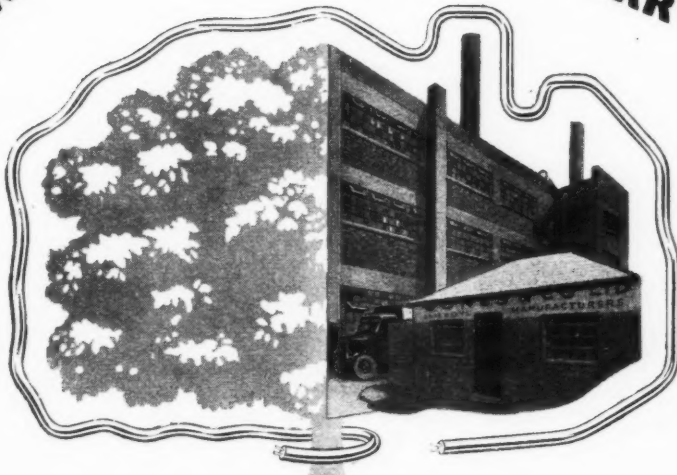
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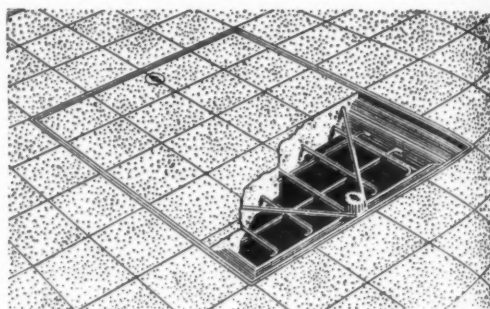
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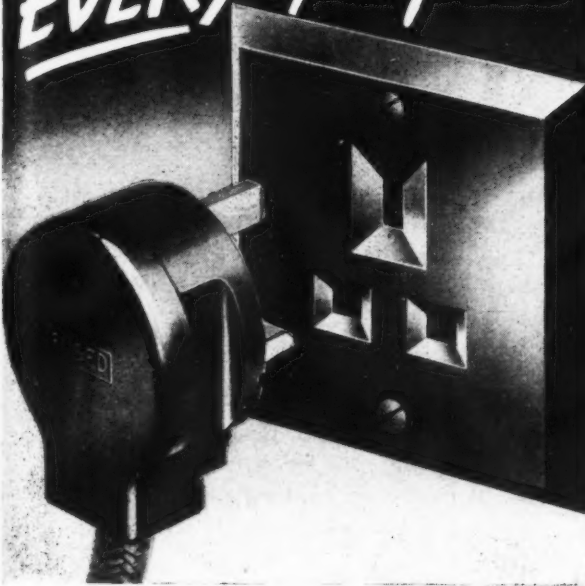
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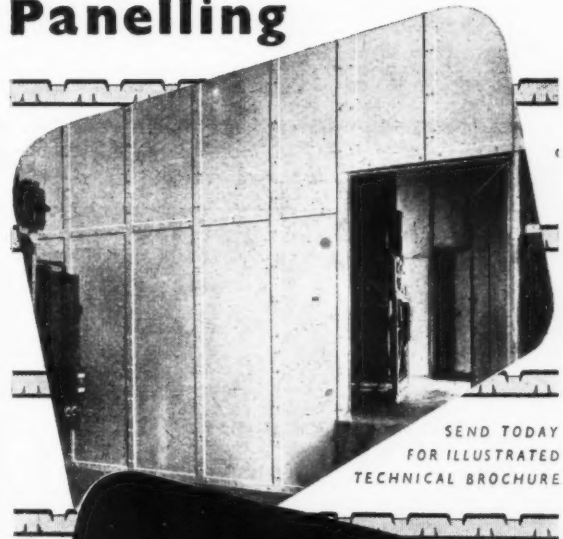
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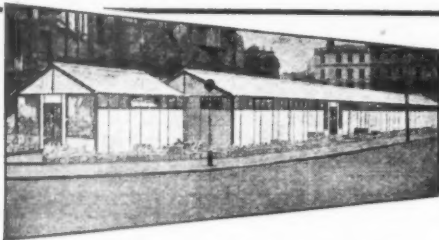
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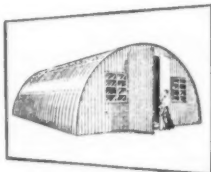
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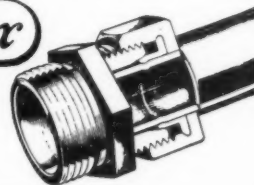
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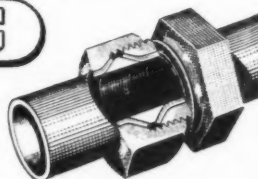
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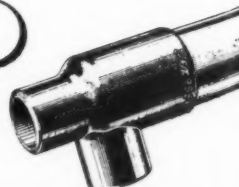
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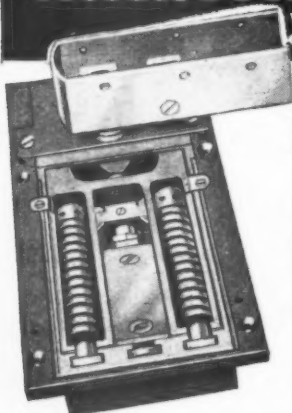
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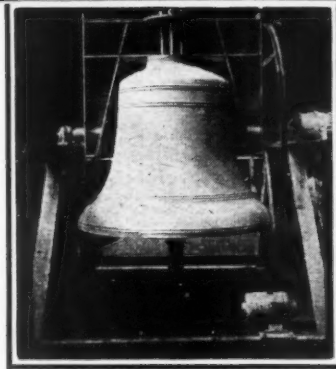
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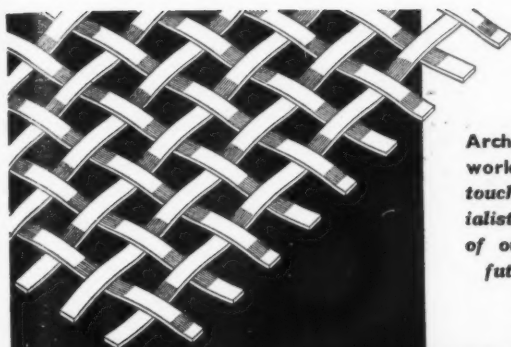
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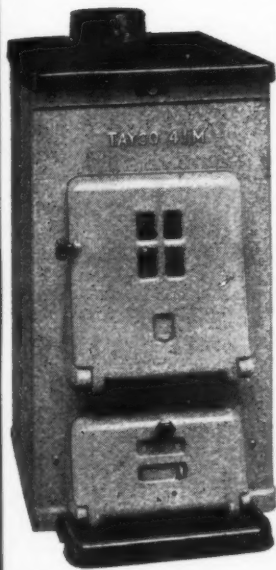


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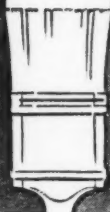
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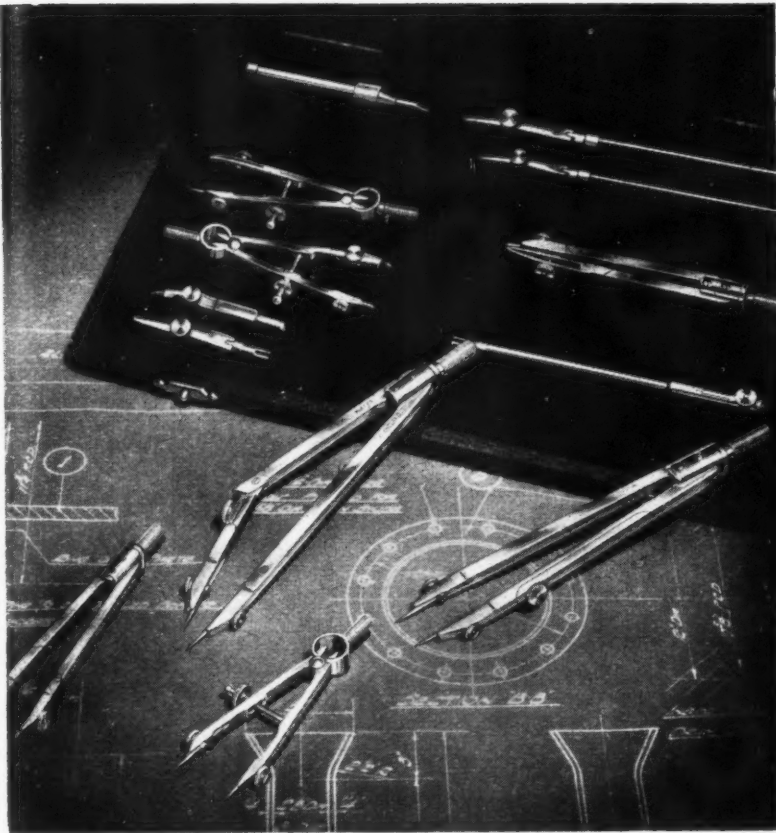
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Preference will be given to Associates of R.I.B.A. Applicants must have had a thorough training in architectural design and construction of modern school buildings and other works carried out by Local Authorities.

(c) ONE ASSISTANT ARCHITECT (salary A.P.T. Division, Grade V, £520-£570 per annum).

Preference will be given to Members of R.I.B.A. or Registered Architects. Applicants must have had sound experience in architectural design and in the preparation of working drawings, with full understanding of modern school construction.

(d) TWO JUNIOR ASSISTANT ARCHITECTS (salary A.P.T. Division, Grade III, £450-£495 per annum).

Preference will be given to applicants who have passed the Intermediate R.I.B.A. Examination. Applicants must be capable of preparing working drawings and details.

(e) ONE JUNIOR ASSISTANT ARCHITECT (salary A.P.T. Division, Grade II, £420-£465 per annum).

Preference will be given to applicants who are preparing for the Intermediate R.I.B.A. Examination. Applicants must be capable of preparing working drawings and details.

(f) ONE SPECIFICATION WRITER (salary A.P.T. Division, Grade IV, £480-£525 per annum).

Applicants must have had Architectural and Quantity Surveying experience and possess a thorough knowledge of current Building Practice and Materials. They must be fully capable of preparing detailed Specifications for Building and Painting Works of all descriptions in connection with Local Authority buildings, and be able to prepare inquiries and deal with Provisional Sum Items in connection with new building projects. The successful applicant will also be required to assist generally in the Quantity Surveyor's Department.

The above appointments will be subject to termination by one month's notice in writing on either side, and also to the provisions of the Local Government Superannuation Act, 1937. The successful applicants will be required to pass a medical examination and to reside in such place in the County as the County Council may direct.

Applications, giving age, qualifications, and particulars of present and previous appointments, together with a copy of one recent testimonial and the names and addresses of two referees, should be sent in a sealed envelope endorsed with a description of the post applied for, so as to reach me not later than the 28th April, 1950.

W. E. BUFTON,

Clerk of the County Council.

County Offices, Ruthin. 3931
28th March, 1950.

CITY OF CARDIFF

CITY SURVEYOR'S DEPARTMENT

APPOINTMENT OF QUANTITY SURVEYING ASSISTANTS

Applications are invited for the following appointments:—

(a) Quantity Surveying Assistant. A.P.T., Grade Va, £550-£610.

(b) Quantity Surveying Assistant. A.P.T., Grade I/II, £390-£465.

Preference will be given to applicants for appointment (a) who are Corporate Members of the Royal Institution of Chartered Surveyors.

The Council will assist in finding housing accommodation for successful applicants who are married and have children.

Details of Conditions and Duties may be obtained from the City Surveyor, City Hall, Cardiff.

Applications, endorsed "Quantity Surveying Assistant Grade " should be delivered to the undersigned not later than 10 a.m. on the 24th April, 1950.

S. TAPPER-JONES,

Town Clerk.

City Hall, Cardiff. 3962

NORTH THAMES GAS BOARD

Applications are invited for the following appointment in the Architects' Section of the Chief Engineer's Department of Westminster: SENIOR ARCHITECTURAL ASSISTANT, minimum starting salary £650 per annum.

Applicants, who must be Registered Architects and should be studying for or have passed the Final Examination of the R.I.B.A., should be capable of preparing working and detailed drawings and specifications, and supervising and controlling the work on contracts. Experience in design and planning of industrial buildings would be an advantage.

The appointment is of a permanent nature, and pension arrangements will be discussed with short list candidates.

Applications, stating age, qualifications and particulars of previous appointments held, must be submitted to the Staff Controller, North Thames Gas Board, 30, Kensington Church Street, London, W.8, quoting reference 9757. 3983

CORPORATION OF LONDON

APPOINTMENTS OF ARCHITECTURAL ASSISTANTS

AUXILIARY STAFF

Applications are invited for the following appointments:—

Sub-office, London Central Markets:

This appointment is in connection with the re-design and reconstruction of large buildings following war damage. Applicants require to have had good practical experience in the preparation of surveys, working drawings, 1 in. and full size details, with a sound knowledge of building construction and general office routine.

Sub-office, Central Criminal Court:

This appointment is in connection with the re-design and reconstruction of the Central Criminal Court following war damage, and applicants require to have had good experience in design and building construction, site supervision, and general office routine.

The salary in each case will be within the range of Higher Grade I, £400-£525-£625, and the commencing salary will be arranged according to qualifications and experience. Applicants should be Associate Members of the Royal Institute of British Architects, or Registered Architects, and should be between 30 and 35 years of age.

Principal Office:

The following Assistants are required in connection with general works concerning Corporation public buildings, properties and estates. These appointments require good general experience in design, building construction, specification writing, contract supervision and site management, with good business ability.

One Assistant within the range of Higher Grade I, £400-£525-£625, according to age and experience, age 30 to 35 years. Applicants should be either Associate Members of the Royal Institute of British Architects or the Royal Institution of Chartered Surveyors.

One Assistant within the range of General Grade, £375-£420-£475, according to age and experience, age 25 to 30 years. Applicants should have had good office experience and have passed or be preparing for either Intermediate R.I.B.A. or R.I.C.S. Examinations.

Appointed officers will be required to pass a medical examination and to contribute to the Superannuation Fund of the Corporation.

Applications, giving full personal details, particulars of qualifications, experience, age, past and present appointments, and the names of two persons to whom reference may be made, should be sent to the City Surveyor, Corporation of London, 55-61, Moorgate, London, E.C.2, not later than 29th April, 1950. 3946

ADMINISTRATIVE COUNTIES OF EAST AND WEST SUFFOLK

COUNTY PLANNING DEPARTMENT

Applications are invited for the appointment of CHIEF PLANNING ASSISTANT in the County Planning Department.

The salary will be within Grade VII (£635-£710 per annum) of the National Joint Council's Scales, with scale allowance for use of motor car; and will be determinable by one month's notice on either side.

Candidates must possess a Degree or Diploma in Architecture or have passed the Final Examination of the Royal Institution of British Architects. Preference will be given to those who are also Members of the Town Planning Institute.

The successful applicant will be attached to the Development Plan Section, and extensive experience in the detailed planning of residential, industrial and central areas is essential. Applications, stating age, qualifications, experience, present and past appointments, present salary, and giving the names and addresses of two referees, to be delivered to the County Planning Officer, County Hall, Ipswich, not later than Saturday, morning, the 22nd April, 1950.

Canvassing, directly or indirectly, will disqualify.

G. C. LIGHTFOOT,

Clerk of the County Council.

County Hall, Ipswich. 3962
30th March, 1950.

GLOUCESTERSHIRE COUNTY COUNCIL

COUNTY ARCHITECT'S DEPARTMENT

Applications are invited for the appointment of ASSISTANT ARCHITECT (Senior Leader), on A.P. and T., Grade VIII (£685-£760), in the above Department.

The successful applicant will be in charge of a section of the County and will be responsible for all work carried out in that section.

Applicants should be Associate Members of the R.I.B.A. and have wide experience in projects usually dealt with by a County Council, i.e., Education, Police, etc.

Appointments will be subject to the Local Government Superannuation Act, 1937, and candidates before appointment will be required to pass a medical examination.

The appointment will be terminable by one month's notice on either side.

Applications, stating (a) name and address, (b) married or single, (c) age, (d) qualifications, (e) present position, salary and date of appointment, (f) previous positions with dates and salaries, (g) particulars of experience, and accompanied by copies of two recent testimonials, together with names and addresses of two persons to whom reference may be made, should be sent to S. E. Urwin, F.R.I.B.A., County Architect, Shire Hall, Gloucester, not later than Wednesday, 19th April, 1950.

GUY H. DAVIS,

Clerk of the County Council.

31st March, 1950. 3964

LEEDS REGIONAL HOSPITAL BOARD.
Applications are invited for the post of ARCHITECTURAL ASSISTANT on the Headquarters Staff of the Board. Salary scale £450-£525. Commencing salary in accordance with experience.
Candidates must have experience of preparing details, working drawings and surveying buildings, and preferably have some experience of hospital construction.

The appointment will be subject to the National Health Service (Superannuation) Regulations, 1947/49, and in the case of a new entrant to the Service to the passing of a satisfactory medical examination.

Applications, stating age, qualifications and details of experience, together with the names of three referees, should be forwarded to the Secretary to the Board, 29/31, Eastgate, Leeds, 2, not later than Wednesday, the 19th April, 1950.

Canvassing in any form, either directly or indirectly, will disqualify. 3932

CITY OF PLYMOUTH.
CITY ARCHITECT'S DEPARTMENT.

APPOINTMENT OF QUANTITY SURVEYORS.
Applications are invited for the appointment of a Quantity Surveyor, A.P.T., Grade VI (£595-£660), on the established staff, subject to the Conditions of Service of the National Joint Council for Local Authorities' Administrative, Professional, Technical and Clerical Services, the Local Government Superannuation Act, 1937, and one month's notice on either side for termination. Applicants must be thoroughly experienced in all branches of the work of a Quantity Surveyor, and should be Corporate Members of the Royal Institution of Chartered Surveyors (Sub-division III, Quantities). The successful candidate will be required to pass a medical examination.

Applications, on forms obtainable from the undersigned, accompanied by copies of not more than three recent testimonials and/or names of persons to whom reference may be made, should be received at my office not later than Saturday, 29th April, 1950.

The Corporation may make housing accommodation available to the successful married candidate if required.

E. G. CATCHPOLE, A.R.I.B.A.,
City Architect. 3926
Seymour Road, Plymouth.

CITY AND COUNTY OF THE CITY OF EXETER.

Applications are invited for the appointment of ASSISTANT BUILDING INSPECTOR, on the permanent staff of the City Architect's Department. The salary will be in accordance with A.P.T., Grade III (£450, rising to £495 p.a.).

Applicants must be experienced in the work of a Building Inspector's Department of a Municipal Authority, including the inspection of plans, and the supervision of works in accordance with Building Bye-Laws, and other relevant regulations, and be competent to carry out any necessary structural calculations.

They should have passed the Building Inspector's Examination of a recognised professional body.

The appointment will be subject to one month's notice on either side and to the provisions of the Local Government Superannuation Act, 1937.

The successful applicant will be required to pass a medical examination.

Canvassing will disqualify, and candidates must disclose whether, to their knowledge, they are related to any member of the Council or to the holder of any senior office under the Council.

Applications, stating age, qualifications, previous and present appointments and salaries, full details of experience and the earliest possible date when available, together with copies of recent testimonials, should be sent to H. B. Rowe, F.R.I.B.A., A.M.I.Struct.E., City Architect, Municipal Offices, Exeter, not later than 21st April, 1950.

C. J. NEWMAN,
Town Clerk. 3940

Exeter, March, 1950.

CORPORATION OF GLASGOW.
HOUSING DEPARTMENT.

ASSISTANT ARCHITECTS.

Grade II Salary Scales: A.P.T. V, £520-£570; A.P.T. III, £450-£495; A.P.T. II, £420-£465.

Applications are invited for appointments to the Architectural Staff of the Department at salaries in accordance with the above scales. Placing on these scales will be according to age and experience.

An interesting and varied programme of work is envisaged, including site planning, neighbourhood layouts, modern cottages and residential flats of traditional construction, multi-storey flats and ancillary buildings.

Applicants should have passed the Final Examination of the Royal Institute of British Architects or should hold other equivalent qualifications.

The appointments will be to the Permanent Establishment of the Department, and are subject to the provisions of the Corporation's Superannuation Scheme. Successful applicants will require to pass a medical examination.

The appointments are terminable on either side by one month's notice in writing.

Applications, stating age, particulars of training, experience and qualifications should be addressed to the undersigned, and should be received within 14 days of the publication of this advertisement.

A. G. JURY,
Director of Housing. 3982
20, Trongate, Glasgow, C.I.

BRIGHTON EDUCATION COMMITTEE—
BRIGHTON TECHNICAL COLLEGE.

Principal: G. E. WATTS, M.A., Ph.D., F.R.I.C.
Applications invited from qualified Architects for appointment as LECTURER IN ARCHITECTURAL SUBJECTS in Civil Engineering and Building Department. Burnham Technical Scale of salary £380-£415-£635. Additional increments for approved training, professional or teaching experience and war service. Further particulars and forms of application obtainable from the undersigned to be returned to the Principal, Brighton Technical College, Brighton, 7, within 14 days.

W. G. STONE,
Education Officer. 3975
Education Office, 54, Old Steine, Brighton, 1.

IRLAM URBAN DISTRICT COUNCIL.
ARCHITECTURAL ASSISTANT.

Applications are invited for the appointment of Architectural Assistant in the Engineer and Surveyor's Department. Salary Grade IV-V, A.P.T. Division, National Joint Council Scale (£480 to £570). The commencing salary will be within the range of Grade IV, according to qualifications and experience. The appointment will be subject to:—

- (a) One month's notice in writing.
- (b) Local Government Superannuation Act, 1937.
- (c) Passing a medical examination.

Preference will be given to candidates holding recognised qualifications.

Housing accommodation will be provided if necessary.

Applications, stating age, qualifications and experience, and accompanied by copy of one recent testimonial and the names of two referees, should be received by the undersigned not later than 10 a.m. on Monday, 17th April, 1950.

EDWIN JONES,
Clerk of the Council. 3977
Council Offices, Irlam, near Manchester. 3rd April, 1950.

BOROUGH OF SHREWSBURY.
APPOINTMENT OF JUNIOR ARCHITECTURAL ASSISTANT.

Applications are invited for the appointment of a Junior Architectural Assistant on the Permanent Staff of the Borough Surveyor. Salary Grade A.P.T., I (£390 to £435 per annum).

Applicants must possess experience of Architectural Work and be good draughtsmen. Preference will be given to those who are Probationers of the R.I.B.A. or who are studying for an appropriate professional examination.

The appointment will be subject to one month's notice on either side to the National Scheme of Conditions of Service, and to the provisions of the Local Government (Superannuation) Act, 1937. The person appointed will be required to pass a medical examination.

Application forms to be obtained from the Borough Surveyor, Mr. F. R. Dinnis, A.M.I.C.E., Guildhall, Shrewsbury, and returned not later than the 19th April, 1950.

S. R. H. LOXTON,
Town Clerk. 3976

Guildhall, Shrewsbury. 31st March, 1950.

COUNTY BOROUGH OF CROYDON.
BOROUGH ENGINEER'S DEPARTMENT.

SENIOR QUANTITY SURVEYING ASSISTANT.
ARCHITECTURAL ASSISTANT.

CLERK OF WORKS.

Applications are invited for the following appointments:—

(1) SENIOR QUANTITY SURVEYING ASSISTANT. Salary A.P.T., VII, £635, rising to £710, plus London weighting.

(2) ARCHITECTURAL ASSISTANT, with local authority experience (particularly housing). Salary A.P.T., II, £420, rising to £465, plus London weighting.

(These appointments are pensionable, subject to medical examination.)

(3) TEMPORARY CLERK OF WORKS. Accustomed to supervise housing contracts. Salary A.P.T., II, £420 to £465, plus London weighting.

The Council do not offer housing accommodation.

Application forms may be obtained from the Borough Engineer, and should be returned to him within 14 days after this advertisement is published.

Canvassing will disqualify.

E. TABERNER,
Town Clerk. 3963

COUNTY BOROUGH OF EAST HAM.
APPOINTMENT OF JUNIOR ASSISTANT PLANNING OFFICER.

Applications are invited for the appointment of a Junior Assistant Planning Officer, Grade A.P.T., I (salary £390-£435 per annum), plus London weighting, in the Town Planning Section of the Borough Engineer's Department. Candidates must be competent draughtsmen and have general knowledge and experience of Town Planning work.

Housing accommodation is not provided, but the Council will be prepared to consider an application for a subsistence allowance in an appropriate case from the person appointed who may be unable to obtain suitable accommodation.

Application forms, obtainable from the undersigned, must be returned not later than Friday, 28th April, 1950.

H. A. EDWARDS,
Town Clerk. 3988

Town Hall, East Ham, E.6.

MIDDLESEX COUNTY COUNCIL.
CHIEF PLANNING ASSISTANT (A.P.T., VII, £665, rising to £740 p.a.; car allowance normally granted). Should possess good experience of planning practice and be Corporate Member of Town Planning Institute. Preference given to candidates with qualification in architecture, surveying, engineering or economics. Established, pensionable, subject to medical examination and prescribed conditions of service. Written applications, stating age, experience, qualifications, etc., with copies of three recent testimonials, to the undersigned by 29th April, 1950 (quoting G.839 A.J.). Canvassing disqualifies.

C. W. RADCLIFFE,
Clerk of the County Council. 3973
Middlesex Guildhall, Westminster, S.W.1.

NATIONAL HEALTH SERVICE.

The South-East Metropolitan Regional Hospital Board invite applications for the following appointment in the Regional Architect's Department: SENIOR ASSISTANT ARCHITECT, in A.P.T., Grade VIII, Salary £685-£725-£760 per annum, plus £30 London weighting allowance.

Candidates should be Members of the Royal Institute of British Architects, should be suitably experienced in hospital work, be capable of carrying to completion any scheme under the Architect, and of assisting in an advisory capacity.

The post is superannuable under the National Health Service (Superannuation) Regulations, 1947-9.

Applications, stating age, present salary, a brief statement of qualifications and experience, and the names and addresses of two referees, should reach the Secretary, South-East Metropolitan Regional Hospital Board, 11, Portland Place, W.1, not later than 22nd April, 1950. 3971

BOROUGH OF TAUNTON.

Applications are invited for the following appointment in the Borough Housing Architect's Department:—

SENIOR ASSISTANT ARCHITECT (A.P.T., Grade V). Salary £520, rising by annual increments to £570.

Applicants should be fully qualified Architects, and have had experience in the design and construction of Municipal Housing Estates, and the preparation of details and specifications for such works.

The Council have adopted the National Scheme of Conditions of Service, and the appointment will be subject to one month's notice on either side and to the provisions of the Local Government Superannuation Act, 1937. The successful candidate will be required to pass a medical examination.

Consideration will be given to housing accommodation if required.

Applications, stating age, qualifications, previous experience, and the earliest date when available, together with copies of two recent testimonials, should be sent to C. Bacon, F.R.I.B.A., Borough Housing Architect, No. 2, Baldwin Road, Taunton, by not later than Monday, 24th April, 1950.

L. ATWELL,
Town Clerk. 3970

Municipal Buildings, Taunton. 23rd March, 1950.

FIFE COUNTY COUNCIL.
CUPAR.

COUNTY ARCHITECT'S DEPARTMENT.

CUPAR.

Applications are invited for appointment as ARCHITECTURAL ASSISTANT. Candidates must be qualified Architects under 45 years of age, with previous experience of local authority schemes, particularly housing and schools.

Salary £520, rising by annual increments to £568 per annum, and house may be made available for the successful applicant. Medical test under superannuation scheme. Applications, stating age, experience, qualifications, and accompanied by recent testimonials, to be lodged with the undersigned not later than 17th April, 1950. No canvassing.

J. M. MITCHELL,
County Clerk. 3961

County Buildings, Cupar. 29th March, 1950.

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

Applications are invited for the following appointments:—

(a) SENIOR ASSISTANT ARCHITECTS. Salary £595 per annum, rising to £660 per annum (A.P.T., Grade VI).

(b) SENIOR ASSISTANT ARCHITECTS. Salary £520 per annum, rising to £570 per annum (A.P.T., Grade V).

(c) ASSISTANT ARCHITECTS. Salary £480 per annum, rising to £525 per annum (A.P.T., Grade IV).

The appointments will be subject to the National Conditions of Service, as adopted by the City Council; to the provisions of the Local Government Superannuation Act, 1937, and to one month's notice on either side. The successful candidates will be required to pass a medical examination.

Applications, stating age, particulars of training, qualifications, experience, present and previous appointments, together with copies of two recent testimonials and the names and addresses of two persons to whom reference may be made, should be addressed to the City Architect, 18, Cloth Market, Newcastle-upon-Tyne, 1.

JOHN ATKINSON,
Town Clerk. 3986

Town Hall, Newcastle-upon-Tyne, 1. 3rd April, 1950.

COUNTY BOROUGH OF WEST

HARTLEPOOL.

APPOINTMENT OF BOROUGH ARCHITECT.
Applications are invited for the appointment of Borough Architect, at a salary within the scale of £960 per annum, rising by annual increments of £50 to £1,160. At the present time the Council is prepared to pay a car allowance of £50 per annum to the holder of the post.
Applicants must be Members of the Royal Institute of British Architects.
The person appointed will be responsible for the following duties:—

The designing of new buildings.
The supervision of the erection of all new buildings.
The maintenance of all Corporation Buildings.
He will not be permitted to engage directly or indirectly in private practice or in any other business or profession.

The appointment will be subject to the successful candidate satisfactorily passing a medical examination, and will be terminable by one month's notice in writing on either side.
Applications, endorsed "Borough Architect," stating age, qualifications and experience, accompanied by not more than three recent testimonials, must reach the undersigned not later than Monday, the 17th April, 1950.
Canvassing, directly or indirectly, will be a disqualification.

ERIC J. WAGGOTT.

Town Clerk.

Municipal Buildings, West Hartlepool. 3989

COLONIAL DEVELOPMENT CORPORATION
require RESIDENT ARCHITECT, age 30-50, for Belize, British Honduras. Post expected to last about 18 months. Later prospects for permanency. Candidates should be Corporate Members of R.I.B.A. and have had site experience of reinforced concrete and hotel erection. £650-£1,300 U.K. basic, plus overseas allowances. Write, giving age, qualifications, and experience, quoting Serial 22D, to Personnel Manager, 19, Curzon Street, London, W.1. by 24th April, 1950. 3990

CITY OF STOKE-ON-TRENT.
RECONSTRUCTION DEPARTMENT.
Applications are invited for the following appointments in the Reconstruction Department:—

(a) Two appointments of **THIRD PLANNING ASSISTANT** (salary A.P.T. Division, Grade III, £485-£495 per annum).
(b) Two appointments of **DRAUGHTSMEN** (salary Grade General Division, £220 per annum at the age of 21, rising by increments to a maximum of £385 per annum at the age of 32).

With regard to appointments (a) preference will be given to candidates possessing an appropriate technical qualification, with practical experience of duties under the Town and Country Planning Act, 1947, particularly with reference to the preparation of development plans and redevelopment schemes.

Applicants for appointments (b) should be neat and expeditious Draughtsmen and be not less than 21 years of age.

The provision of housing accommodation for married applicants will be considered, if required, in respect of appointments (a) only.

The selected applicants will be required to pass a medical examination, and all appointments will be subject to the provisions of the Local Government Superannuation Act, 1937, and the National Scheme and Conditions of Service for Local Government Officers.

Applications in writing, stating age and particulars of previous experience, and accompanied by copies of not less than two recent testimonials, should be forwarded to the undersigned at the Town Hall, Stoke-on-Trent, in a sealed envelope endorsed "Third Planning Assistant" or "Draughtsman," as the case may be, not later than Friday, 5th May, 1950.

HARRY TAYLOR.

Town Clerk.

COUNTY BOROUGH OF HALIFAX.
BOROUGH ENGINEER'S DEPARTMENT.
Applications are invited for the following appointments:—

ARCHITECTURAL:
ARCHITECTURAL ASSISTANT (SCHOOLS). Salary A.P.T. V (£520-£570).

ENGINEERING:
ENGINEERING ASSISTANT. Salary A.P.T. V (£520-£570).

BUILDING INSPECTOR:
BUILDING INSPECTOR. Salary A.P.T. II (£400-£465).

TOWN PLANNER:
TOWN PLANNING ASSISTANT. Salary Miscellaneous I (£315-£360).

Candidates should possess appropriate technical qualifications and will be required to pass a medical examination. The appointments will be subject to the conditions of service adopted by the Corporation and to the Local Government Superannuation Act, 1937.

Housing accommodation will, if necessary, be made available to candidates taking up the Architectural position.

Applications, stating age, qualifications, present position, salary and experience, accompanied by copies of three recent testimonials, should be appropriately endorsed and delivered to the undersigned not later than Saturday, 29th April, 1950.

RICHARD DE Z. HALL.

Town Clerk.

Town Hall, Halifax.

31st March, 1950. 3980

COUNTY BOROUGH OF WEST HAM.

BOROUGH ARCHITECT AND PLANNING OFFICER'S DEPARTMENT.

Applications are invited for the established post of **SENIOR ASSISTANT ARCHITECT**, Grade A.P.T. VIII (£685-£725-£760, plus London allowance). Applicants should be A.R.I.B.A., with considerable experience in Housing Work. Application forms (returnable by 25th April, 1950) obtainable from Thomas E. North, F.R.I.B.A., Borough Architect and Planning Officer, 70, West Ham Lane, E.15. 3966

Partnership

6 lines or under, 12s. 6d.; each additional line, 2s.

ARCHITECT, with progressive practice, Eastern Counties, requires Partner, with some capital. Apply in first instance to Benton & Co., Accountants, Saffron Walden, Essex. 3939

Architectural Appointments Vacant

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

ASSISTANT required in busy Berkshire office, with work in all parts of the country; an opportunity for a man with initiative and drive to show his capabilities; good prospects for a capable man. Apply, with full particulars of experience and salary required, to Box 3342.

ARCHITECTURAL ASSISTANT required in Maidenhead for large Practice of London and Provincial work; applicants must be capable of supervising work and conversant with by-laws. Reply, with particulars of experience and salary required, to Box 3343.

SENIOR ARCHITECTURAL ASSISTANTS required by United Dairies, Limited; applicants to state age and experience in the preparation of surveys, sketch plans and working drawings, and be able to supervise work in progress. Apply in writing, stating qualifications and salary required, to Chief Architect, 31, St. Petersburg Place, London, W.2. 3676

ARCHITECTS' SENIOR ASSISTANT also **JUNIOR**, for urgent industrial and other schemes; very interesting experience. Watson, Johnson & Stokes, Victoria Square, Birmingham. 2. 3638

ASSISTANT required for Architect's office. A Slough; Intermediate R.I.B.A. or "Analyst seeking practical experience general practice, principally industrial work. Box 3843.

ARCHITECTURAL ASSISTANT, aged 30 or over, required in busy S.W. London Architect's office; must be capable of preparing working drawings for large blocks of flats, etc.; permanency and prospects to suitable applicant. Apply, stating salary, age and experience, to Cessford Hall, F.R.I.B.A., "Grantham House," Putney Heath, S.W.15. 3869

ASSISTANT required for general practice; varied and interesting work over large area in North-West; able to take entire charge of contracts. Also one **JUNIOR** required. J. H. Martindale & Son, F.R.I.B.A., Architects, Cathedral Chambers, Castle Street, Carlisle. 3648

PORTSMOUTH.—An Intermediate grade **ARCHITECTURAL ASSISTANT** required immediately; interesting varied work, including industrial and ecclesiastical buildings. Applications, giving full particulars to W. H. Saunders & Son, 53, Commercial Road, Portsmouth. 3928

A.R.I.B.A., or equal, with some experience in private practice required immediately in office with all-round practice. Commencing salary £550. Write to Naylor, Sale & Widdows, St. Mary's Chambers, Derby. 3896

ASSISTANTS required, preferably qualified; unqualified £7-£8, qualified minimum £10; hours 37.4, Clifford Tee & Gale, 43, Frederick Road, Birmingham, 15. Edgbaston 1348. 3929

ASSISTANT to Technical Editor of "The Architects' Journal"; qualifications required: interested in building construction, R.I.B.A. Inter. standard, or equivalent qualifications; experience in architect's or builder's office an advantage. Replies to Cotterell Butler, 9-13, Queen Anne's Gate, S.W.1. 492

ARCHITECTURAL ASSISTANT required at an early date for principal building works of several large Generating Stations; some considerable experience in industrial architecture will be expected; position is of a permanent character; a full scale Superannuation Scheme is in operation. Applicants are asked to send details of experience and scale of salary required, and to state when available for interview and explanation of duties in Manchester, to C. S. Allott & Son, Consulting Civil Engineers, 1, North Parade, St. Mary's Paragon, Manchester, 3. 3927

ARCHITECTURAL ASSISTANT required, from Inter. to Final standard, for an office in Manchester; good general work, chiefly industrial and commercial. Apply, with full details of experience and salary required, to Box 3943.

STUDENT or JUNIOR ARCHITECT for editorial work; applicants to have a bias towards building technology and the science of building; salary according to qualifications and experience. Box 493.

ARCHITECTURAL ASSISTANT required in busy General Practice; Inter. standard. Reply, stating age, qualifications, experience, and salary required, to Francis L. Lumb, F.R.I.B.A., 19, Clifton Street, Blackpool. 3901

ROMFORD, ESSEX.—**ARCHITECTURAL ASSISTANT** required for permanent position in a small busy Architects' and Surveyors' office dealing with a wide variety of work, including Licensed Premises, Brewery, Schools, Industrial and some Housing; good draughtsmanship and previous private office experience essential, capable of producing working drawings and sketch designs quickly and efficiently. Please reply, giving full particulars of experience and salary required, to Messrs. J. W. Hammond, Chartered Architects and Surveyors, 20, North Street, Romford, Essex. 3911

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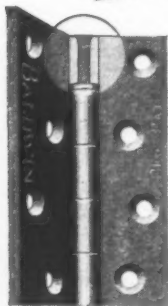
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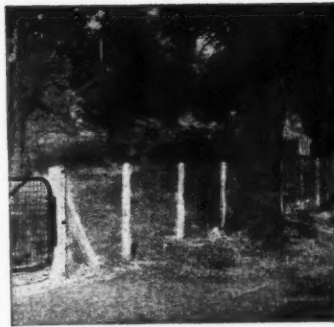
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Alphabetical Index to Advertisers

	PAGE		PAGE		PAGE
Acerington Brick & Tile Co.	lxviii	Gillett & Johnston, Ltd.	lxviii	Ohmlite Installations, Ltd.	lxxvii
Adams, Robert (Victor), Ltd.	lxviii	Glow-Worm Boilers, Ltd.	xxxvii	Patohett & Co., Ltd.	lxix
Adeshead, Ratcliffe & Co., Ltd.	lxvi	Granwood Flooring Co., Ltd.	lxvi	Porn & Dunwoody, Ltd.	xxix
Anderson Gypsum Products, Ltd.	lxvii	Griffiths Bros. & Co., London, Ltd.	lxvii	Pyrene Co., Ltd., The	lxiii
Architects' Benevolent Society	lxvii	Hall, John, & Sons (Bristol & London), Ltd.	xxxvii	Pyrotech, Ltd.	lxiii
Arena Controls, Ltd.	lx	Hammond & Champness, Ltd.	xx	Radiation, Ltd.	lxix
Architectural Press, Ltd.	lxvii	Harvey, G. A. (London), Ltd.	—	Range Boilers, Ltd.	lxix
Ascot Gas Water Heaters, Ltd.	lxvii	Henderson, P. C., Ltd.	—	Rawlings Bros., Ltd.	lxix
Aspinalls (Paints), Ltd.	lxvii	Hicksons Timber Impregnation Co. (G.B.), Ltd.	iv	Rawlplug Co., Ltd., The	lxiii
Associated Lead Manufacturers, Ltd.	lxvii	Higgs & Hill, Ltd.	—	Rippers, Ltd.	lxix
Austin-Hall Group of Companies	lxvii	Hilger & Watts, Ltd.	lxvii	Rea Metal Casement (1932), Ltd.	lxix
Baldwin, Son & Co., Ltd.	lxvii	Holway, W. F. & Brother, Ltd.	—	Redpath, Brown & Co., Ltd.	lxix
Barter Trading Corporation, Ltd., The	lxv	Hope, Henry, & Sons, Ltd.	—	Rubery Owen & Co., Ltd.	lxix
Berry, Z. D., & Sons, Ltd.	lxv	Horsley Bridge & Thomas Piggett, Ltd.	lxvii	Salter, T. E., Ltd.	lxix
Blackburn, Thos., & Sons, Ltd.	lxv	Ioco, Ltd.	—	Sanders, Wm., & Co. (Widnesbury), Ltd.	lxix
Blundell, Spence & Co., Ltd.	lxv	International Correspondence Schools	lxvii	Sankey-Sheldon	lxix
Booth, John, & Sons (Bolton), Ltd.	lxv	Jenson & Nicholson, Ltd.	lxvii	Scaffolding (Great Britain), Ltd.	lxix
Boulton & Paul, Ltd.	lxvii	Justice, Thomas, & Sons, Ltd.	lxvii	Scull, Arthur, & Son, Ltd.	lxix
Box, C. W.	lxvii	Kelvinator, Ltd.	lxvii	Semtex, Ltd.	lxix
British Aluminium Co., Ltd.	lxv	King, J. A., & Co., Ltd.	lxix	Sharmar, R. W., Ltd.	lxvii
British Electrical Co., Ltd.	lxv	Kwikform, Ltd.	xxxvi	Small, F. L. & E., Ltd.	lxix
British Industries Fair	xxxv	Le Grand Sutcliffe & Gell, Ltd.	xxxvi	Smith's Fireproof Floors, Ltd.	lxix
British Celanese, Ltd.	xxxix	Laing, John, & Son, Ltd.	lxix	Smith, H. V., & Co., Ltd.	lxix
British Insulated Callenders' Cables, Ltd.	xxii	Lead Industries Development Council	xxx	Stent Precast Concrete, Ltd.	lxix
British Thomson-Houston Co., Ltd., The	lxiv	Lightfoot Refrigeration Co., Ltd.	lxvii	Stobart & Son, Ltd.	lxvii
Broads Manufacturing Co., Ltd.	lxiv	Limmer & Trinidad Lake Asphalt Co., Ltd., The	lxvii	Stott, James, & Co. (Engineers), Ltd.	lxvii
Brown, Donald (Brownall), Ltd.	lxvii	Limeum Manufacturers' Association	lxvii	Structural & Mechanical Development Engineers, Ltd.	xxxiv
Bryce, White & Co., Ltd.	lxvii	Lisle Munday & Co., Ltd.	—	Sundeala Board Co., Ltd.	lxvii
Building Industries Services, Ltd.	lxvii	London Brick Co., Ltd., The	—	Taylor, Robt., & Co. (Ironfounders), Ltd.	lxix
Canadian International Trade Fair	xxi	Marbolith Flooring Co., Ltd., The	lxv	Thomson Beacon Windows, John, Ltd.	lxix
Celotex, Ltd.	—	Marley Tile Co., Ltd., The	lxv	Thorn Electrical Industries, Ltd.	lxix
Cement Marketing Co., Ltd., The	—	Martyn, Bruce, Ltd.	lxv	Thorn, J., & Sons, Ltd.	lxix
Clark & Eaton, James, Ltd.	—	Maxwell, Andrew	lxv	Thorp, John B.	lxix
Clarke Ellard Engineering Co., Ltd.	xxxvi	Merchant Adventurers of London, Ltd.	lxv	Thermacoust, Ltd.	lxix
Colt, W. H. (London), Ltd.	lxv	Merchant Trading Co., Ltd., The	lxv	T.M.C. Harwell (Sales), Ltd.	lxix
Compression Joints, Ltd.	lxv	Metal Sections, Ltd.	lxv	Tretol, Ltd.	lxix
Constructors Ltd.	lxv	Metallic Seamless Tube Co., Ltd.	lxv	Tucker, J. H., & Co., Ltd.	lxix
Concrete Limited	lxvii	Metamex, Ltd.	lxv	Turners Asbestos Cement Co., Ltd.	lxix
Copper Development Association	xx	Metropolitan-Vickers Electrical Co., Ltd.	lxv	Turner, Charles, & Son, Ltd.	lxix
Crittall Manufacturing Co., Ltd., The	xxxii	McKechnie Brothers, Ltd.	lxvii	Twistell Reinforcement, Ltd.	lxix
Crittall, Richard, & Co., Ltd.	lxvii	McNeill, F. & Co., Ltd.	lxvii	Underwood, S.	lxix
Croft Granite Brick & Concrete Co., Ltd.	lxvii	Midland Electric Manufacturing Co., Ltd.	xxxviii	Val de Travers Asphalt Paving Co., Ltd.	lxix
Davis, A. H., Ltd.	lxix	Midland Woodworking Co., Ltd.	—	Versil, Ltd.	lxix
Denny Mott & Dickson, Ltd.	lxvii	Mills Scaffold Co., Ltd.	—	Wall Paper Manufacturers, Ltd., The	lxix
Dunbrik, Ltd.	lxvii	National Federation of Clay Industries, The	—	Walpamur Co., Ltd.	lxix
Dunlop Rubber Co., Ltd.	lxv	Natural Rock Asphalt, Ltd.	xxxv	Wardle Engineering Co., Ltd.	lxix
Durasteel Limited	lxv	Newman, William, & Sons, Ltd.	lxv	Ward, Thos. W., Ltd.	lxix
Dreadnought Fireproof Doors (1930), Ltd.	xx	Neuchatel Asphalt Co., Ltd., The	lxv	Walker, Crosswell & Co., Ltd.	lxix
Ellis School of Architecture	lxvii			Williams & Williams	lxix
Ellison, George, Ltd.	lxvii			Ylverton Dawbarn Bros., Ltd.	lxix
Farmer, S. W., & Sons, Ltd.	lxvii			Zinc Alloy Rust Proofing Co., Ltd.	lxix

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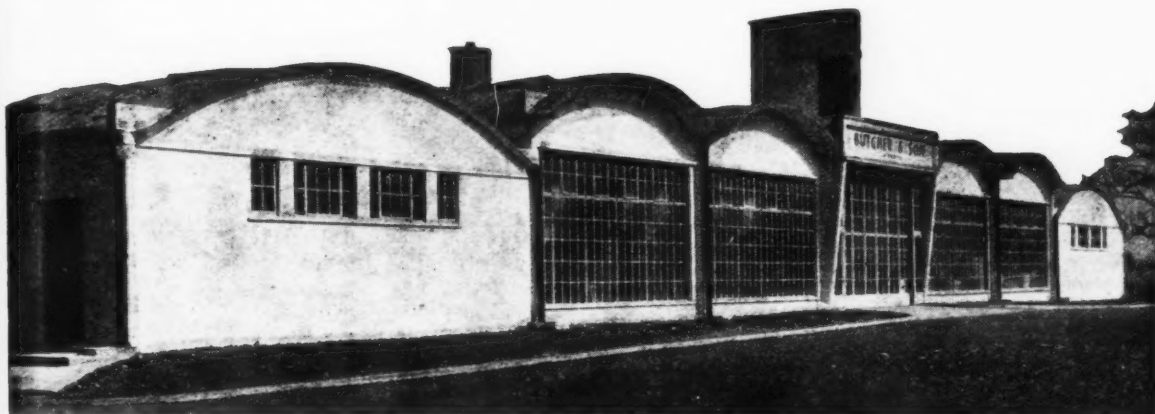
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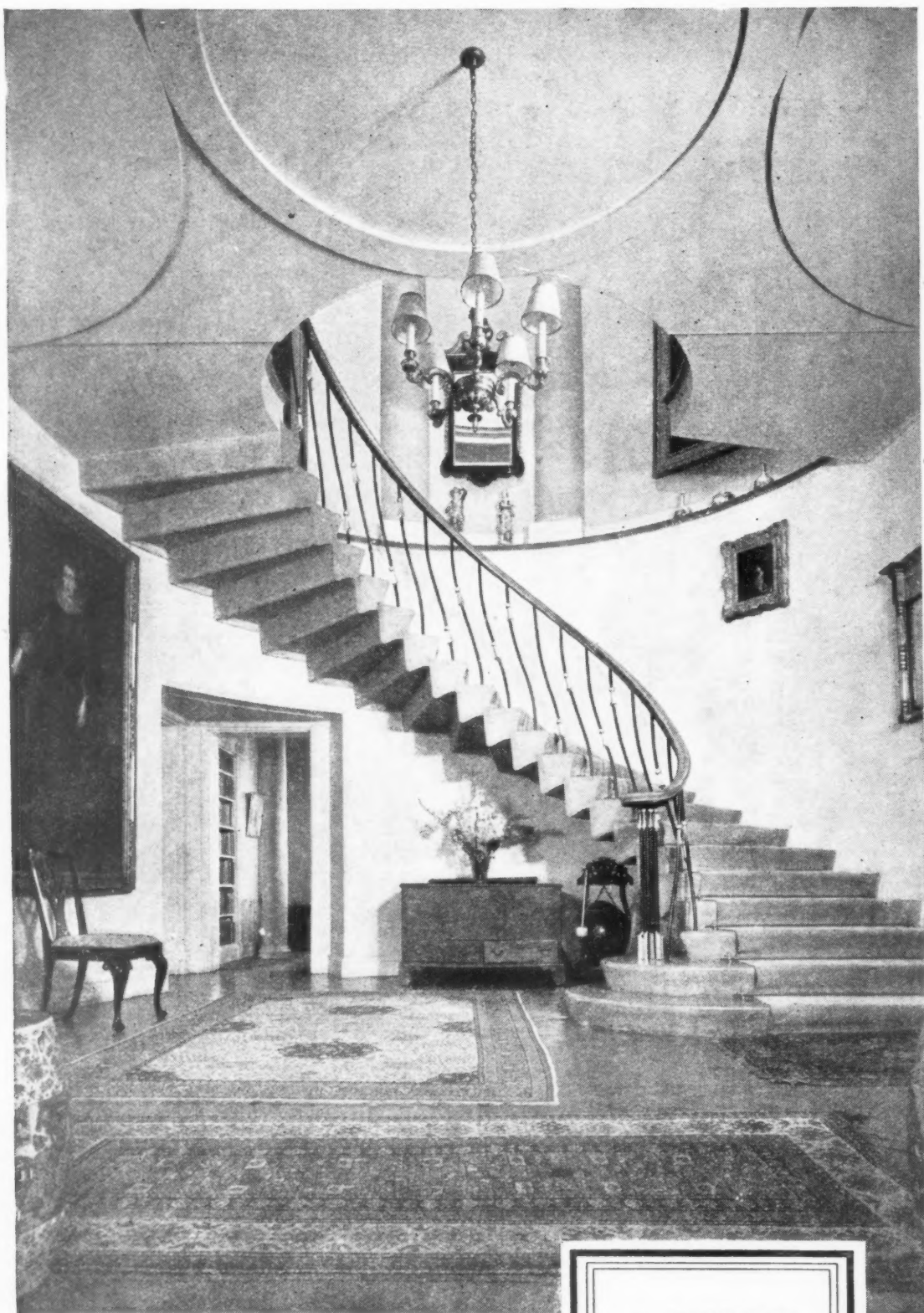
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Architect : Guy Elwes

*Entrance hall and cantilevered staircase
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