

# THE ARCHITECTS' JOURNAL



## Standard contents

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

## NEWS and COMMENT

*Astragal's Notes and Topics*

*Letters*

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*Questions and Answers*

*Prices*

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## CURRENT BUILDING

*Major Buildings described:*

*Details of Planning, Construction,*

*Finishes and Costs*

*Buildings in the News*

*Building Costs Analysed*

*Architectural Appointments*

*Wanted and Vacant*

No. 3422]

[Vol. 132

THE ARCHITECTURAL PRESS

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

|          |  |                      |
|----------|--|----------------------|
| ILA      | Institute of Landscape Architects. 1, Park Crescent, W.1.  | Museum 3473          |
| I of Arb | Institute of Arbitrators. Hastings House, 10, Norfolk Street, W.C.2.   | Temple Bar 4071      |
| IOB      | Institute of Builders. 48, Bedford Square, W.C.1.  | Museum 7197          |
| IQS      | Institute of Quantity Surveyors. 98, Gloucester Place, W.1.  | Welbeck 1859         |
| IR       | Institute of Refrigeration. Dalmeny House, Monument Street, E.C.3.   | Avenue 6851          |
| IRA      | Institute of Registered Architects. 68, Gloucester Place, W.1.   | Hunter 1945          |
| ISE      | Institution of Structural Engineers. 11, Upper Belgrave Street, S.W.1.   | Sloane 7128          |
| JFRO     | Joint Fire Research Organisation (DSIR & Fire Offices' Committee), Fire Research Station, Boreham Wood, Herts. | Elstree 1341/1797    |
| LDA      | Lead Development Association. 18, Adam Street, W.C.2.  | Whitehall 4175       |
| LMBA     | London Master Builders' Association. 47, Bedford Square, W.C.1.  | Museum 3891          |
| MAFF     | Ministry of Agriculture, Fisheries and Food. Whitehall Place, S.W.1.   | Trafalgar 7711       |
| MOE      | Ministry of Education. Curzon Street House, W.1.   | Hyde Park 7070       |
| MOH      | Ministry of Health. 23, Savile Row, W.1.   | Regent 8411          |
| MOHLG    | Ministry of Housing and Local Government. Whitehall, S.W.1.  | Whitehall 4300       |
| MOLNS    | Ministry of Labour and National Service, 8, St. James's Square, S.W.1.   | Whitehall 6200       |
| MOS      | Ministry of Supply. Shell-Mex House, W.C.2.  | Gerrard 6933         |
| MOT      | Ministry of Transport, Berkeley Square House, W.1.   | Mayfair 9494         |
| MOW      | Ministry of Works. Lambeth Bridge House, S.E.1.  | Reliance 7611        |
| NAMMC    | Natural Asphalte Mine Owners and Manufacturers Council. 14, Howick Place, Victoria Street, S.W.1.              | Victoria 1600 & 6477 |
| NAS      | National Association of Shopfitters. 2, Caxton Street, S.W.1.  | Abbey 4813           |
| NBR      | National Buildings Record. 31, Chester Terrace, N.W.1.   | Welbeck 0619         |
| NCBMP    | National Council of Building Material Producers. 10, Storey's Gate, S.W.1.                                     | Abbey 5111           |
| NEFMAI   | National Employers Federation of the Mastic Asphalt Industry. 21, John Adam Street, Adelphi, W.C.2.            | Trafalgar 3927       |
| NFBTE    | National Federation of Building Trades Employers. 82, New Cavendish Street, W.1.                               | Langham 4041/4054    |
| NFBTO    | National Federation of Building Trades Operatives. Federal House, Cedars Road, Clapham, S.W.4.                 | Macaulay 4459        |
| NFHS     | National Federation of Housing Societies. 12, Suffolk St., S.W.1.  | Whitehall 1631       |
| NHBRC    | National House Builders Registration Council. 58, Portland Place, W.1.   | Langham 0064/3       |
| NPL      | National Physical Laboratory. Head Office, Teddington.   | Molesey 1380         |
| NRDB     | Natural Rubber Development Board. Market Buildings, Mark Lane, E.C.3.  | Mansion House 9383   |
| NSAS     | National Smoke Abatement Society. Palace Chambers, Bridge Street, S.W.1.                                       | Trafalgar 6838       |
| NT       | National Trust. 42, Queen Anne's Gate, S.W.1.  | Whitehall 0211       |
| PEP      | Political and Economic Planning. 16, Queen Anne's Gate, S.W.1.   | Whitehall 7245       |
| RCA      | Reinforced Concrete Association. 94, Petty France, S.W.1.  | Abbey 4504           |
| RIAS     | Royal Incorporation of Architects in Scotland. 15, Rutland Square, Edinburgh.                                  | Fountainbridge 7631  |
| RIB      | Rural Industries Bureau. 35, Camp Road, S.W.19.  | Wimbledon 5101       |
| RIBA     | Royal Institute of British Architects. 66, Portland Place, W.1.  | Langham 5533         |
| RICS     | Royal Institution of Chartered Surveyors. 12, Great George Street, S.W.1.                                      | Whitehall 5322/9245  |
| RFAC     | Royal Fine Art Commission. 5, Old Palace Yard, S.W.1.  | Whitehall 3935       |
| RS       | Royal Society. Burlington House, Piccadilly, W.1.  | Regent 3335          |
| RSA      | Royal Society of Arts. 6, John Adam Street, W.C.2.   | Trafalgar 2366       |
| RSH      | Royal Society of Health. 90, Buckingham Palace Road, S.W.1.  | Sloane 5134          |
| SBPM     | Society of British Paint Manufacturers. Grosvenor Gardens House, Grosvenor Gardens, S.W.1.                     | Victoria 2186        |
| SE       | Society of Engineers. 17, Victoria Street, S.W.1.  | Abbey 7244           |
| SFMA     | School Furniture Manufacturers' Association. 30, Cornhill, E.C.3.  | Mansion House 3921   |
| SIA      | Society of Industrial Artists. 7, Woburn Square, W.C.1.  | Langham 1984/5       |
| SIA      | Structural Insulation Association. 32, Queen Anne Street, W.1.   | Langham 7616         |
| SNHTPC   | Scottish National Housing. Town Planning Council. Hon. Sec., Robert Pollock, Town Clerk, Rutherglen            |                      |
| SPAB     | Society for the Protection of Ancient Buildings. 55, Great Ormond Street, W.C.1.                               | Holborn 2646         |
| TCPA     | Town and Country Planning Association. 28, King Street, Covent Garden, W.C.2.                                  | Temple Bar 5006      |
| TDA      | Timber Development Association. 21, College Hill, E.C.4.   | City 4771            |
| TPI      | Town Planning Institute. 18, Ashley Place, S.W.1.  | Victoria 8815        |
| TTF      | Timber Trades Federation. 75, Cannon Street, E.C.4.  | City 5040            |
| WDC      | War Damage Commission. 6, Carlton House Terrace, S.W.1.  | Whitehall 4341       |
| ZDA      | Zinc Development Association. 34, Berkeley Square, W.1.  | Grosvenor 6636       |

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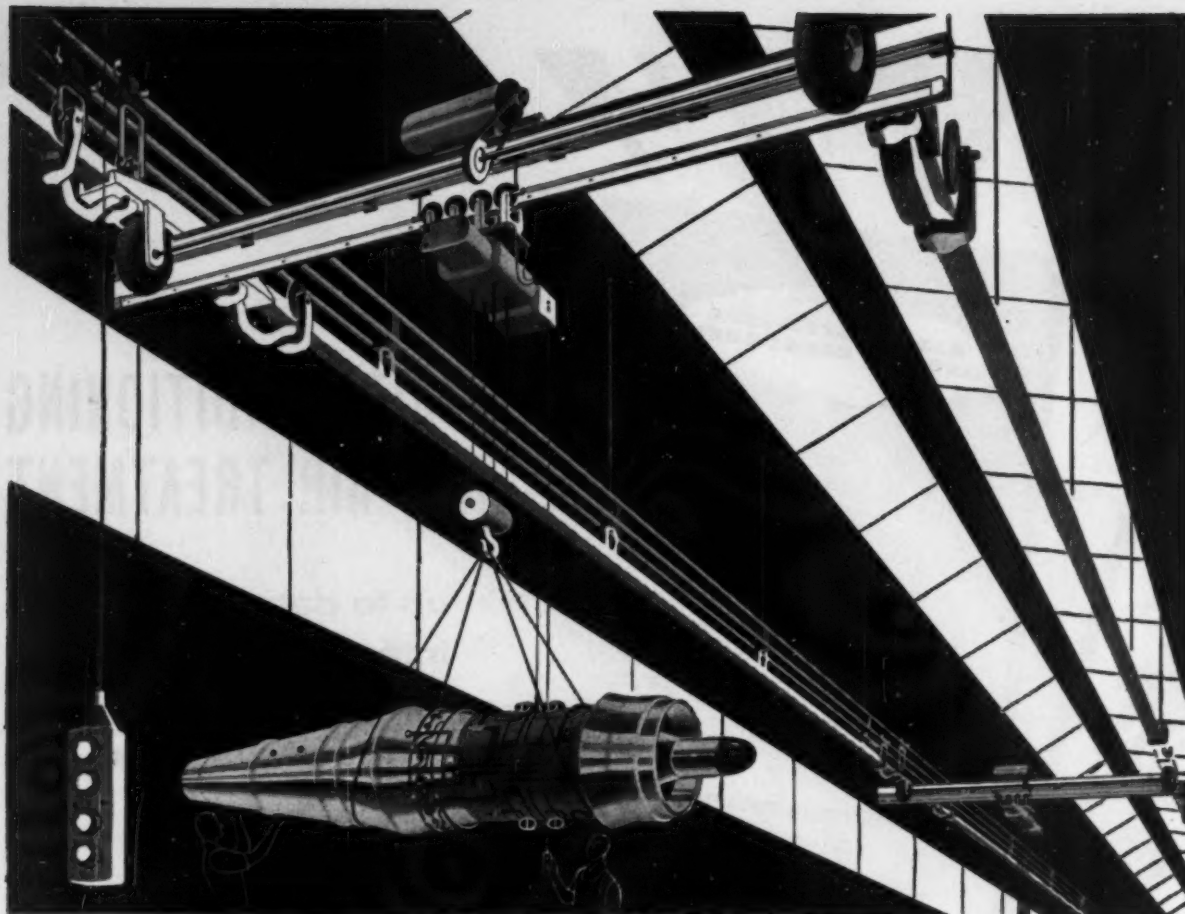
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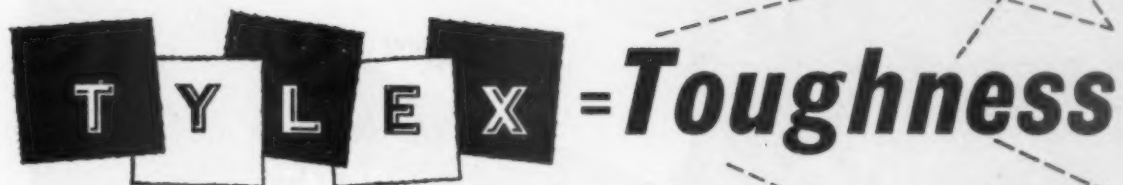
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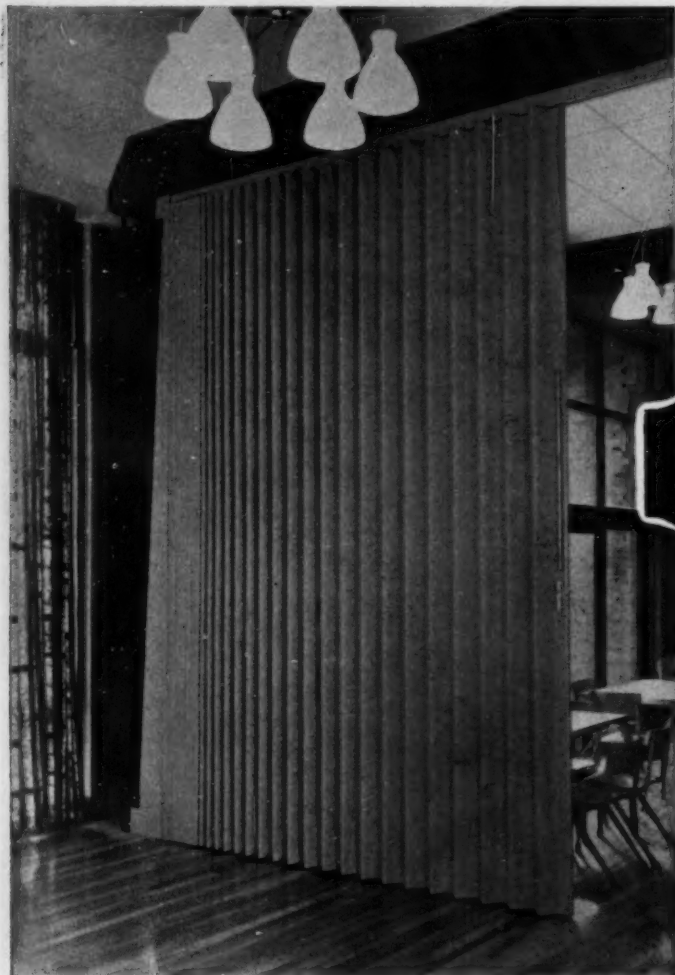
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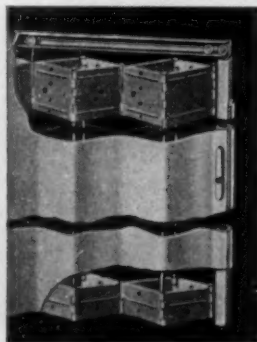
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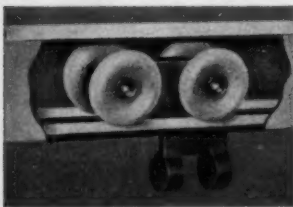
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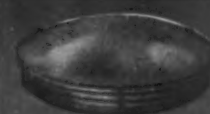
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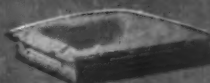
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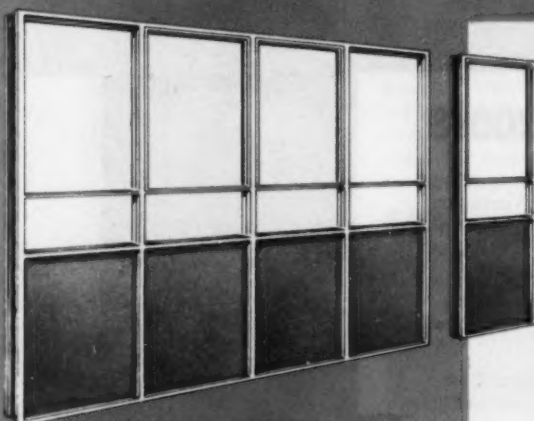
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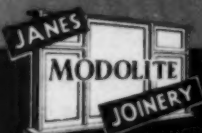


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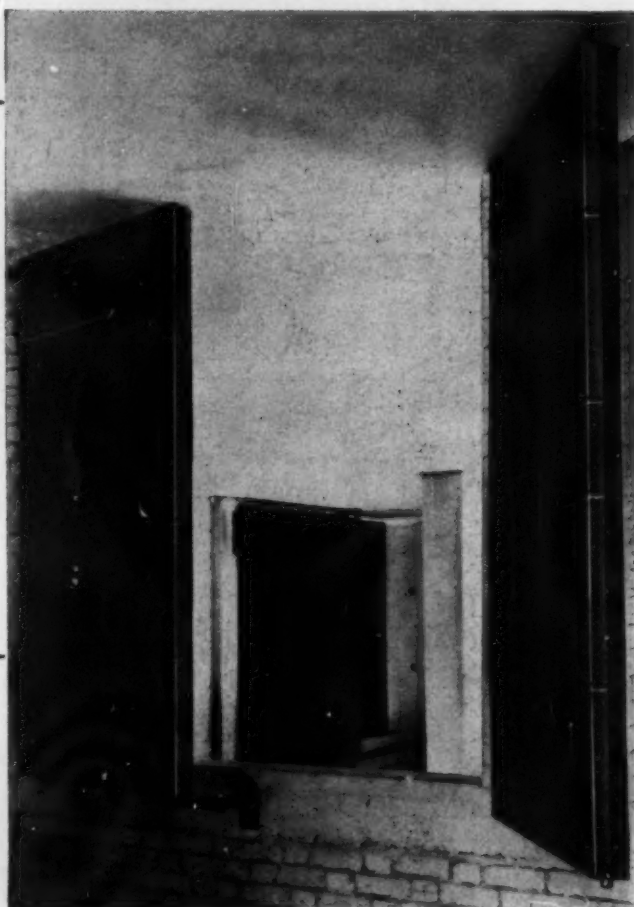
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*A reception room at Wrightington  
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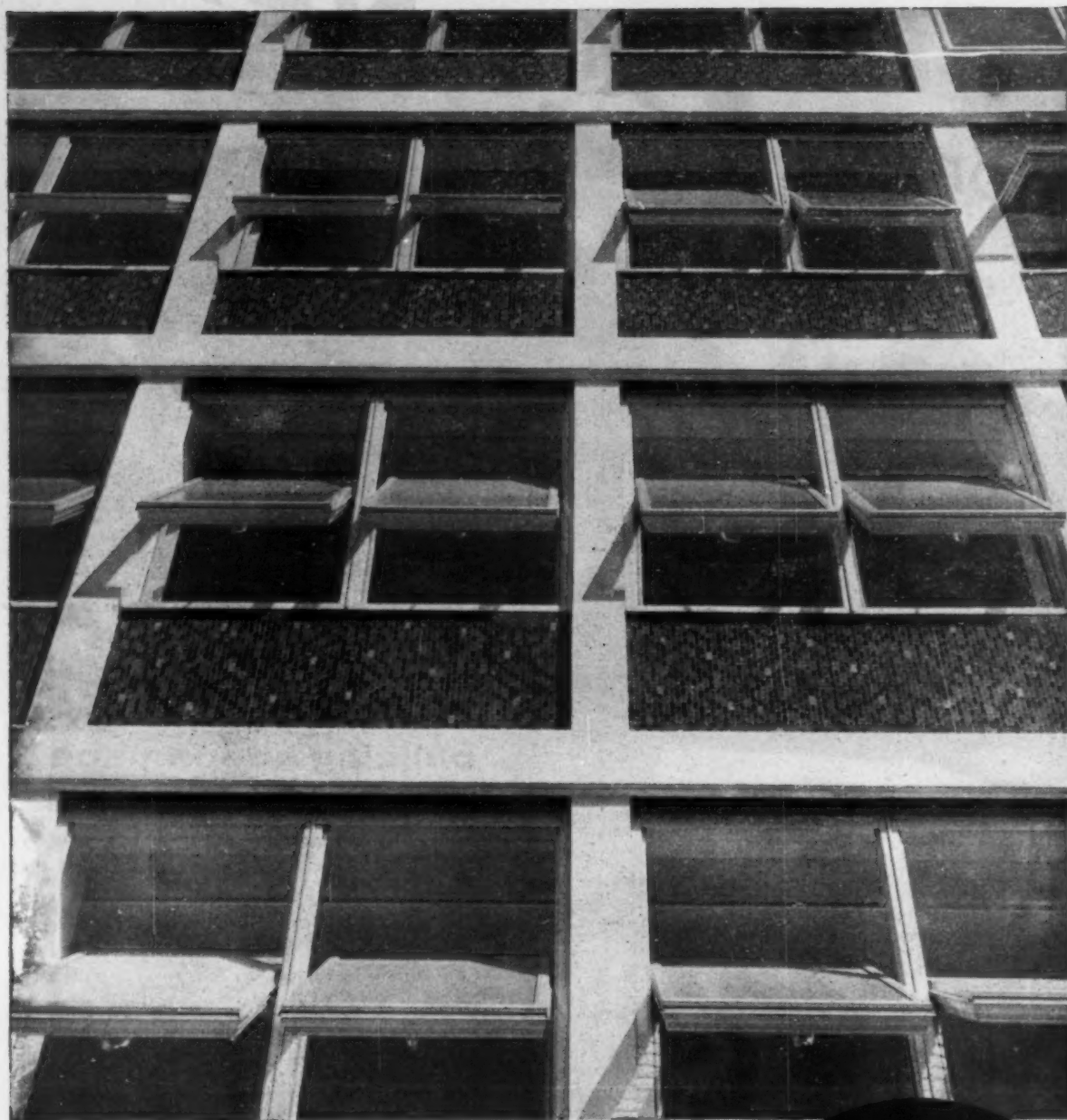
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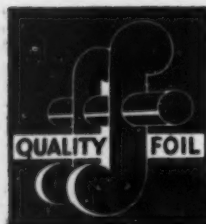


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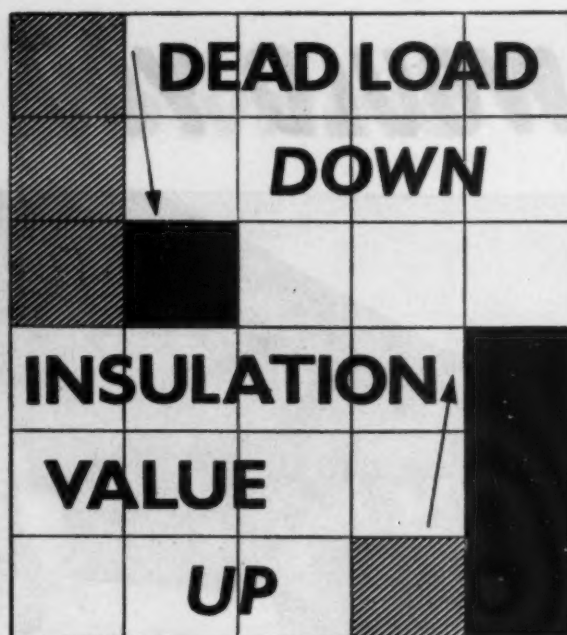
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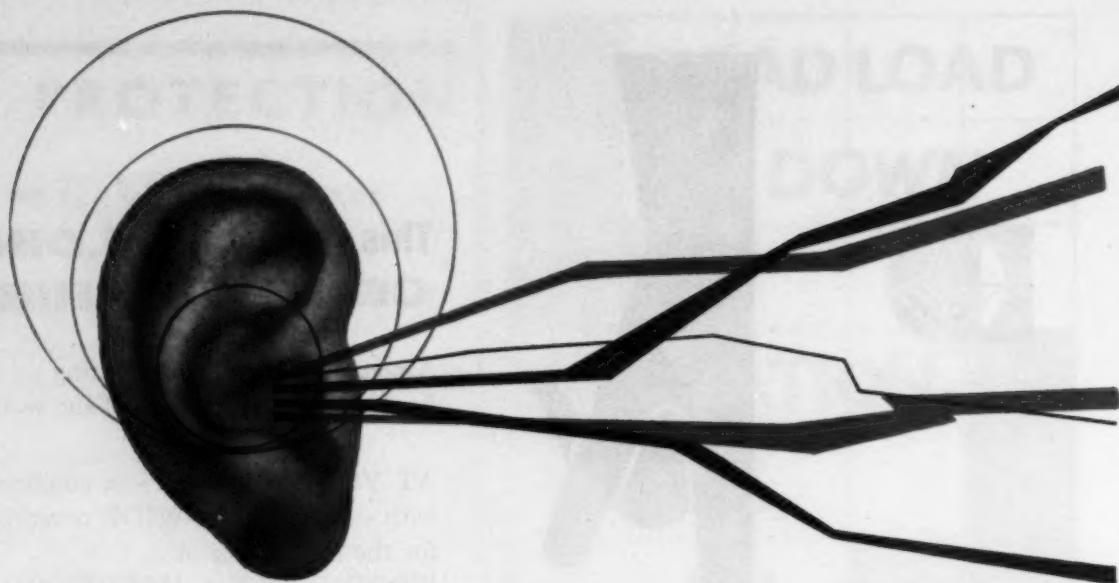
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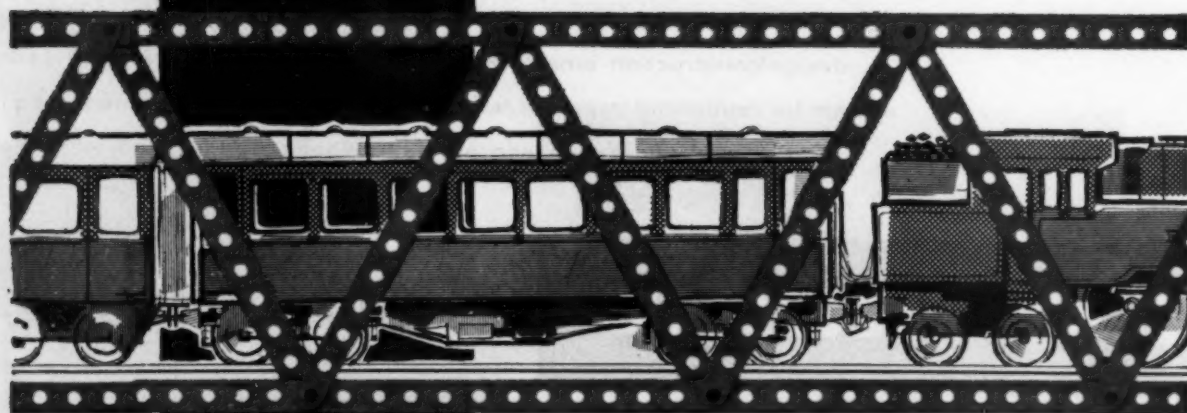


# **COAL** keeps **MECCANO**

There are some names we learn in our boyhood that never lose their magic—and Meccano is one of them. Today, this name, so intimately connected with enamelled pieces of steel strips and plates that made every youngster a constructional engineer has an even wider appeal. Together with Hornby trains—electric and clockwork—Dinky Toys and Bayko, Meccano now provides a quartet of delight for boys and girls—and their fathers!

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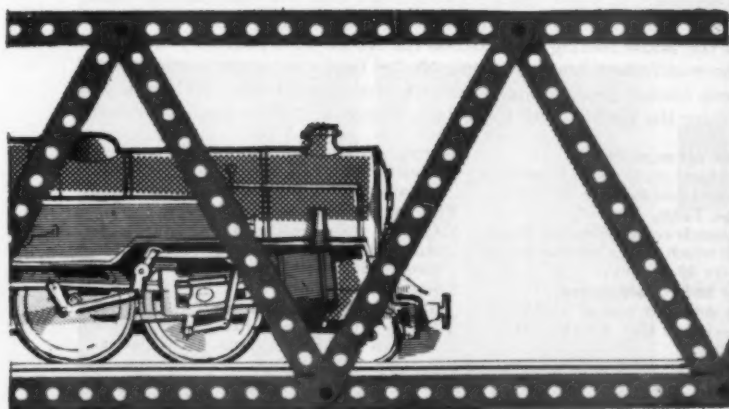


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dealing with grown-up affairs, like choosing *coal* to fuel its great powerhouses at Liverpool and Aintree. Coal was chosen because coal provides more heat for the money than any other fuel. Coal, mechanically stoked, is smokeless. And in our coalfields there is enough coal to keep British industry going at top production for generations to come.

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Firing is by chain grate stokers and all fuel is handled mechanically. Steam is used for space heating and process work.

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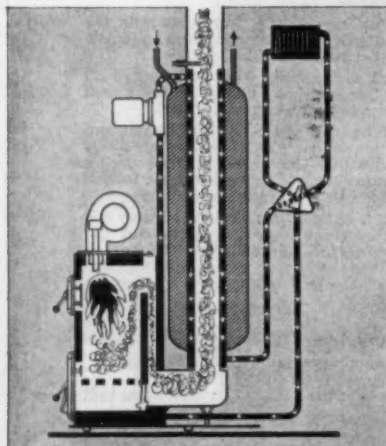
*Here are some key facts and figures about the consumption of coal at Meccano:*

|                          |                          |
|--------------------------|--------------------------|
| Number of boilers:       | .....2 water tube        |
| Method of firing:        | .....chain grate stokers |
| Steam pressure:          | .....120 p.s.i.          |
| Continuous max. rating:  | ...6,500 lbs. per hour   |
| Steam temperature:       | .....350°F.              |
| Feed temperature:        | .....180°F.              |
| Annual fuel consumption: | ...2,260 tons of coal    |

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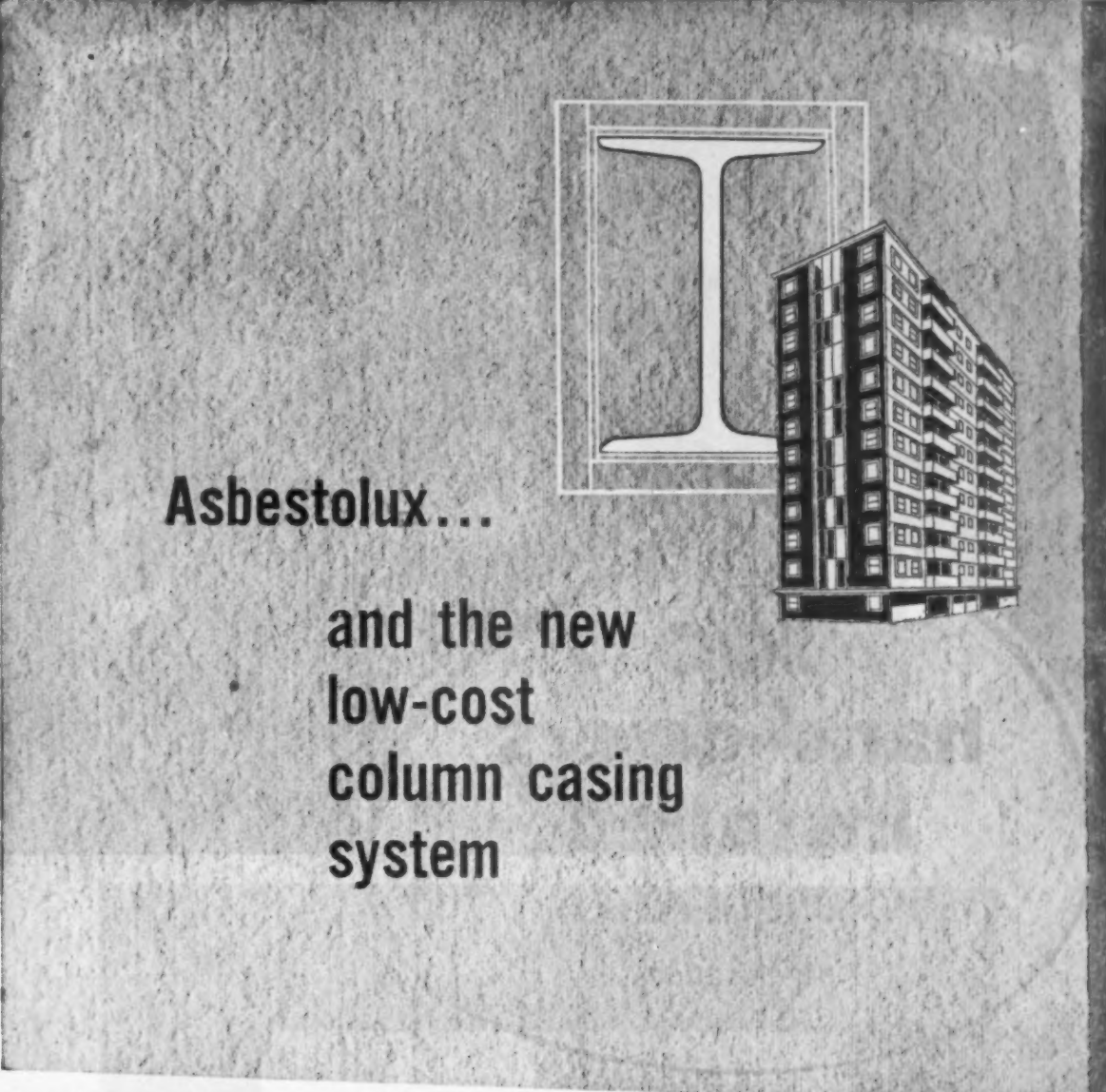
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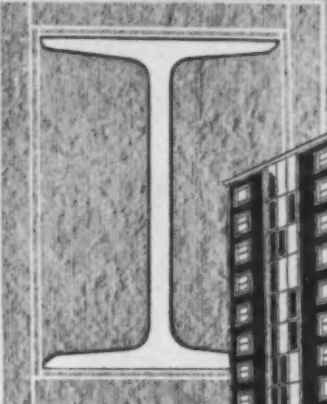

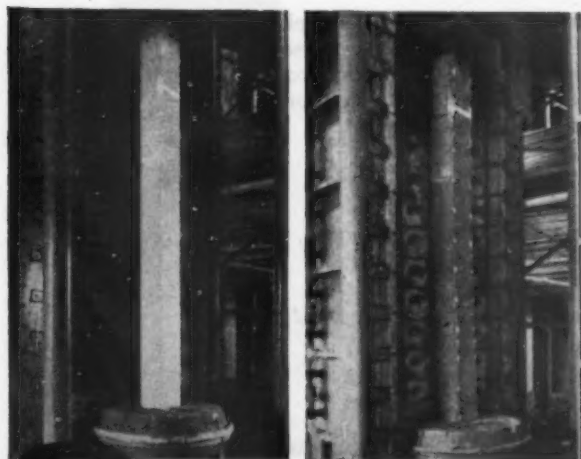
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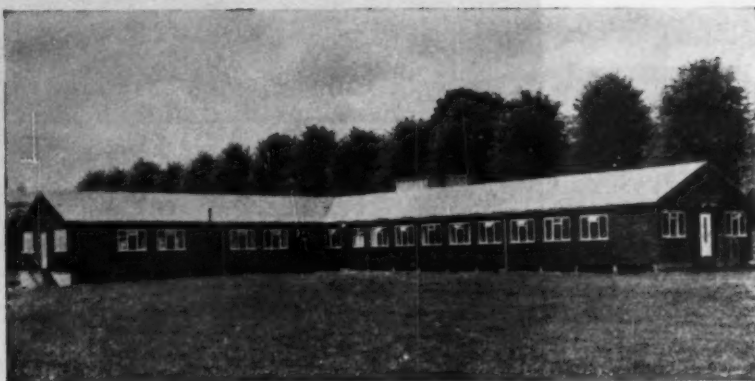
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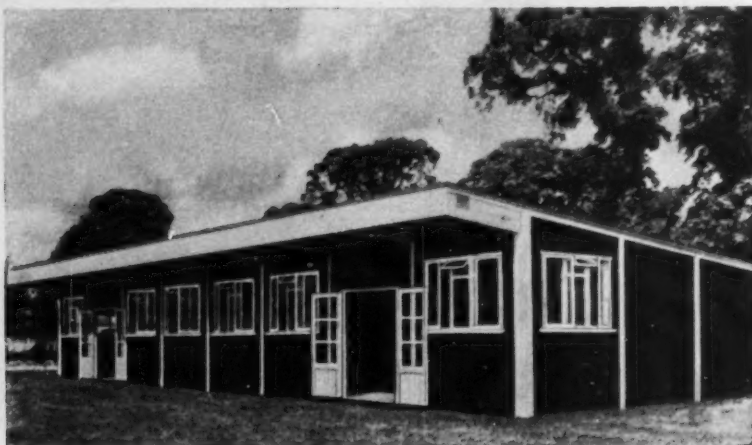
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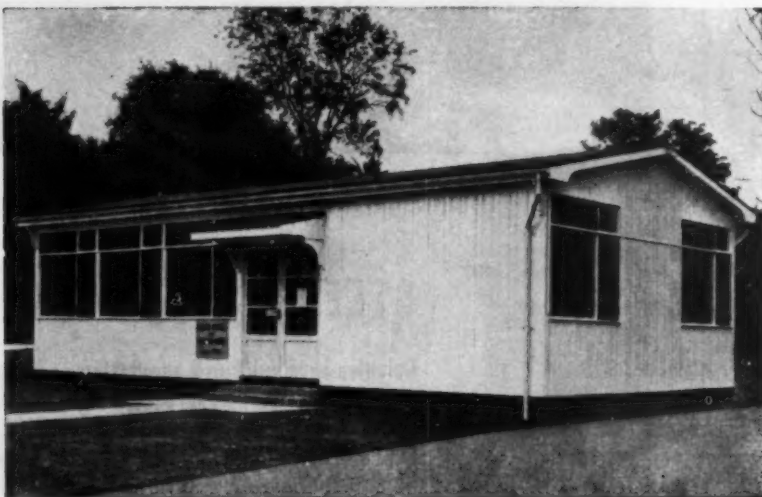
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Photograph by courtesy of The Regional Architect, S.E. Metropolitan Regional Hospital Board.



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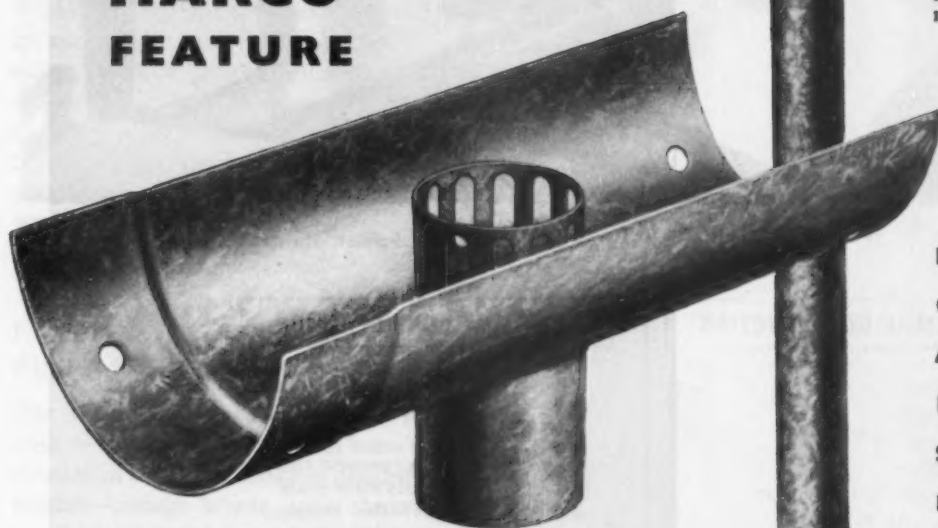
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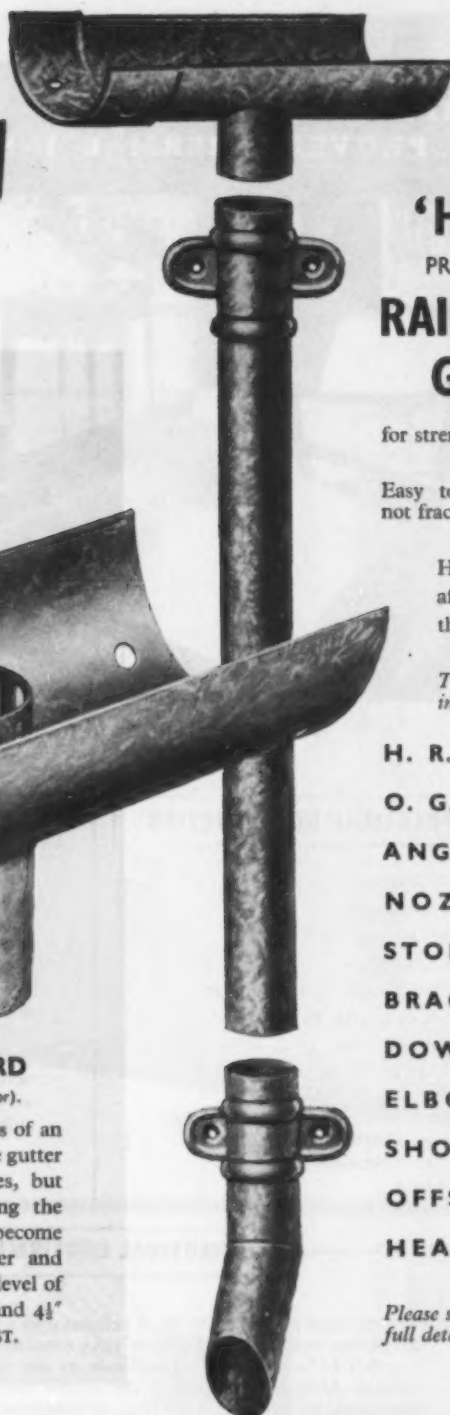
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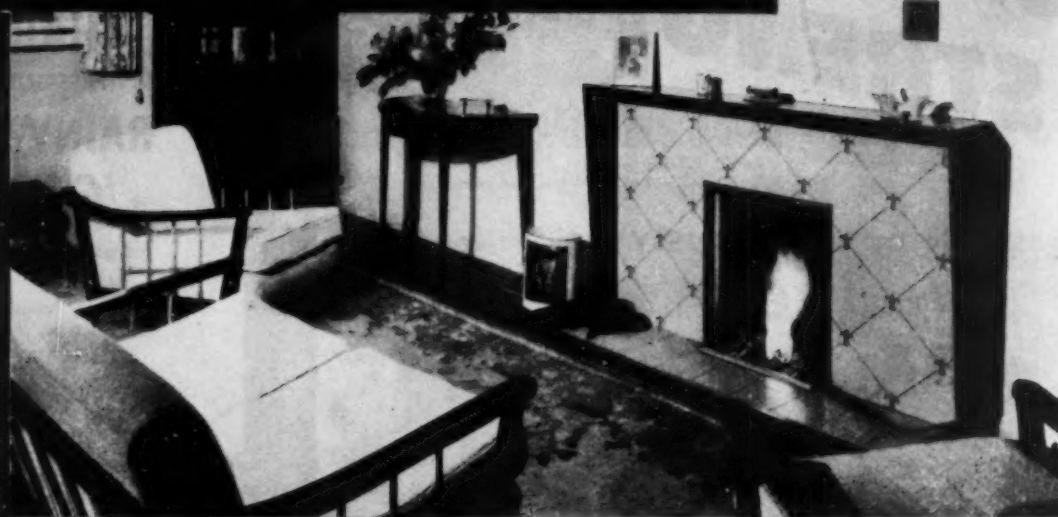


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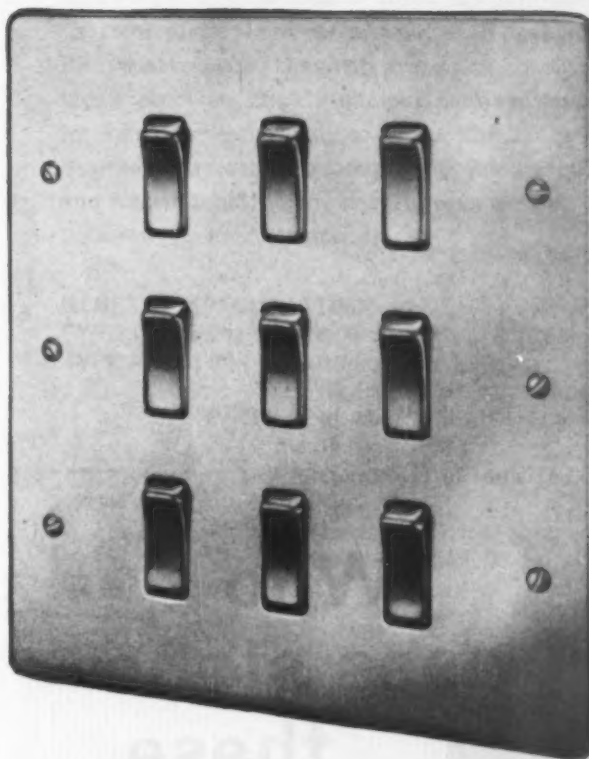
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In harmony with today's designs for living is the WEMPRESS, the switch that operates at the lightest touch. The WEMPRESS is elegant yet unobtrusive in appearance, smooth but precise in action. A metal rocker replaces the conventional dolly for easy, silent operation. Carrying a tray into an unlit room? Simply nudge the WEMPRESS with your elbow or shoulder . . . the room is lit. Made for 5 or 15 amps. loading.

### MANY ATTRACTIVE FINISHES

The WEMPRESS can be supplied for flush or surface mounting, with brass or aluminium plates in a choice of delightful finishes—coinage bronze, satin chrome, pastel silver, nickel bronze, electric red, clover pink or leaf green, etc., etc.



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The WEMPRESS will obey your touch—instantly—on the lightest pressure.



#### STROKE IT!

Brush your hand down the plate—a gentle click and the WEMPRESS operates quietly and efficiently.



#### PRESS IT!

—lightly. The action is so smooth and precise that only the minimum of effort is required.

# Wandsworth

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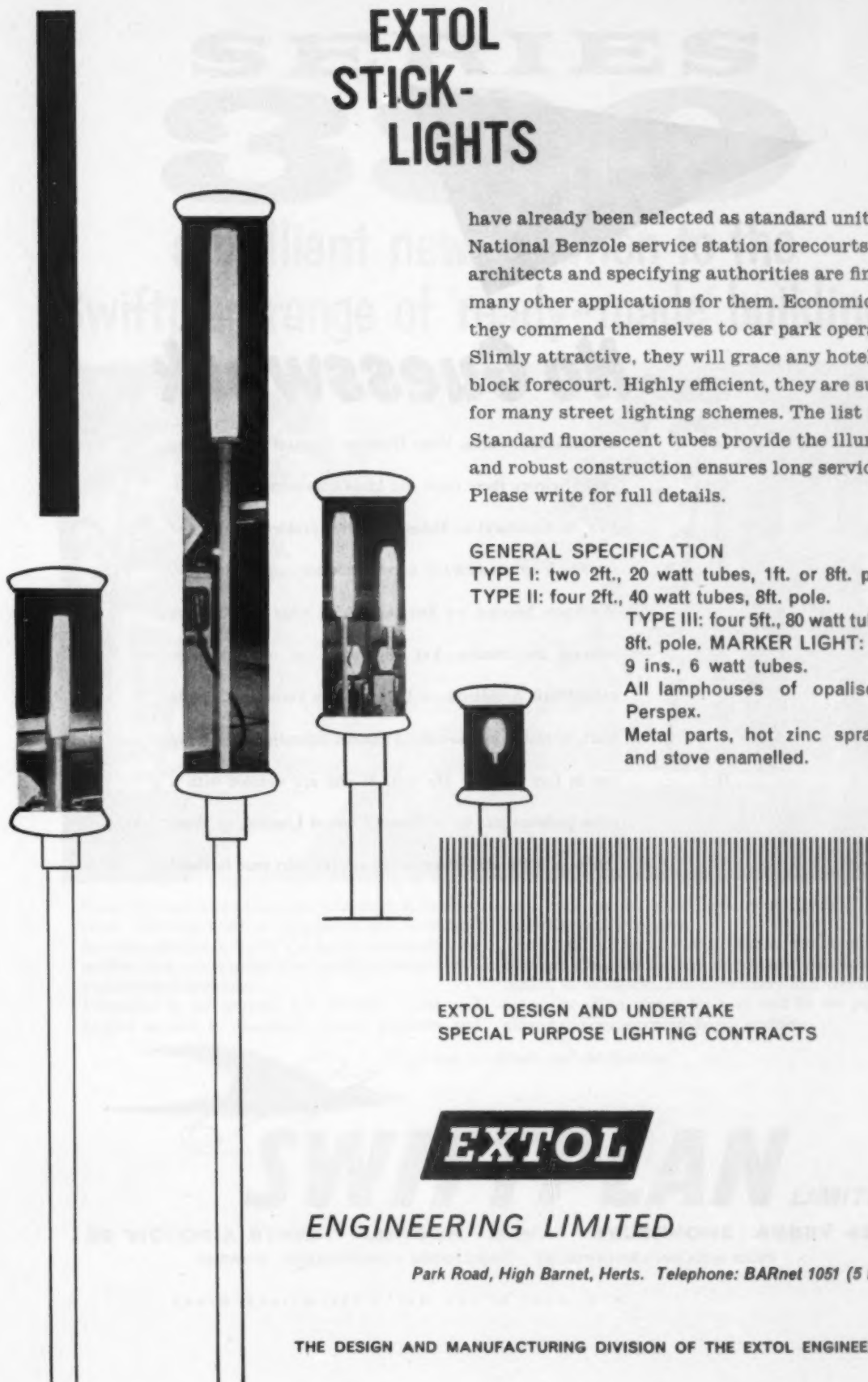
TYPE I: two 2ft., 20 watt tubes, 1ft. or 8ft. pole.

TYPE II: four 2ft., 40 watt tubes, 8ft. pole.

TYPE III: four 5ft., 80 watt tubes, 8ft. pole. MARKER LIGHT: two 9 ins., 6 watt tubes.

All lamphouses of opalised Perspex.

Metal parts, hot zinc sprayed and stove enamelled.



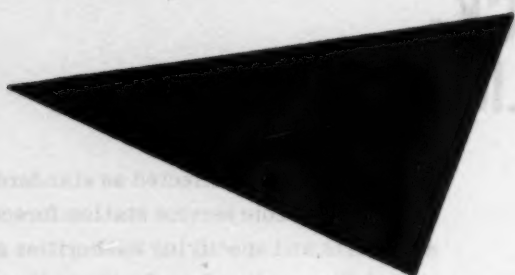
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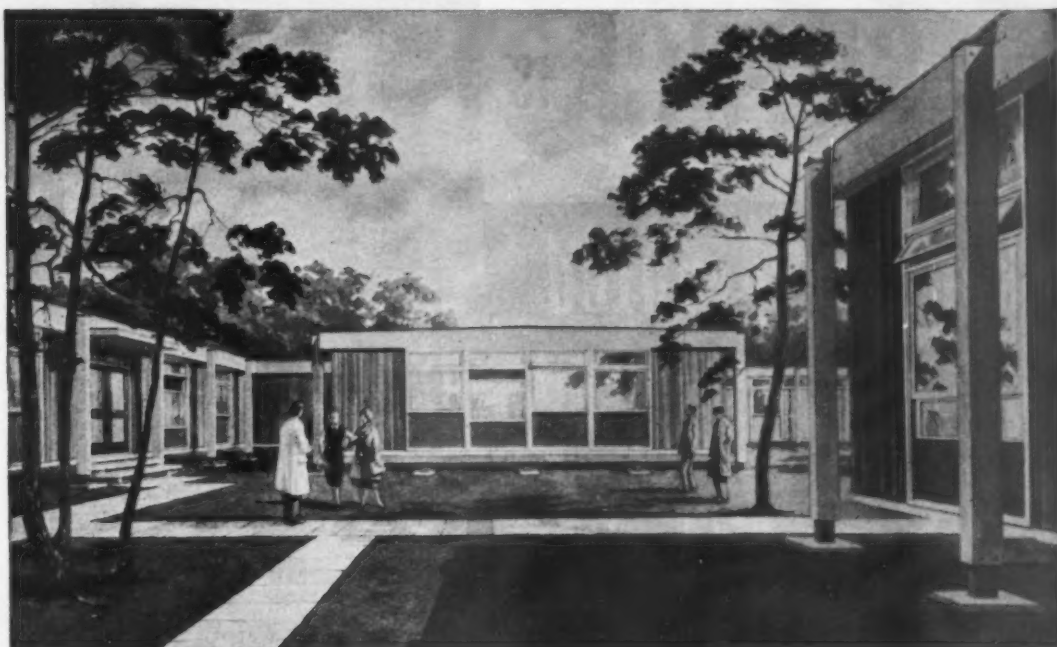
We know because we find them—and what is more, we warrant the results. Yet how many of our otherwise enlightened Architects or Industrialists know this simple truth, or realise just how much modern Acoustic Engineering can in fact achieve? Do you? If you are saddled with a noise problem and we of Sound Control Limited, at West Drayton, 3685, are sitting on the answer, why read further?

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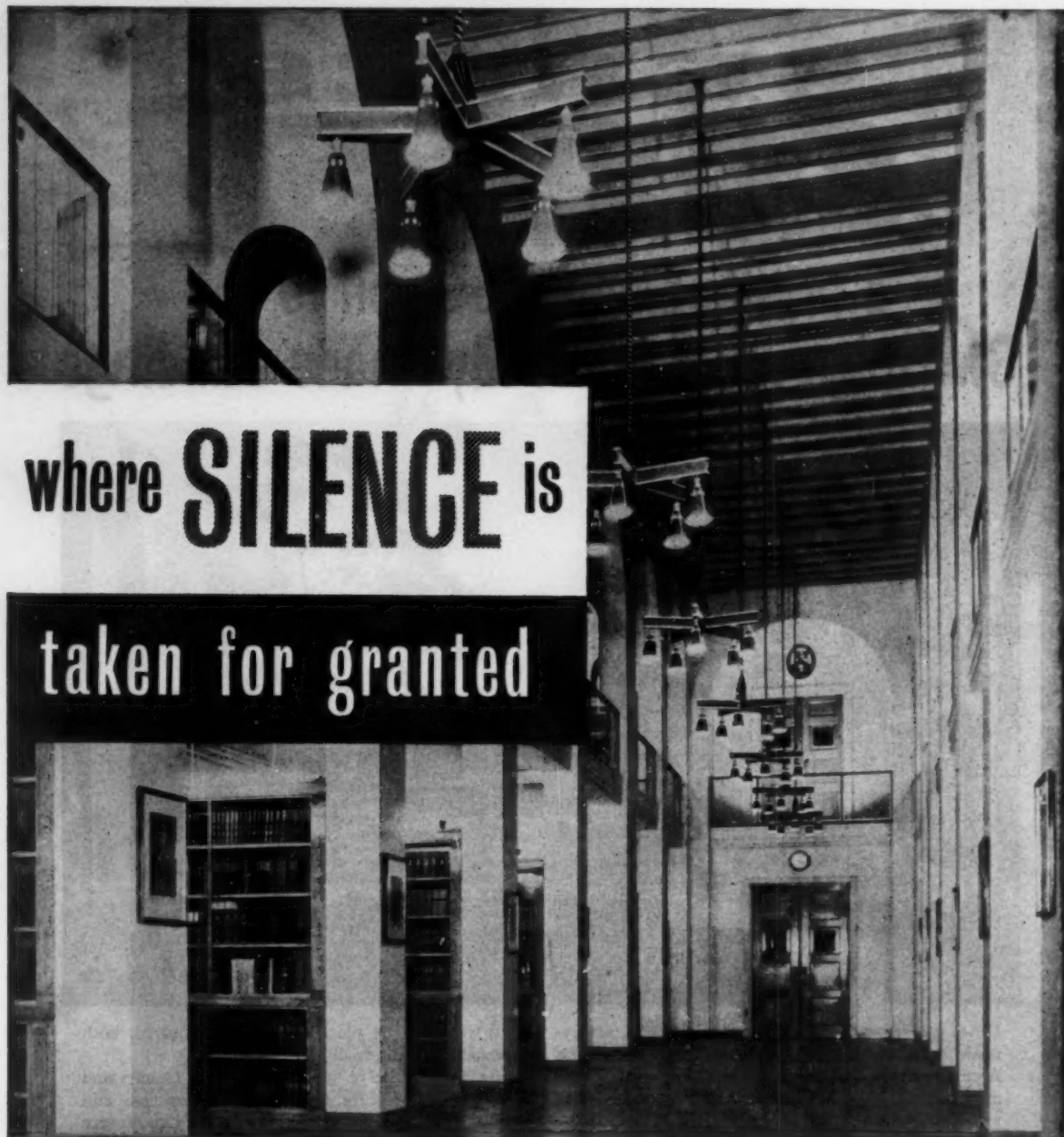
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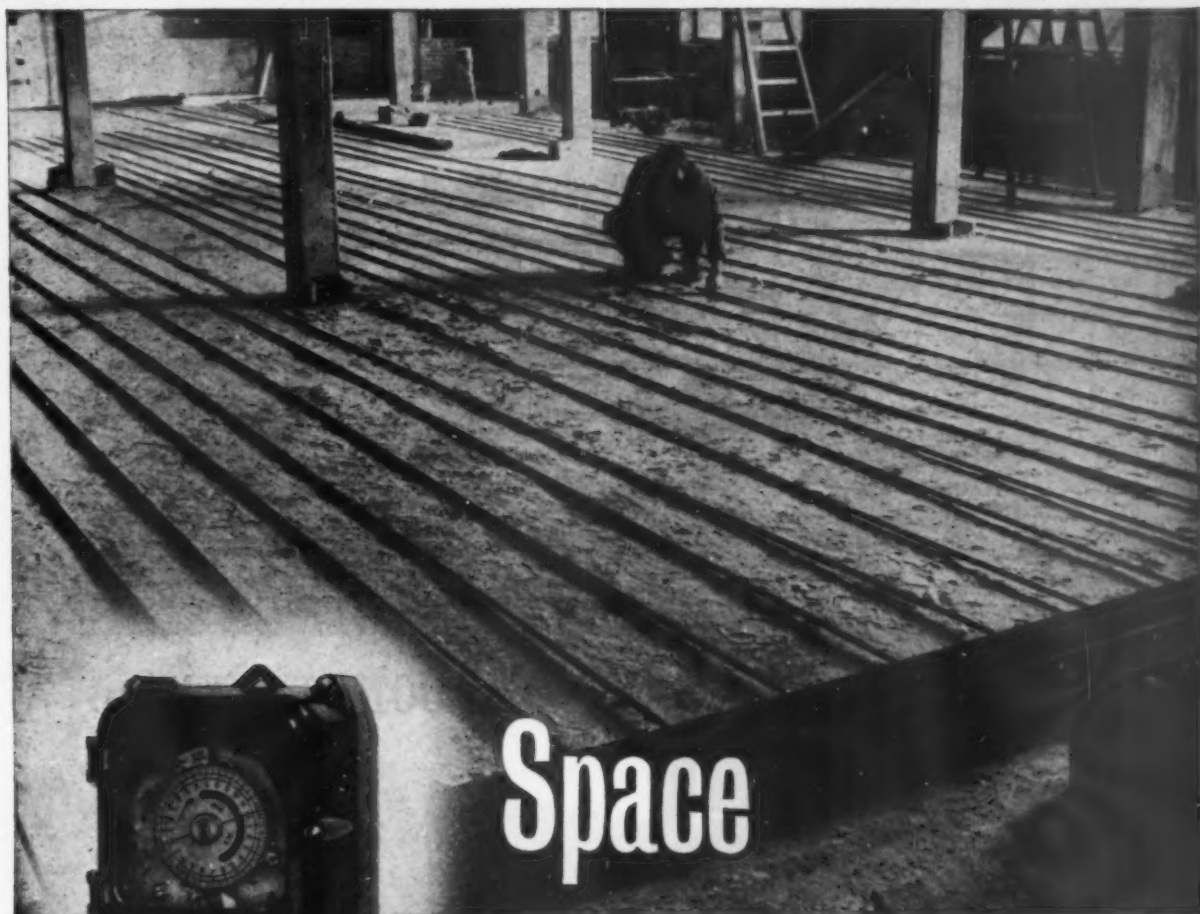
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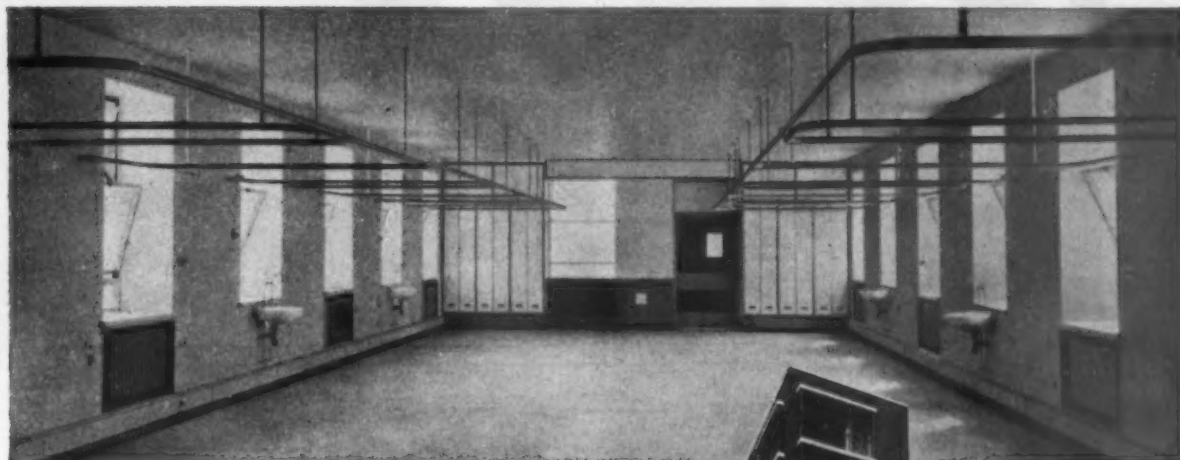
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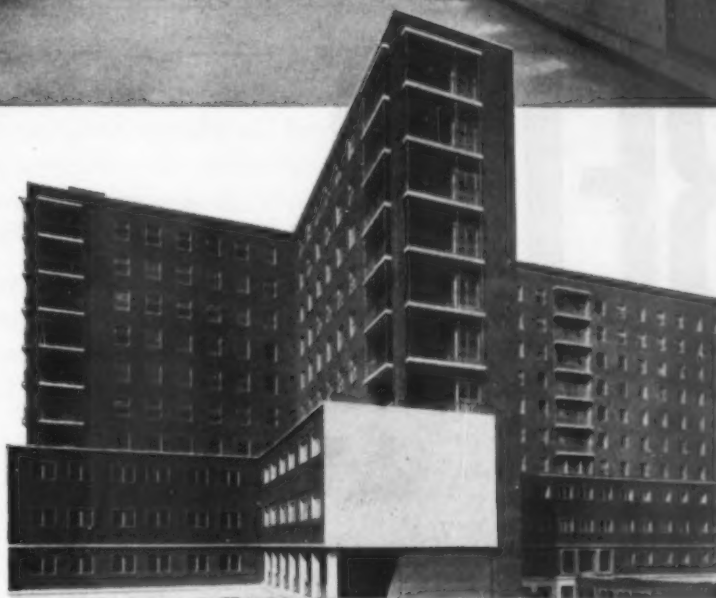
## 1,000 Ideal radiators go into new surgical block at Guy's Hospital



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The large new surgical block at Guy's Hospital, London, incorporates the most advanced and trustworthy equipment in the widely varying fields of medicine and building. It is natural, therefore, that IDEAL Neo-Hospital Radiators were chosen to give the dependable heating service required in a hospital of this kind. Where there are a thousand radiators involved, reliability is imperative. The IDEAL cast-iron radiators fitted at Guy's will not suffer from corrosion and will therefore last the life of the hospital.

# IDEAL cast-iron radiators



*cast-iron because it's dependable*

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ON  
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FLOORS**

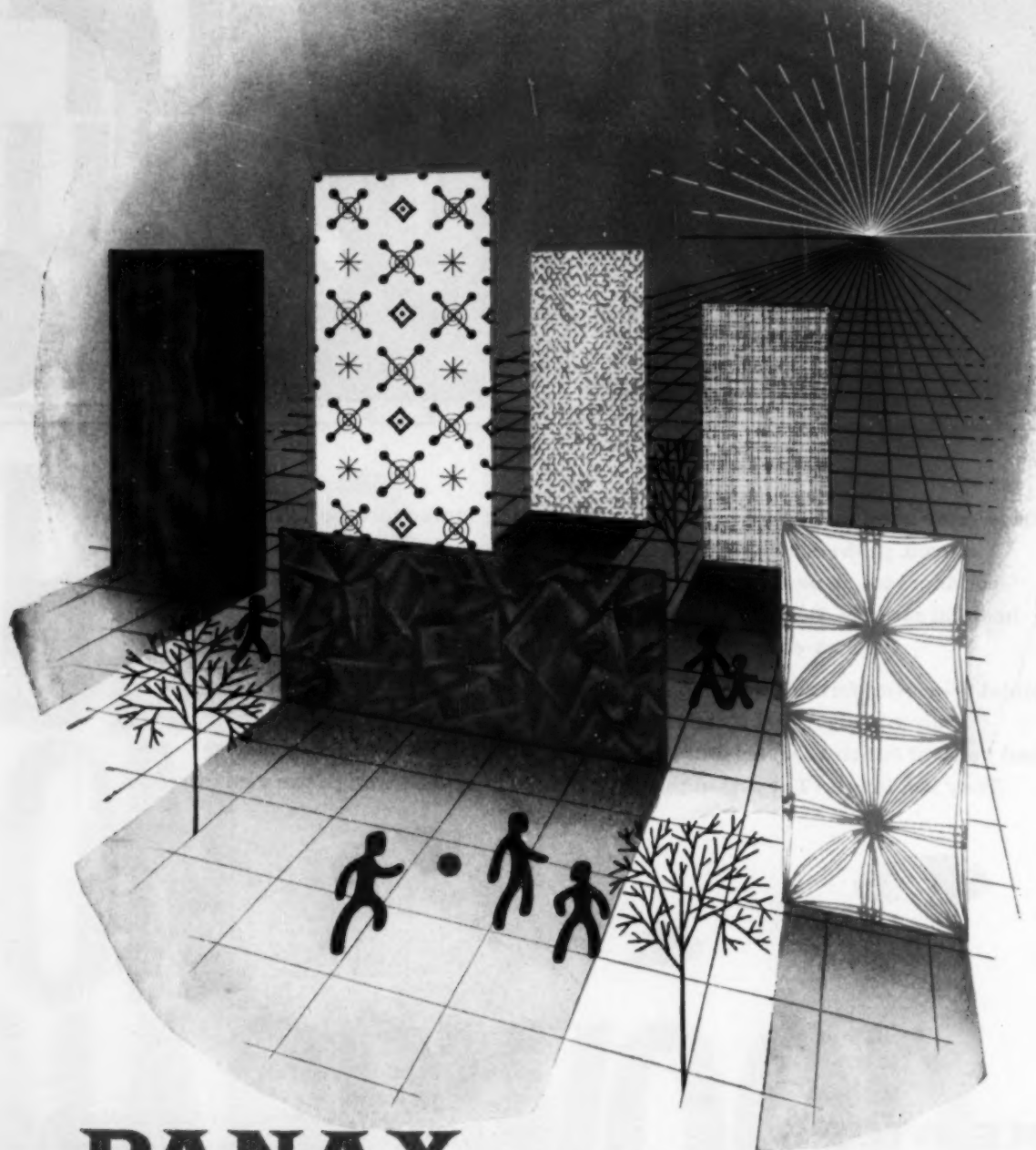


Beds—row upon row, in ward after ward. Standing foursquare, or being moved, pushed, wheeled—on durable hardwood floors. In miles of busy corridors too, floor surfaces must carry the never-ceasing traffic of hospital activity. Durable, resilient hardwood floors have proved to be the best-equipped flooring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

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

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



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The trend in lighting today is towards high illumination. High illumination is an excellent thing in itself, but until now it has inevitably been accompanied by excessive glare with consequent discomfort to the eyes. This discomfort glare, caused not only by the light source itself, but also by the fittings, results in the increased light becoming instead of an aid to efficiency, the very reverse, an actual distraction.

Look at the picture. The office is more than adequately lighted, yet the light fittings themselves are not emitting any appreciable glare. The light source is, in fact, *unobtrusive*.

This is G.E.C. comfort in lighting—a new technique in which the G.E.C. has gone a long way towards removing discomfort glare by using high illumination in conjunction with low brightness fittings of high luminous output, sometimes called “dark” fittings because by correct design and use of suitable materials, they actually appear to be dark.

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*high level illumination without discomfort glare*

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# lighting

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LIGHTING DIVISION

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



**Lowest running costs.** The big news in central heating these days is the amazing cheapness of the solid fuel systems. For example, the average weekly running cost for a two- or three-radiator system can be as little as 11/1d! Just compare that with oil, gas and electricity—see chart on right.

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

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

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

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

| 6 or 7 radiators and hot water ▼                                 |   |       |        |
|--|---|-------|--------|
| 2 or 3 radiators and hot water ▼                                 |   |       |        |
| <b>COKE</b><br><small>In independent boiler</small>              | 10/- per cwt                                      | 11/1d | 16/8d  |
| <b>SMALL ANTHRACITE</b><br><small>In gravity feed boiler</small> | 12/6d per cwt                                     | —     | 14/8d  |
| <b>GAS</b>   | 1/4d therm plus, say, 2/6d a week standing charge | 16/1d | 23/6d  |
| <b>ELECTRICITY</b>   | 1d unit (No standing charge included)             | 18/2d | 29/10d |
| <b>OIL</b>   | 1/5½d gallon                                      | *13/- | *23/-  |

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

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

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*TEXIDEC, a development of our standard Emulsion Coating, is extremely economical by comparison with other textured finishes of comparable durability. We will gladly send sample panels and full details on request...*



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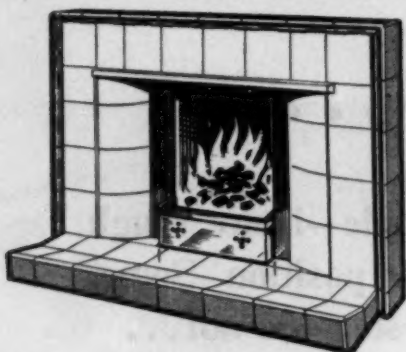
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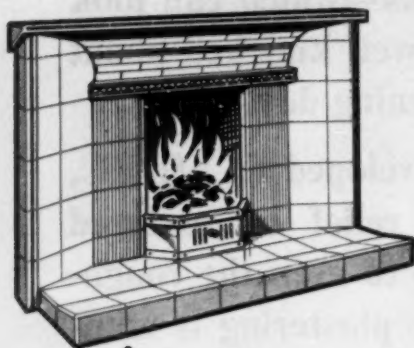
Newport, Mon.: Clarence Wharf, NEWPORT 58272

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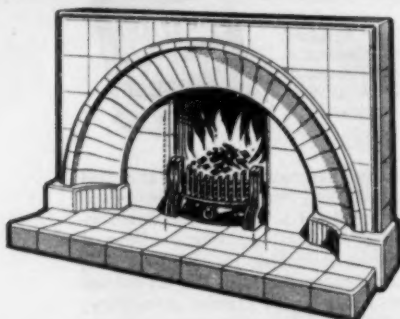




*for every home*



*there's a -*



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48" x 33" x 6" R.T.W.  
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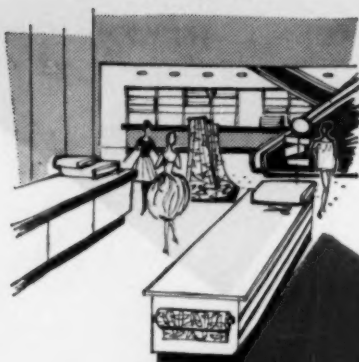
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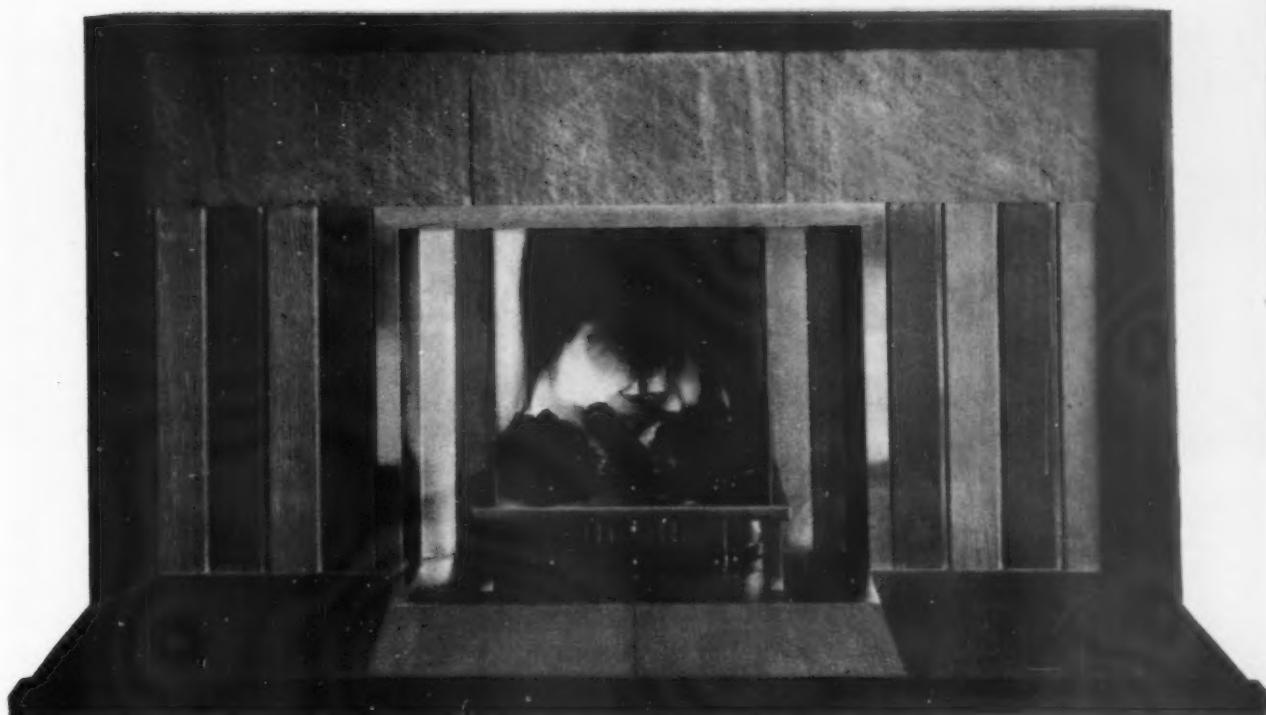
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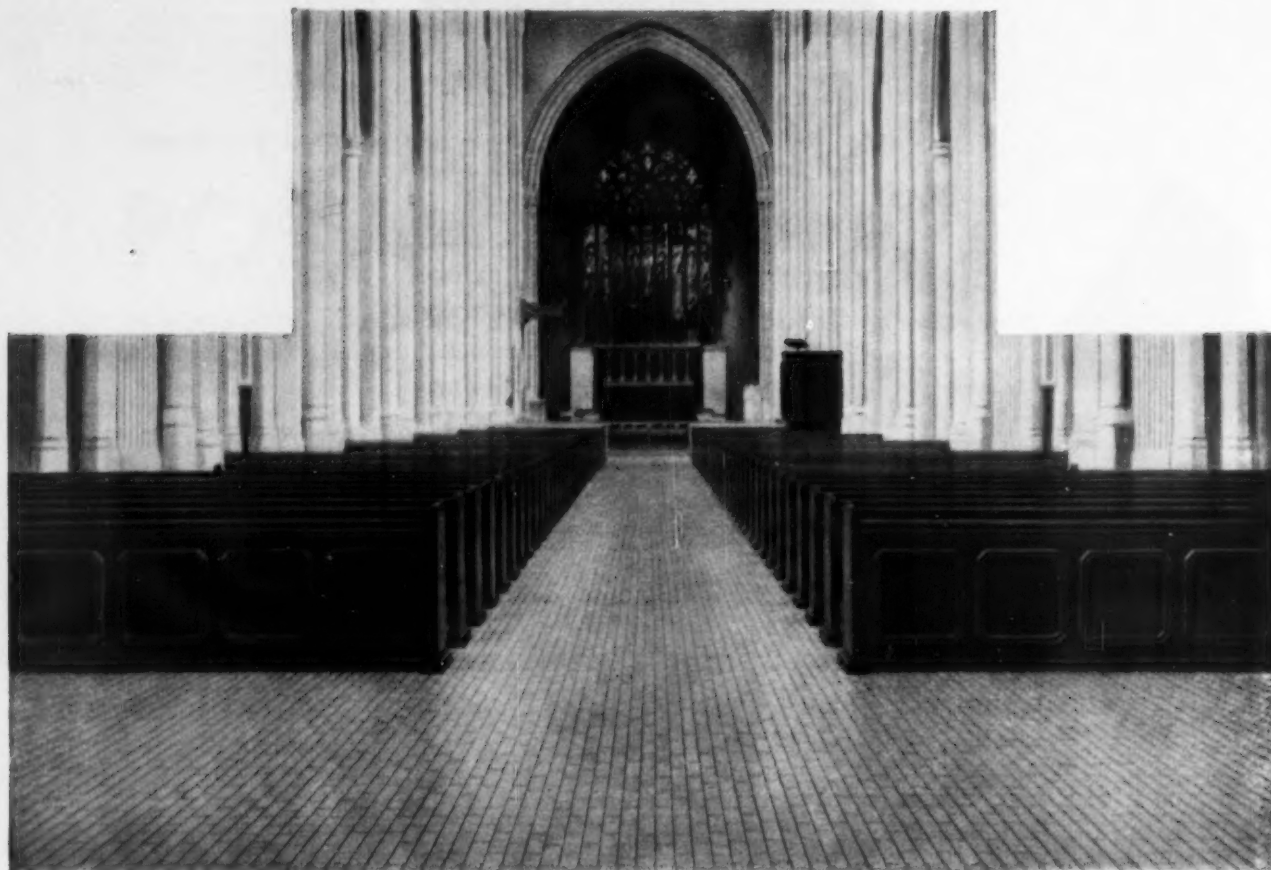
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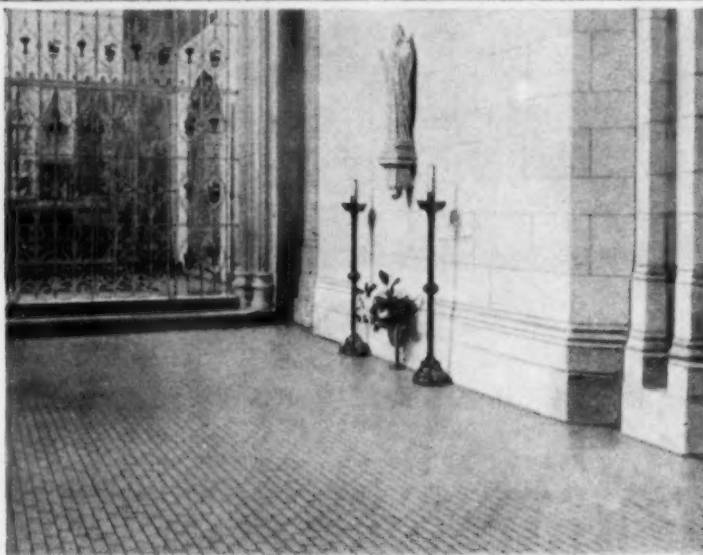
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See Architects Journal Information Sheet No. 29B4 for detail specification.



Architect  
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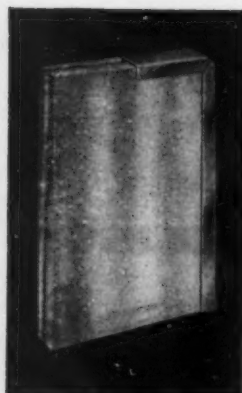
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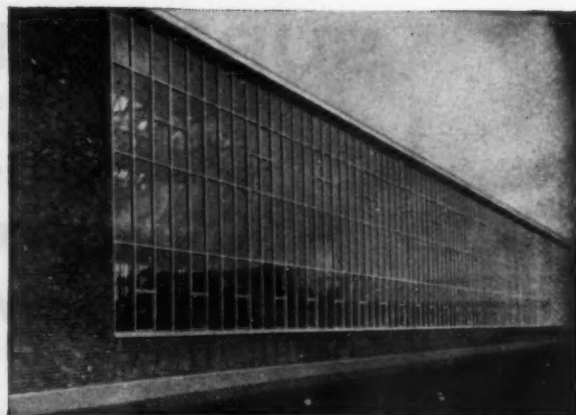


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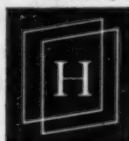
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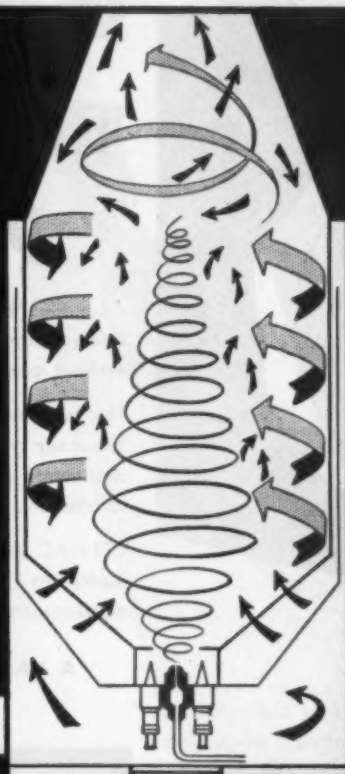
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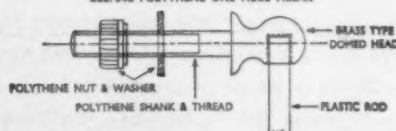
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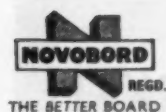
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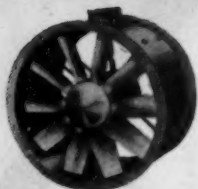


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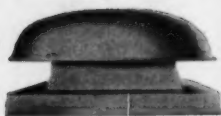
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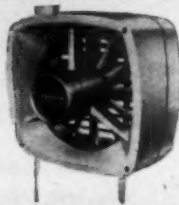
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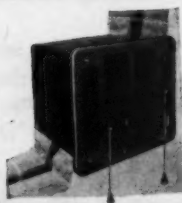
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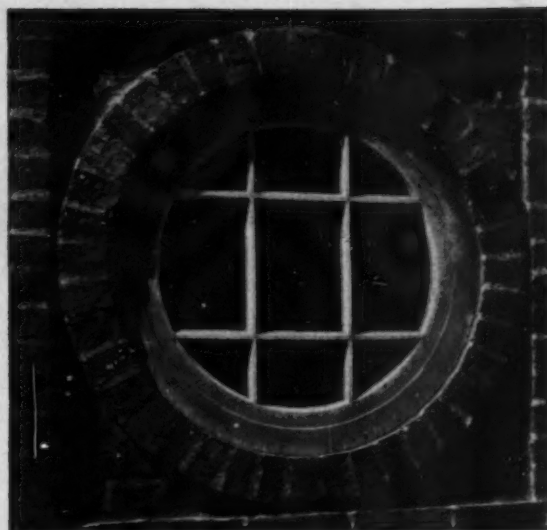
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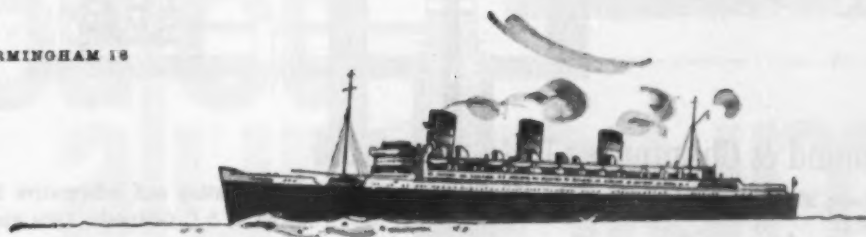
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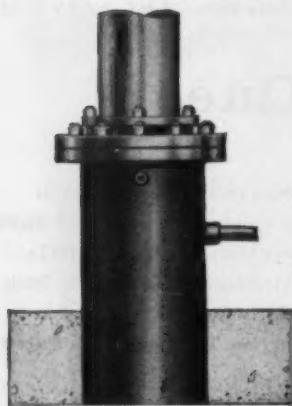
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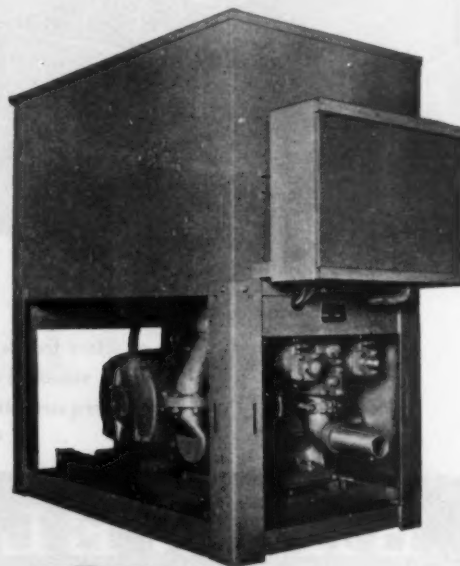


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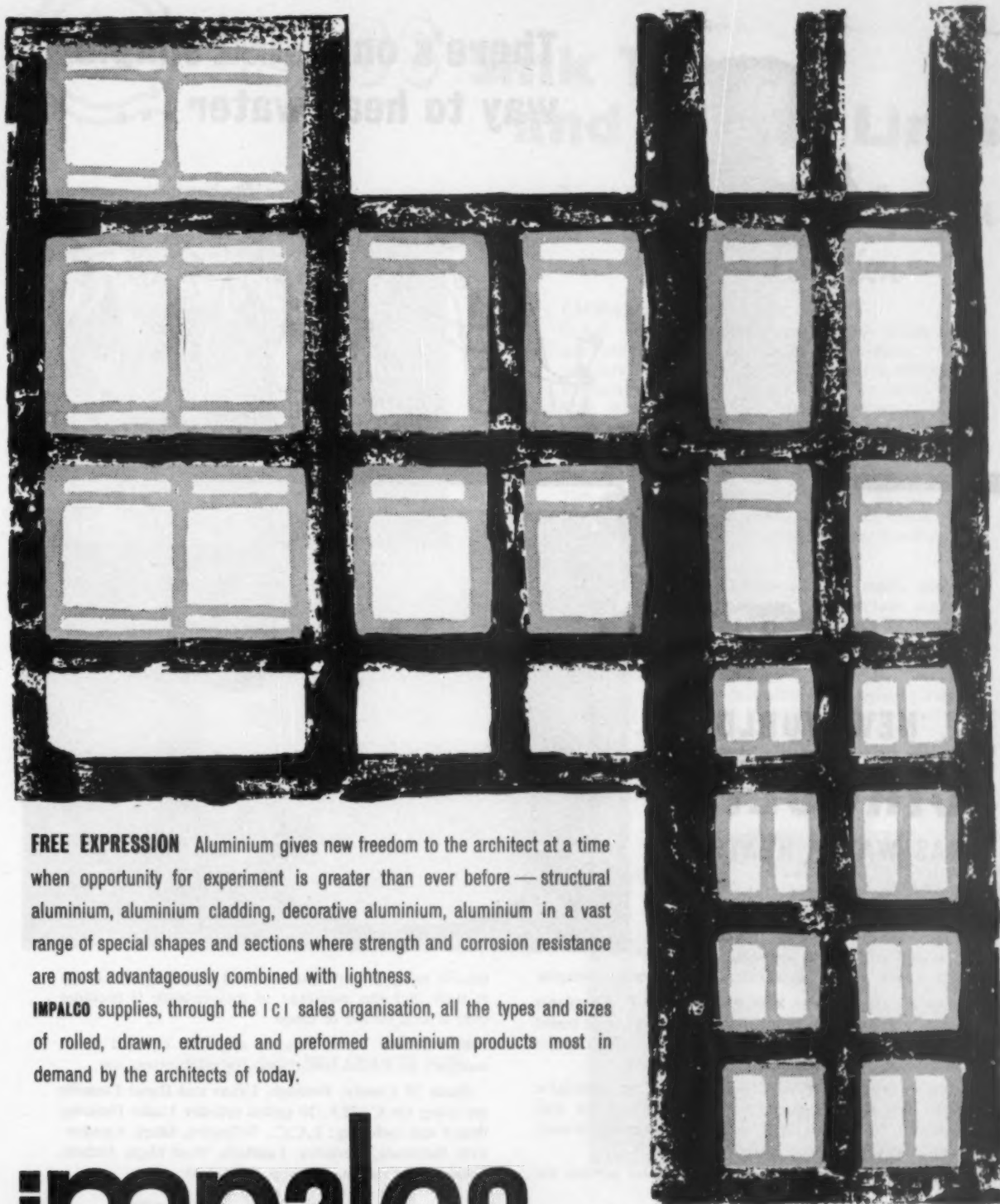
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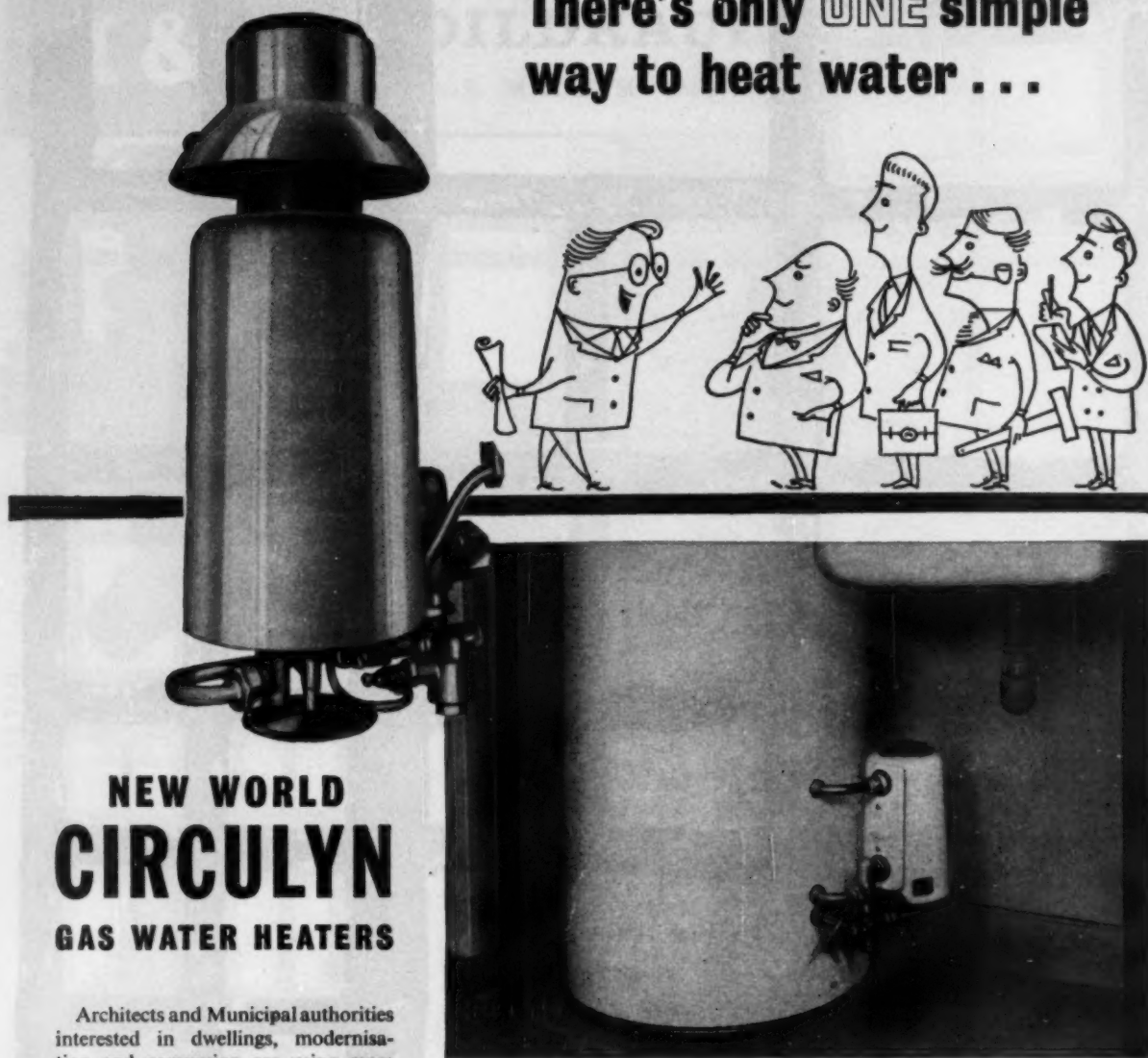
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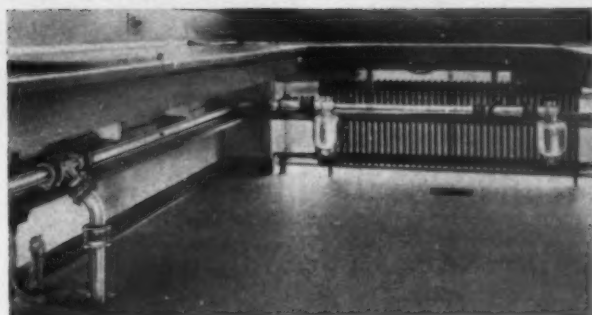
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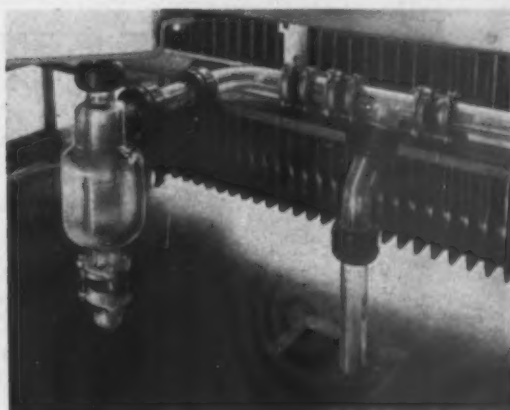
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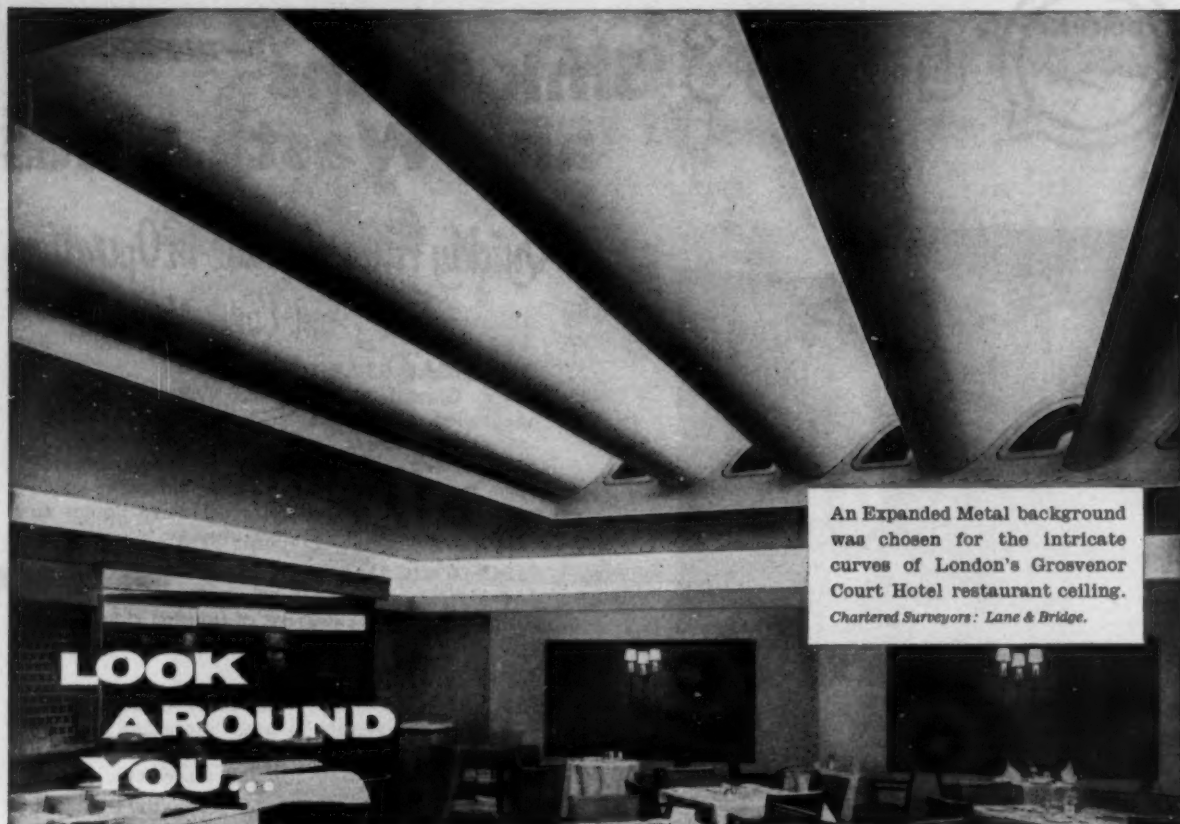
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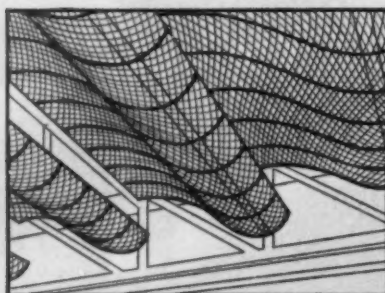
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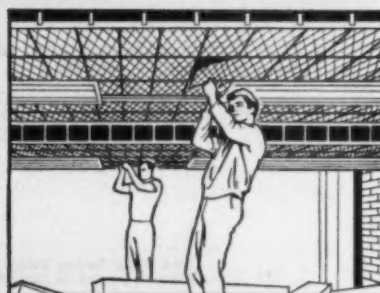
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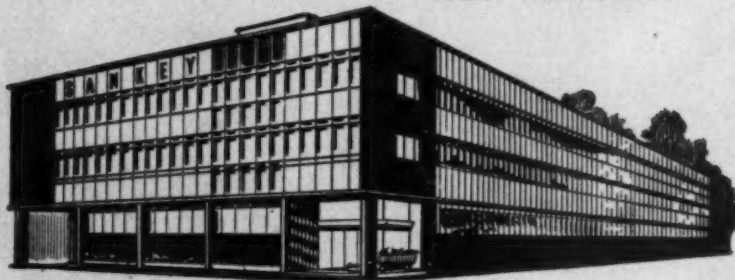
**"SANKEY"** Down Draught Preventing Chimney Pot.

**CRANHAM** Terra-cotta Hollow Partition and Building Blocks.

**MOLER** Lightweight Hollow and Solid Insulating Partition Blocks and Insulating Bricks.

ALL  
BUILDING MATERIALS  
FROM  
ROOF TO FOUNDATION.

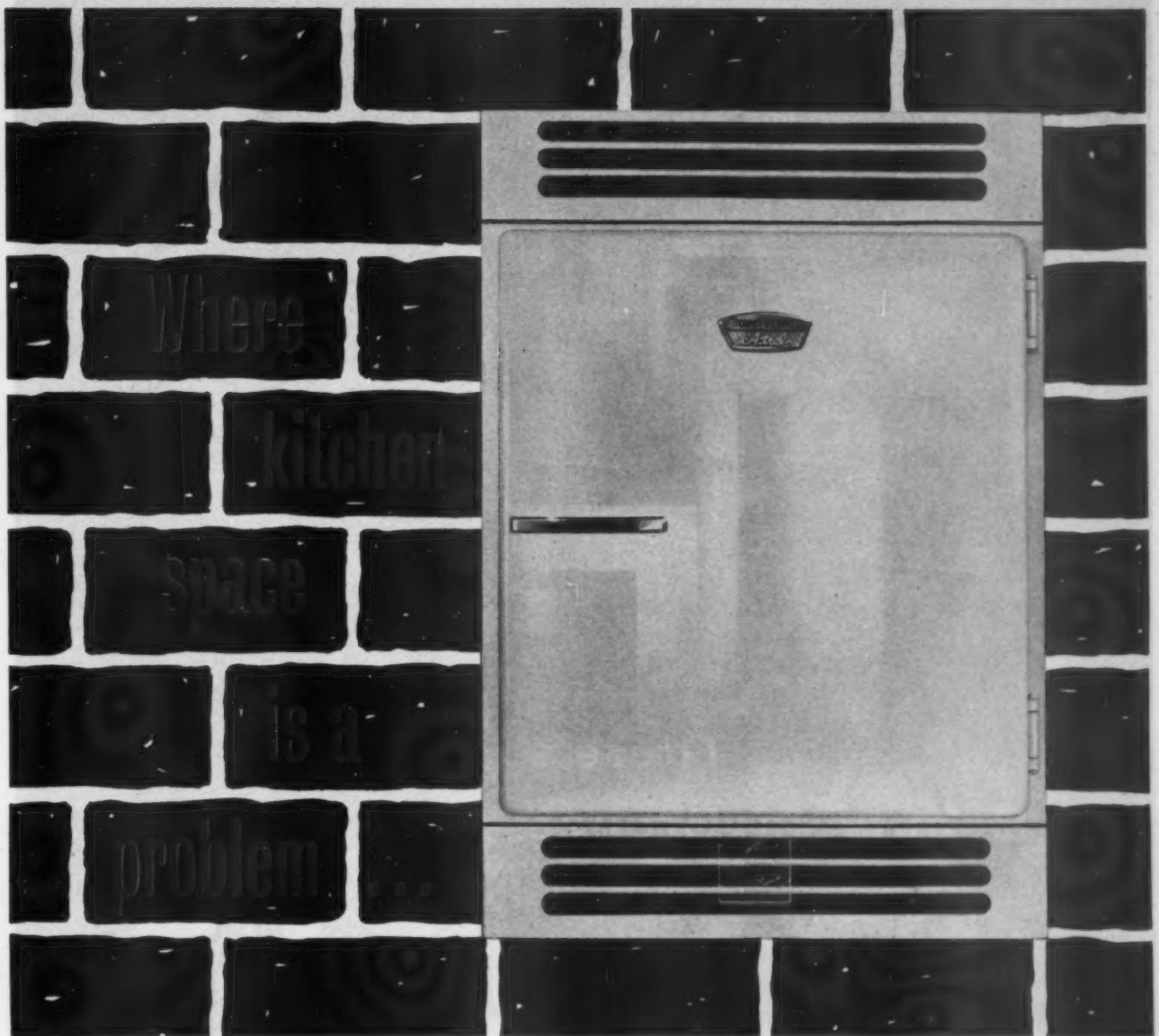
ESSEX WORKS 1960



**J.H.SANKEY & SON LTD**

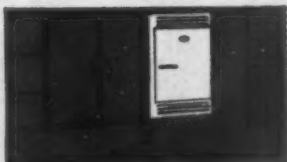
ESSEX WORKS, BARKING, ESSEX

PHONE: DOMINION 6666. GRAMS: BRICKWORK, BARKING.



## Morphy-Richards 'Astral' 1.6 cu.ft. Built-In Refrigerator

**IDEAL FOR FLATS**  
gives more room,  
saves vital space . . .



**KITCHEN UNITS**  
leaves precious working  
surfaces free . . .



**HOUSE CONVERSIONS**  
fits into walls, cabinets,  
old fireplaces



Planning new buildings? Converting flats? Modernising old houses? *Anywhere* where space is at a premium, the Morphy-Richards 'Astral' Built-In refrigerator comes into its own. This remarkable flush-fitting refrigerator, in fact, *saves space, any place.*

\* Town gas, bottled gas and electric models—all available with left or right hand opening door. **£32-10- 0 inc. tax**

**Morphy-Richards, 50 Conduit Street, London, W.1**

Please send me leaflet on the 'Astral' 1.6 cu. ft. Built-In Refrigerator plus details of installation for all models.

Name

Address

Town  County

AJ1

## There's Beauty in Bronze

There is a beauty in bronze which is not only aesthetically pleasing but also functional. It is a material which has been used for centuries and is still popular today.

Delta Metal Company Ltd. is a leading manufacturer of bronze products. The advantages of the use of bronze are many. It is a strong, durable material which is resistant to corrosion and is easy to maintain. It is also a beautiful material which adds to the aesthetic appeal of any building.

"Delta" bronze is a special alloy which is particularly suitable for use in the construction of stairs and handrails. It is a strong, durable material which is resistant to corrosion and is easy to maintain. It is also a beautiful material which adds to the aesthetic appeal of any building.

We have a wide range of bronze products to suit your requirements. Contact us today for more information.

**The Delta Metal Company Limited**

General Office: 100, Victoria Road, London, S.E. 15

Telephone: 01-473 1111



Handrail and Staircase in Delta Bronze





**PHILIPS**

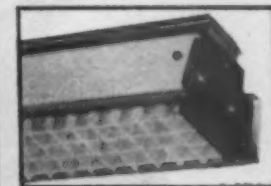
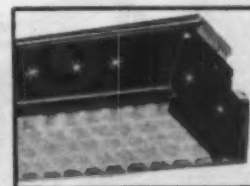
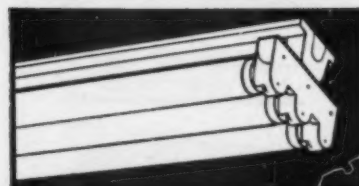
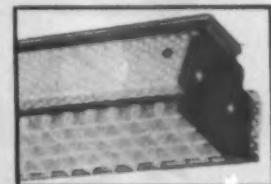
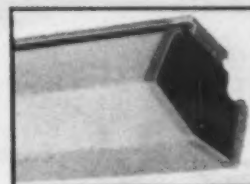
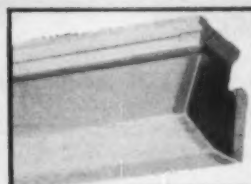
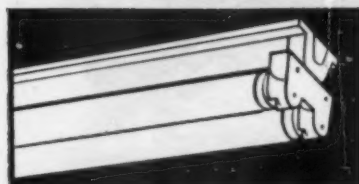
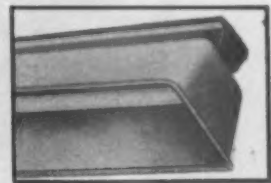
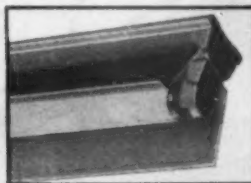
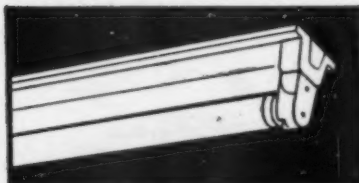
# *streamlite*

## *is here!*

The newest, slimmest lighting fittings for 1, 2 and 3 lamps 5ft. 80w (1 & 2 lamps 2ft. 20w, 4ft. 40w)—with a big range of reflector and diffuser attachments

Philips Streamlite – it's the newest thing in fluorescent lighting fittings. And it out-dates every other type of fitting on the market. For Philips Streamlite – so slim, so sleek, so stylish – has far more to offer than any other fluorescent fittings you can buy, including some advantages that are as unique as they are striking:

- Philips Streamlite gives you Switch and Switchless start in the popular sizes.
- There is a choice of one, two or three lamp fittings – all equipped with Philips even thinner Polyester ballasts.
- B.S. Box fixing and conduit entries at 24" centres. (B.S. 2467) 2ft. 20w. 17½"
- It is extraordinarily reasonable in price.
- It is suitable for single and continuous mounting.
- Philips Sprung Rotor lampholders with earth plungers for lamp end-caps—rapid fixing, automatic positioning.
- 10 amp. mains terminal block, and earth connection.
- Full length back plate with rigidly secured cast alloy ends providing earth continuity for end entry conduit.



**SEND THIS COUPON FOR COMPLETE INFORMATION**



To: Philips Electrical Ltd., Lamp and Lighting Group, Century House, Shaftesbury Avenue, London, W.C.2

Please send me the comprehensive leaflet giving full details of Philips 'Streamlite' fittings.

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

SAJ 2

**PHILIPS LEAD THE WORLD IN LIGHTING**

(LD9384)



## There's Beauty in Bronze

There is a certain quietly elegant steel bronze which imparts a permanent and constantly fashionable beauty to traditional or contemporary design.

"Delta" Bronze No. 14, with its great strength and high resistance to corrosion is also the architect's most practical material. The advantages in the form of extruded sections are numerous. The surfaces are always smooth and clean and do not require machining. Angles and lines are clearly defined and display the architect's designs to their best advantage.

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We are responsible for the quality of our products. Why not ask for our name?



Photo showing in Delta Bronze Grange Co.,  
London, England

### The Delta Metal Company Limited

TUNNEL AVENUE, EAST GREENWICH, LONDON, S.E.10

Telephone: Greenwich 3123. Telegrams: Delta London SE10



**PHILIPS**

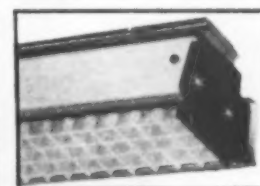
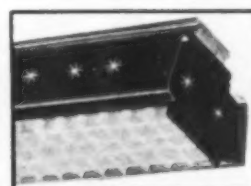
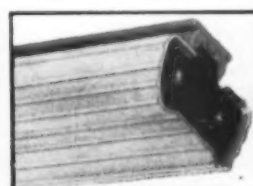
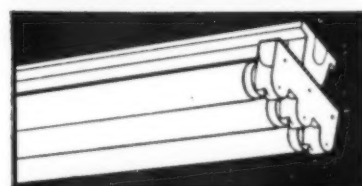
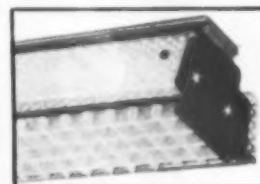
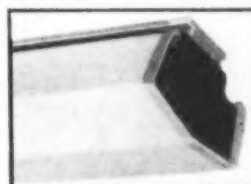
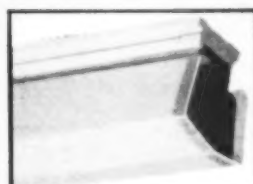
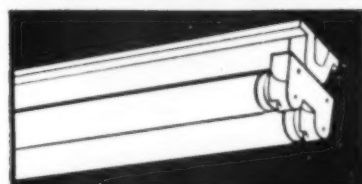
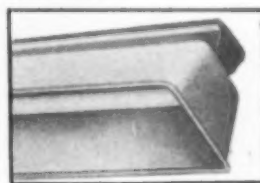
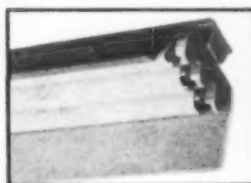
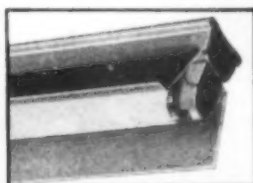
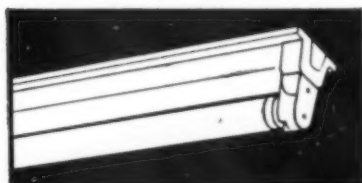
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ADDRESS

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**PHILIPS LEAD THE WORLD IN LIGHTING**

(LD3284)

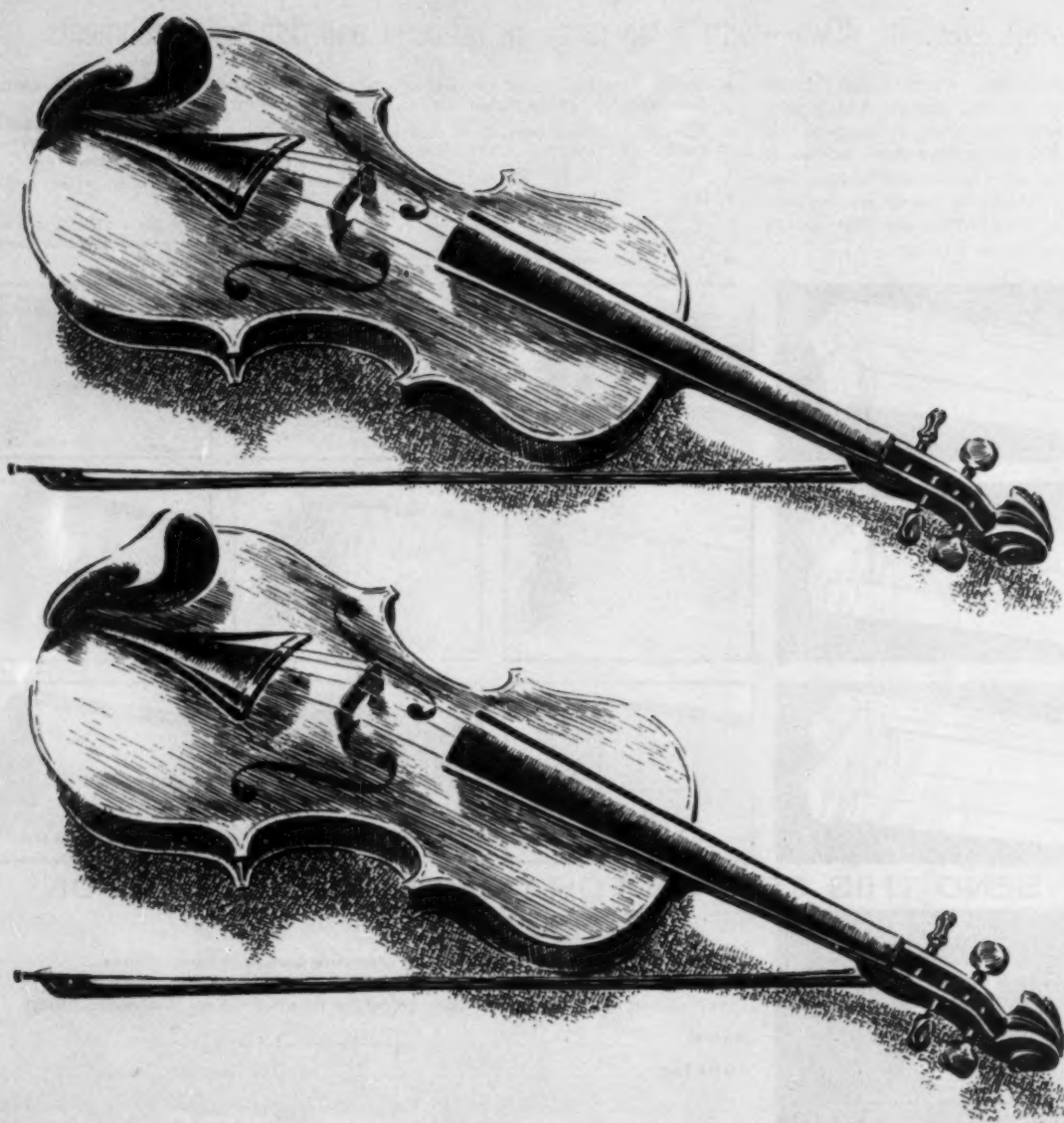


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To the eye of any but an expert, the inherent qualities of the genuine article will not be apparent on first sight when it is viewed by the side of an inferior instrument.

SECOMASTIC joint sealant has, for many years, been chosen by architects in more than forty countries throughout the world. In many cases, SECOMASTIC has been specified in preference to the locally produced, cheaper mastics, because SECOMASTIC has been established, by actual use extending over many years, as a completely reliable product, with a life and performance which put it in a separate class to any similar product.

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## SWITCH AND PLUG UNIT

Introducing a new 60-ampere 550-volt switch and plug unit capable of working continuously at full load in heavy industrial conditions.

Ask for pamphlet 1308

### SPECIFICATION



**SWITCH:** The latest Reyrolle **H** design rated at 60 amperes 550 volts and capable of making and breaking current-surges of up to 360 amperes at 0.3 P.F.



**PLUG AND SOCKET:** A new addition to the Reyrolle "Easigo" range for industrial duty, available for D.P., T.P., or T.P. & N. service with scraping-earth connection.



**INTERLOCKS:** The switch cannot be closed with the plug withdrawn or the plug removed while the switch is 'ON'.



**PROTECTION:** An interlocked fuse-unit can be added if required.

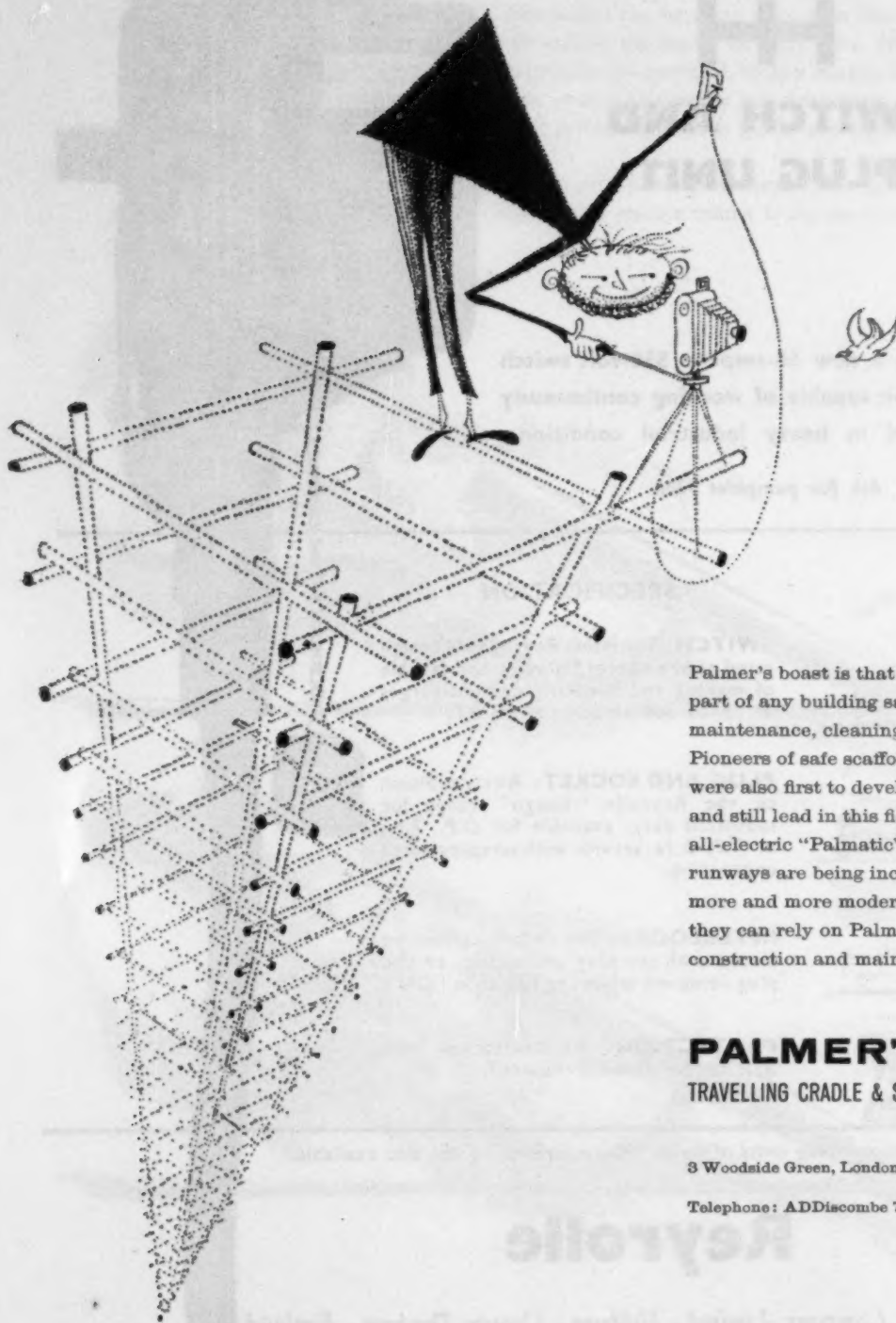
Other switch-and-plug units of up to 300-ampere rating are also available.

# Reyrolle

A. Reyrolle & Company Limited - Hebburn - County Durham - England



## People trust Palmer's



Palmer's boast is that they can make any part of any building safely accessible for maintenance, cleaning, construction or repair. Pioneers of safe scaffolding since 1880, they were also first to develop the travelling cradle and still lead in this field with their new all-electric "Palmatic". Palmer's permanent runways are being included in the design of more and more modern buildings. People know they can rely on Palmer's long experience of construction and maintenance equipment.

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different  
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for  
Speed  
and  
Strength



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INDUSTRY

Made by THE RAWLPLUG CO. LTD.,  
CROMWELL ROAD, LONDON, S.W.7

*The World's largest  
Manufacturers of  
Fixing Devices*

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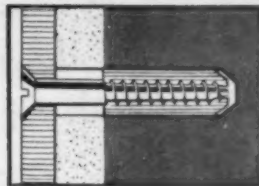
## Cut your costs with RAWLPLUG FIXING DEVICES

### FOR SPEEDY FIXING IN ANY MATERIAL

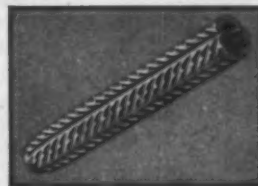
No more trouble or costly delay because the material was 'difficult'!

Whether it's concrete or plastic, breeze or sheet metal, cavity brick or lath and plaster, there's a Rawlplug Fixing Device that makes firm screw or bolt fixings quickly, easily and economically. The speedy answer to every fixing problem is one or other of the 24 different types of Rawlplug Fixing Devices. Write for illustrated brochure.

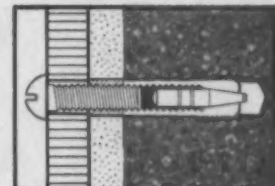
### Screw Fixings



Use the famous RAWLPLUG for neat, firm fixings in brick, stone, etc. All sizes up to  $\frac{3}{4}$ " diameter Coach Screws. Rawlplugs are waterproof and unaffected by climatic conditions.

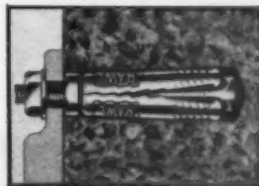


Rawlplug WHITE BRONZE PLUGS are specially suitable when the fixing is subject to very high temperatures, such as the outer brick coverings of furnaces. Use also for under-water fixings.



NEW! RAWLSETS, for  $\frac{1}{8}$ " and  $\frac{1}{4}$ " Whit. screws, are metal shell sockets which grip by expansion. Ideal for fixing signs, stoves, metal windows, fluorescent light fittings, etc. Write for leaflet.

### Bolt Fixings



For bolting down machines, use RAWLBOLTS, a *dry* fixing that grips by expansion. No cold chiselling, no waiting for concrete to harden. Sizes up to 1" bolt diameter.

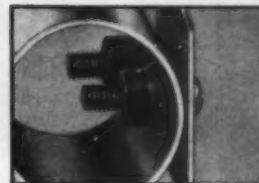


Use Rawlplug BOLT ANCHORS for bolting down in extremely wet or corrosive situations. Caulking completely seals the anchorage. Use also for anchoring Diesel Generators, Power Hammers, etc.

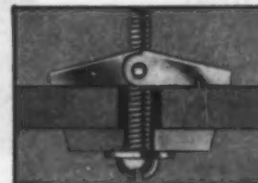


Rawlplug CEMENT-IN-SOCKETS are positioned before concrete is poured, eliminating hole-boring. They provide strong, permanent fixings wherever bolt locations can be pre-determined. For bolt diameters  $\frac{1}{2}$ " to 1".

### Cavity Fixings



Screwed up from the front the amazing RAWLNUT forms its own rivet head behind the material—airtight, watertight, vibration-proof, squeak-proof! For all thin or hollow materials.



For ceilings of lath and plaster, plasterboard, etc., use Rawlplug SPRING TOGGLES. The inserted Toggle springs open behind the material, spreading the load over a wide area.



Rawlplug GRAVITY TOGGLES are ideal for hollow materials from  $\frac{1}{4}$ " thick. Inserted horizontally, the long end falls into correct position by gravity. The screw is then tightened in normal way. For  $\frac{1}{8}$ ",  $\frac{1}{4}$ " and  $\frac{1}{2}$ " Whit. Screws.





## RADIATORS BY CRANE

Bishop's House, the fine modern building which is part of the new Holborn development scheme, is heated throughout by Crane Pall Mall radiators—some 490 units in all. The types used comprise 2, 4 and 6 column in heights 18", 24" and 36". Crane Radiators are made in cast iron. As well as doing a first class job of maintaining a comfortable temperature everywhere, harmonising unobtrusively with their surroundings, they give long, hardworking service, free of maintenance costs.

\*

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## CRANE HEATING EQUIPMENT

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**1 WINDOWWALL**  
A glazing frame made from superior quality pressed concrete subjected to high frequency vibration in manufacture, which with reinforcement in the courses can be built into large areas of glazing.

**2 RECONSTRUCTED STONE**  
A complete service is available so that details can be taken off architects' drawings, stone produced and fixing sub-contracts undertaken.

**3 EXPOSED AGGREGATE CLADDING PANELS**  
Atlas Stone have specialised in the production of these units for some time and are confident that they can offer material second to none on the market.

**4 B. S. BUILDING BLOCKS**  
One of the largest single block making units is operating at Greenhithe Works producing 1000 yards per day.

**5 SPECTRA-GLAZE**  
Atlas Stone have pioneered the introduction to the U.K. of this range of blocks with a semi-glazed coloured finish.

**6 QUICKBUILD**  
A new block which can make material savings in building costs.

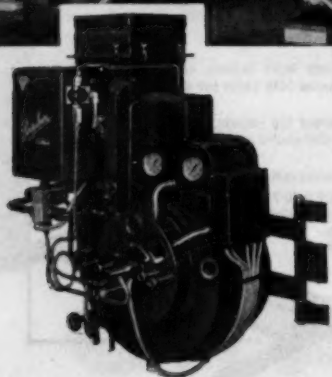
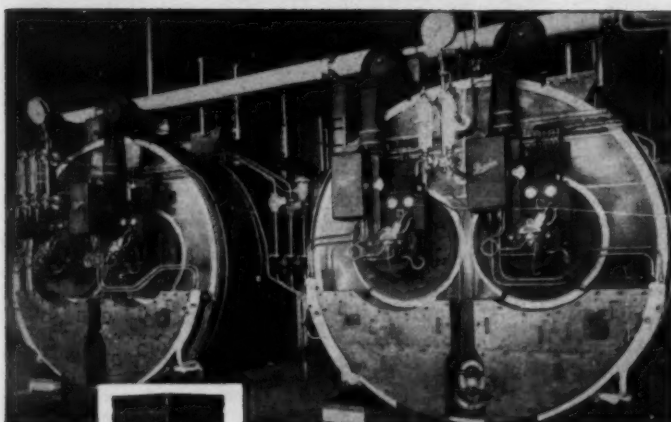
**7 PRECAST CONCRETE ROOF AND FLOOR UNITS**  
Illustrate the capacity for producing structural concrete to specification. Atlas Stone are currently making the OMNIA floor under sub-license.

**THE Atlas Stone COMPANY LIMITED EST. 1902**

Artillery House, Artillery Row, London, S.W.1. Tel.: ABBey 3081-2-3-4. Grams: Atlastonco, Sowest London  
Works at: GREENHITHE . STROOD . MELDRETH . CAMBRIDGE . SHORNE . RYE (SUSSEX) . GREAT YARMOUTH

# Industry is turning to **Puripher** Oil Burners

for **7** good reasons



Typical Puripher installation  
—at the new factory of  
Philips Records Ltd., Walthamstow.  
Each of the 4 type  
200 TZ burners being  
capable of 6.4 million B.T.U's.  
The above efficiency  
was obtained on the  
plant with very fluctuating load.



## PURIPHER OIL BURNERS

Manufactured by **GOTHIC ENGINEERING CO. LIMITED**  
Registered users of the trade mark 'Puripher'

London Sales Office :—  
140, Grosvenor Road, London, S.W.1. Telephone No. Tate Gallery 0078

Head Office :—  
Union St., West Bromwich Tel : West Bromwich 1391

### 1 HIGH AVERAGE EFFICIENCY

85% on nett C.V. of fuel. 15.35 lbs evaporation per lb fuel from and at 212°F. Bacharach Smoke Scale No. 2

Unique valve block and air control assembly ensures balanced oil/air ratio with realistic modulation. Instant response to boiler demand.

2 Equally unique spiral turbulating flame, produced without moving parts. Both fuel and air are spirally turbulated, and I.D. fans are unnecessary.

3 High pressure atomisation. Air is controlled and balanced throughout the range and ensures even distribution of air throughout the entire flame area.

4 Burners accept fuel from 200 sec. Redwood 1 to 3,500 Redwood 1 at 100°F. without changing atomisers.

5 Puripher Oil Burners are completely automatic and run for long periods without attention. Automatic sequence control gives full protection.

6 Electronic sequence control giving purge period and oil circulation thus obviating any smoke on starting, the nozzles, pipes and oil blocks being warmed by low wattage heaters during the shut down or stand-by period.

7 Burners are supplied to suit any specific needs.

Smee's G.5

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representing  
the total resources of the  
Rubber and Thermoplastic  
Cablemaking Companies  
of the BICC Group  
— now combined to give  
the Electrical Industry  
the service it needs.



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# BOOTH Steelwork

cuts the cost of  
every type of steel structure

## Booth Steelwork for Boots The Chemists

Below is a photograph of the steelwork erected for Boots the Chemists' new shop on the corner of Bridge Street and Deansgate, Bolton.

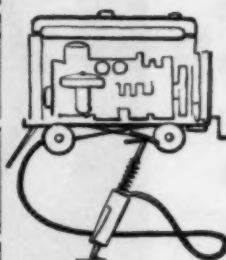
Architect: C. St. C. Oakes, M.B.E.,  
F.R.I.B.A.



## Booth Steelwork for Ingersoll-Rand

The photograph below shows steelwork in course of erection for extension to this well-known company's premises at Trafford Park, Manchester.

Architect: Harry S. Fairhurst &  
Son, F/A.R.I.B.A.



# BOOTH Steelwork

JOHN BOOTH & SONS (BOLTON) LTD.

Tel: BOLTON 1195.

HULTON STEELWORKS, BOLTON

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*Pirelli Saga panels are very simple to fit, and they can be easily removed and replaced.*

*Pirelli Saga panels are attractively made. Standard size 2 x 2 ft. They are not at all expensive.*

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# ALAFLO

\* They were referring to a bridge which, since its installation, has carried tens of thousands of people, in heavy industrial footwear, in the worst weather in England. An ALAFLO installation, of course! The illustration shows the ALAFLO bridge after 6 years.

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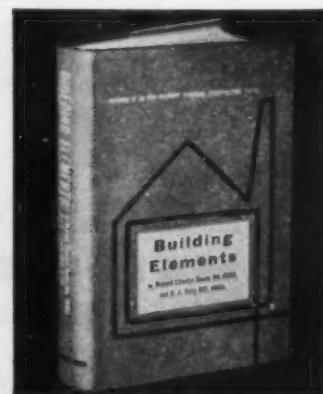


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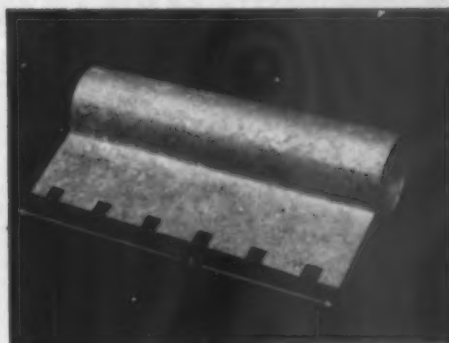


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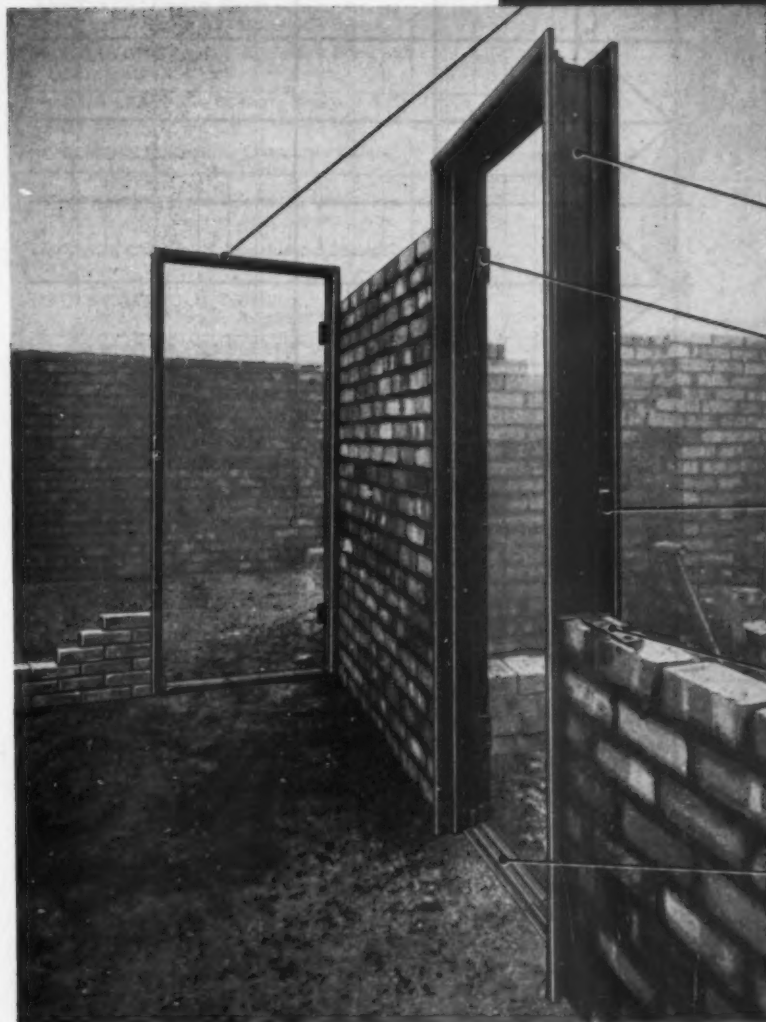
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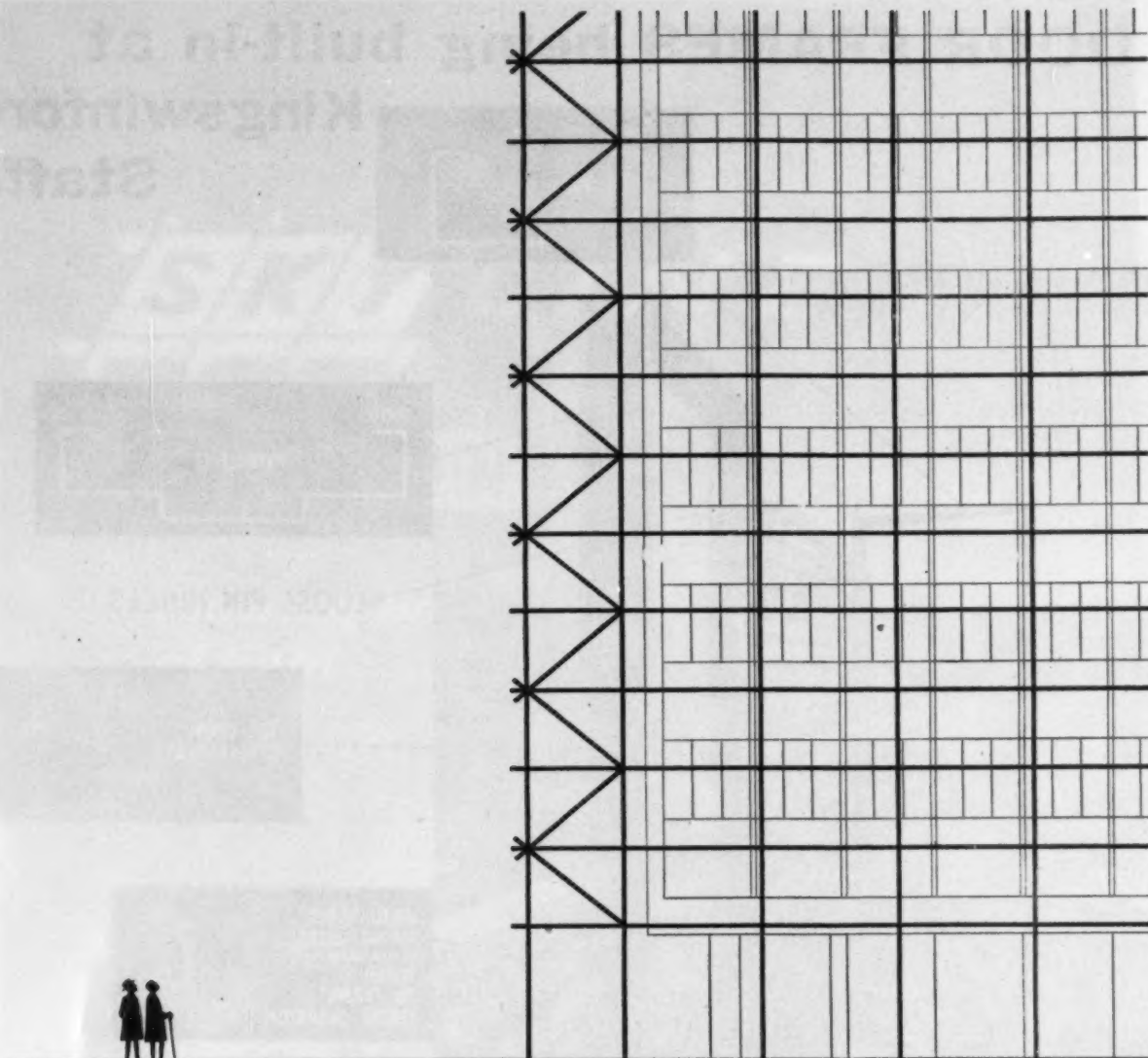
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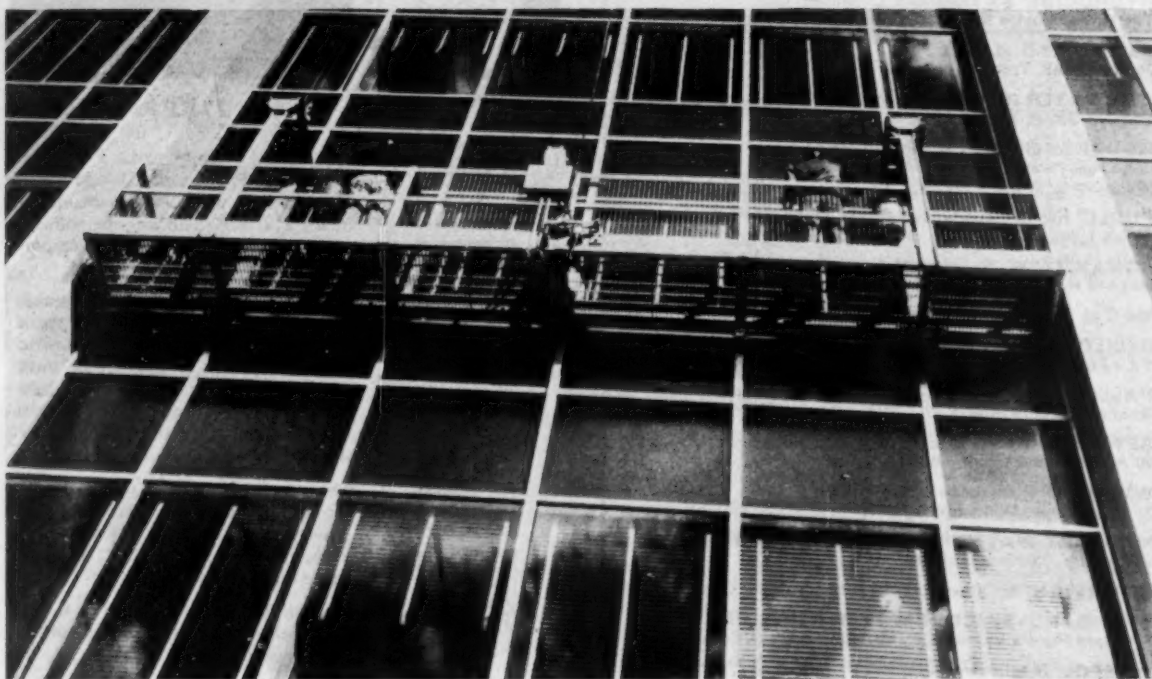
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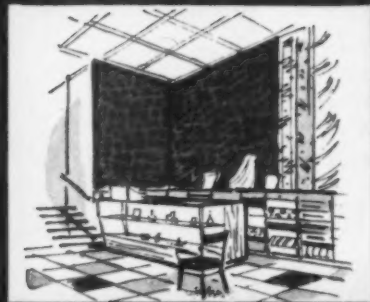
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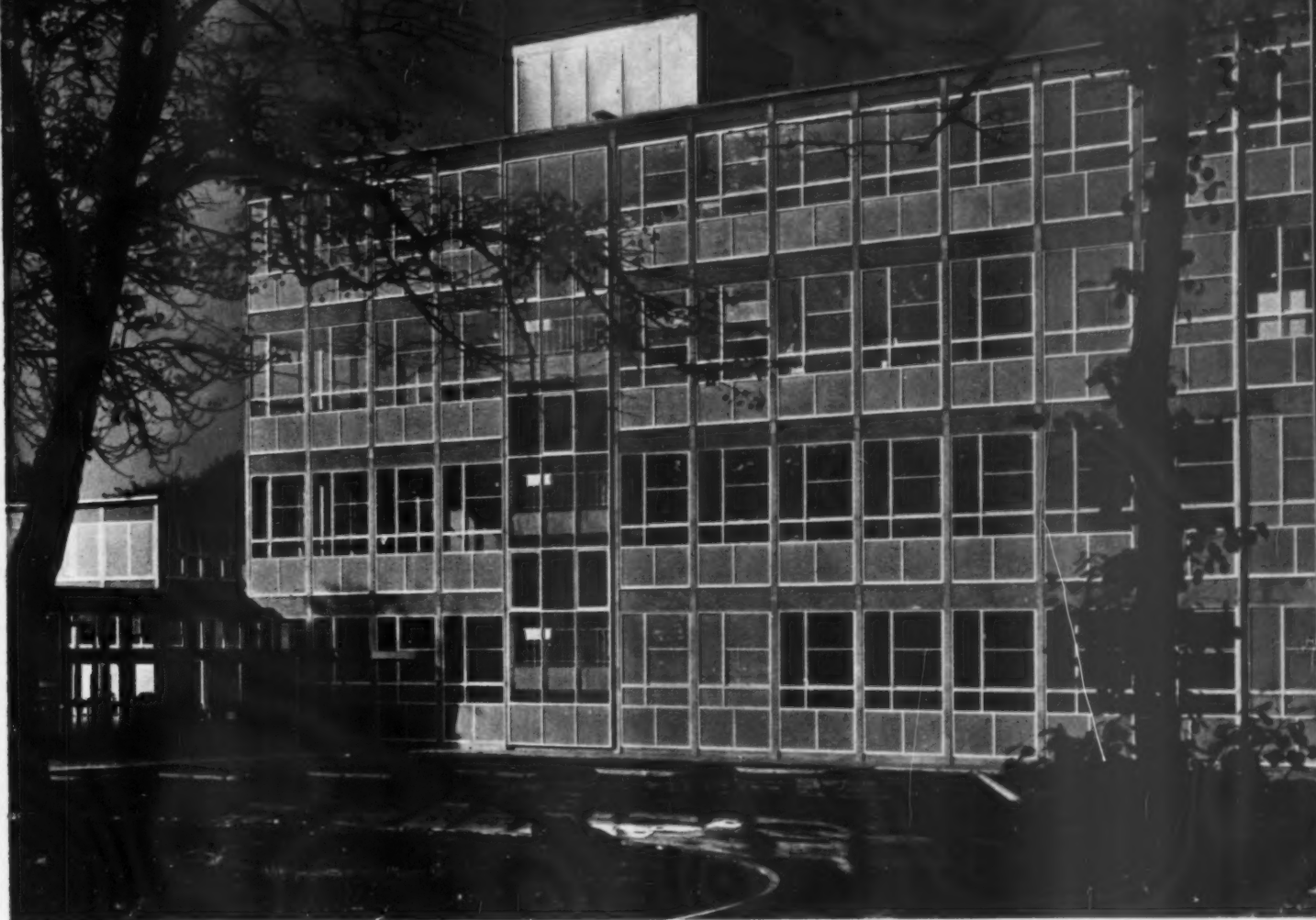
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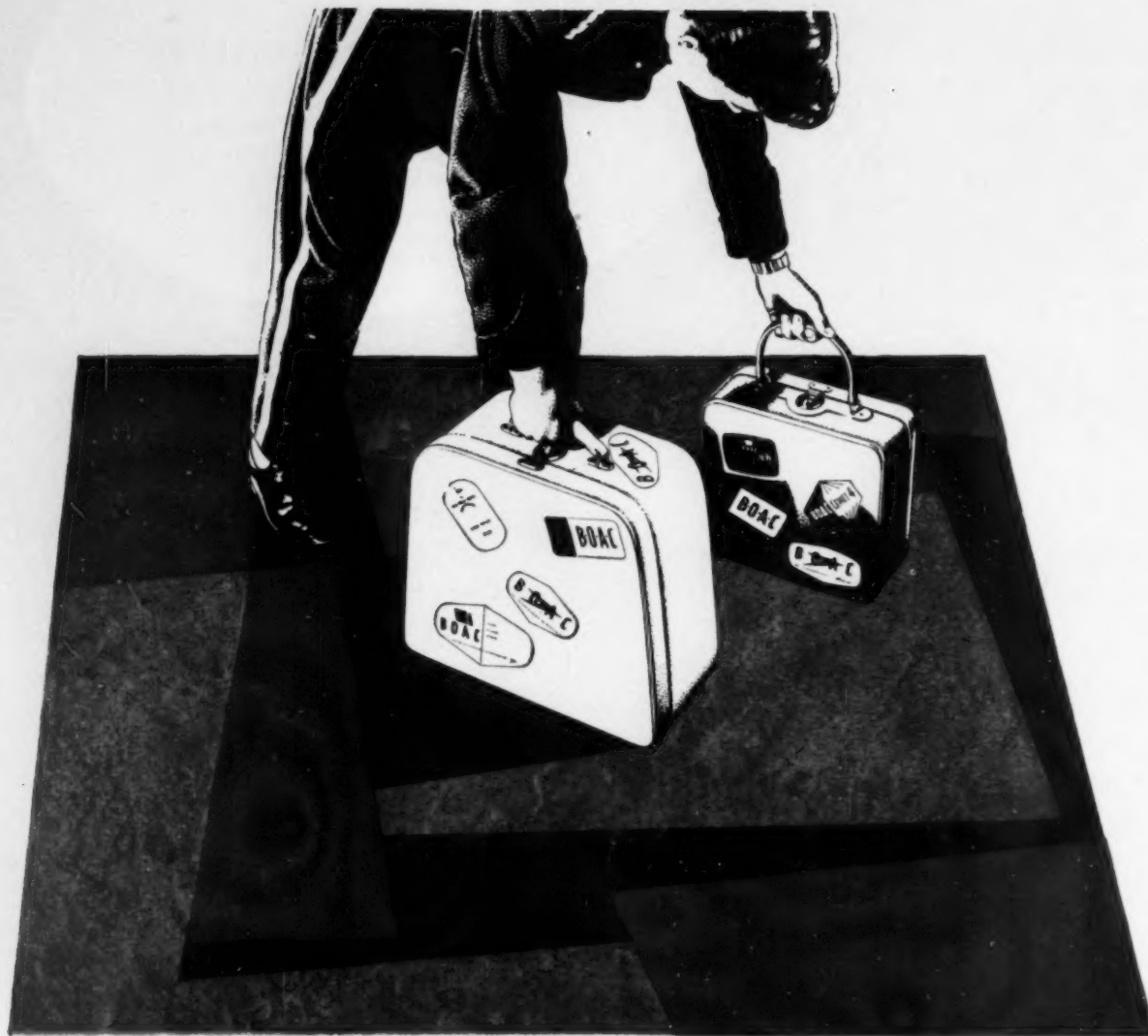
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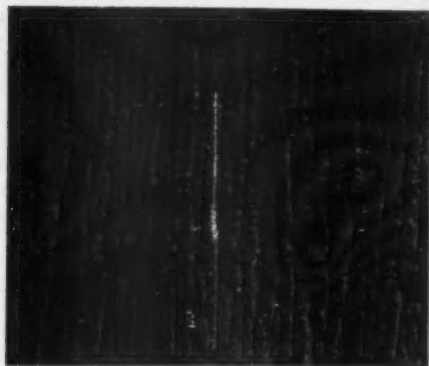
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The Architects' Journal

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NOT QUITE ARCHITECTURE

## Not Waterford Glass, I Trust

Among recurrent subjects of scandal and concern, occasionally reaching the correspondence columns of *Top Fourpenny*, toughened glass is rarely out of the hit parade for long. Usually it is the persistent grouch of the motorist whose windscreen suddenly becomes an action mosaic when he least wants it. But those who walk through glass doors in polarising spectacles will know that the physical properties of toughened glass are nothing to its optical; it's the only material known to man that has tweed finish on the inside. And that apparently isn't all, it has other tricks up its sleeve—so have the complaints department of the manufacturers—as will appear from the solemn warning delivered below by our man in Merriion Square (you know, the one who cares about toilets):

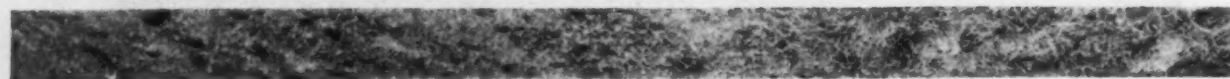
I write to warn those who may not know of an unadvertised blemish in certain types of glass. The manufacturers admit the existence of this blemish only under pressure and then with the elastic qualification (a) that the blemish is a virtue of which they're rather proud, (b) that the blemish is a blemish for which the architect is blame-worthy.

SAVE OUR BEAUTIFUL HENLEY . . .



. . . OR DESTROY IT ?

See pages  
712 and 713





Toughened glass was not among the materials students were taught about a quarter of a century ago. Post-graduate advertisements, not small, not infrequent, have kept us informed of its qualities, but not of the irregular indelible rainbow hue without which no piece leaves the factory.

Up at the mill the thought is that the product, though expensive, is good value, being two things for the price of one, namely clear glass and stained glass. In a sellers' market that makes sense to the sellers; the buyer will think rather of the Sellars of Sellars and Yeatman, authors of "1066 and All That." The staining is attractive only to those tachistes who admire the tones appearing in petrol spread thinly over a dirty footpath.

We used toughened glass to let light into a shop 9 ft. 1½ in. wide, 6 ft. 10 in. high, and 17 ft. 4 in. deep. The shop front consists of a frameless door and a fixed window, 5 ft. wide. The glass was set back 4½ in. from the wall face; one wall face at right-angles to the front was lined with mirror-glass. When the glass went gay, I took the liberty of asking the contractor to remedy the defect, almost as though I were a real architect.

The manufacturers wrote:

"... We feel that we must refute Mr. Montgomery's reference to defects in the Glass. If only one of the panels had been showing iridescence we would have been inclined to agree that probably the Glass was defective but as both the Glasses show this defect and as each was manufactured separately and at different times, it is highly unlikely that an identical fault would occur on both plates."

That's Alice, talking through the Looking-Glass: she's at her rainbow's end and goes on to describe "iridescence" as "an optical effect." She offers the "suggestion to Mr. Montgomery that experiments with the interior lighting of the shop may well go some way towards solving the problem."

Candles?

It's the true voice from Wonderland: iridescence has two r's, "identical" means "similar," two defects cancel each other out, two wrongs make a right and glass has a capital G.

For me now, the toughened glass is what they offer you at the Borgias' house before dinner.

NIALL MONTGOMERY

## The Editors

### THE EDUCATION OF AN ARCHITECT

THE immediate problem in architectural education is to overcome the artificial division of art and science which appeared first in the early nineteenth century and widened with the development of the Beaux-Arts tradition. This was the significant point made by the new professor of the Bartlett School of Architecture, Richard Llewelyn Davies, at his inaugural lecture delivered last week. His paper is printed on pages 708-711.

The division of art and science, according to Llewelyn Davies, is still very real, despite the influence of the Bauhaus thirty years ago. He suggested that to overcome it we must go back to Vitruvius's concept of the universal man and recognise the challenge of education as being the need to fulfil this concept in the architect of today. To do this, fundamental changes must be made in our schools not only by reconstituting the traditional subjects—theory of structures, history and building construction—but also by introducing the physical and social sciences aimed at reaching a full understanding of how people will be affected by the environment created by the architect within his buildings.

Though very few of the ideas put forward in his paper by Professor Llewelyn Davies were entirely new they undoubtedly represent the very best in educational thinking today. On this occasion they were marshalled and presented brilliantly. There was little with which one could disagree except his failure to stress sufficiently the need for encouraging a practical understanding of the skills and techniques of building. A degree of practical work is an essential ingredient in the training of an architect. Professor Llewelyn Davies made no reference to the idea of a common training for all members of the building team. We must surely be moving towards this as the ideal form of education. In his new appointment Professor Llewelyn Davies has enough on his hands to make an incursion into allied fields premature. Nevertheless the omission of reference to educational integration in so profound a paper is disquieting. By necessity, of course, the paper dealt in general principles. But if it represents the basis for reform at the Bartlett that school can look forward to a new era likely to establish it as one of the best in the country. It is one thing, however, to have the ideas; another to put them into effect. Professor Llewelyn Davies is going to find that his first problem is getting suitable teachers. Many will subscribe to the fundamental approach but few are likely to combine breadth of vision with the necessary experience. Indeed, the lack of suitable teachers is going to hinder any large scale effort at reforming our education system. This is a problem which the Board of Architectural Education must meet. It would be interesting to know if any plans yet exist at Portland Place for overcoming it. One solution may be the early establishment of a training college for teachers of architecture.



## GOOD NEWS FOR SHREWSBURICURES

The proposed Shire Hall for Shrewsbury, illustrated in these pages last week, was approved on Saturday—by the County Council—with hardly a frown. The enlightened chairman, Sir Offley Wakeman, gave members excellent guidance when he told them how sensible it was to use modern materials and methods and to build in the style of the day. A colleague who attended the meeting said that while he was glad to see the scheme accepted, he was a little saddened by the way it was accepted. The council members, he said, had already worn themselves out—in the true Parkinson manner—with a very heated session on a matter that was trivial (especially financially) in comparison with the proposed £1m-and-a-bit building. They were tired and hungry, and had the choice of making a quick decision or returning to their meeting again on Saturday afternoon. They plumped for a quick decision and seemed perturbed only by the proposal to include the Lord Hill column in the forecourt.

If the traffic needs of Shrewsbury make it essential for the column to stand freely on a traffic island (it is already on a small one) then of course it must do so. But it seems there are quite a few Shropshire lads who think it would look better this way. It could hardly look worse that it does at the

moment, with its base of loose gravel topped by a few dreary benches and a couple of ugly litter bins. If you saw my picture last week you will agree that the column is vastly improved in appearance by being brought into the new scheme.

Incidentally, the local newspapers were very kind to the building and its designer—the county architect, Ralph Crowe. But why can't they drop words like "futuristic"? To describe a building in this way is enough to stir up a hate campaign for it among the most apathetic city fathers.

## BLYTON OR BLIGHT?

Not so long ago a woman wrote to me, enclosing a coloured booklet showing the Norwich face-lifting operation (done, as you will remember, with a lot of well-considered paintwork, as well as the replacement of signs, street furniture etc.) and asking me if I would care to write about the Civic Trust's success in reducing Magdalen Street to a sort of Noddy-land. I sent my correspondent a pompous letter, supporting the Trust's work, but when I looked at the booklet I realised how easy it would be to misjudge the operation on the evidence of pretty pictures. The same pictures have turned up—together with others of the face-lift in Burslem—in the Civic Trust's report, *The First Three Years*. But even people who are sceptical about what they call the "lick-of-paint" approach will surely be impressed by the evidence here of the Trust's organising ability. It can't have been easy to get the co-operation of dozens of private property owners.

For many people the Civic Trust is still no more than a formidable-sounding name. But to people it matters to, it is a name that matters. The Trust has not used its covenanted income of £40,000 a year to proclaim its existence on hoardings and television jingles. It has spent its money wisely—on exhibitions, lectures, films and so on—in a way that has brought its services to the attention of the people best qualified to use it, such as local amenity societies. And, of course, its work reached a larger public when it stepped into the Piccadilly fuss and provided evidence that no one else could afford to amass.

Only one thing bothers me about the Trust. Supposing one of its financial

backers (described in the report as public-spirited leading firms in industry) wanted to erect a Piccadilly-style pile. Would the Trust be inhibited?

## TEENS'-EYE VIEW

ASTRAGAL is always delighted when someone bothers to write a book for young people, showing that it can be fun for them to study not only architecture, but all the other things around them. At first glance, however, Geoffrey Fletcher's illustrated book for boys and girls, *Town's Eye View*\* is a bit off-putting because it has an introduction by Sir Albert Richardson. This, you might suppose, means that modern architecture is treated very badly in the book. In fact, it is not treated at all. Mr. Fletcher hasn't drawn anything more recent than a Gothic railway station. There is no reason why he should, but I wish his only reference to today's architecture had been more cheerful. Referring to the way our towns change their character, he writes: "A row of old houses becomes empty, leases are not renewed, someone buys up the property and a modern horror is built on the site."

## CONGRESS BY INSTALMENTS

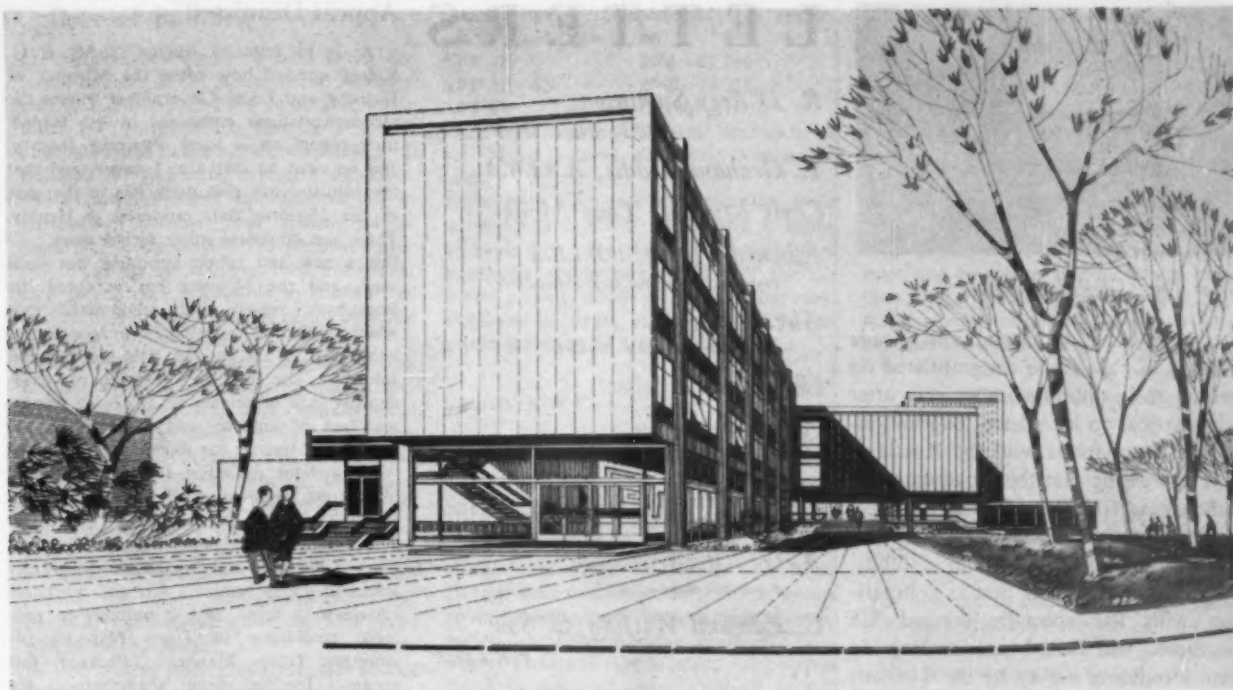
In case you are miles behind in your reading, there will be no RIBA conference next year, but an IUA congress in London instead, which all architects can attend. The fee, at £18, is higher than for an ordinary conference, but you get a lot for your money. Incidentally, you can pay by a banker's order in six £3 instalments if you wish, and if you register before January 1 you can save £2 on the fee: until then it is only £16.

Theo Crosby is rumoured to be designing the temporary exhibition building with a polythene outer skin—ASTRAGAL looks forward to seeing the details—and he is also producing a temporary headquarters building alongside. He is hoping to integrate art with his architecture and some twelve artists are concerned, including Paolozzi, Robert Adams, Turnbull, Caro and Kenneth Martin.

At one time the IUA Congress seemed more western than international. It is encouraging to see that the chairmen of the three working groups, each of which will discuss the papers in turn, will be

\* Hutchinson, 15s.





The result has just been announced of the competition for a new Civic Centre at Neath, Glamorganshire. Above is a perspective of the winning design by Kenneth R. Hatha-

way, who will receive £1,000. The assessor was Sir Percy Thomas, P.P.R.I.B.A., M.T.P.I. We hope to publish the results in greater detail next week.

Yang Ting-pao, representing China; Arie Sharon, of Israel; and Mexican Ramon Carona.

#### SYMPOSIUM

Builders and architects are holding a weekend symposium at Alston Hall, near Preston, in December, with lectures by Jack Napper, Eric de Maré, D. R. Leaker (assistant chief architect, Cumbernauld) and others. Subjects cover professional relations in the industry, design and education. The object is "to encourage the building industry to help us in design problems, and to understand how the architect ticks" writes C. H. Simmons, the Lancashire County Architect. Simmons, lately of Shropshire, was an enthusiastic supporter of the Attingham Park courses and it is good to see county architects backing this kind of venture, of which, needless to say, there are not nearly enough.

#### NOT TOO HIGH

The Architecture Club started its winter series of dinners and discussions by debating last week whether to build upwards or outwards. This produced some greatly intriguing inversions of opinion. Sir Lancelot Keay, for instance, once jeered at as a dreary old traditionalist, exuberantly

demanding not only building upwards but downwards too and "in the materials of today to solve the problems of today." And that ultra sophisticated modernist, James Cubitt, sadly stating that there was "nothing so ugly as a poor modern building . . . instead one should probably do pseudo-Georgian. . . ." Cubitt, who started the debate, was a rather cautious advocate of going high, preferring to limit buildings to 70 ft. but allowing "small islands of high scale."

\*

The solitary supporter of building outwards was Henry Wells, a chairman of Hemel Hempstead who equated the British character and climate with houses in the street and not flats in the sky and said that the architects' challenge was to "accept what the British people want and then to produce buildings of the appropriate aesthetic taste." Peter Shephard, supported by Thomas Sharp, advocated densities of 100 persons to the acre, instancing Bloomsbury, market towns, Roehampton and *Unité*. Most of the audience seemed satisfied with this.

#### WORM TURNING

ASTRAGAL'S life is made easier, thank

heaven, by the vigilance of an increasing number of correspondents. Architect David Stern draws my attention to a report in the *Finchley Times* of a Federation of Master Builders' branch meeting in which a local mayor, after congratulating the builders on their high standards, and their good relationships with local authorities, added: "But I would like to see the builders influencing the architects a bit more, particularly on the question of style."

\*

Such a remark could be dismissed with amused contempt, except for the fact that builders *are* trying to influence architects, and, occasionally, for the right reasons. Frank Massicot, writing in the October *The Master Builder*, complains about the low standards of craftsmanship, due to bad site supervision, insufficient installation data, or atrocious detailing, and instances an ugly small-bore heating installation executed to an architect's instructions. Criticism from such a source should be more frequent.

#### MOSCOW LET-DOWN

Next year's British Trade Fair in Moscow (see page 735) will, in terms of floor area at least, be bigger and better than the US one in 1959. While





Great Tew (See Picture Skewed?)

the organisers, Industrial and Trade Fairs, Ltd., are to be congratulated on getting the exhibition under way after what appear to have been long and involved negotiations with the Russians, it is depressing that the Government is only taking 10,000 sq. ft., less than five per cent. of the total floor area, the rest being used for commercial exhibits. Worse still is the fact that in comparison with the specially erected US pavilions, the British are making do with a building put up by the Russians for both British and French use, plus the re-use of the American ones. This is a bad let-down after Milan—an opportunity missed to show the Russians some of our prefab methods.

## PICTURE SKEWED?

The threat to open up a stretch of beautiful and prosperous North Oxford country for ironstone mining, being contested this week with extraordinary vigour and unanimity by the population, the County Council, the CPRE, the National Farmers' Union and the National Parks Commission at a public inquiry at Banbury, reminds me of one of the loveliest English villages, Great Tew, which stands right in the thick of this proposed rural outrage. Great Tew is different from most of the other "most beautiful" villages in England, in that it is planned, and not just accidentally picturesque. Most of it was laid out by John Loudon, the garden designer and agriculturist, 150 years ago.

Loudon rented a large farm at Tew Park, where he took pupils and wrote books on farming. Out of this he is said to have made £15,000 in three years, which he laid out in designing and building the village. By the way, I hear that Ian Nairn has been round the ironstone areas with his camera this week and will be illustrating what Richard Thomas and Baldwin want to do in next week's AJ.

ASTRAGAL

## LETTERS

R. D'Arcy Swainson,

M.I. Struct. E., F.I.A.S.

E. Graham Reddie, A.R.I.B.A.

Chris Musson, Tony Monk

Edward Playne, F.R.I.B.A.

President, The Architectural Association

Alec Spoor,

Public Relations Officer, NALGO

Christopher Weltert

A. H. Anderson,

for A. H. Anderson Ltd.

E. V. Collins,

for Geo. Wimpey Ltd.

A. G. Elliott.

Feb. (Great Britain) Ltd.

C. Edmund Wilford &amp; Son

F.R.I.B.A.

## Spelling Disaster

SIR: I have been wondering how long it would be before architects, surveyors and professional engineers become aware of the growing danger of commercialisation. I have been expecting to see letters on this subject long before that from Mr. David H. C. Pursey in your issue of the 27th instant. Somewhat similar advertisements to that quoted have appeared in my local newspaper at various times.

I have before me now two advertisements, in a journal devoted to building, one by a Limited Liability Company and the other by a commercial firm, offering to prepare plans, sketches and undertake other services required for buildings and factory premises, conversions and developments. In my travels about the Home Counties, I have seen cards in the windows and boards on the walls of builders' and estate agents' premises, touting for architectural and surveying work. I know several builders and contractors who tell their customers, "you need not employ an architect, as we have draughtsmen who are able to prepare your plans, deal with all formalities and obtain Town Planning and Building Byelaws approvals."

Recently, a very talented young architect, a friend of mine, having practised for about twelve years as an A.R.I.B.A., resigned his membership of that body and has become a "builder." He is now perfectly free to solicit work of any kind, either building and jobbing work or the carrying out of architectural services or both.

If the professional bodies would work together instead of against each other, they could speak with one voice and something might be done to remedy this state of affairs. A difficult task undoubtedly, but not surely impossible.

R. D'ARCY SWAINSON

Horsham, Sussex

## Appeal Dismissed

SIR: In his letter of August 25, Mr. P. G. Kelsey queried how often the Minister of Housing and Local Government rejects the recommendations embodied in his Inspector's report on a local Planning Inquiry, and he cited an instance. I understand that the Minister has also done this in the case of the 15-storey flats proposed at Henley. There are doubtless other recent cases.

But a new and subtle approach has been used, and the Minister has accepted the Inspector's report and recommendations which reject an appellant's proposals for either 30, or 24, or 18 flats on a small suburban site on the grounds of over-density, lack of privacy to adjoining owners and loss of amenity and character in the area. The Minister has dismissed the Appeal "but without prejudice to the submission of a fresh application for not more than about 15 flats." Say 18, then?

The practice of rejecting the recommendations of qualified and experienced Inspectors seems to me to reduce a fair and workable system to a farce, and is unlikely to promote confidence in Town Planning, or amongst Town Planners. Perhaps this accounts for the recent advertisement for 20 vacancies for Inspectors.

E. GRAHAM REDDIE

Epsom, Surrey

## BASA Protests

SIR: We were delighted to see that the British Architectural Students' Association had at long last scaled the dizzy heights of the profession and was thus acknowledged on the front cover of THE ARCHITECTS' JOURNAL.

Unfortunately our ecstasy was short-lived. Having found ourselves on a par with the Institute of Refrigeration and the Gas Council, we then, in the editorial of October 13, found ourselves to be the junior body of the RIBA.

However honoured and financially well endowed we would be as a consequence, we consider our independence, and therefore probable liberalism, of far more value. As we understand THE ARCHITECTS' JOURNAL similarly prizes and professes this position, we trust that it is no more liable than us, to be taken over by the Daily Mail of Portland Place.

CHRIS MUSSON (President, BASA)

TONY MONK (Assistant Editor)

London, W.C.1

The Editors reply: Messrs. Musson and Monk have unfortunately misread our leading article. We did not intend to describe BASA as the junior body of the RIBA. We called the RIBA "the senior professional body" which in the profession of architecture is a fair description. To be a junior body in a profession does not necessarily mean being subservient or dependent, as any member of the RAF, for instance, will agree when hearing the Navy called the Senior Service.

## College of Building

SIR: After your kindly remarks about my recent address at the Architectural Association (AJ, November 3), I hope you won't think I am ungratefully fussy if I amend your statement that I advocate a College of Building for architects, engineers, surveyors and builders. Without amplification this is misleading, because your readers might think that I support the Government's proposed College of Building. I do not do so. It is in my view impossible to combine, in one curriculum, all the skills of the building industry.

What I tried to advocate in my speech was to leave the various schools of architecture, engineering, surveying and building unmolested, so that they are free to develop as circumstances demand, but to assist the interchange of ideas between staffs and students of all disciplines employed in the building industry by providing a residential college which would contain students from as many as possible of the recognised schools concerned with architecture and building, not forgetting the arts and crafts and industrial design.

In addition to undergraduates, the college would have a senior common room of resident members of the teaching staffs of these institutions. I would hope also that accommodation would be provided for students attending post-graduate courses at any of these institutions.

At the moment, in the London area various bodies are building, or contemplating building, halls of residence for their students. To my mind a great educational opportunity will be missed if these specialist halls are put up instead of halls embracing a wide group of disciplines. The colleges of our older universities are a good example of what I advocate, and the halls of residence of some of our more recent educational institutions seem likely to be examples of what I abhor.

EDWARD PLAYNE

London, S.W.1

## Architects' Wages

SIR: The note on page 564 of your issue of October 20, on the salaries of staff in local authorities' architects' departments, tells only half the story and is, therefore, misleading.

When the recent local government salaries agreement was first published, it was stated that new grading of £840—£1,145 for engineers and surveyors, architects, and finance staffs with a final qualification was an interim one only and was to be further considered by the National Joint Council. That consideration has now been given and on October 26 the National Joint Council agreed that from January 1, 1961, the grading of architectural assistants in posts for which the final qualification is required should be left to local authorities. The

Council further recommended that appropriate grades would be:

|            |               |
|------------|---------------|
| APT III    | £960—£1,140   |
| APT III—IV | £960—£1,310   |
| APT IV     | £1,140—£1,310 |

Local authorities were given discretion to pay higher salaries for more responsible posts.

Whilst only experience will show how these recommendations will be applied, it seems probable that only the smallest authorities employing architectural staffs will use the lowest grade of £960—£1,140, and that most architects in larger authorities will be on grades going to £1,310 or above.

ALEC SPOOR

London, N.W.1

## SfB Classification for Drawings

SIR: In his article on the SfB system of classification (AJ, September 17, 1959), Dargan Bullivant suggested that this system could form the basis of a method of numbering and filing working drawings.

Many architects are content to number drawings produced consecutively 1 to 199, but reference to them both in the drawing office and on site becomes a matter of rummaging through a drawer until the required sheet is found, or of searching down a list to find its number.

We have adopted the SfB system in our office for classification of all technical information received and since we are now familiar with the different parts of the building that each symbol represents, I am proposing that we use the system for classifying our working drawings.

For example: all drawings concerned with windows are prefixed 31. Thus the twelfth drawing concerned with windows in a building is numbered 31.12 and the seventh concerned with the roof is 26.7. The only drawings that cannot be numbered in this way are design, survey and small scale key drawings. These are numbered consecutively in each group, e.g., DES 9, SUR 2, KEY 6. The principle can be extended further to cover job numbers. For example, all churches would be prefixed 96. Thus the second 1/4-in. scale key drawing on the fourth church that the architect has designed is 96.4/KEY 2, and the twelfth drawing concerned with windows on the job is 96.4/31.12.

The object of introducing the stop after the prefix is to isolate the consecutive number from the classification group.

I would welcome any improvements on this proposal that readers can suggest.

CHRISTOPHER WELTERT

Harrow

## A Disclaimer

SIR: A number of architects have received anonymously, in an unstamped envelope, two extracts from publications; one is from the *Architect & Building News* dated June 8,

1960, concerning the announcement by Messrs. A. H. Anderson Ltd. that they had appointed a Chief Architect to the Company; the other is a copy of an advertisement which appeared in *The Observer* dated July 10, 1960, advertising staff appointments vacant in the Architects' Department of George Wimpey & Co. Ltd.

The undersigned wish to disclaim, on behalf of their respective companies, any knowledge of why these extracts have been circulated and by whom and further to express their concern that senior members of the architectural profession should be inconvenienced in this manner.

A. H. ANDERSON  
E. V. COLLINS

London

## Frost Tests

SIR: I take pleasure in replying to last week's letter from the Chalk, Lime and Allied Industries Research Association.

The question in dispute is whether or not a cement and sand mortar containing an air entraining plasticiser has greater durability than a cement lime sand mortar, and it has been suggested that my company have drawn unwarranted conclusions based on experiments.

In fact, prior to my company introducing an air entraining mortar plasticiser to this country in 1952, mortar mixes were composed of either cement and sand, hydraulic lime and sand and cement lime and sand and little or no research or test work was carried out.

After the introduction of air entraining mortar plasticisers in 1952 the B.R.S. and other bodies began their very first investigation into the quality of different types of bricklaying mortar and in the BRS natural weathering test the cement-lime-sand mortar disintegrated after three years' exposure.

For as long as mortars have been used in unit construction, some unexplained failures have occurred: now laboratory and field test work is at long last bringing to light the reasons for these failures, and it has been proved over and over again that air entrained mortar has many advantages over untreated mortars, including improved durability.

In representing the manufacturers of lime, the C.L.A.I.R.A. are closing their eyes to the fact that there is room for improvement in cement lime sand mortars and I would suggest that they confine their activities to carrying out research to work to bring about these possible improvements.

A. G. ELLIOTT

London, W.8

## The Master Builders

SIR: Are we now to assume, following the recent much publicised merger, that the well-known firm of architects will change their name to Clore, Cotton, Ballard & Blow?

C. EDMUND WILFORD & SON  
Leicester



## THE EDUCATION OF AN ARCHITECT

Following a brief introduction by Sir William Holford, Richard Llewellyn Davies, the new professor of the Bartlett School of Architecture at the University College of London, delivered his inaugural lecture, "The Education of an Architect," to a large gathering of students, teachers and members of the profession last week.



Richard Llewellyn Davies

This month, 300 years ago, the Royal Society was founded. One of its Founder members was Christopher Wren, a mathematician, astronomer and architect. Wren saw no conflict between his work as an artist and as a scientist; it would not have occurred to him to draw a line between art and science. But this distinction, which became firmly established in the nineteenth century, is now entrenched in our thinking. It has split our concept of the architect down the middle. Our present pattern of architectural education derives from a time when the division between art and science was widest. Although this division has been challenged in recent times, particularly by Walter Gropius, and is now rarely defended, the form and content of our education has so far undergone little change. We therefore have to review the whole pattern of architectural education, to consider the range of knowledge which an architect needs, and the methods by which he can be trained to use his knowledge as a creative designer. The need for good architects has never been greater than it is to-day. If we review the achievements of civilisation in recent years we can justly claim stupendous advances in our power to control our environment. Daring and triumphant advances are being made every day by science and technology, but so far we have utterly failed to use these achievements to create an acceptable man-made environment in our cities and buildings. Architects are concerned with this environment, from the city plan down to the doorknob, and architecture profoundly affects all our lives. Vitruvius, writing in the time of Augustus, said that an architect should "have a know-

ledge of letters, be expert in drawing, learned in geometry, not ignorant in optics, instructed in arithmetic, well read in history, to have diligently attended to philosophy, to have a knowledge of music, not a stranger to physic, understanding in the Law, and conversant in astronomy and the aspects of the heavens." He argues the case for each branch of knowledge in detail, explaining the need to study medicine in order that buildings and towns fulfil the needs of public health, and for a knowledge of arithmetic "in order that the expense of the edifice may be calculated and the difficult question of symmetry solved." However, he goes on to say that an architect need not achieve full mastery of these subjects so long as he reaches a general competence in them. Some few men, says Vitruvius, will achieve complete mastery of all these subjects, such men will "surpass the achievements of architects and become mathematicians."\*

The architects of the Renaissance quoted Vitruvius with approval in their writings, and often fulfilled in their own persons his stringent specifications for an architect. Up to the time of Wren, it was accepted that an architect's education should cover the whole range of human knowledge, and it was possible for it to do so. To an architect of the Renaissance the body of knowledge which he used appeared as an homogeneous whole, and he would not understand any attempt to divide it as between art and science. No theories or rules of architectural composition will be found in Renaissance treatises; they did not try to separate out the act of design, or to legislate for it as an activity on its own.

A different and historically disastrous picture of the architect's training and of the role of the architect was established during the nineteenth century. At this time social change and technical advance had greatly widened the range of knowledge required by an architect and made necessary many new kinds of buildings of a complex and unprecedented kind. The architects of the period reacted to this challenge by abandoning altogether the Renaissance concept of the architect as a universal man, by excluding important branches of knowledge and by establishing the idea that architecture was an art with its own fundamental discipline quite separate from any other art, science or craft. They withdrew both from the study of what was needed in buildings, and from the study of building construction. They evaded the problems of building need by inventing the concept of the architect's "programme," a written schedule of instructions defining the requirements of the building in detail, even down to the sizes of rooms. It was the task of the building owner or client to work out this programme and present it to the architect. This has proved a disastrous innovation, and has had ill-effects from which we are only just beginning to emerge. (The architect of the Renaissance did not need a programme. If he was asked to design a church or a villa, the breadth of his education ensured that he would share with his client an understanding of what would be needed.)

It was more difficult to evade the problem of building construction and technology. They met this challenge by a determined attempt to limit the forms used in building to a selected range. This range, based as far as possible on classical models, consisted of a number of "elements": the arch, the door, the window, etc. Once this range had been established the constructional details of each could be learnt by rote by the student. Further, the engineer's part was reduced to that of making these elements stand up safely in a building. His role became secondary, and the need for the architect to understand structural principles as a basis for design was made to appear unnecessary.

Architecture could now be defined as an art of assembly, and this was how it was taught at the Ecole des Beaux-Arts. Treatises on the "theory of architecture" appear at this period. They deal with principles of assembly; they are concerned with symmetry and balance and postulate various rules: for example, that duality is to be avoided. This meant that two similar objects, such as the two arches of King's Cross Station, should not be put together unless they were dominated by a third, more important, object which was then said to "resolve the duality."

The system of teaching was exactly fitted to the principles I have just described. The students had to learn the basic catalogue of building elements in close detail. For the studio exercises, the students had to prepare a preliminary *esquisse* or sketch. Each student was confined in a separate cubicle for a whole day; he was handed a detailed programme, prepared by the teacher. During the day he composed the design using an appropriate selection of elements, and in the evening presented his sketch. This whole procedure exactly symbolises the Beaux-Arts conception of the architect's role in society: he is cut off from life by his professional expertise—the cubicle. He receives his programme from outside in a rigid and detailed form; he then, by an act of individual inspiration, assembles a number of ingredients into a design.

Even at the height of its influence the Beaux-Arts system was attacked as narrow, particularly by the architect and teacher, Viollet-le-Duc. He blamed it for the production of architects who "involve private individuals and public bodies, who entrust works to them, in enormous expense; who are disinclined to study the material requirements of the programme or its practical execution; whose aim is rather to erect

\* *The Architecture of Vitruvius*, London, 1791.



buildings that will do honour to themselves than to fulfil all the conditions imposed by the needs and habits of the day." He goes on: "To make architecture a mystery, an art shut up within certain conventional methods, which the profane can neither see nor comprehend, may be (it is true) the means of preserving a kind of monopoly to those who enjoy it; but is it not to be feared the initiated will be left alone with their mysteries?"\*

Sixty years later Walter Gropius, at the Bauhaus in Dessau, developed the only really comprehensive and consistent set of principles for architectural education between the Beaux-Arts and the present day. In a comparatively short time between its establishment in 1919 and its dissolution under political pressures in 1933, the Bauhaus made a contribution of historic importance. The essential idea behind the Bauhaus was in diametric opposition to that of the Beaux-Arts; it was opposed to nineteenth-century dualism, separating the individual from the community, and held that art was essentially one with other branches of activity. Its aim was to establish for artists and architects the link with the realities of matter, technique and economy. The student was first subjected to a preparatory course lasting six months, aimed at freeing him from all preconceived ideas about form, and helping him to use first-hand experience. After this he pursued parallel courses in the school workshops, and in design. The purpose of the workshop course was not so much to teach practical skills for their own sake as to ensure that the student escaped from the isolation of design on paper, and achieved a direct feeling for form and material. Design was not seen, at the Bauhaus, as a subject on its own; instead the student was taught the psychology of vision and the physics of light. In its short life the Bauhaus made an immense impact. Many of the most famous architects and designers of to-day were students there; the painters Kandinsky and Klee worked there, and tubular steel furniture was invented in the Bauhaus workshops. The Bauhaus is always referred to with respect, but its theoretical basis is often misunderstood, and the lessons of its achievement have never been fully exploited.

Consider an architect's education at the present time. It is illuminating to contrast the pattern in architecture with other fields where academic education is linked to professional training, such as medicine and engineering. In engineering it is common practice to devote the three years of the university course almost entirely to fundamental theory and leave the more practical aspects of the subject to be learnt after leaving the university, or by postgraduate courses. In medicine the transition is less abrupt but there is a similar progression, starting from the teaching of pure science and ending with clinical experience in a teaching hospital. There are good reasons for this progression; it follows the logic of the subject; and students find it easier to learn the necessary theoretical subjects at the beginning of the course, as these con-

nect directly with what they have been taught at school. But there is one danger. The student may pass through the whole of the early and most formative part of his education without ever having been presented with the totality of his subject, as he will meet it in practice. When he comes to diagnose a patient, build a bridge or design an aeroplane, he must act intuitively, for his decisions will involve weighing a number of incommensurable factors. If his early teaching is completely fragmented into the basic sciences which underlie his subject he will not be trained in the art of balancing the several different aspects of his problems, nor will his powers of intuition be developed. Finally, in every university subject, except architecture, post-graduate studies and research are vigorously pursued. It is through these studies that the subject is advanced, new knowledge developed, and future teachers trained. In the professional subjects post-graduate work is also an introduction to high-level practice, and trains the student in collaboration with men from related disciplines, working as a members of a team.

Architectural education presents a striking contrast. Post-graduate teaching and research hardly exist. The main strength lies in the training it gives in the intuitive and creative process; i.e., design work in the studio. Lectures, with their attendant examinations, are regarded as necessary but rather irritating interruptions. The principal lecture courses are given in three main subjects: history of architecture, structural engineering, and building construction. There is little attempt to separate theory from application, or to ensure that theory is taught first. The general pattern I have described applies, with minor modifications, to nearly all schools of architecture in this country—despite a wide variation in character from school to school.

Some schools of architecture are thought of as traditional, and some as revolutionary, but the difference seems to rest in the flavour imparted to the instruction by the teachers, and not to any real differences in the form or content of the courses.

Do our present courses provide a fit education for an architect? The answer can only be no. The range and character of the knowledge presented to students is obviously inadequate, and our methods of teaching are sufficiently eccentric to warrant serious discussion. The results may not be as bad as we might expect, but this is due mainly to the intrinsic fascination of the subject and the enthusiasm of the students, who indeed often emerge as

architects and sometimes as educated men, despite the inadequacies of our system. They may even approximate in character to T. L. Donaldson—the first professor of architecture in this college, who was described by one of his students as: "Full of learning, ready of speech . . . but deficient in precision, though the fullness and variety of his knowledge went far to atone for some want of exactness."

What should an architect's education be at the present time? It is certain that we must come out of the narrow private world of nineteenth-century architecture, divorced from science and practical life. But can we, in the conditions of to-day, hope to re-establish the architect as an all-round man—the *uomo universale* of the Renaissance? We can, but only if we make a distinction between practice and theory. This was clear enough to Vitruvius: ". . . every art consists of two parts, the practice, and the theory; of these, one is peculiar to those who exercise each particular art, viz., the practice; the other, which is the theory, is common to all the learned." With this distinction in mind we can review the field of knowledge which has to be covered in an architect's education, noting that while he needs to understand the fundamental theory of a very wide range of subjects, he does not have to go far down the path of practical application in all of them. Let us begin with subjects which are wholly neglected at present—the group of sciences which deal with the human being—both as an individual and as a member of a group.\*

The environment created by an architect impinges on the individual human being through his eyes and his ears, it affects his comfort through his skin and his breathing. To understand what he is doing when he designs a building, an architect must know how it will affect people. Therefore, he must be taught something of anatomy, physiology and the psychology of the special senses. He must also understand enough physics to predict the physical conditions which will be produced within his buildings by his design. In our present courses some consideration is given to these questions, but they are dealt with in the wrong way and at the wrong time. Instead of presenting the physics, psychology and physiology of the human environment at the very beginning of the course as part of the theoretical basis of architecture, we usually give the student a short account of the practical problems of heating, lighting and acoustics towards the end of his training. He naturally forms the conclusion that these environmental factors are something additional to the architectural design—something to be solved by calling in a technical expert. This is a striking example of the consequences of the false opposition of art and science. Perhaps the extreme physical, psychological and aesthetic discomfort which you are suffering this evening in this lecture room can be attributed to the mal-education of its architect in this respect.

\* Richard Llewelyn Davies, *Human Sciences*, *The Architectural Review*, March 1960.

\* Viollet-le-Duc, *Lectures on Architecture*, London 1877.

### The Education of an Architect

The social sciences are equally important, as they provide the means whereby we can fit buildings to the needs of human beings as a group. Modern society is too complex for the architect to have an automatic understanding of what is wanted in a building; the client does not know this either, although he sometimes thinks he does. For many modern buildings, there is no single client. Many people are concerned with the functioning of a hospital or a college; each may understand the workings of some part of it but no one understands it completely, as a whole. Again, the long life of buildings when compared with the rate of change of human organisation, means that people often adjust their pattern of life or work to fit an old building. If they are asked to specify their needs for a new one they think in terms of an old and familiar environment, they cannot break out to see what they really want. Therefore the client's brief is nearly always wrong, and a bad brief inevitably results in disastrous architecture. The solution lies in the joint study of building function by architect and client. The techniques for study are those of the social sciences, and the architect's education must equip him to understand and use these methods.

The idea that these sciences are related to architecture is fairly new and we have still to work out how best to teach them. In doing so we shall be greatly helped by the development of research. There are already several examples which point the way. One is the study of natural lighting in buildings, which involves architecture, physics and psychology. Research in this field has already given us new ways of thinking about light, shape and colour, and stimulated the appearance of completely new forms in architecture. There is also important work on the functional requirements of certain types of buildings—schools, hospitals and laboratories—by research groups which include people from many disciplines working as a team. We must encourage the growth of these studies within university departments of architecture. They provide the essential link between teaching, theory and advanced practice, without which professional education stagnates.\*

These are new subjects, but we have also to consider the traditional ones. Of these, history of architecture is an ancient and respected example. But it can be challenged. Is it really necessary to the education of an architect to learn about the past? If we think simply in terms of the ancient buildings themselves, I think we must admit that there is a real difficulty in drawing lessons from them for the present. Their beauty may move us deeply, we may get keen pleasure from them—but do they connect closely enough to give us real help when we sit down to design a building ourselves? So long as historical teaching remains concentrated on the outward form of ancient buildings, presenting them in a systematised catalogue, covering all periods and all

countries—a sort of architectural fauna and flora—it is hard to answer this question affirmatively. But if instead we consider the recent work of art historians, particularly those working in the Courtauld and Warburg Institutes at this university, we can make much more positive use of history. Take, for example, the study of Renaissance architects by Wittkower, formerly Durning-Lawrence professor in this college. He is able to show how Alberti and Palladio themselves saw their problems, what they aimed to achieve, and how they set about it. His book\* is a revelation, it brings out the methods and principles which underlie Renaissance architecture. These methods and principles—the use of mathematical proportions, the symbolic purpose of architectural forms—are very close indeed to the problems of our times, or indeed of any time. We now realise that if we take history in this way, concentrating if need be on certain periods, we can make it a very vital part of an architect's education. Once again, art and science interlock, and some of the methods of scientific enquiry which I have mentioned earlier are now giving us fresh insight into the achievements of the past. Studies in light and vision have given us a clue as to why a Georgian sash window is so pleasing to the eye, and why late Gothic church interiors have such a magical, disembodied quality.

Another traditional subject, theory of structure, is absolutely fundamental to architecture. An architect without a strong intuitive sense of the play of forces in a structure has one hand tied behind his back. It is of the utmost importance to get this part of his education right, but there are very great difficulties in doing so. Very few architects have managed to acquire this sense, and few engineers have it either. At the conclusion of his course, an architect can carry out some of the calculations necessary to analyse what is likely to happen to a given structure subjected to a given force. But ask him to imagine a structure appropriate to a particular set of circumstances, or to guess imaginatively at the pattern of stress in a given structure without performing his calculations, and, most often, he will not be able to do it. How are we to teach this? First we must face the hard fact that the concepts of theory of structure are mathematical. There is no easy way of imparting

a sense of structure—it can only be done through mathematical understanding. We will, therefore, need to give more attention in our teaching to the fundamental, mathematical side of engineering design, and to bring the student, through a mastery of theory, to an intuitive grasp of structure. At the same time I hope we can drop some of the teaching in applied structures. No architect to-day designs his own steel frame, and no point is served in trying to train him to do so.

Finally we come to the traditional group of subjects dealing with building construction and building materials. Teaching in these subjects has become a desperate and hopeless race to keep up with the increasing range of materials available in building and the increasingly complicated techniques for assembling them. Fifty years ago an architect could be taught pretty well all there was to know in this field, but even then it was formidable. Then, it was part of his job to design a window, drawing out on paper the precise shape of the joint between the top and side members, specifying how they should be wedged and glued together, and selecting the timber to be used. This never happens to-day. An aluminium window is not designed by an individual architect but by a factory design team. Only a metallurgist could judge whether the aluminium of which it is made is suitable for its purpose. Even if the architect uses a timber window, it will be jointed with a synthetic resin adhesive which only a highly specialised organic chemist could specify.

Once again, the lesson is that we must go back to the basis of the subject. We must give up the attempt to pursue in an academic course the application of technology in every field of building. These applications will be better learnt by the young architect during his early years of practice, after leaving the school. Our task is to educate a man who can master these problems when he meets them. He needs to be sufficiently literate in physics and chemistry to relate materials and methods of construction to the needs of any particular job. He needs to be able to read and understand discussions of a scientific character and to know how to work with and learn from experts. We should have something to learn from the training of doctors in this matter. The medical profession has also had to face the transition from the days when the doctor mixed his own potions to the circumstances of to-day, when he has to prescribe medicine made by processes outside his experience and whose chemical structure he could not describe.

I have devoted a good deal of time to discussing the theoretical and didactic part of our education. I have done so because this is at present so weak, and not because I consider the other side, training in design, to be any less important. Design work in the studio is our strong point. Indeed, there is much that might be learnt from this part of our work by other university departments. In the studio the student is continuously reminded of the oneness of architectural design, and the barriers be-

\* Richard Llewelyn Davies, *Deeper Knowledge: Better Design*, *Architectural Record*, April 1957.

\* R. Wittkower, *Architectural Principles in the Age of Humanism*, London, 1953.



tween art and science, can be effectively broken down. Every problem set to the student can, and should, be made to require some synthesis of the different facets of architecture. There are, however, two changes which we must introduce.

First, we must cease to regard drawing as the sole means of communication which architects can use. We must include exercises in which the results are presented in writing and in speech. We must educate architects to use all available methods in communication, and to understand something of the theory of this subject. Undue emphasis on drawing has tended to make architecture a closed shop, and to perpetuate the feeling amongst architects that they are a private group who cannot discuss the mysteries of their work with outsiders.

Second, and this is more important, we must recognise that training in design is not a form of teaching, but something quite different. Teaching involves facts and knowledge which are imparted to the students by a teacher. There are no facts about design, and we should not try to give lectures about it or write books about it. Books have indeed been written, and lectures given on this topic, but they are always disappointing to the student. Somehow they don't seem to tell you just how to design a beautiful building, its rather like the disappointment you feel on reading books about the art of love. Instead of trying to teach design we must go back to the lessons of the Bauhaus, and consider how best we can free students from the things that stop them being able to design. We have to clear away preconceptions, clichés, a whole mass of accretions, which prevent them seeing their problems freshly.

It is difficult to explain just what the essential character of architectural design is. I think it is rather like Nansen's voyage across the Polar ice cap. Nansen had a theory about Polar drift. He believed that the ice moved in a particular way, across the North Pole, from east to west. He assembled all available knowledge on this subject and all the scientific data, but his thesis still remained incomplete, unproved. So he turned from thought to action—he designed and built a ship, embarked on it, and deliberately allowed it to become locked in the ice, to drift to his triumphant vindication—or to shipwreck.

The education of an architect should fit him to undertake his Polar voyage. He must be capable of the devoted preliminary study, the analysis of every measurable factor, culminating in the imaginative total grasp of his problem. He must then have the courage and toughness to lock himself in the ice, to let the free working of his creative mind take him towards his goal. To survive the trials of the voyage he needs one other quality—moral and intellectual integrity. Mies van der Rohe, who succeeded Gropius at the Bauhaus, and is one of the greatest of living architects, said, "Reason is the basis of all human work. I throw out everything that is not reasonable, even things very dear to my heart. I don't want to be interesting. I want to be good."

## NEWS

### COMPETITIONS

#### MOHLG Housing Design Medals

The MOHLG in collaboration with RIBA is to launch an annual series of competitions early next year, to encourage a high standard of design and layout in housing throughout England and Wales.

The 1961 competition will cover groups of at least ten new dwellings on a site, completed by either public authorities or private enterprise between December 31, 1955, and December 31, 1960. The dwellings may be of any kind—houses, bungalows, maisonnettes or flats are all eligible, but as the main emphasis in judging will be on the interesting and attractive grouping of buildings it is expected that either large housing estates or isolated terraces or blocks will be entered.

There will be a panel of three judges in each of the four regions in England and Wales, who will take into account the layout and setting of the group of dwellings and the relationship of the group to its surroundings as well as the design of individual buildings in the scheme. Incidental factors such as fences, walls, gates, garages, paths and driveways, and use of existing trees and new planting will also be taken into account.

On these panels' recommendations the Minister will make awards and in each region two medals may be awarded, one for an urban and one for a rural scheme. All local authorities have been circularised about the competition and copies of entry forms and notes on the competitions are obtainable from the Secretary, Awards for Good Designs Competition, 1961, MOHLG, Whitehall, S.W.1. For entries in Wales and Monmouthshire, entry forms are obtainable from the Welsh Office, MOHLG, Cathays Park, Cardiff.

Closing date for entries is February 28, 1961.

#### Irish Hotel Improvements

A competition for the design of an hotel unit, open to architects and architectural students in Ireland and Northern Ireland, has been promoted by Bowaters Irish Wallboard Mills Ltd., Athy, Co. Kildare.

The unit is to consist of a double bedroom, bathroom and living room convertible as an extra bedroom, and competitors will use Bowater board both in structural and decorative applications and in the design of built-in furniture and fittings.

Awards, totalling 175 guineas, are to be spent primarily on foreign travel during 1961. The competition will close early in December and an exhibition of the designs, with a unit built to the first prizewinner's plans will be held in the New Year.

Assessors are Mr. Kevin Barry, B.Arch., M.R.I.A.I., A.R.I.B.A., technical manager of the Irish Touring Board, Mr. W. Edward Brady, F.R.I.A.I., and Mr. A. D. Devane,

B.Arch., M.R.I.A.I., A.R.I.B.A., A.M.T.P.I.

Details are available from the Building Centre, 17, Lower Baggot Street, Dublin.

#### Design in Plastics

To encourage young craftsmen to produce good designs in plastics, the Worshipful Company of Horners is to make its annual award to the craftsman submitting the most striking design in plastics material. The competition is being organised on their behalf by the British Plastics Federation. The award this year is 100 guineas.

Age limits for entrants is under 35 years old on December 2, 1960—the closing date for submission of entries. Competitors must be resident in Great Britain or Northern Ireland.

Copies of the conditions and entry forms are available from the British Plastics Federation, 47-48, Piccadilly, London, W.1.

#### Trade Literature

For the fourth successive year, the RIBA and the Building Centre are collaborating in sponsoring a Competition for manufacturers' Trade and Technical Literature, designed to persuade manufacturers to increase the technical and informative content of their literature and to produce trade literature to the international A4 paper size. Assessors, nominated by the President of the RIBA, are:

George Grenfell Baines, A.R.I.B.A.

Bruce Martin, A.R.I.B.A., A.A.D.I.P.L.

R. T. Walters, A.R.I.B.A., A.M.I.STRUCT.E.

Bryan Westwood, F.R.I.B.A., A.A.D.I.P.L.

Entry forms are now available from the Director, the Building Centre, 26, Store Street, W.C.1, and the final date for entries is April 15, 1961.

#### ROYAL SOCIETY OF HEALTH

##### Symposium on Noise

Dr. T. W. Parker, Deputy Director of BRS, speaking at a symposium on Noise, its Causes, Effects and Abatement held at the Royal Society of Health on November 9, estimated that the cost of insulating buildings against traffic noise in central areas would be about £3m. per sq. mile per annum and that this figure would rise to about £4½m. to give an overall insulation against aircraft noise.

Dr. B. Wheeler Robinson, Superintendent of the Applied Physics Division, NPL, pointed out that there was no technical reason why road traffic should not be made reasonably silent at source. He pointed out that the Ministry of Transport set up a Departmental Committee to consider traffic noise as long ago as 1934 and that a working group of I.S.O. (International Standards Organisation) has recently proposed a code of test procedure for motor vehicle noise and that this is likely to be adopted internationally soon.





*Typical window display*

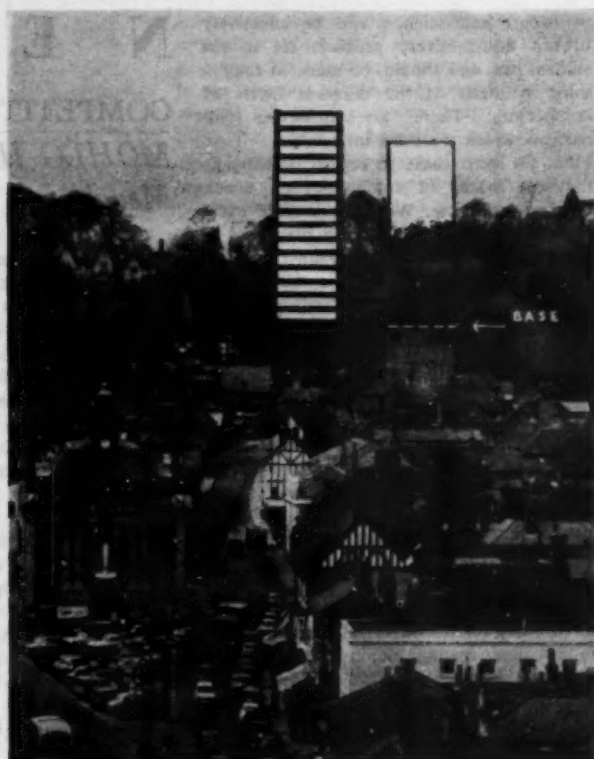
## Misplaced Zeal at Henley

Henley is in an uproar. The cause is a 15-storey block of flats, part of a proposed scheme on a site at the back of the old town. "Save Our Beautiful Henley" proclaim posters behind old Henley's net-curtained windows, and a double-crown poster entitled "The Towering Horror of Henley" and purporting to show how the proposed flats would look has been widely distributed.

A whirlwind campaign is being conducted with a petition to persuade Parliament to overturn the decision of the Minister of Housing that the scheme shall be approved.

A look at the pictures shown here, and in our frontispiece, may make one wonder why no "Save Our Beautiful Henley" campaign was started long ago. For this is a beautiful little town, and once stood in a smiling countryside, but

*Rupert Court, a central development*



*The "towering horror" poster, with tower's position corrected*

since the war its outskirts have sprawled dismally outwards. Then a young architect, Tom Hancock, designed a scheme for Townmaker Ltd. for a compact, urban development on a sloping and beautifully wooded site behind the town, which included large houses with walled gardens, small terrace houses, maisonnettes and a 25-storey tower of flats, the whole admirably landscaped and shaped to the sloping contours of the site. The density of 90 to the acre was the same as that of the old town.

The AJ commented at the time (October 15, 1959): "it is essentially an extension of the town and not a suburb . . . and bearing in mind the effect of the new Maidenhead-Slough bypass and the desperate need to stop urban sprawl, it is to be hoped that Oxfordshire and Henley will make full use of their opportunity."

The Oxfordshire Planning Officer rejected the scheme, however, on account of the tower, and the Borough Council

*Neo-Georgian luxury flats*





*Gainsborough Estate, on the outskirts*

objected strongly. Townmaker Ltd. appealed to the Minister and at the inquiry were supported by the Civic Trust, the Henley Chamber of Trade and others. The Inspector in charge of the inquiry, C. F. Allan, recommended acceptance of the scheme with the proviso that the tower block be not more than 70 ft. high, but the Minister of Housing very commendably disagreed on this point, and granted the appeal, provided the tower block was limited to 15 storeys.

"The architectural conception," he wrote, "is of an admirably high standard" and he regards the scheme as an example of the kind of high density development which can help to meet the current demand for building land, while giving variety to the urban scene. If the tower were "elegantly designed," he thought, "it would add to and not detract from the landscape."

Within days of the appeal's being granted, one Dr. Myddel-

ton was flying a red balloon at the height of the projected tower block, and soon a photograph was circulating, taken from the church tower, with the block superimposed upon it to show how it would look. It was gravely inaccurate, and we publish opposite a part of this picture, corrected to show the actual position, height and weight of the tower.

There are, of course, no legal means of reversing the Minister of Housing's decision, which is final, but we hope the uproar will not divert him from his avowed intention to encourage more-compact design for our towns.

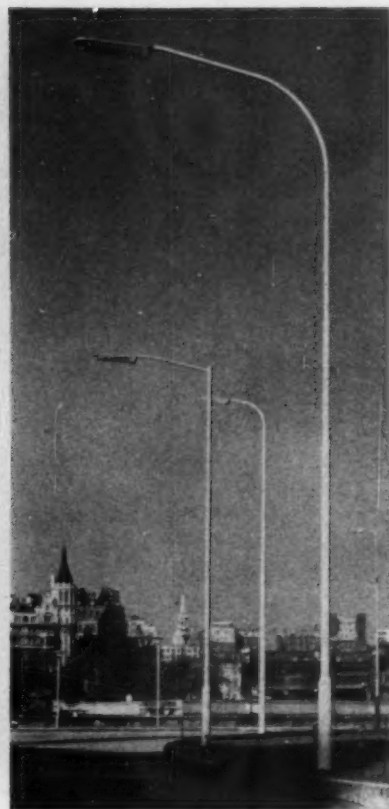
It is a fine thing when local people feel strongly about the look of their town and campaign to protect it, and one must applaud Henley's energy. But, for heaven's sake, let it be directed to the real outrage that is going on all round, the dreary suburbification of the neighbourhood, and not at the most distinguished housing scheme in Henley since the war.

*Fairmile Court*

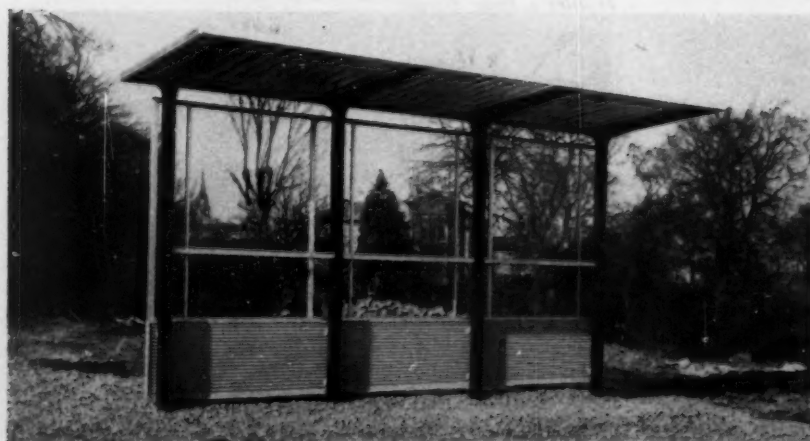


*Hunter's Ride Estate*





## Street Furniture on Parade



It was an excellent idea of the COID to organise a permanent exhibition of well-designed street furniture amid the concreted emptiness of the South Bank in front of the Shell building. Opened on November 10 in time to put some good designs before delegates to the Public Works Congress which opened in London on Monday, the exhibition consists of a selected number of lamp standards for main traffic streets and smaller streets and squares, some of the prize-winning litter bins from the earlier Competition (AJ, October 13), three benches and three bus shelters—a pretty modest start. Above, left, a general view of lamp posts for side streets, with benches behind. Above right, lamp posts (or "lighting columns") for main roads, with Stewart & Lloyd's elegant, steel tube model in the foreground. Left, top, Abacus Ltd.'s prefabricated, steel and glass panel bus shelter shown in action at Bristol; below, shelter designed by David Mellor, for Lion Foundry Co. Like the Litter Bins Exhibition, the usefulness of this permanent exhibition is reduced by the fact that the various items of street furniture are shown here as isolated items, instead of in harmonious groups. One difficulty of doing this, for the COID, is that they are designed and manufactured in isolation: only one firm in Britain manufactures all types of street furniture and it does not yet design its lamp posts, bins and shelters "to match." With the proliferation of additional furniture our streets have to accommodate in the way of street signs, parking notices, sign posts and so on, the less variety of designs in the permanent furniture of any street the better.



## LCC Housing at Bermondsey



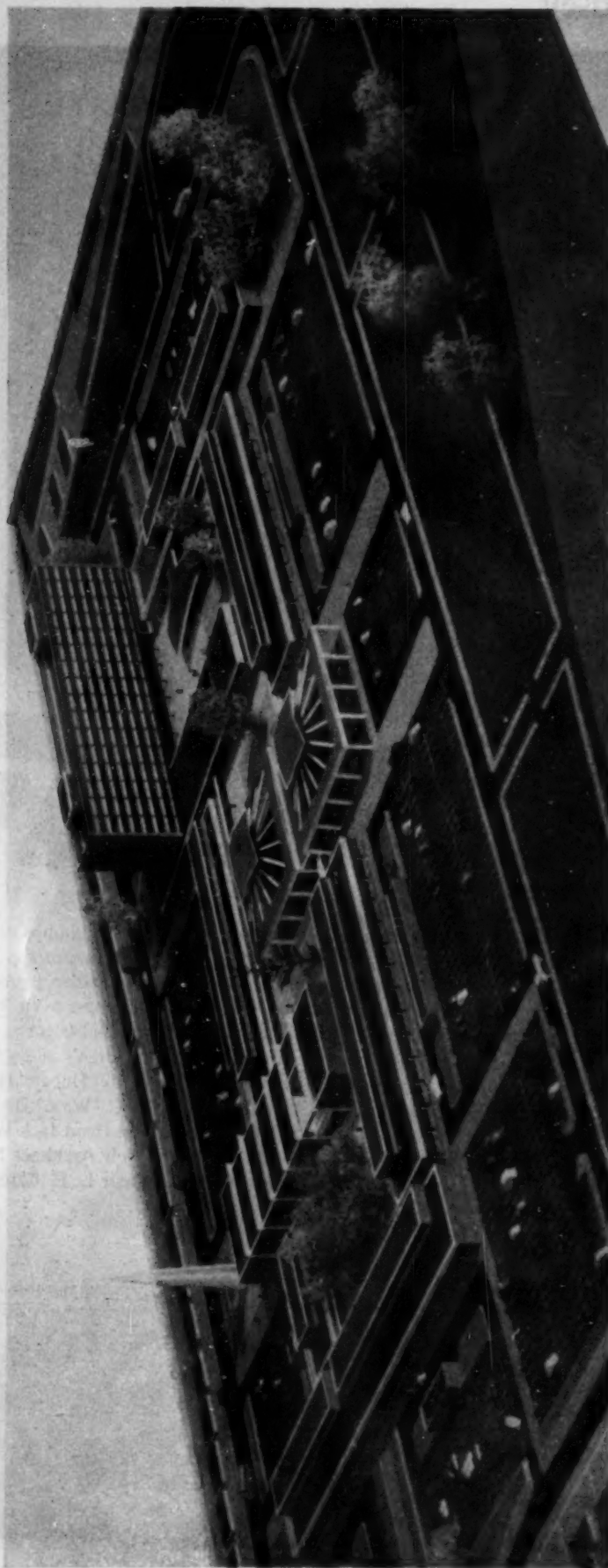
Above is a general view of a second-stage scheme for 212 dwellings on a site at Rotherhithe New Road, Bermondsey, at an estimated cost of £647,600. Next to two 16-storey point blocks nearing completion (one of which is shown on the right), the scheme will consist of a further similar point block, three four-storey blocks of maisonnettes, a two-storey block of flats for old people and 61 garages. The scheme also includes a doctor's surgery. Because of the high density of 200 persons per acre for the whole development, special attention has been given to the site layout; advantage has been taken of changes in level to

provide terraces of paving and grass, with clumps of trees, some of which will be planted as semi-mature specimens. Besides communal landscaping, some maisonnettes have private gardens. Below (left) is the scheme as it will be seen from across Rotherhithe Old Road and (right) a sketch of a play sculpture in one of two children's playgrounds. The development has been designed by Hubert Bennett, Architect to the Council, Deputy F. G. West, Divisional Head K. J. Campbell, Deputy Divisional Head Jack Whittle, Architect in charge E. E. Hollamby, job Architect Mrs. I. Stypulkowska and Senior Planning Officer L. E. Lane.



## Shopping Centre at Croydon Airport

716] THE ARCHITECTS' JOURNAL for November 17, 1960



This scheme for a shopping centre designed specifically for the motorist, to be the first of its kind in the London area, was the subject of a recent public enquiry, the result of which is due to be announced shortly.

The idea was initiated by the local authority, Beddington and Wallington Borough Council, as a new use for 30 acres of the now closed Croydon Airport, alongside a further scheme by George Wimpey & Co. Ltd., for 1,000 houses on a 60-acre site. Designed by R. Seifert and Partners for Park Investments Ltd., the scheme has as its central feature a 32,000 sq. ft. supermarket flanked by two large department stores, a restaurant and cafeteria, two banks and a public house. At the specific request of the local authority, the scheme also includes 84 small shops, many of which have maisonnettes above for shopkeepers. As the model makes clear, the scheme allows large peripheral areas for car-parking—sufficient for 1,800 cars—but the basis of the planning is complete segregation of cars from pedestrians. The central area is thus a complete pedestrian precinct, with foot access to shops by subways from outer parking areas. The general

basis of the design is therefore thoroughly sound.

Surrey County Council objected to the scheme, largely on the grounds that it would draw customers away from existing centres, particularly Croydon itself. In reply to objections that this open space should be put to other uses, such as a park or an airfield for private flying, the promoters point out that their scheme, together with Wimpey's, would still leave 300 acres of open land for such purposes.

This type of centre, already established abroad, is bound to arrive sooner or later in this country, even if this particular scheme is turned down by the Minister. It seems illogical, however, that at the moment the layout does not incorporate any bus station where shoppers may arrive by public transport. Visually, the design might perhaps be improved if some positive attempt were made to break up the acres of parked cars with shrubs and trees—as at Stevenage, for instance. And if the design included some tall block, the concrete shell vertical feature that the architect has sited on the main road frontage would be unnecessary.

# HOPE'S aluminium windows

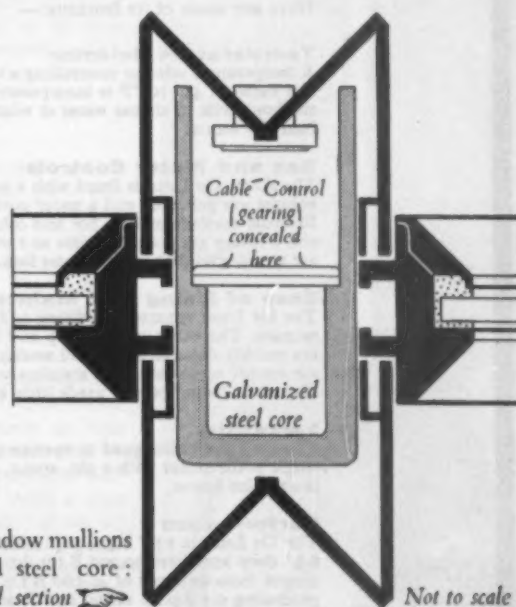


## UNITED STATES EMBASSY, GROSVENOR SQUARE, LONDON

Architects: Eero Saarinen & Associates, U.S.A. Associate Architects: F. R. S. Yorke, E. Rosenberg & C. S. Mardall, FF.R.I.B.A.

Ground floor windows are gold anodized aluminium with horizontally sliding vents at head operated by our Cable Control gearing concealed within the window mullions.

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with hot-dip galvanized steel core:  
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# Introducing the

## Ascot De Luxe G512

the new water heater giving complete control

The New Ascot De Luxe type G512 represents the latest developments in water heater design and performance. Developed by Ascot for use as an instantaneous multipoint and single-point sink water heater, this Ascot De Luxe with its *complete* controls for gas and water is sure to be popular with the modern housewife. Here are some of its features:—

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A temperature selector controlling a temperature rise between 45°-100°F is incorporated, allowing the housewife to choose water at whatever heat she wants.

#### Gas and Water Controls

The Ascot De Luxe is fitted with a constant volume gas governor and a water governor. External controls include hot and cold taps and a rotary gas control. Gas and water cocks are an integral part of the heater linings.

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The De Luxe ensures easy fixing and maintenance. The outer case and top and bottom pans are quickly detachable, and all working parts are readily accessible. The stainless steel Ascot 'flat flame' burner needs little attention.

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The De Luxe is 23½" high, 10½" wide and 8½" deep and gives 30,000 B.t.u./hr. thermal output from an input of 40,000 B.t.u./hr. producing 0.5 g.p.m. raised 100°F, and 0.625 g.p.m. raised 80°F, and pro rata. Pilot consumption is 250 B.t.u./hr.

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## THE INDUSTRY

*This week Brian Grant describes a master clock system, a transfer painting method, and long galvanised sheeting.*



Minipulse master clock

**Master Clock Systems**

Minipulse Clocks have just introduced a new design of master clock and movement which is claimed to be low enough in price to compete with Continental manufacturers. The movement which operates the slave dials is less than one inch thick, and can therefore usually be housed behind the dial but without the need to cut recesses in the walls. The master clocks are small in height, having  $\frac{1}{4}$ -second pendulums, and provide one clock impulse per minute, the impulses reversing their polarity so that the slave dial mechanisms need no pawl and ratchet gear and are therefore noiseless.

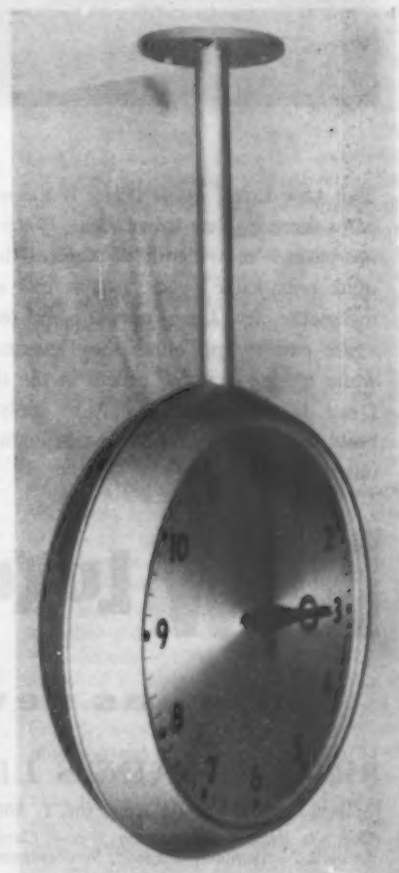
A programme unit is also produced for controlling factory hooters, bells, sirens or other warning signals, and there is also a range of time recorders for clocking cards, all controlled from the master clock. A single master will control up to 50 slave dials, and other devices with suitable relays. (Minipulse Clocks Ltd., Clutha House, Storeys Gate, London S.W.1.)

**Paint Application**

A new "Slidex" system of applying what one might call a prefabricated paint film has recently been developed. A number of coats of paint are applied to a backing sheet, in plain colours or in patterns with anything up to five colours. The paint is then applied to the surface by dipping the sheets in water and then sliding the film of paint into position, the process being exactly the same as the pictorial transfers of one's childhood. The paint films, which have about the same thickness as four normally applied coats of paint, can be applied to any clean and grease-free surface, but absorbent surfaces need a coat of sealer. Cost is fairly high, about £1 for enough film to cover a bath panel 6 ft. by 2 ft. 6 in., and this seems to suggest that it is intended mainly for the do-it-yourself market. It seems possible, however, that where redecoration has to be done with an irreducible minimum of disturbance, as for instance in a popular restaurant, the fact that the paint film can be applied in small areas with no dust sheets for furniture, no smell, and no trouble joining up dried paint with new work, the extra cost may be worth while. (Paint Fabrication Ltd., Lonsdale Hall, Dorking, Surrey.)

**Long Galvanised Sheetting**

John Summers have recently installed new machinery and can now produce 3-in. corrugated galvanised sheeting in lengths up to 22 ft. instead of the previous maximum of 12 ft. This should show a certain amount of saving in roofing costs, as the sheets will span several purlins and the material used for end laps between the shorter sheets will be saved, and a single sheet may well span from ridge to eaves. The length of 22 ft. is an arbitrary figure, and is thought to be the longest which can be conveniently handled. Anyone can have longer ones if they will provide the necessary transport (John Summers Ltd., Shotton, Chester.)



Two Minipulse slave dials, hung back to back

## A NEW WHITE

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This new Luxol *Dense White* is the whitest white gloss paint there is. New Luxol *Dense White* has extra density—a packed 'snow-depth' of pigment that gives the paint quite remarkable opacity. It is this extra density that makes the new Luxol outshine and outlast all ordinary white paints—and offers the Decorator an immaculate white gloss to put all others in the shade. New Luxol *Dense White* Enamel is easy to apply—giving a fluent build of paint that for lasting brilliance of whiteness is unsurpassed.



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D115



# INFORMATION CENTRE

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

(93)

725-4

18.217 construction: theory

## SINGLE-STOREY FRAMED STRUCTURES

*Structural Frameworks for Single Storey Factory Buildings.* H.V. Apar. (H.M.S.O. 1960. 4s.)

This is No. 7 in the series of Factory Building Studies prepared at the Building Research Station and reviews the materials of construction, roof type, layout, etc., in single-storey factory construction.

The booklet can be divided into two parts, the first dealing with the choice of structure and layout, the second providing a description of different frameworks and scope of cost data.

In Part I the external shape of roof, system of structural framework, constructional materials, spacing of internal columns, clear internal height and loading are all discussed. In the introduction the cost of the structural frame is put into perspective by quoting it at about a sixth of the total cost of the building, such that large variations are unlikely to affect seriously the overall cost. This statement is hardly borne out in the conclusion on page 33 (where a variation of 3s. 3d. to 8s. 6d. per sq. ft. is quoted) even allowing for the variation in foundation cost relative to column spacing. However, the situation is retrieved by the suggestion that the services of a structural engineer should be enlisted at the earliest stage.

The second part gives a more detailed description of type of structure and provides a graph of cost per sq. ft. against span, height, etc., for 20 or so different roof forms in steelwork, concrete and timber. There is no indication in the text as to the painting treatment, if any, applied in the case of the steelwork types but from the £80 per ton approximation quoted it is probably bare steelwork. The painting specification could add from £10 to £25 per ton to this figure. In the conclusion, reference is made to the fact that first cost is not the only aspect to be considered and this should be kept in mind when looking at the cost graphs. The main value of

the booklet is perhaps that it sets down the information in a manner which provides the client and his architect with an indication of type structure, limitation of type, order of cost and relation of cost to layout. The only omission worth mentioning is that of the concrete lattice in plane or space frame form in reinforced or prestressed concrete, but on the whole the conclusions form a very good résumé of problems as a whole and the booklet provides an excellent four shillings' worth for anyone at all interested in single-storey buildings.

(97)

727

22.97 sound insulation and acoustics

## NOISE IN SCHOOLS

*Reverberation Times of Typical Elementary School Classrooms.* Michael J. Kodaras. Noise Control. Vol. 6, No. 4. July/August.

This gives some useful information on the acoustics of classrooms in 11 new American schools. Teachers' opinions are supplemented by measurement of actual reverberation time.

Out of more than 50 new schools studied by a Joint School Research Project, classrooms in 11 schools were taken as a typical cross-section. The acoustical environment was judged and classified on a scale as follows: very satisfactory, satisfactory, adequate, and too live; and the results of the survey and measurement are briefly given below.

Classrooms with square or rectangular shapes (plan and/or section) require shorter reverberation times. Reverberation times as long as 1 second (room empty) are permissible, provided classroom shapes give adequate sound diffusion.

Wall surfaces provide sufficient area to give adequate sound absorption if a moderately efficient absorbent such as unplastered light weight concrete blocks are used. However, the subsequent painting of such surfaces will eventually destroy their sound absorption and could spoil the room acoustics. Moreover, the sound insulation value of such partitions is low (unless they are well painted) and they should be avoided on this score alone.

The ceiling appears to be the best location for sound absorbents. The small dimensions of a classroom plus the trend towards informal seating arrangement obviates the need for any speech reinforcement by ceiling surfaces. In most instances the teacher is nearer to the centre of the room than to either end, therefore it is rare that a distance in excess of 15 feet between the teacher and the furthest pupil ever exists.

There seems to be no evidence that a very short reverberation time in a classroom is detrimental. If anything a short reverberation aids the control of noise in an

elementary classroom where the pupils have not yet acquired self-control. Some care should be given to obtain a reasonably constant reverberation time over the speech frequency range, say 250 to 2,000 c/s.

(63)

621-32

26.137 services and equipment: miscellaneous

## ELECTRICS

*Electricity in Building.* Supplement to the Architects' Yearbook Vol. 9. Edited by Trevor Dannatt. (Published by Elek Books Limited. 10s. 6d.)

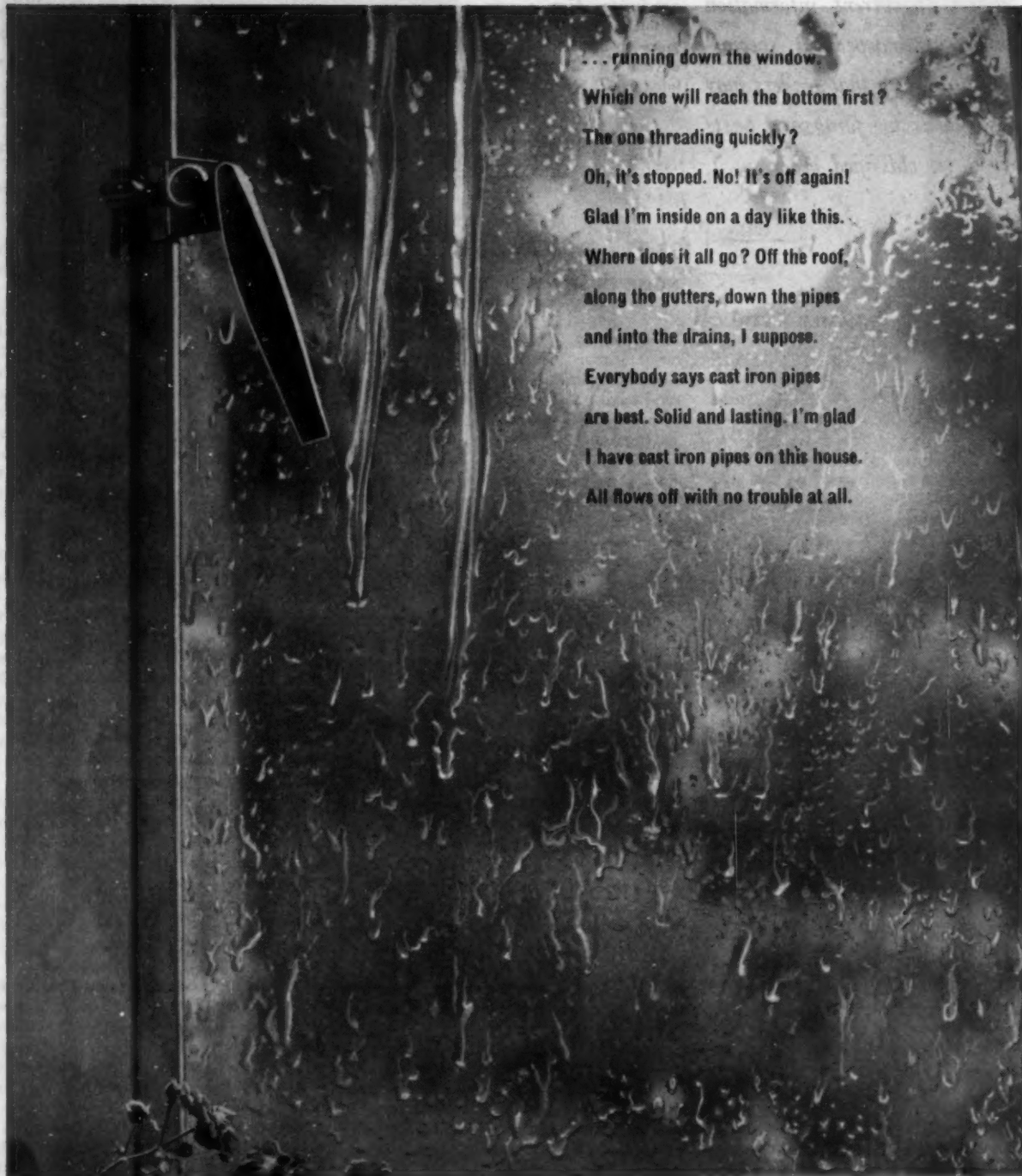
This book is uneven. The first chapter on "Distribution and Control," though "written down" for a non-technical readership, is far from clear. The second, on "Wiring Conduits and Ducts," is perfunctory and contains at least one serious mistake. It says that conduit may be bent to a minimum radius of six times its diameter, when the actual figure is 2½. A chapter on heating by electricity takes two pages to tell us that nuclear power is likely to make off-peak electricity cheaper, and then makes comparative estimates of running costs on the "useful therms" basis, assuming that the degree day method of calculating running costs applies to floor heating.

In fact this method, although fairly reliable for low pressure hot water systems, does not appear to apply to electric floor heating. To quote an extract from the B.R.S. Report for 1959: "For instance, with central heating systems the total heat content of the fuels used could amount to more than 1,200 therms per flat, but where the main space and water heating was by individual solid fuel appliances the total fuel input was about 600 therms per annum, and with an electrical floor heating system a figure of about 300 therms was observed. This result once again demonstrates that comparisons of domestic heating systems cannot be made simply in terms of the cost per unit of heat; this can only be done if all other factors such as methods of control, metering and charging, are the same." As a result, this particular chapter is valueless, if not misleading.

After this the book improves. The chapter on electric space heaters by J. T. Sharples is sensible and will doubtless be useful. The same is true of that on "lighting for work" by W. Robinson, although it tries to cram too much into too short a space and is rather indigestible.

The chapter on lifts by B. P. Hutton is a model of its kind. It is concise, clear, helpful and, alone in the book, written in the English language. The final chapter on telephones is not of the same standing. Its style is irritatingly playful, and it appears to have been written with one eye on the clock and the other on the Postmaster-General; however, it does at least elucidate the mystery of the GPO plan numbers and describes the facilities offered under each.

## WATCH THOSE TWO...



... running down the window.

Which one will reach the bottom first?

The one threading quickly?

Oh, it's stopped. No! It's off again!

Glad I'm inside on a day like this.

Where does it all go? Off the roof,

along the gutters, down the pipes

and into the drains, I suppose.

Everybody says cast iron pipes

are best. Solid and lasting. I'm glad

I have cast iron pipes on this house.

All flows off with no trouble at all.



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## technical section

SIB No.

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711-58

## 6. PLANNING: SOCIAL AND RECREATIONAL

### radburn planning: a reassessment, 2— footpath or road access? a social enquiry, 1

The case for Radburn Planning is based primarily on safety. A second and hardly less important issue is the kind of social life which it engenders: is this more or less rich than the kind of life engendered by the conventional house facing onto a street? In this second article Paul Ritter describes a social survey of 504 houses designed to compare the social effect of footpath and street access. The conclusions of the survey will be published next week.

#### Large Scale Research

In 1954 there was a certain amount of evidence that, economically, the Radburn Idea was sound. Aesthetically there were fine possibilities. But, sociologically, there was little evidence. Rumours of success and failure were current but the reasons had not been studied.

Among other things my research was to provide evidence on sociological aspects of Radburn planning and report on the existing schemes. I planned to observe and measure whether a footpath between fronts of dwellings encouraged more useful contact with those around than the normal, traditional motor road. Objectivity, scientific method and the clear definition of terms were to be employed without reducing the findings to inconsequential ("so what") statistical tables, which architects and planners had sadly come to expect from sociological studies. It was a matter of choosing, as a sociologist, the field of the objective "wertfrei" research deliberately, so that the results would help the planner and architect in the value judgments he has to make. The operation was considerably simplified by the combination of the three disciplines in one person.

To make the results incontrovertibly useful and generally applicable, I measured what is definitely desirable sociological contact: e.g. help during emergencies, during illness and with taking in of parcels, among small groups of about 18 houses.

#### Design of research project

The factor of access, i.e. the effect of the absence of motor traffic, was isolated by coupling and comparing

17 pairs of areas of housing which were similar in all respects possible, except the manner of approach to the front of the house. This was by path in the one, by road in the other. Great care was taken in the selection of samples. It was surprisingly difficult to find samples similar in housetype, garden, yard, age, condition, physical distance between houses, and type of occupancy ownership, while still being, geographically, close enough for simple presentation. Theoretically the same statistical results might have been collected from many single houses, comparably paired in the above way. But to examine compact areas gave better opportunities for observation and for presenting the findings in vivid sociograms.

In some cases there are regrettable differences beyond the manner of approach. To safeguard against the influence of these other factors a large number of areas were surveyed, seventeen paired replicates, including 504 houses in all.

The main part of the survey is composed of 15 pairs, three groups of five, chronologically divided.

1. Victorian. 2. Post 1914-18 War. 3. Post 1939-45 War. The size of the pairs varied from 2 by 32 to 2 by 8. The two older groups were conveniently available in Nottingham, where footpath access in neither type is exceptional. The contemporary pairs are from Radburn housing at Northampton, Wrexham and Sheffield.

The survey was restricted to two-storey terrace housing. The Victorian pairs were privately owned. The others municipally built and owned. (The two-storey terrace house is the most numerous and widespread dwelling type in England.)

#### Investigation techniques

##### (a) Interview

The purpose of the interview was twofold: 1. To ask a prepared schedule of questions in each case. 2. To converse on relevant subjects to form a general impression.

Interviewers knocked on the commonly used door, back or front, unannounced. However, their physical presence, drawing systematically nearer to the later houses in each area, was often watched, more or less openly, with a growing anticipation, curiosity and/or resentment. It was noted that a majority of people felt threatened.

This fear is a vague one and a general fillip to the person's security is likely to relax them sufficiently to co-operate, within a short time and in a reasonable manner. This was achieved in the following way: to exclude rational misgivings the respectability of the background was made clear in the introduction. (University, architect, research.) The polite request for help from the person interviewed gave him or her the good feeling that in such things they could help. The



## How to get a better roof with Tecton Beams— quicker, easier, cheaper



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Contractors: Harrison and Spooner Ltd., Bristol House, 23 Holborn Viaduct, E.C.1.

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AJ3

technical section

possibility of misgivings was quelled by the assurance that this help was required for only a short time and excluded all personal questions. Further contact was facilitated by humour befitting the style and terminology of each area, and by asking with warm flattery whether "the lady of the house," "daughter of the house," "master of the house" was at home, being interviewed etc.

Not to have to ask names is a distinct advantage. Christian names are a quite personal thing to many people.

In all cases the interviewees were asked whether THEY could ask OTHERS, when in need, not whether others would ask them. Thus, the latent was combined with the actual contact for measurement.

Interesting suspicions were aroused by some of the questions. The taking in of parcels by others was regarded the sort of activity a future thief might be interested in. The possibility of a loan of an essential in an emergency, was occasionally interpreted as an attempt to blacken character.

In this connection a valuable lesson was learnt at the outset. The word "neighbouring," used by sociologists, rather rashly, to describe all sorts of neighbourly contacts, or the whole phenomenon in general, is a morally loaded word in many districts of England, particularly also in Nottingham, meaning the objectionable, and objected to, "flitting in and out" of other people's houses, at unwanted times and in an unwanted manner. The result of a protracted survey, using the question, "Do you neighbour?" or "Do you do any neighbouring?" could be disastrously misleading. Rather like asking whether there are "drunkards" in the family, in a survey trying to establish how much a family drinks!

In addition to the direct questions, designed to elicit clear and quantitative replies, the interviewed were asked whether the presence or absence of a road in front was an advantage or a disadvantage. Great care was taken to put this question in such a way that it did not suggest the reply. General conversation, to elucidate the normal quite uninformative reply, succeeded at times only.

#### (b) Observations

The relevant areas were visited a great deal apart from the interview, at all times of the day and the evening, and all times of the week. The observations helped to decide to what extent objections and praise listed by the inhabitants were rational, to what extent subtle contacts, greetings, chatting in the street, waving from the window and talking across the hedge, corroborated or contradicted the statistics collected, and the information gleaned in conversation.

For example, it was instructive that a child whose parents had said that the road in front was not dangerous, had been observed as she tried to run into that same road, in front of a car, and the parent had administered, there and then, such a beating as might well have been the previous history of the little boy in another road, who, according to his mother, "pre-

ferred" to sit on the front door step, to running around. (Like a pillar of salt, one might add.) Such behaviour, which people tend to forget, even in lengthy interviews, could be deduced, generally speaking, from the observations made inconspicuously.

Direct or indirect signs of anxiety were also noted. The concept of muscular armour was extremely useful in making such rapid assessments of the tensions in facial musculature, in bodily movement and posture, as well as in manner of speech.

Observation could augment the information on the existence of a "sense of belonging," difficult to measure, but important.

The schedule was supplemented by enquiries regarding wives out at work. Statistically this was not recorded because of the great variations in hours, times of the day, days of the week and weeks in the year. It was found that on the one hand persons at work needed some of the help stipulated in the investigation more often, yet this was cancelled out by their having less chance to ask for it because they were out.

#### Schedule of questions

The following questions were asked:

1. Address
2. Who was interviewed
3. How long has the family lived in the house?
4. How many people live in the house?
5. How many generations?
6. How many children under 15.... under 6....?
7. In an emergency could you ask for a loan of a drop of milk, salt, or similar essential. (All? Most? All on this side? Some? Next door neighbours only? Who else? Asked with all questions.)
8. Could you ask anyone to take a parcel in for you?
9. Could you ask anyone to do a bit of shopping for you or give you some such help in case of illness in your house?
10. Do you spend any of your leisure time with anybody round here in their or your home?
11. Do you go out with anyone living round you?
12. Could you ask anyone to keep an eye on the children for you?
13. Could you borrow a tool from another household?
14. Could you talk over a personal problem with anyone outside your family?
15. Did you know anyone before you moved here?
16. Do you find that no road in front of your house is an advantage or disadvantage?
17. (Alternative to 16.) Do you find the road in front of your house, as compared with no road, an advantage or disadvantage?
18. Do you take or fetch your children to or from school?  
Why?

#### Presentation of results

The information gathered was presented in a way designed to give a clear and immediate comparison between each pair, and statistics and summaries describe the picture as a whole, in the following sequence:

## technical section

1. Each pair is described verbally, photographically and by a plan to the scale of 1/1,250, with details of access, amenities and surrounding development.
  2. On juxtaposed, diagrammatic plans to a scale of 1/500, there are entered on to each house respectively,
    - (a) the number of inhabitants,
    - (b) number of generations,
    - (c) number and ages of children,
    - (d) length of stay.
  3. The same diagrammatic plans have sociograms superimposed to give the direction and extent of contact within each group, for each of the three main types of contact measured. The symbols of the sociograms are such that an immediate impression of the amount of "blackness" on the plan is indicative of the amount of social contact.
  4. Subjective impressions, as recorded from the inhabitants are reproduced verbatim.
  5. Subjective impressions of the investigator, formed on the basis of all sources, are given separately.
- We give below typical survey results for a Victorian pair (i.e. a path and a street each lined both sides with a terrace of houses) and for an inter-war pair.

## Typical Results

## SAMPLE II AND II-A

*Age and Condition:* Mid-Victorian, reasonably well kept.

*Surroundings:* Densely populated. Mainly two-storey housing. Some industry. A number of path access areas. Central.

*Ownership:* By occupier or rented from private landlord.

*House type:* All two-storey with two bedrooms. Similar plans. There is some variation in sculleries. All have back and front doors.

*Garden:* The minute front gardens of some and slightly larger gardens of other houses are not all carefully planted but provide green patches with trees and bushes.

## OPINIONS AND IMPRESSIONS OF INHABITANTS

*Path:* "Main road at end danger to children."

"No road an advantage." (Two with children.)

"Locality changed, different class of people now, children a nuisance, does not interfere with anybody if they don't interfere with her." (Lady of 70, resident 36 years.)

*Street:* "Like living in street."

"I was born in 'terrace' (path) but prefer street because the 'terrace' is a throughway to the main road."

"Non-schedule buses use the road to avoid traffic lights, they speed."

"I never leave the children alone, they are always in the garden."

I don't speak to anybody." (Fifteen years' resident.)

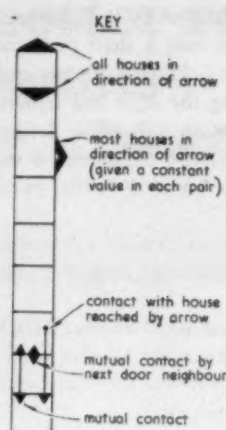


Fig. 1. Key to sociograms

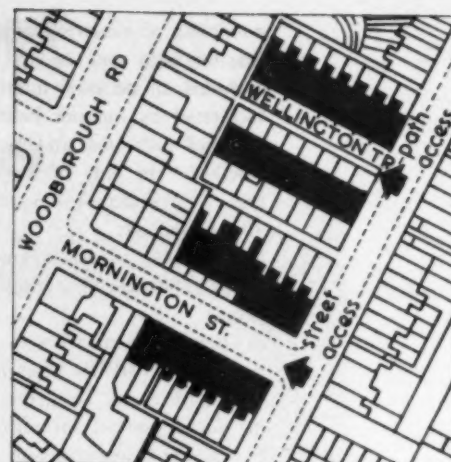


Fig. 2. Plan of typical mid-Victorian sample. Arrows mark viewpoints of photographs



Fig. 3 (above). Path access at Wellington Terrace

Fig. 4 (below). Street access at Mornington Street



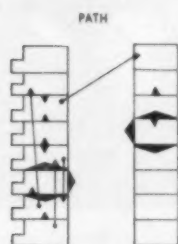
## OBSERVATIONS OF INVESTIGATOR

*Path:*

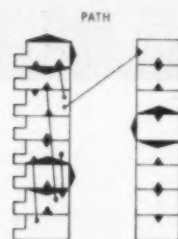
This is a connection between two roads, one of which is a main road. There is a very considerable flow of walkers through this area, it is more exposed visually and less enclosed. There is little feeling of privacy. From the main road this area is a green oasis in the stone and brick all around. Trees, too large, are pruned and deformed with periodic severity. There is no lighting. All houses use back and front doors. There is a concentration of relative newcomers on one side and this seems to have had a disrupting effect. Nevertheless there is a friendliness and a sense of belonging apart from the statistical recordings. Children play in relative safety. Every one of the inhabitants is satisfied with the path access and the two with children stressed this with a rare emphasis. Three, of six families with children, can ask for help with these. Five families spend some leisure time with their friends in the area concerned and nine could ask to borrow a tool.

*Street:*

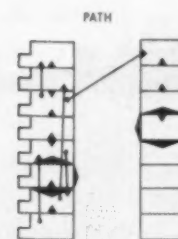
The very short street is visually enclosed on one side



*Essentials in emergency*

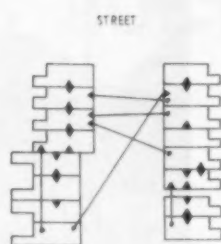


*Taking in parcels*



*Help in illness*

Figs. 5, 6 and 7. Sociograms showing incidence of these desirable social contacts in a sample of Victorian terraced housing (I and IIA)



by the main road shops and on the other by housing, a pleasing effect. All use back and front doors.

Although this is a well-defined area there was no feeling of identification with the street or the group of houses at all. One person would like to have changed to a path. Three are most vehement in their dislike of paths. They cannot explain this rationally and wrinkle their noses when talking about it as if touching something nasty. Nor could it be discovered why dogs "were bad" in the path area. The only theory to make rational sense of this might be that as the public area for dogs is smaller, the nuisance of dog faeces per square yard is greater. Nor is there a gutter. Perhaps an important detail.

Both families with children can ask for help with them. Three people spend leisure time together and nine can ask to borrow a tool.

## SAMPLE X AND X-A

*Age and Condition:* Built in 1929. Well kept.

*Surroundings:* In the heart of a large housing estate of several hundred acres and many thousand houses, on the outskirts of the city. Density high, 12.12 for inter-war estates. Consistent use of pedestrian access.

*Ownership:* Municipal.

*House types:* Two and three bedrooms, mainly the latter. Two-storey throughout. Front, or side, and back door in each case.

*Gardens:* Considerable in size and very well kept in front.

## OPINIONS AND IMPRESSIONS OF INHABITANTS

*Path:*

"Children congregate in here."

"It's more private."

"It's ideal for little children."

"Children like playing at the top."

"There's more interest in the road."

"I like it, it's quiet and there are no children."

"It's nice, away from traffic."

"Nice and private and no cars."

*Street:*

"The road is safe." (Three.)

"The close are closed in." (Path.)

"Living on the front (roadfront) is better there (in path), the children play round lamps (there is none!) and fences."

"It's lively and there is lots of traffic, it's not safe." (Two.)

"It's easier for callers on the road."

"I am frightened of the dark in the path."

"You are so shut off in the cul-de-sac." (From slums.)

"There are no buses here, I don't like the paths, I don't know why."

"All the traffic up and down makes you wonder with the children, safer in path."

### technical section

"Children play in the road, greens round here not for playing on (!)\* I like to see a bit of life."

### OBSERVATIONS OF INVESTIGATOR

#### Path:

The statistically recorded co-operation in these twelve houses is the highest found anywhere. In relation to taking in parcels every possible contact is felt to be available, i.e. each one of the twelve people feels she could ask the eleven others. The feeling of belonging is very strongly developed; any disadvantages are regretted because the path is liked. There is strong feeling of privacy. Except for children, others do not venture up the cul-de-sac. It is this lack of life, this imposed privacy, that is felt and frequently expressed as a disadvantage. Surprisingly, none of the four families with children could ask anyone for help with them, only one person spends leisure time with another, or admits to doing this, and but eleven feel they could talk over a personal problem. It may well be that in this area the children are rather old and so the mothers cannot see the cause to ask for help. This is a factor that might explain what, otherwise, seems like an odd pattern.

#### Street:

This is a straight minor road with traffic growing rapidly as cars become more frequent on the estate. The narrowness of the road and tree planting make it quite pleasant. With an absence of garages there is a parking of cars along the road which makes this basically safer because straighter road into a particularly unsafe one. This is most pronounced in the evenings. Yet it enhances the children's play! if not the cars, to run round them, hide behind, etc.

No one wishes to move into a path area and the objections to the path area are, as generally found, vague and irrational, in the main.

One of five houses with children can ask for help with them. (Three children under six in the sample.)

\*Most greens in Nottingham are railed off or have notice boards forbidding play on them!

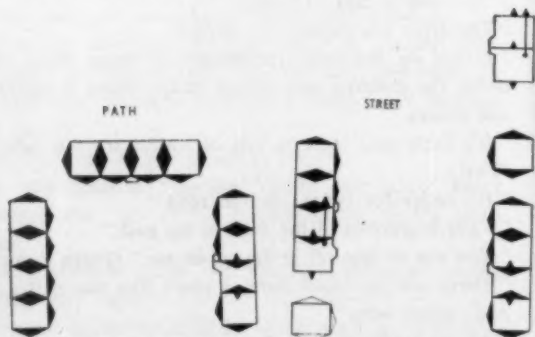


Fig. 8 Sociogram showing 'essentials in emergency' contacts in Sample X and XA



Fig. 9. Plan of typical inter-war sample. Arrows mark viewpoints of photographs



Fig. 10 (above). Path access at Fulwood Crescent

Fig. 11 (above). Street access at Fulwood Crescent



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# COLOUR SERVICE COLOUR SERVICE

**technical service in action No. 5**

## **Painting systems for dairies, laundries, plating shops and other areas of high humidity**

In such places as dairies, laundries, dyehouses, plating shops and other areas of high humidity, surfaces of ferrous metal, zinc, aluminium and all aluminium alloys must be protected from the corrosion due to water condensation and the acidic and alkaline conditions that may arise.

It is not possible to consider all such problems under one heading, but by analysis of the problem in terms of the functional use of the paint films then the necessary protection can be achieved.

The protection of ferrous metal surfaces under such conditions is a common one. After thorough cleaning of the surface — a problem of no mean order under certain circumstances — a paint is applied which will prevent any further attack. This in turn is protected by a coat impervious to moisture and this system sealed by a final coat of high durability paint. Normally each coat of paint performs a specific function — anti-corrosive, vapour barrier, protective coating, etc. — and in some cases three, four and higher numbers of paint coats are added. Economic considerations in terms of the protection required is the determining factor.

Products are available for the protection of practically all the ferrous and non-ferrous metals and other materials. Full details and advice will be given gladly by our Technical Service Department.

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

# SERVICE

(98)

728-54

New building for  
undergraduates at

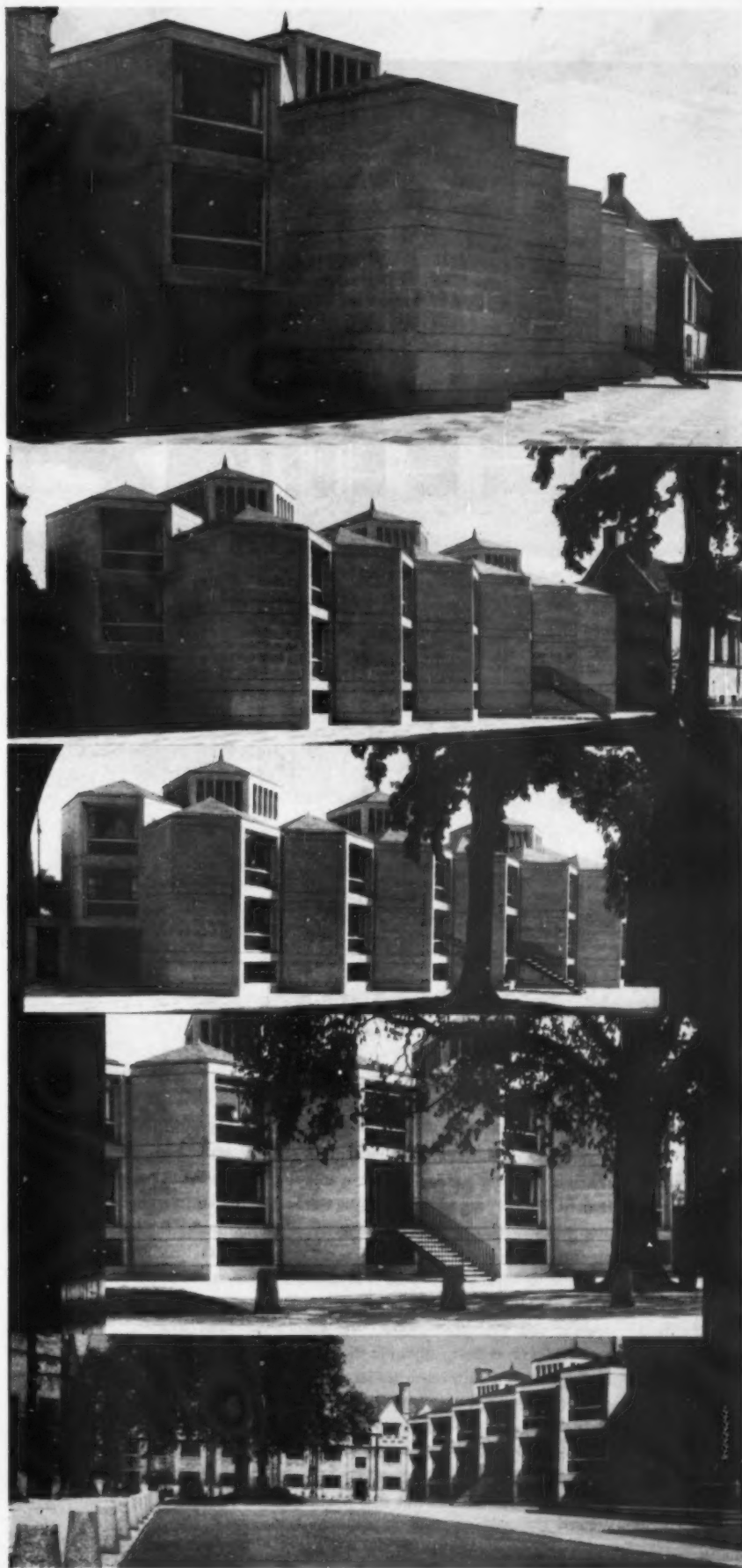
## St. John's College, Oxford

architect  
ARCHITECTS'  
CO-PARTNERSHIP

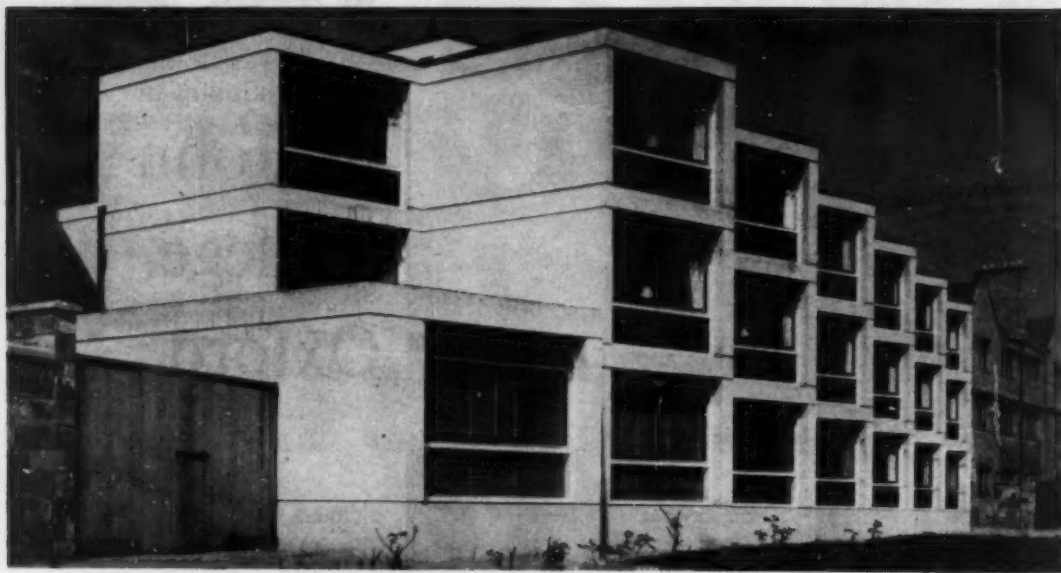
quantity surveyor  
G. A. HANSCOMB  
PARTNERSHIP

It is encouraging that this design for an extension to one of Oxford's historic colleges is quite uncompromising in its approach. By using a plan which is a series of related hexagonals, the architects have achieved an expression which reflects perfectly the cellular character of a hall of residence, and which provides a broken silhouette well in sympathy with the existing building.

*In spite of the raw, unweathered stonework the building already seems to belong in its place, the massing being exactly right for its setting*



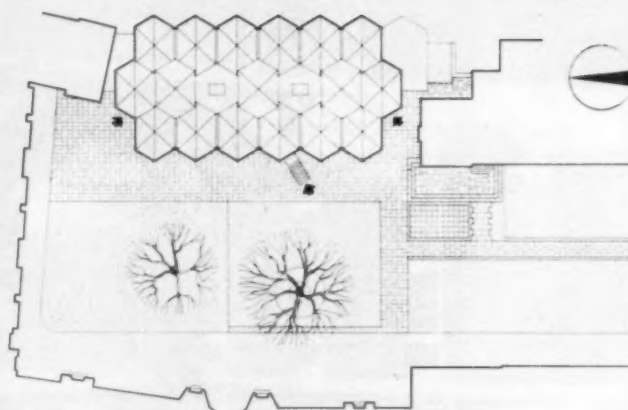
## building study—2nd series



*This view, from the north-west corner, shows the sculptured quality of the massing*



*Location plan [Scale 1: 5000]*



*Site plan [Scale  $\frac{1}{4}$  in. = 1 ft. 0 in.]*

**APPRAISAL:** There can be few places where a more astonishing concentration of beautiful buildings of nearly every style and period is to be found than there is in Oxford. The effect is so remarkable that the attitude of those who seek to preserve it, unchanged and insulated from the present, can readily be understood. But the University is not a museum, it is a living thing, with the need for growth and change inherent in all living things. The quality of life in any organism can be judged by the way it adapts itself to new circumstances, and the malaise at Oxford in the past fifty years or so has made itself apparent in the numerous additions for which architects affected past styles out of a respect for tradition that betrayed lack of confidence in their own creative ability.

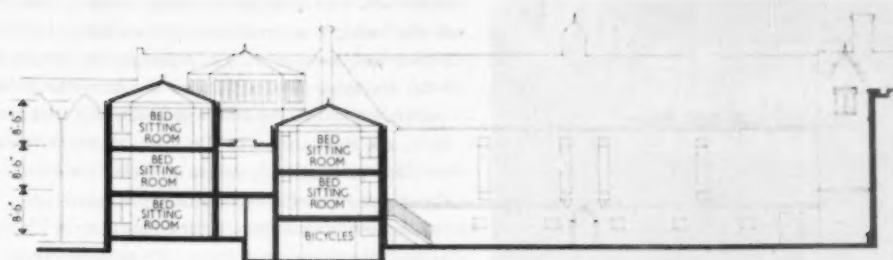
It is encouraging, therefore, to find a rich and distinguished College commissioning a design for an extension from a firm of architects who have made their name with uncompromisingly "modern" buildings. The result should be

studied carefully, for it will show whether or not architecture is yet breaking through to a new confidence in itself.

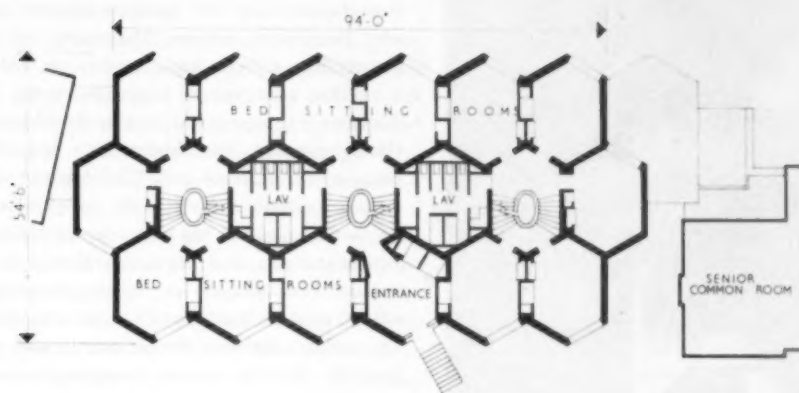
When St. John's was founded in 1555, the existing St. Bernard's College was bought from Christ Church and the original 15th-century buildings taken over: these formed the present front quad. When expansion became possible, the magnificent Canterbury quad was added to the east. This group of buildings reflects the 17th century in its most opulent and grandiose mood; the superb east and west colonnades far outstrip anything else of the period in Oxford. In the 18th and 19th centuries less brilliant extensions were made to the north of the front quad. Not until the 20th century were there sufficient buildings to form a north quad, and until 1958 half of the east side of this quad was made up of stables and outbuildings. By completing the last of the three quadrangles this new building gives the College a coherence which has been lacking for the past 200 years.

The 18th-, 19th- and 20th-century additions were all more

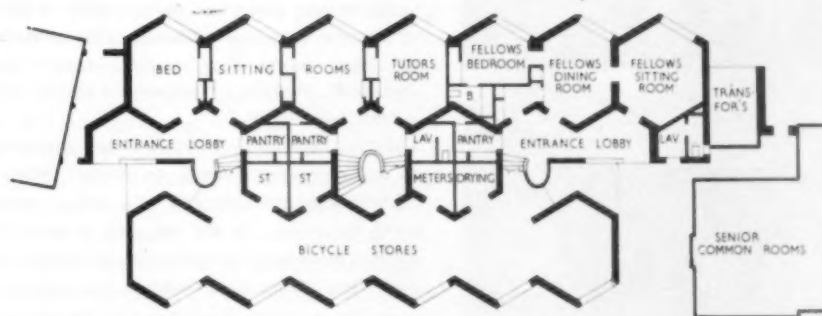




Section



First floor plan

Ground floor plan [Scale  $\frac{1}{32}$  in. = 1 ft. 0 in.]

or less competent and tasteful imitations of 16th-century work. In rejecting this approach the architects were very conscious of the necessity to complete the quadrangle in a sympathetic manner; they took the bold step of choosing a plan form which would ensure a dramatic and broken outline to the building from every viewpoint.

The plan is built up from a series of related hexagons. A more appropriate idea can hardly be imagined, for it expresses perfectly the cellular character of a hall of residence. Studying the plans, one is impressed by the neat way everything falls into place; study-bedrooms group themselves so naturally round the cores formed by staircases and sanitary accommodation; split levels become the spontaneous result of restrictions the hexagon form forces on the staircase; sunken cycle stores raise rooms on the entrance level so that all rooms facing the quad overlook it (of 31 rooms 29 get south light). In short, possibilities afforded by hexagon planning have been brilliantly exploited.

What has not been realised, however, is that hexagon planning must impose its own special discipline on the architect if it is to be handled convincingly. A building like this cannot be treated as a normal one; the entirely different feeling of spaces and masses must be reflected in every detail. Time and time again, as one walks round and through the building, one is saddened by the realisation that this vital point was missed. This very good building, despite its many great merits, falls far short of what it could have been.

The north quad is usually entered from an open passage driven right through its south face and forming a direct visual link with the front quad. The new building is immediately visible on the east as one enters the quad; the bold modelling asserts itself at once against its more discreet neighbours. The effect is compelling but not disturbing and in spite of the raw unweathered stonework, the building already seems to belong in its place, the massing being exactly right for its setting. The clean, crisp lines of the

## building study—2nd series



stonework, with emphasised string courses, allow the form of the building to speak for itself, uncluttered by obtruding gutters and down-pipes. The finials on the low-pitched slate roofs are most unfortunate and should certainly have been omitted; they mar the otherwise beautifully clear geometrical form. An accentuation of this kind can never be successful on a low-pitched roof, and in this case the strong form of the grouped hexagon roofs needs no accentuation.

- A Another irritating feature is the entrance stair. This certainly defines the entrance, but does so in a most disturbing manner. One is reminded of those things on wheels which are pushed up against aircraft. It just does not belong here; its flimsy appearance and whimsical detailing (the strings are rolled steel channels faced with panels of asbestos) spoil an otherwise harmonious exterior. The shape, too, is wrong. A straight flight and rectangular landing can well be applied to a building conceived in rectangular terms, but here the discipline is hexagonal and the stair should be in sympathy. Having mounted this offending stair, one enters the first hexagon—the entrance hall. The dramatic quality of the space immediately makes itself felt, but varnished pine boarding to the telephone box and tinny light fittings strike an incongruous note, as do the rectangular mat well and square terrazzo tiles. Hexagons and squares (or rectangles) simply will not combine harmoniously in the same plane.

The entrance hall leads directly into the stair well, and here again the effect jars the eyes simply because no attempt was made to relate flights and landings to the hexagon plan form. The well is elliptical on plan, and forms a disturbing contrast to the straight planes and sharp corners of the brick walls, all the more so because of breaks in the sweep of the curve. An ellipse on plan does not give a regular curve in three dimensions unless it is continually rising, but obviously this fact was not realised.

The three stair wells are identical, their spaces being carried up and expressed externally as staircase towers. Clerestory windows flood the walls with light, and the opening gear is neatly concealed. At the top there is access to two very pleasant hexagonal roof courts over the sanitary accommodation. These courts are intended to serve only as fire escape routes but the atmosphere created by the adjacent hexagonal pitched slate roofs with their ingenious secret gutters, on three different levels, is so charming that the courts should certainly be paved and made usable. Pavement lights could replace the vulnerable rooflights.

- C Sanitary accommodation is most cleverly planned to disguise the fact that the space started as a hexagon; the illusion of being in a rectangular building is complete. At least there is no inconsistency of style; but what a pity it was the wrong style.

Study-bedrooms are spacious and well lit, but the general effect of both finishes and furnishings (mainly the choice of a College committee) is too genteel and refined for a student

D

(A and B) The clash of style between stair and structure jars the eye, since no attempt was made to relate flights and landings to the hexagon plan form. However, in the view from the entrance into the hall (C), the dramatic quality of the space immediately makes itself felt. The entrance stair (D) reminds one of those things on wheels which are pushed up against aircraft

room. Each room contains a writing-desk/table, two easy chairs, three dining chairs, low tea trolley, long low bookcase, divan, carpet, table lamp. This is lavish equipment indeed by normal University Grants Committee standards, but the rooms are large enough to take all this furniture without appearing cluttered.

Ample built-in fittings are provided. Cupboard and wash-basin units, designed to form two walls of each room, are faced with vertical tongued and grooved uile boards with square recessed joints. Wardrobe doors are detailed into the walls and only keyholes and hinges betray their presence. In contrast, the opening for the washbasin is emphasised E by a frame and screened by a pinoleum blind, a neat but inconsistent and ugly solution.

The collection of electrically operated equipment most students seem to possess these days has been foreseen, and two 5-amp. socket outlets have been fitted, as well as a wall point for a shaver above the washbasin. The room is lit by three wall brackets; wardrobes have automatic lights.

The floor is covered with square white marbled rubber tiles—a most unhappy choice which would be visually disastrous if the tiles were not partially concealed by carpet and furniture. The aluminium sliding windows are nicely detailed and double-glazed throughout.

Upper rooms have boarded ceilings which follow the planes of the roofs. These varnished V-jointed pine boards do not look well with the uile wall boarding which has square joints, and the rooms are not as pleasant as the lower ones with flat ceilings. The timber boss at the apex of the ceiling seems somehow wrong but one has to look hard to discover why; the boss has eight sides while the room has six. F

The basement cycle store is visually most exciting and really has the feeling of hexagon planning. The ramps up at either end look wonderful, but are rather too steep and inclined to be slippery in spite of non-slip tiles.

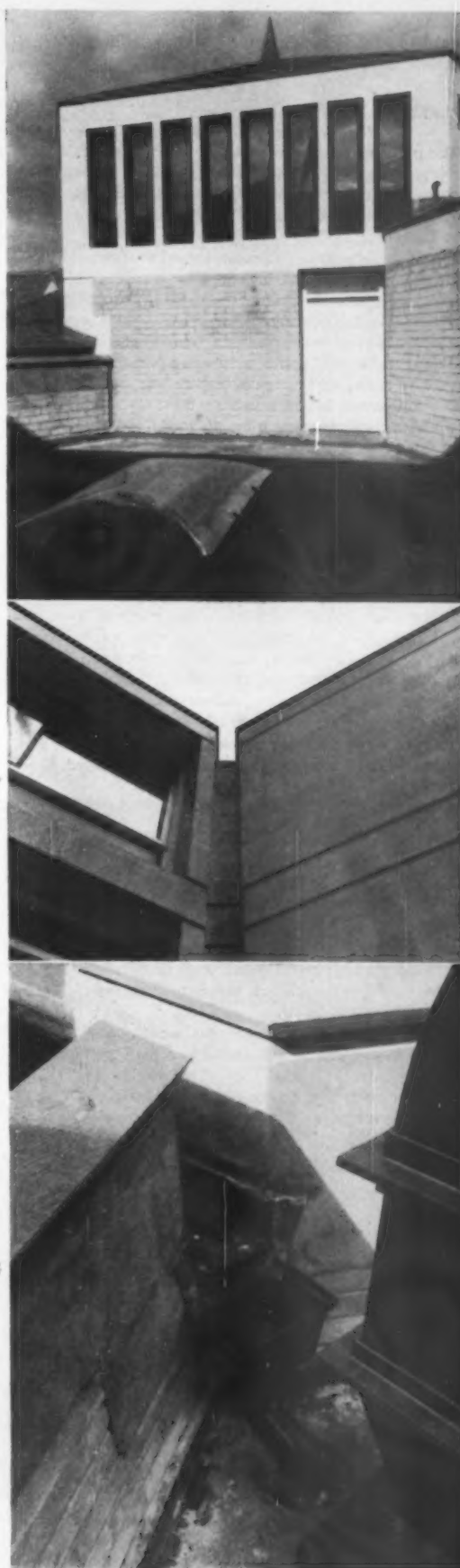
To sum up, this is a functionally excellent building with failings which arise largely out of inconsistencies of style. Where the style is in sympathy with the basic concept, as in most of the external detailing, the building succeeds admirably; where style and concept clash the result is disturbing. But despite its failings the building is a welcome addition to St. John's College and sets a new standard for work of this kind in Oxford.

#### CLIENT'S REQUIREMENTS

About 30 undergraduates' bed-sitting-rooms, to be larger than the normal 140 to 160 sq. ft. now considered adequate: a Fellow's set: bathrooms: a bicycle shelter. The building to be stone-faced, and to be on the site of the then existing stable buildings. G

#### SITE

The site, until recently occupied by stables and other out-buildings, lies between the north-east corner of the north



One of the hexagonal roof courts (E). The outline of the building is kept crisp and uncluttered by using "secret" gutters (F and G)



## building study—2nd series

quadrangle and the President's private garden. The quadrangle, informal in shape, contains buildings ranging in date from 1615 to 1933.

## PLANNING AIMS

The problem was to design a new building which would bridge the gap left by the demolition of the stables, and to create a finished quadrangle that would be satisfactory in itself as well as link visually the whole complex of buildings.

The building provides 34 rooms, three of which, in the south-east corner of the ground floor, are designed as a Fellow's set complete with its own bathroom and kitchen. The honeycomb plan form arose from a desire to provide a broken skyline to the building, thus continuing the Oxford tradition of spires, gables and pinnacles without recourse to the application of ornament.

The five central hexagons contain three staircases linked by two bathroom units which are planned to provide internal communication from one staircase to another.

The section of the building is designed to allow approach to rooms at half-landing levels of the staircases, giving three full storeys on the east side and two and a half on the west, the remaining half-storey providing a semi-basement bicycle shelter running the whole length of the west side, approached by ramps at both ends.

The rooms, each about 200 sq. ft. in area, have been furnished to the specification of a small College committee with the help of the architects. Every room has built-in cupboards and a screened basin unit, under-floor electric heating giving background warmth which can be supplemented with portable radiant electric fires.

The three staircase towers are taken up higher than the others to allow clerestory lighting round all six sides. The bathroom units are top-lit and artificially ventilated.

## SUMMARY

Ground floor area: 5,136 sq. ft.

Total floor area: 13,791 sq. ft.

Type of contract: RIBA.

Tender date: February 1958.

Work began: April 1958.

Work finished: January 1960.

Tender price of foundation, superstructure, installation and finishes: £73,334 os. 2d.

Final contract price: £74,140 (provisional).

Tender price of external works and ancillary buildings: £2,760 9s. 5d.

Final contract price: £7,200 (includes additional works not in tender).

Total: £81,700.

## COST ANALYSIS

Based on final account before agreement with general contractor and excluding £350 for increased costs of labour and materials. (AJ revised elemental breakdown in use from Nov. 10, 1960.)

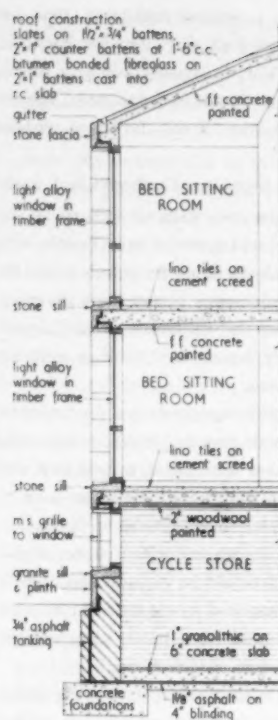
## Preliminaries and insurances

4 1

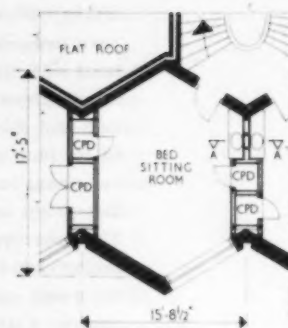
## Work below lowest floor finish

11 10

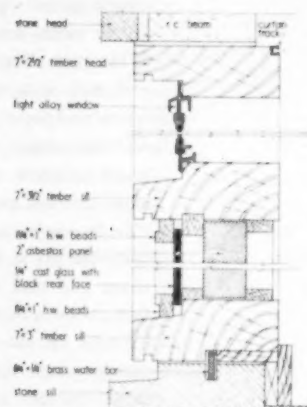
Excavations, filling of existing pits and areas of made-up ground, reinforced concrete foundations, asphalt tanking to semi-basement, concrete column foundations and brickwork to level, concrete floor slab and hardcore filling.



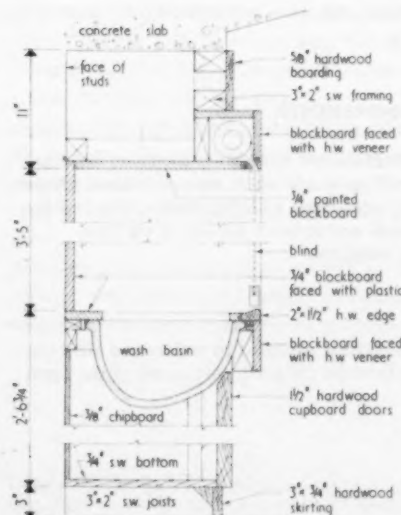
Section through external wall  
[Scale 1/4 in. = 1 ft. 0 in.]



Plan of student's room [Scale 1/8 in. = 1 ft. 0 in.]



Section through window [Scale 1/4th full size]



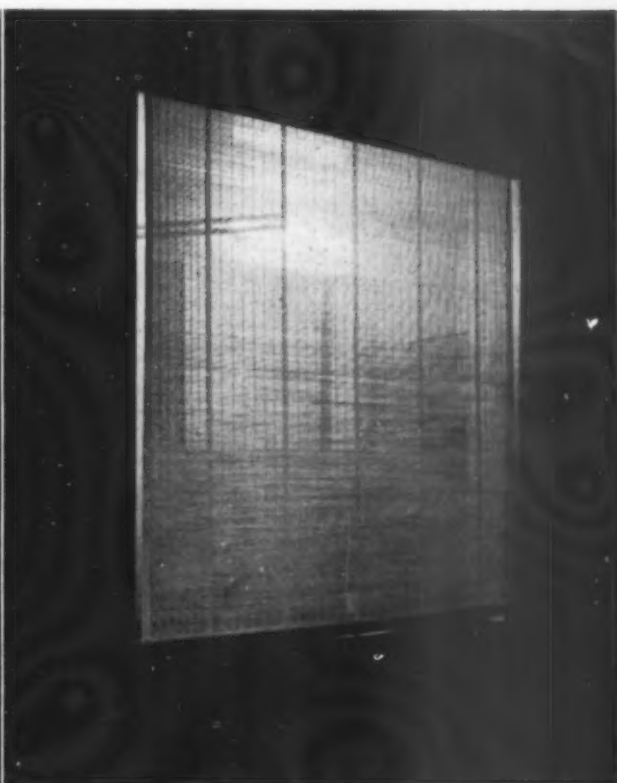
[Scale = 1/8th full size]



Section and elevation of washbasin-unit  
[Scale: 1/4" = 1' 0"]



*Student rooms on the top floor have boarded ceilings which follow the planes of the roof*



*The washbasin recess is emphasised by a frame which can be covered by a pinoleum blind*

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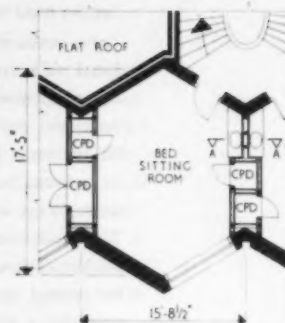
## Work below lowest floor finish

11 10

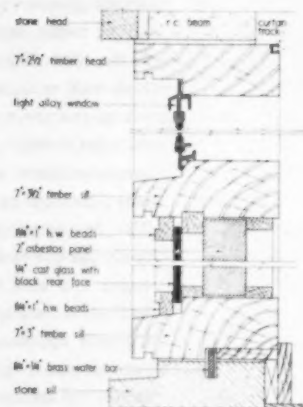
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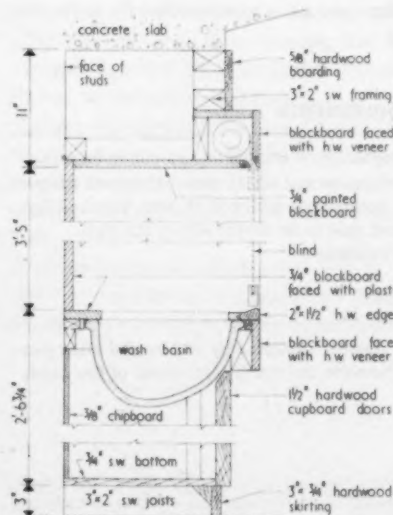
Section through external wall  
[Scale 1/4 in. = 1 ft. 0 in.]



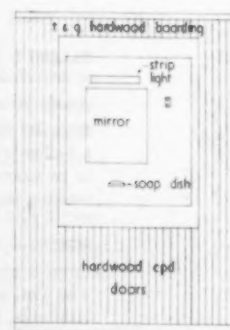
Plan of student's room [Scale  
1/8 in. = 1 ft. 0 in.]



Section through window [Scale  
1/4th full size]



[Scale = 1/16th full size]

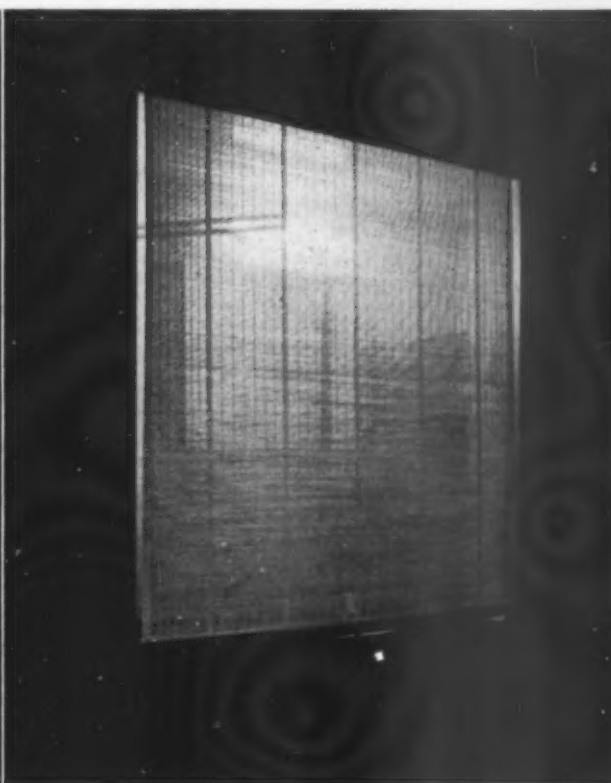


Section and elevation of  
washbasin-unit  
[Scale: 1/4" = 1" 0"]



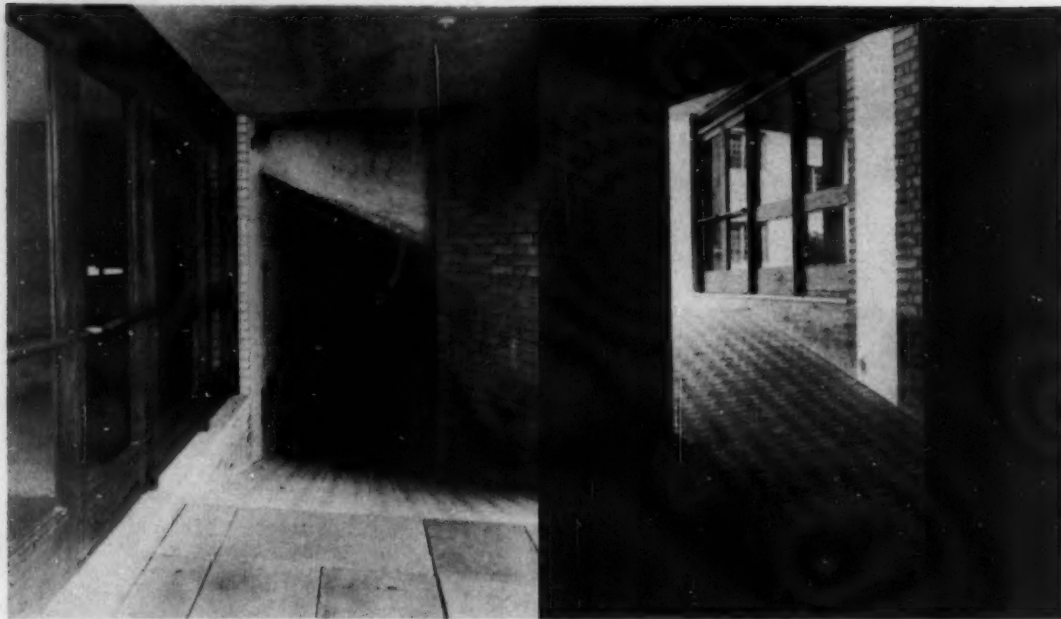


*Student rooms on the top floor have boarded ceilings which follow the planes of the roof*



*The washbasin recess is emphasised by a frame which can be covered by a pinolet blind*

## building study—2nd series



Top and bottom of the north ramp leading to the cycle store

## STRUCTURAL ELEMENTS

## Frame

Reinforced concrete beams and two small columns.

3 11½

## Upper floors

Reinforced concrete floors:  
945 sq. yds., 54s. 7d. sq. yd.

3 8½

## Roof

High level timber-framed octagonal pitched roofs.  
Softwood boarding, bituminous felt, battens,  
counter battens, slates and lead soakers as covering.  
Concealed asphalted gutters:

535 sq. yds., 168s. 4½d. sq. yd.

Low level reinforced concrete flat roofs with  
insulation creed and asphalt covering and  
skirtings.

Concealed cast iron rainwater pipes:

118 sq. yds., 307s. 10½d. sq. yd.

10 7

## Rooflights

Two obscured glass domelights: £13 sq. yd.

1½

## Staircases

Three internal staircases, one rising 21 ft., two  
17 ft., and average 5 ft. wide over tread set in  
octagonal stair well and elliptical on outer face in  
reinforced concrete with white terrazzo wall string,  
outer string and treads and risers, gypsum acoustic  
plaster to soffits. Mild steel open balustrade with  
polished mahogany handrail.External stair rising 5 ft. 6 in., 5 ft. wide over tread  
of steel channel strings filled with black asbestos  
cement sheet and with steel shoes for precast  
reinforced terrazzo-faced treads, open risers, mild  
steel open balustrade with bronze handrail.

5 0½

## External walls

Load-bearing brick walls, faced on outside in  
Portland Roach stone (average 7 in. thick).

19 9

## Windows

Main windows: purpose-made aluminium sliding  
sashes with clear glass double glazing, top-hung  
opening light above and obscured fixed panel below,

7 4

set in mahogany frame:

208 sq. yds., 399s. sq. yd.

Turret windows: purpose-made steel windows with  
clear glass double glazing:

61 sq. yds., 229s. sq. yd.

Semi-basement: centre-hung windows in mahogany  
with obscured glass:

13 sq. yds., 330s. sq. yd.

## External doors

Three entrance doors. Pair of fully glazed doors in  
utile; two with glazed side-screens. Clear glass and  
with glazed fixed fanlights over:

234 sq. ft., 24s. 4d. sq. ft.

Four mahogany-faced fire exit doors to roof:

74 sq. ft., 10s. 10d. sq. ft.

Three side-entrance doors with glazed bottom  
panel and top-hung glazed opening panel:

54 sq. ft., 29s. 7d. sq. ft.

7

## Internal structural walls

Fletton brickwork generally plastered but with  
white facing bricks to staircases and landings.

842 sq. yds., 43s. 8½d. sq. yd.

438 sq. yds. at extra 32s. 2½d. sq. yd.

3 8½

## Partitions

Fletton brickwork generally plastered but with  
facing bricks to minor areas:

226 sq. yds., 40s. 1½d. sq. yd.

Utile cupboard and basin units dividing sets:

267 sq. yds., 254s. 5½d. sq. yd.

Aluminium-faced proprietary partitions and doors to  
w.c.s and bathrooms:

38 sq. yds., 110s. 6½d. sq. yd.

5 10½

## Internal doors

Flush doors: mahogany, or softwood faced generally  
with plywood panels.

70 single; 1 double. 1,171 sq. ft.

1 8½

## Ironmongery

Anodised aluminium lever furniture. Mortice locks.

1 0½

Total of structural elements: 63s 5½d

## FINISHES AND FITTINGS

## Wall finishes

1 6  
Tongued and grooved utile boarding:  
57 sq. yds., 194s. 5d. sq. yd.  
Glazed cushion edge wall tiling to part bathrooms:  
36 sq. yds., 41s. 9d. sq. yd.  
Plastering and paint.

## Floor finishes

3 9½  
Terrazzo on screeds to entrance halls and  
bathrooms:  
125 sq. yds., 73s. 1d. sq. yd.  
Linoleum on screeds to sets:  
806 sq. yds., 32s. 7d. sq. yd.  
Granolithic to cycle store and pantries:  
218 sq. yds., 16s. 0d. sq. yd.  
Non-slip tiles to ramps:  
23 sq. yds., 17s. 1d. sq. yd.  
Hardwood skirtings. Terrazzo strings to stairs.

## Ceiling finishes

Aluminium foil and tongued and grooved boarding  
to octagonal roof soffits: 18s. 6d. sq. yd.  
Fair-faced concrete lower floor soffits.  
Wood wool (spray painted) to cycle stores:  
22s. 9d. sq. yd.  
Cement and sand on wood wool to entrances:  
4s. 0d. sq. yd.

## Decorations

1 11½  
Photo mural, £46  
Emulsion paint to plastered walls. Plastic paint to  
fair-faced concrete soffits.

## Fittings

Built-in wardrobe cupboards included under  
Partitions. Shelves; draining boards; notice boards;  
telephone booth.

Total of finishes and fittings: 8s 11½d

## SERVICES

## Sanitary fittings

1 5½  
36 oval earthenware lavatory basins.  
8 white glazed fireclay sinks.  
5 white porcelain enamelled baths with shower  
fittings and asbestos cement side panels.  
11 w.c. fireclay suites with white porcelain  
enamelled low level water-waste preventers.  
Chromium-plated taps (mixing taps to basins in  
sets).

## Waste, soil and overflow pipes

10½  
Lead or cast iron soil and vent pipes.  
Copper overflows and wastes.

## Cold water services

2 4½  
Copper services.  
85 cold and drinking draw-off points.

## Hot water services

Copper services and cylinder. Immersion heaters.  
49 draw-off points.

## Heating services

(Cost included under Electrical Services.)  
Electrical floor warming with removable cables  
using off-peak current. (Thermostatically group-  
controlled apart from three rooms individually  
controlled.) Loading: 143.2 kw.

## Ventilation

Time-switch controlled fan extract system to  
bathrooms.  
Includes builders' work ½d. per sq. ft.

## Electrical services

10 0½  
300 lighting points; 60 power points. 2½  
Meter and switch gear 7 10  
Lighting and power installation  
Lighting fittings 1 3  
Builders' work 9

## Special services

3  
Fire extinguishers ½  
Lightning conductors 2½

## Drainage

1 10½  
Cast iron for soil pipes and under building.  
Stoneware stormwater.  
Brick manholes

11½ Total of services: 19s 2½d

## External works

10 11½  
Quadrangle with York stone and precast  
concrete slabs, with York stone aggregate,  
tarmac and grass areas, cobble stone  
edging, granite bollards 6 1  
Garages and associated concrete aprons  
and drive 4 1½  
Transformer housing 1½  
Garden work, flower beds, etc. ½  
Other site works 7½

## Total per sq. ft. of floor area :

8½ £74,140 (net cost, excluding external works)

13,791 sq. ft. (measured inside external walls)

107 6½

## COST COMMENTS

This is one of the few occasions when the AJ has been able to cost-analyse a high quality structure. This building is certainly to a higher standard than that permitted by the UGC for residential blocks in red-brick universities. Nevertheless, bearing in mind that site conditions were difficult, so that work below the lowest floor finish amounts to about 12s. per sq. ft., the overall cost of 107s. 6½d. is something of an achievement. Comparisons can, therefore, be made with Weeks Hall (AJ, November 10, 1960) in the major groups, as shown below:

|                                | St. John's | Weeks Hall |
|--------------------------------|------------|------------|
|                                | s. d.      | s. d.      |
| 10½ Preliminaries              | 4 1        | 3 8½       |
| Work below lowest floor finish | 11 10      | 5 8        |
| Structural elements            | 63 5½      | 38 6½      |
| Finishes and fittings          | 8 11½      | 15 0½      |
| Services                       | 19 2½      | 27 6½      |
|                                | 107 6½     | 90 6½      |

1 5 The higher cost for the structure of St. John's is caused by the use of stone facings, high quality windows, the roof structure and the inclusion of cupboard-fittings under Partitions. In contrast there is a saving in finishes and fittings and services, compared with Weeks Hall; the latter is of a different nature, having kitchen, dining-room and other communal facilities, and lifts. In addition, electrical heating throughout the St. John's building permits a saving on the capital cost of heating. Allowing for these differences, it is still clear that the architects for St. John's have put the



building study—2nd series



*In the cycle store the hexagonal planning is most impressive*

greatest emphasis on the external carcass, and that the internal finishes are very much in line with those of Weeks Hall.

#### CONTRACTORS

Benfield & Loxley Ltd.

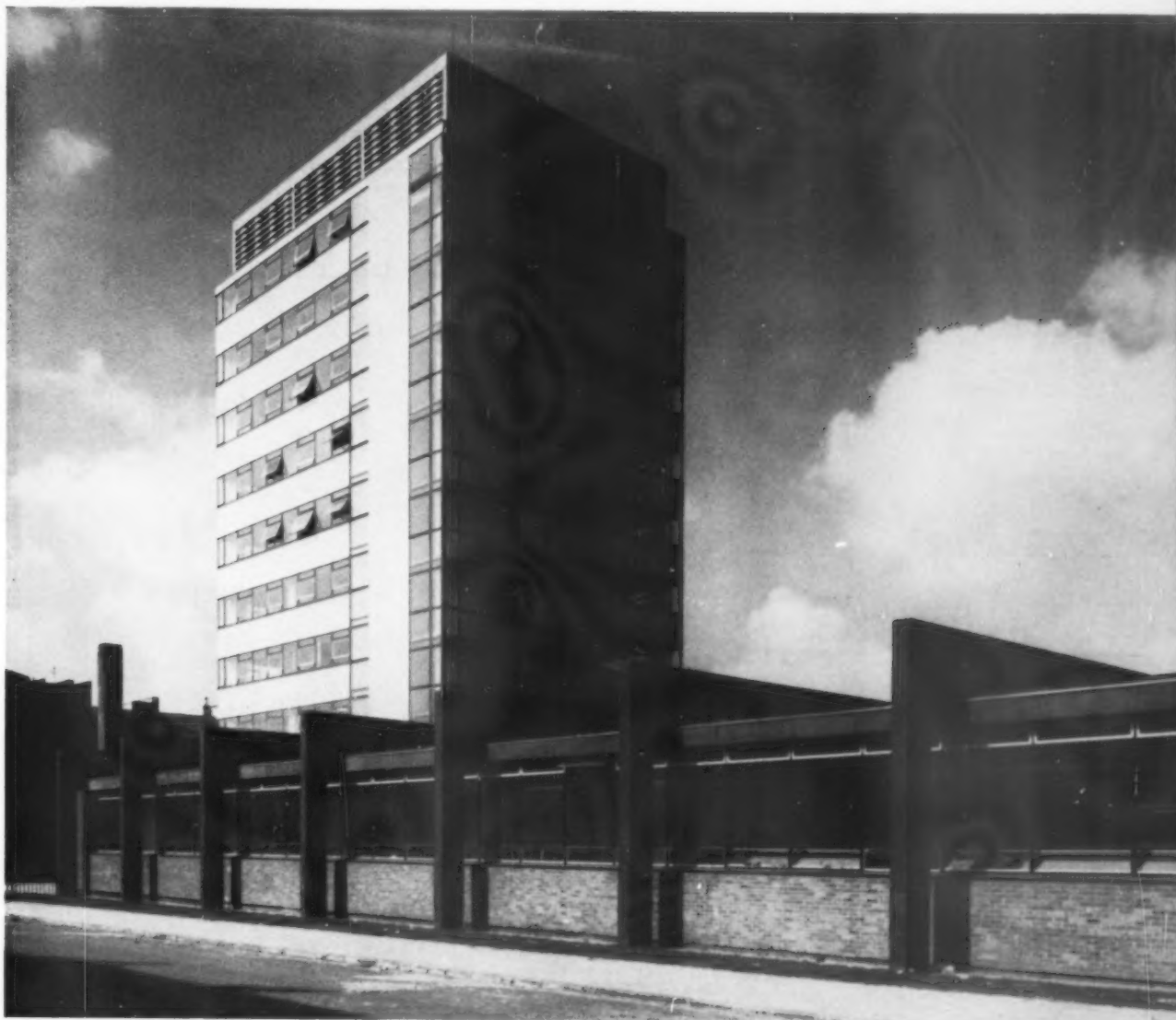
*Sub-contractors—Asphalt tanking and roofing:* F. J. Prater  
Asphalte Co. Ltd. *Water services and fire main plumbing:*  
F. Church Ltd. *Ventilation:* Andrew Air Conditioning Ltd.  
*Balustrading:* The Morris Singer Co. Ltd. *Metal windows:*  
The Crittall Manufacturing Co. Ltd. *Window control gear:*  
Teleflex Products Ltd. *Aluminium alloy double glazed*  
*windows:* Quicktho Engineering Ltd. *Bronze finials, staircase*  
*handrails, timber window sub-frames:* Samuel Elliott & Sons  
(Reading) Ltd. *Double-glazed units, plate glass mirror:*  
Steeles Ltd. *Linoleum floor tiles:* Hollis Bros. Ltd. *Lightweight*  
*screeds:* Celcon Ltd. *Lightning conductors:* R. C. Cutting &

Co. Ltd. *Terrazzo paving:* Alan Milne Ltd. *Pinoleum and*  
*venetian blinds:* London Blinds Ltd.

*Nominated suppliers—Mild steel rod reinforcement:* The  
Helical Bar & Engineering Co. Ltd. *Sliding door track:*  
E. Hill Aldam & Co. Ltd. *Semi-engineering bricks:* Stephenson  
& Co. (Oxford) Ltd. *Sanitary fittings:* Adamsez Ltd. *Facing*  
*bricks:* Hall & Co. Ltd. *Electrical installation, floor warming:*  
Lowe & Oliver Ltd. *Asbestolux window panels:* Duval Autos  
Ltd. *Roofing slates and slate copings:* Setchell & Sons Ltd.  
*Bathroom doors, w.c. partitions and doors:* Venesta Ltd.  
*Dome lights:* T. & W. Ide Ltd. *Picture rails and curtain*  
*tracks:* Silent Gliss Ltd. *Fire extinguishers:* The General  
Fire Appliance Co. Ltd. *Flush doors:* F. Hills & Son, Ltd.  
*Ironmongery:* Allgood Continental Ltd. *Lighting fittings:*  
Frederick Thomas & Co. Ltd.; Tucker & Edgar. *Photo*  
*mural:* The Autotype Co. Ltd. *Stone paving and bollards:*  
Brooks Ltd. *Bicycle racks:* Le Bas Tube Co. Ltd. *Granite:*  
Cornish De Lank Granite Quarries Co. *Stone:* South  
Western Stone Co. Ltd. *Reconstructed stonework:* Constone  
Ltd. *Thermal insulation:* Expanded Rubber Co. Ltd.

WALL: LABORATORIES, UNIVERSITY IN LIVERPOOL

*Basil Spence and Partners, architects*



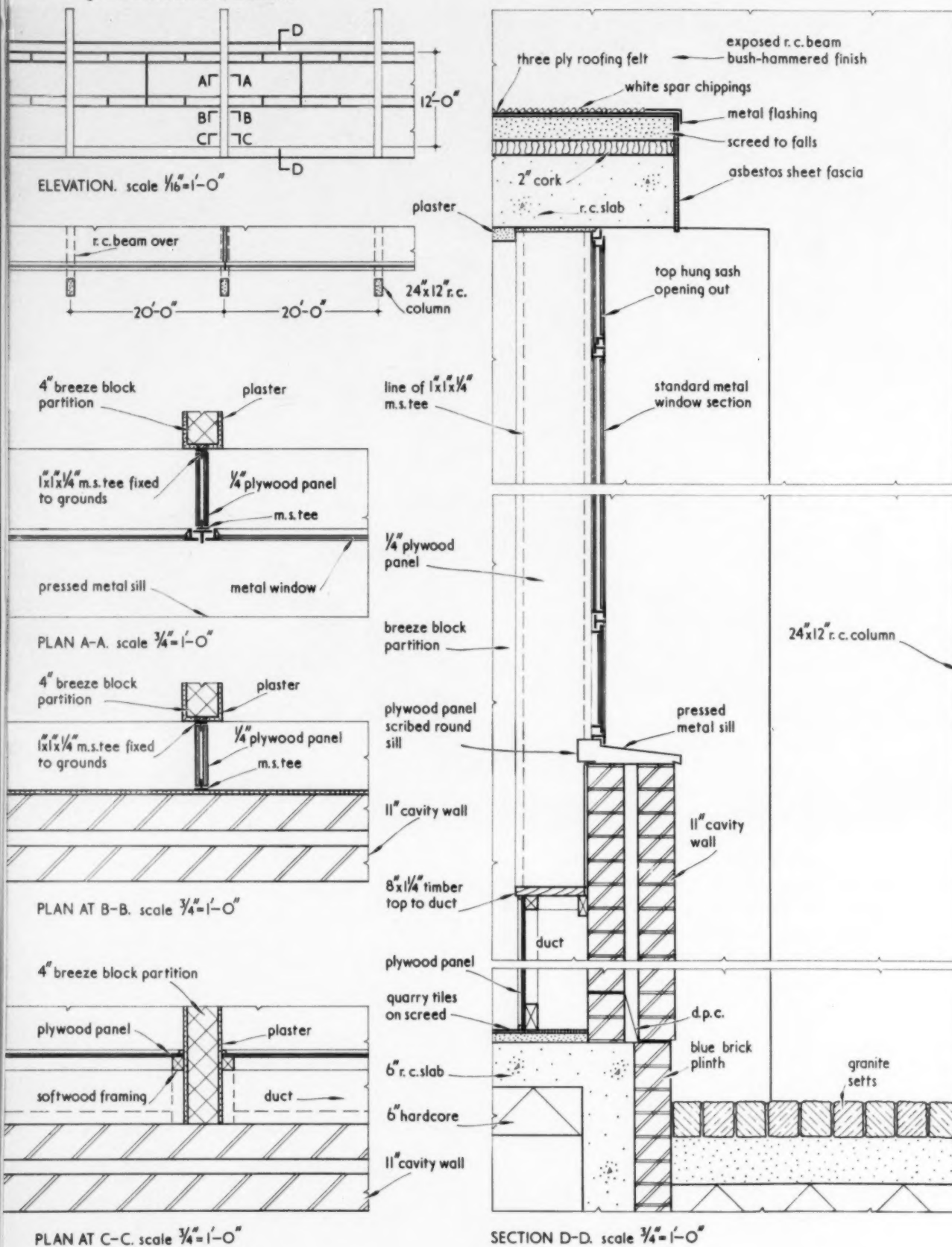
*This form of continuous fenestration is normally associated with welded steel structures and lightweight panels. Here it is used with reinforced concrete and cavity brickwork. Note the choice of external finishes: pressed metal for the sill and asbestos-cement sheet for the fascia.*

## working detail

## WALLS AND PARTITIONS: 100

WALL: LABORATORIES, UNIVERSITY IN LIVERPOOL

Basil Spence and Partners, architects





BALCONIES: FLATS IN HELSINKI

*Viljo Rewell, architect (material supplied by H. S. Sami)*

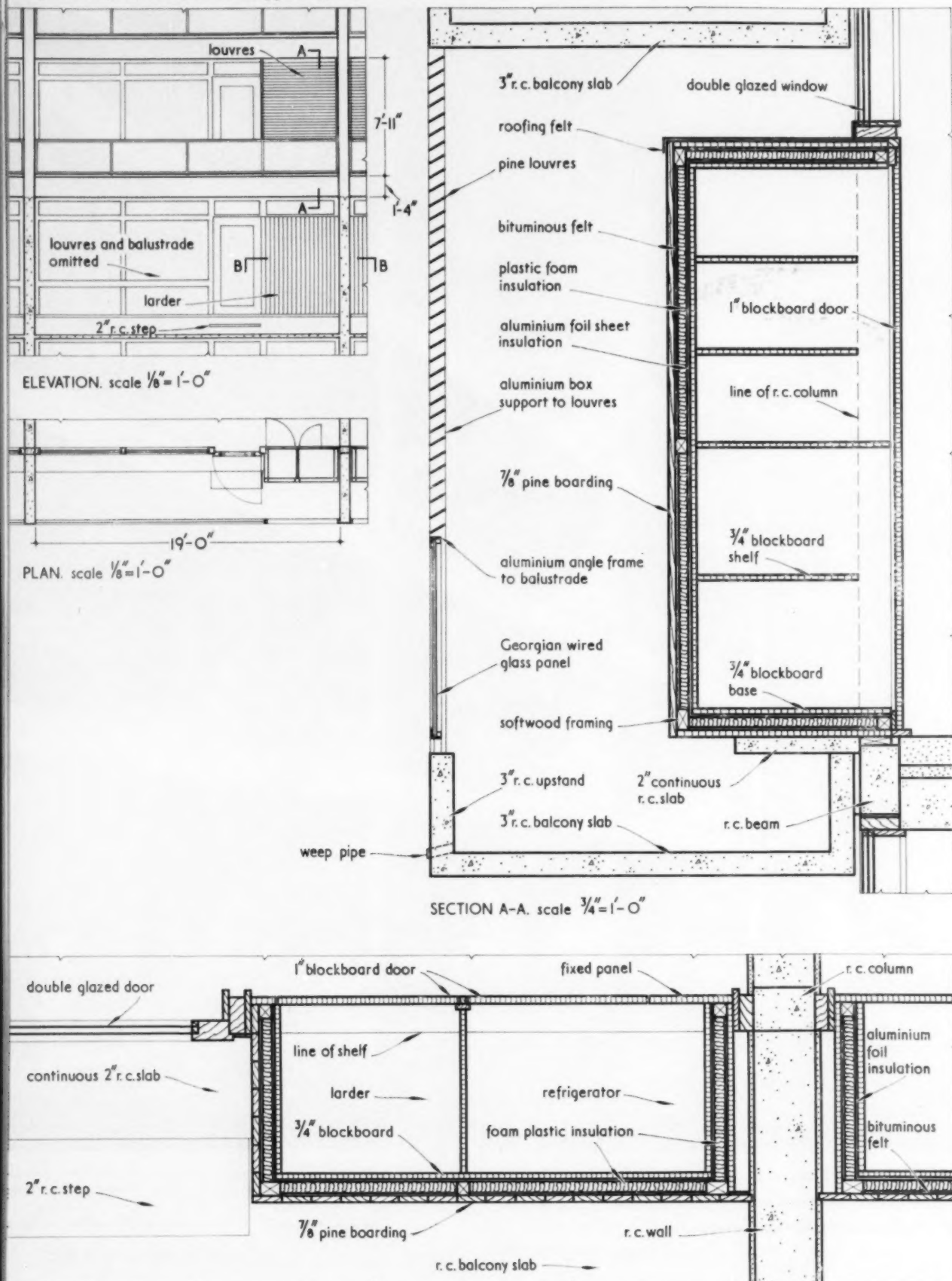


*This precast concrete balcony is formed as a tray and is supported at each end on cross walls. Note the projection of a highly-insulated ladder into the balcony space.*

## working detail

## BALCONIES: FLATS IN HELSINKI

Viljo Reijl, architect (material supplied by H. S. Sami)



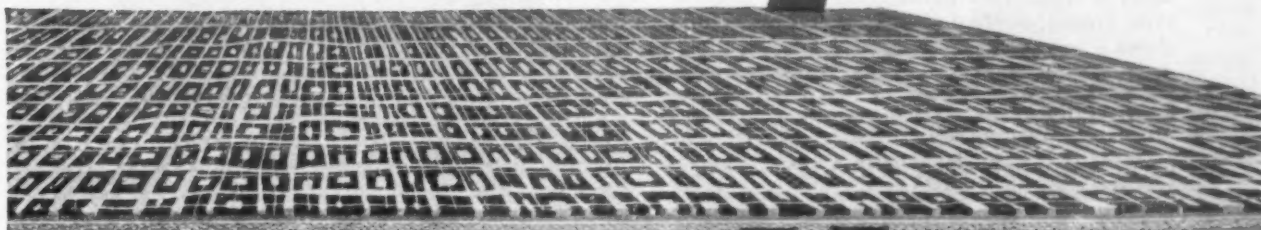
note: figured dimensions in feet and inches are approximate



Fishnet designed by Ronald Grierson F.S.I.A.

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Because the reel is completely recessed a door can easily be fitted. This may be either of the "push-on" type, hinged, or fitted into slides. The illustration shows a practical method of doing this by using a perspex sheet sliding vertically in the architrave.

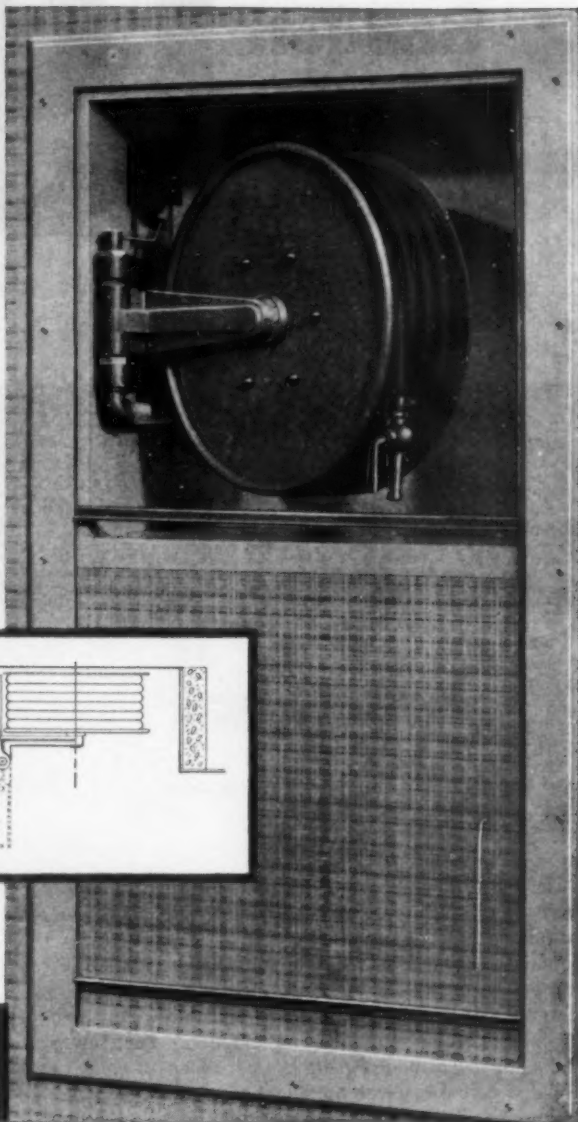
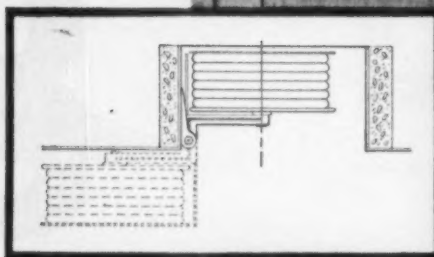
The reel illustrated is also fitted with an automatic switch wired to operate a booster pump if water pressure is inadequate or only a static supply is available.

#### NOTE POSITION OF REEL WHEN OUT OF RECESS

The method by which the reel swings through a full 180° is covered by patents.

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## British Trade Fair at Moscow



Following an agreement by which there will also be a Soviet exhibition at Earls Court next July, these buildings in Sokolniki Park, Moscow, will be occupied by a British trade fair from May 19 to June 4 next year. Privately sponsored by Industrial and Trade Fairs Ltd., it will be mainly some 200,000 sq. ft. of commercial exhibits, although the Government will have 10,000 sq. ft. for a prestige display. The two buildings in the foreground of the lower

photograph, the geodesic dome and the fan-shaped structure behind, were built by the US for their exhibition in 1959. The two other buildings, shown in the upper photograph, are being carried out by the Russian architects Wilenski and Vinogradski in association with Jack Howe & Partners, who are architects for the fair, and with M. L. Gauthier on behalf of the French, who will also be using the buildings for industrial and trade displays.

## for to-day's planned kitchens...

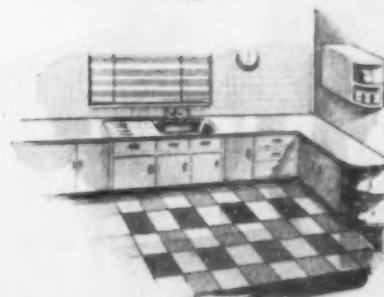
THESE ARE THE 'tops'

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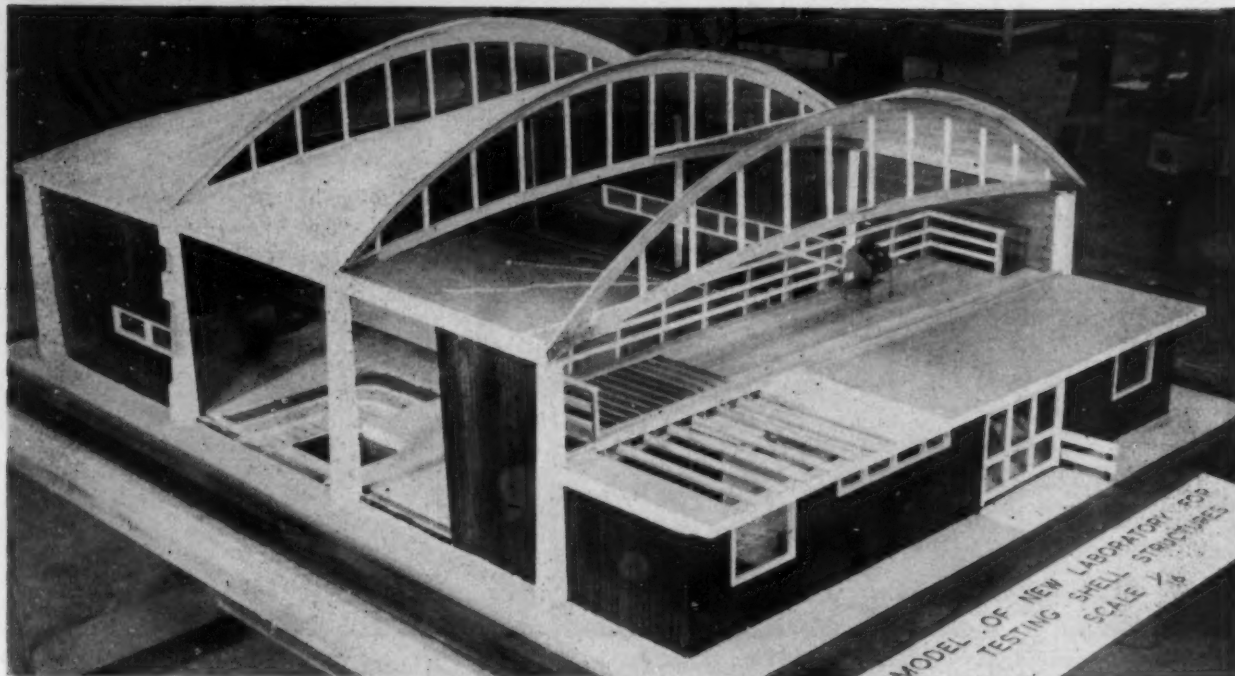
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beams. The shells are constructed of three layers of  $\frac{3}{4}$ -in. t. and g. boarding, fixed together with special ring-shanked nails, additional thermal insulation being provided by  $\frac{1}{2}$ -in. wood wool slabs. The roof is finished in silvered polythene sheeting. The building has been designed by architects and structural engineers on the TDA staff.

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The Wilbert Lane Flats at Beverley, with Kerulung cladding treated with Transparent Bitulacum 3502 Satin Finish. Photograph by permission of Messrs. Anthony Steel and Owen A.A.R.I.B.A.


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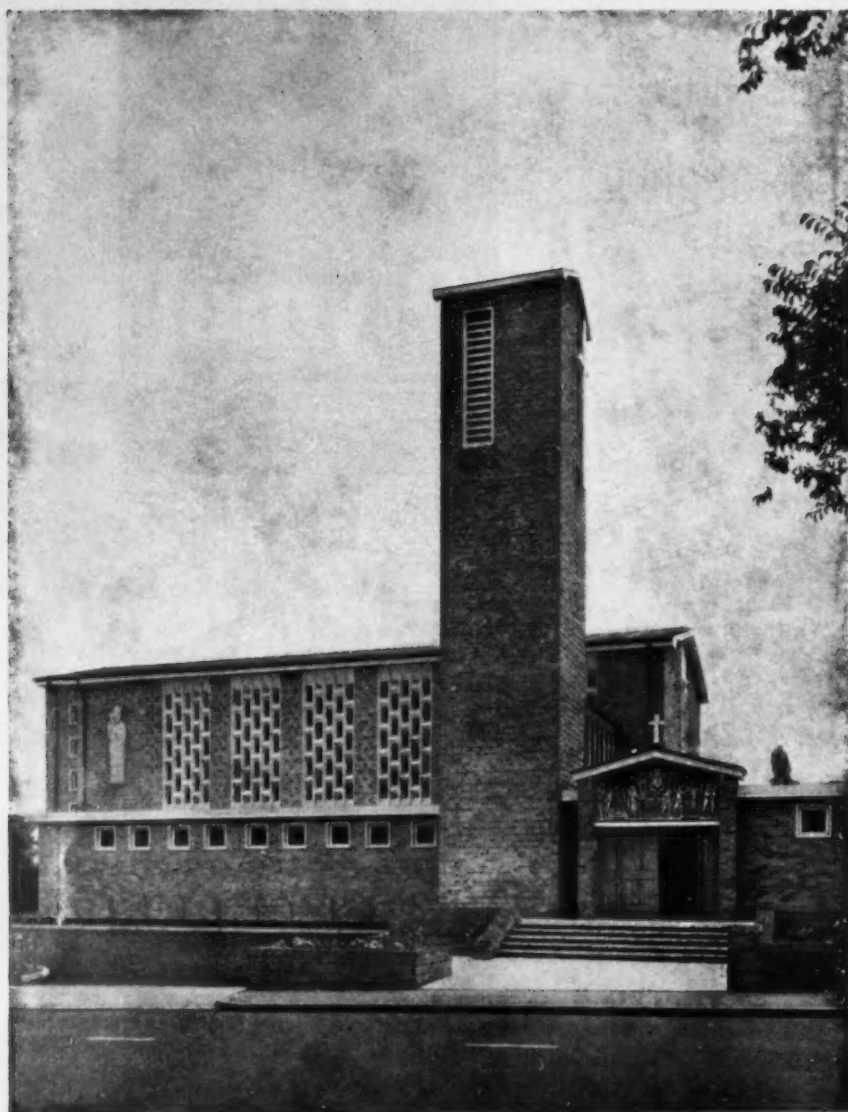
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Photograph : "The Builder" Newspaper

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**Bricks:**

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R. Passmore & Co. Ltd.

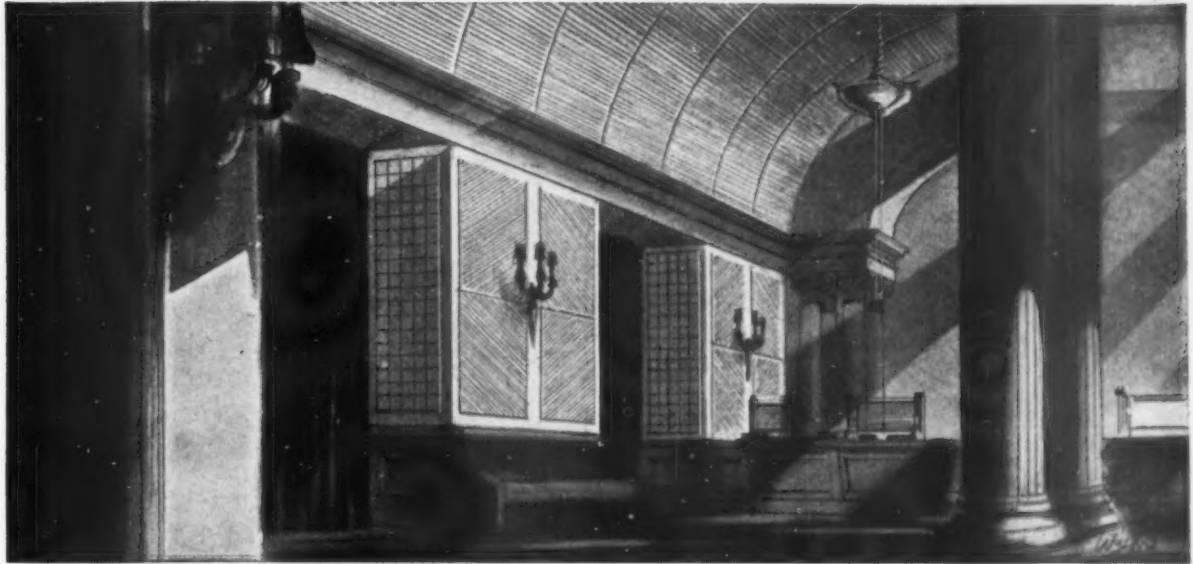
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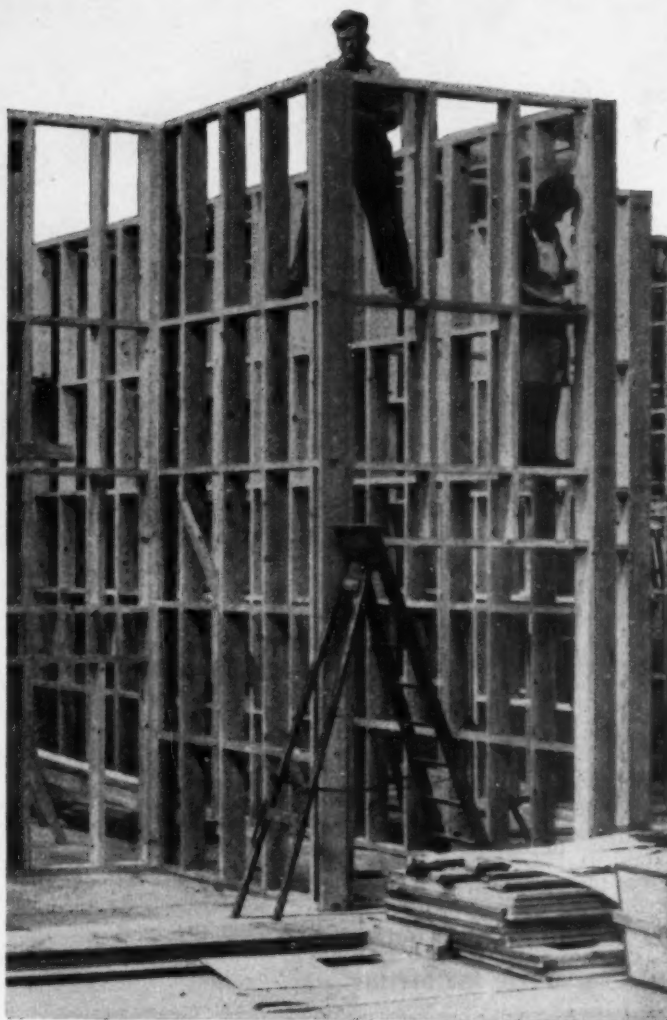
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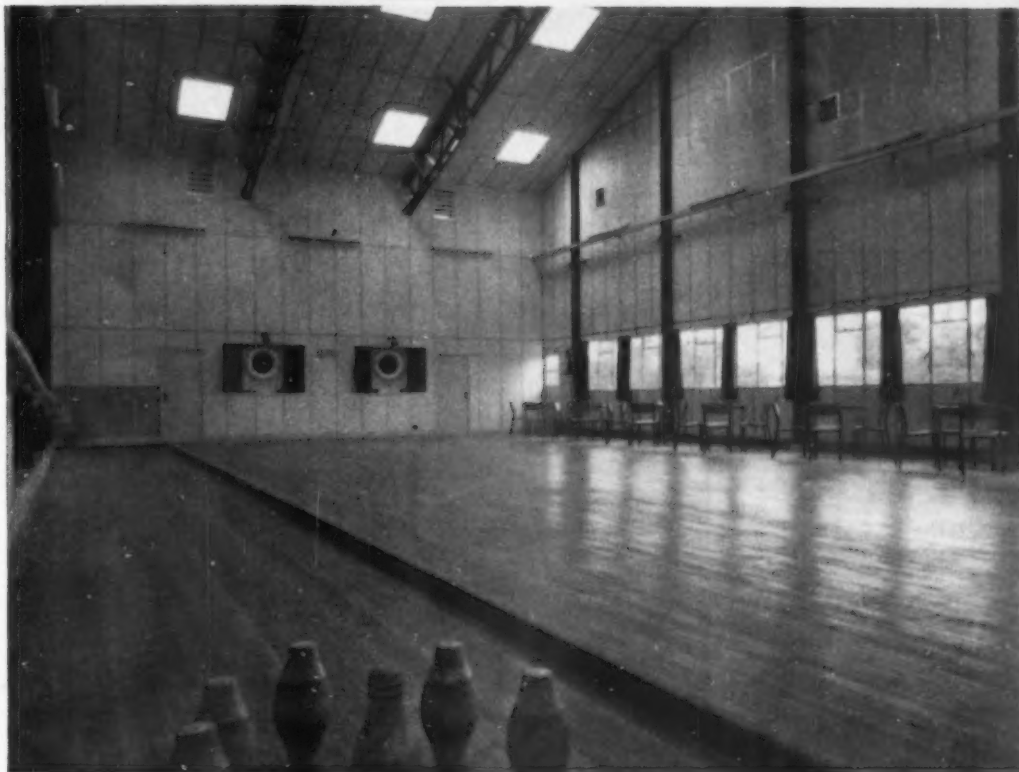
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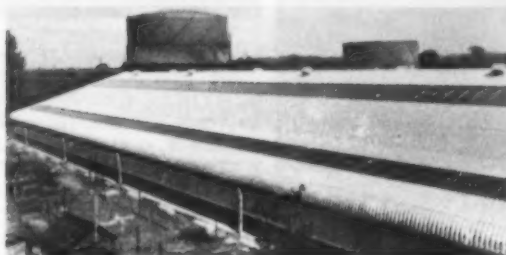
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- ABOVE Gable end view of 100ft. span building at Dunball, Somerset, for Messrs. J. Bibby & Sons Ltd., Liverpool.
- CENTRE Club room interior of building at Dunball. Occupies 37ft. 6in. of the length; storage section (162ft. 6in.) behind.
- BELOW Impressive view of the roof of a 100ft. span building at Tamworth. Picture by courtesy of Messrs. E. B. Hamel & Son Ltd.
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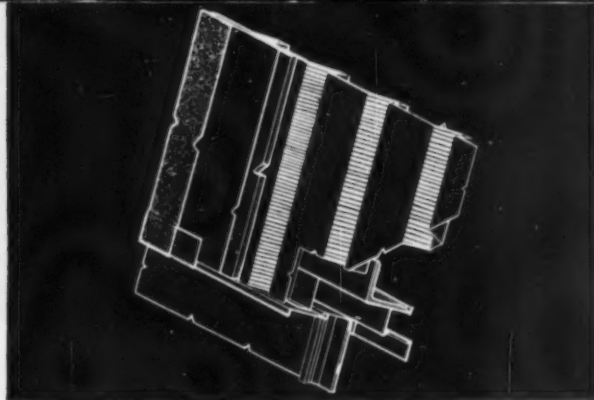
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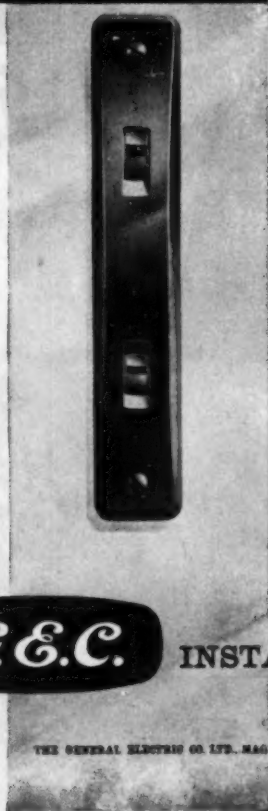


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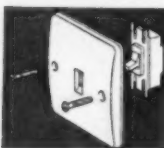
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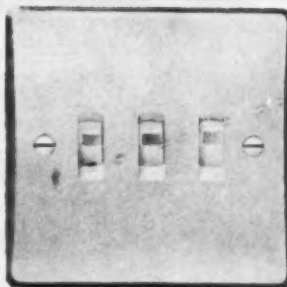


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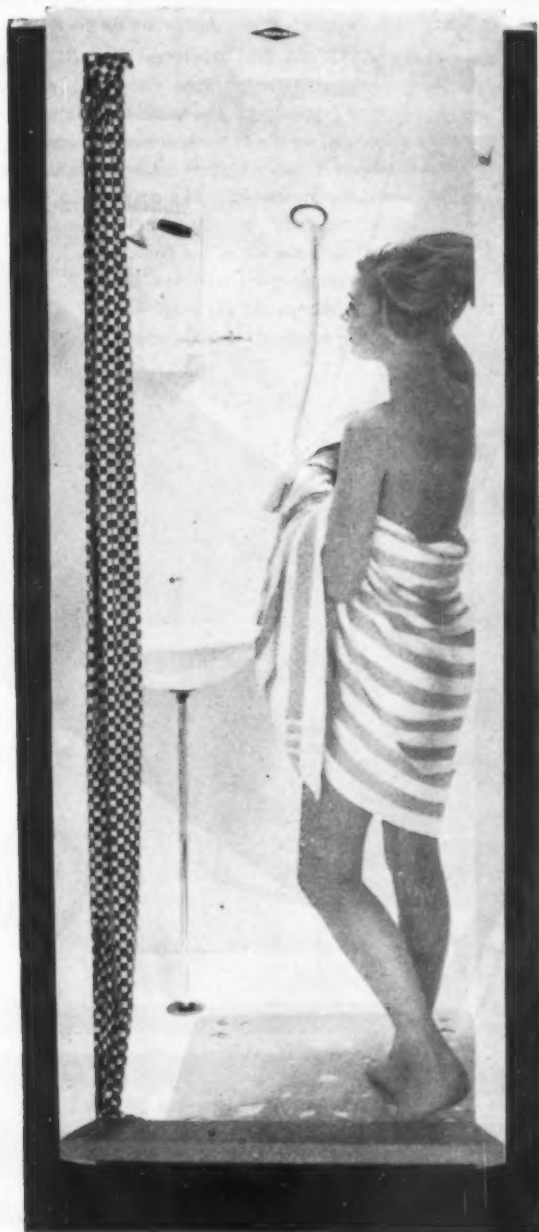
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A series of technical  
bulletins from  
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## planning for rubber...

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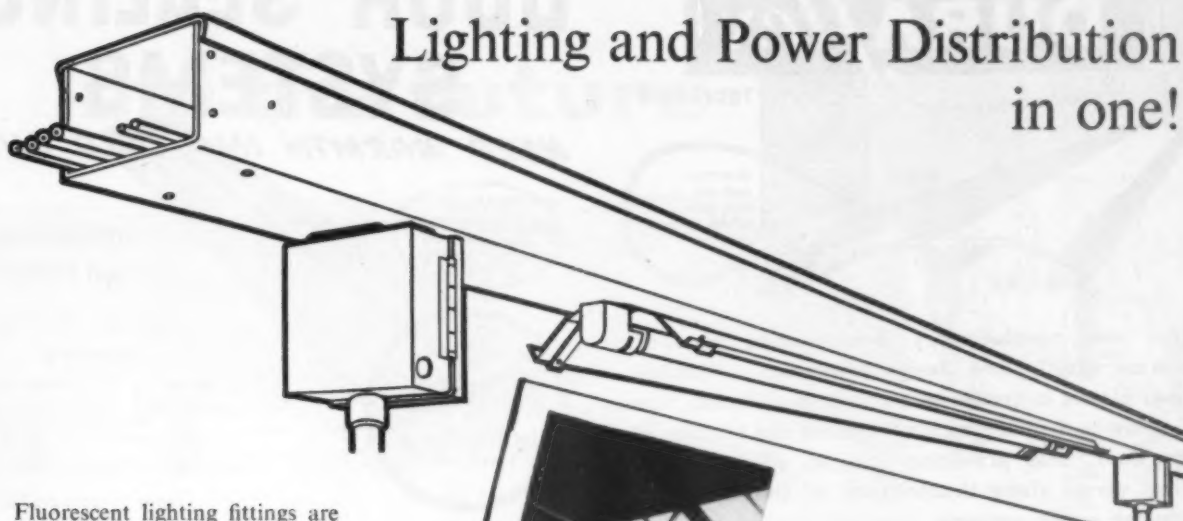


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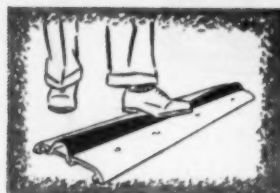
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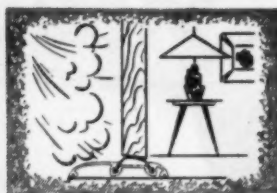
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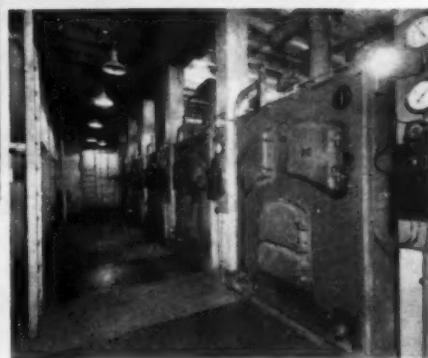


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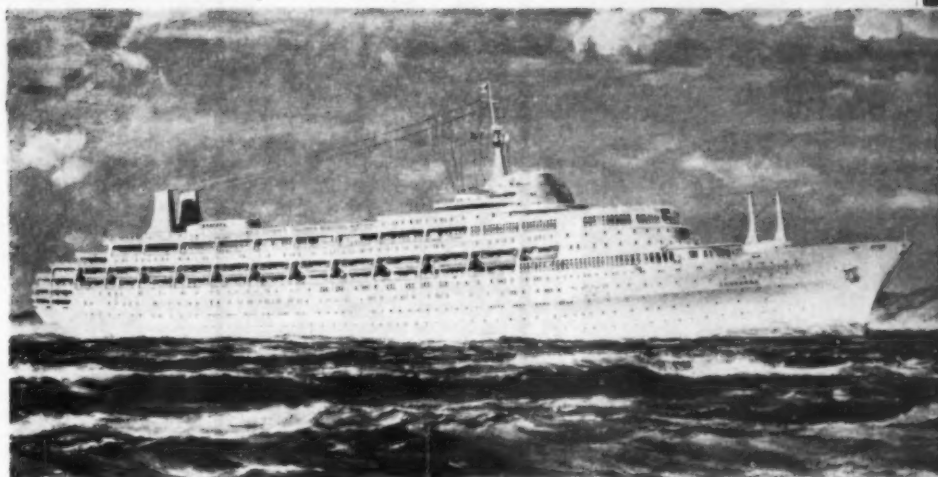
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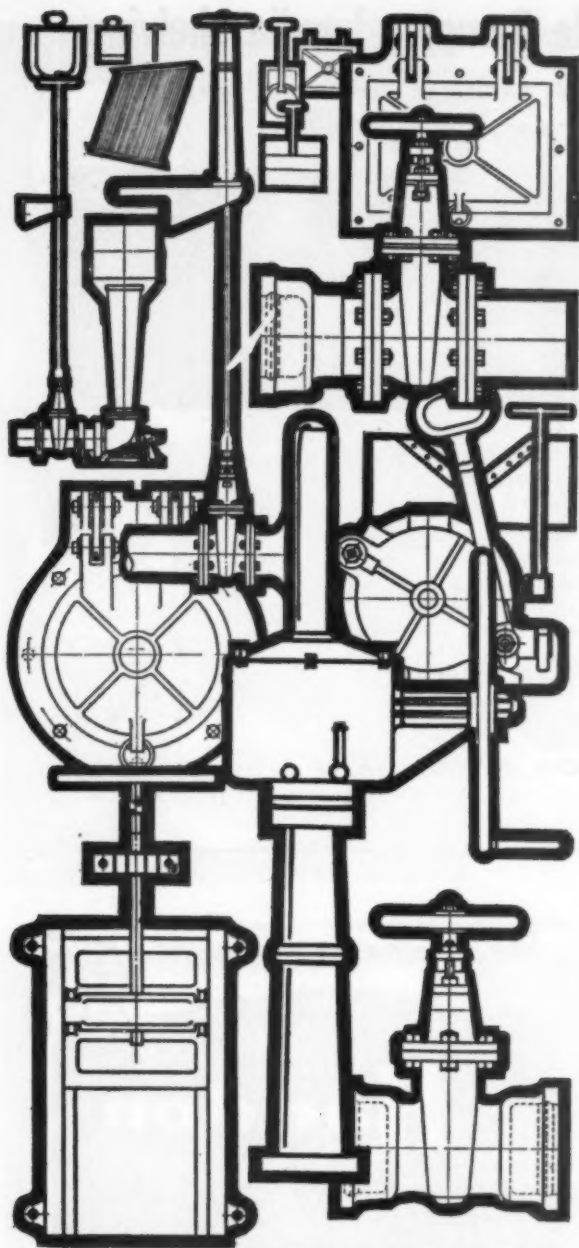
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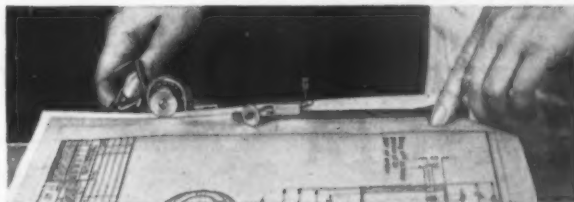
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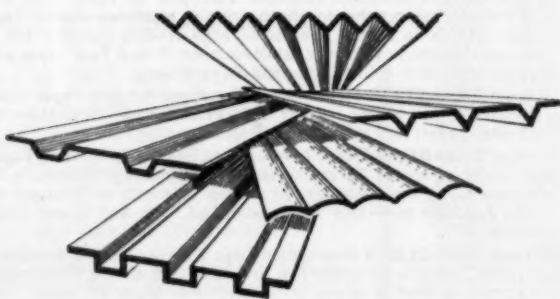
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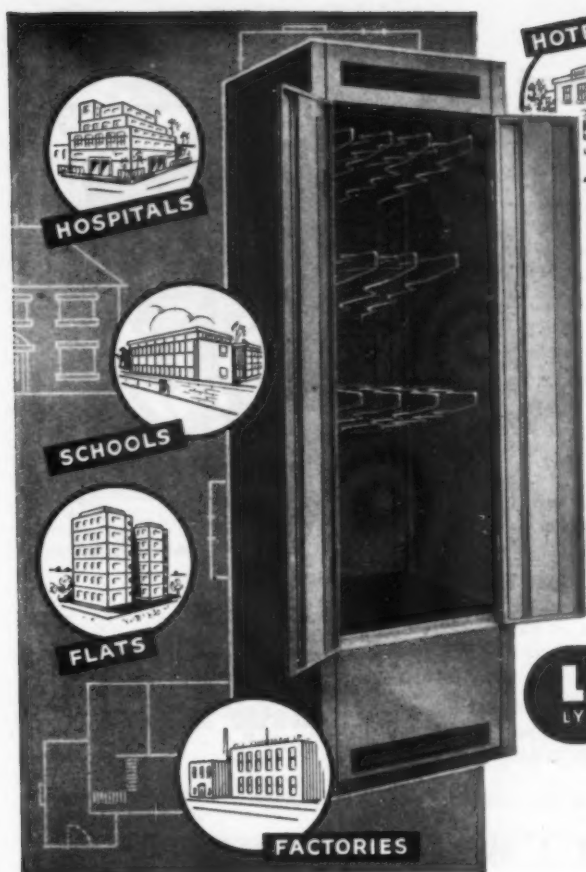
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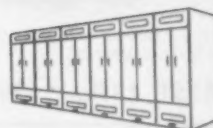


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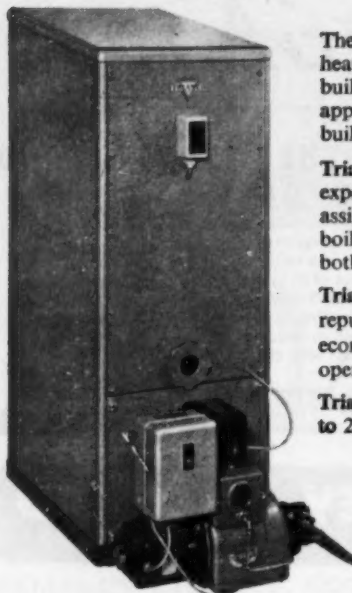
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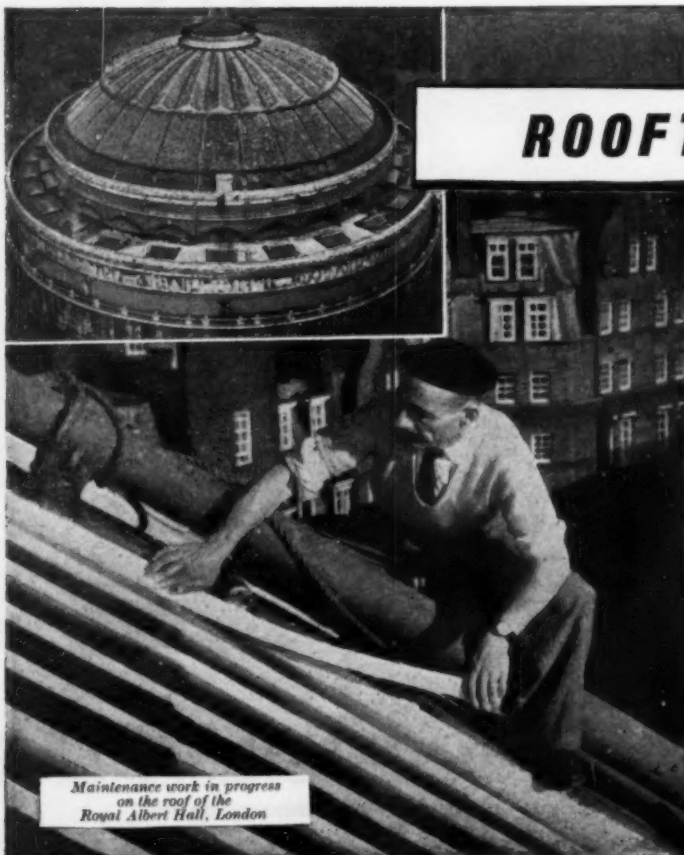
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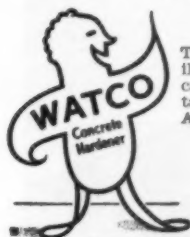
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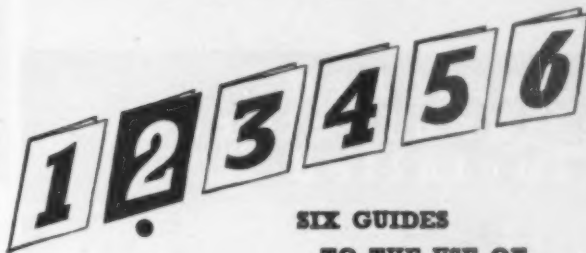
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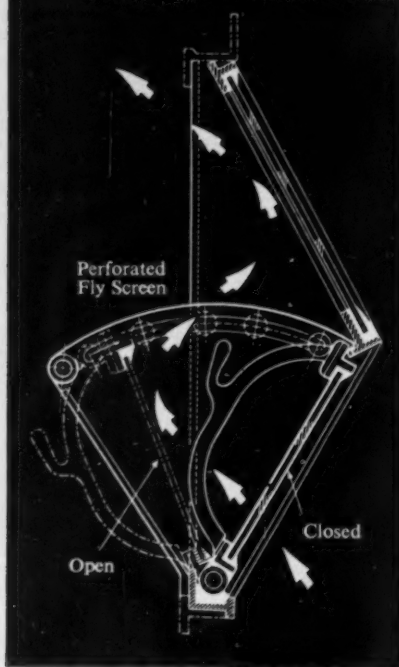
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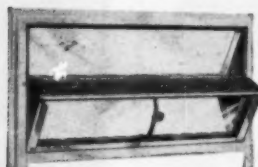
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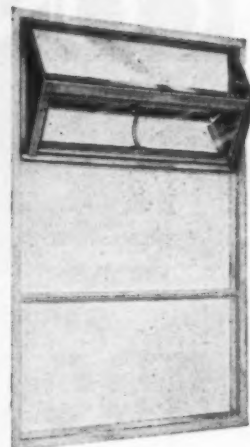
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LEFT: Illustration shows the interior view of the Air Control Window

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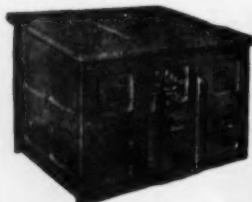
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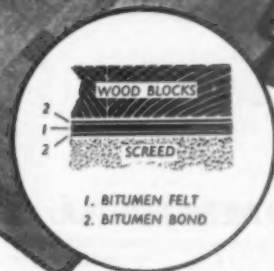
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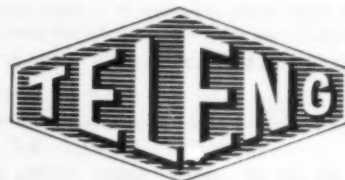


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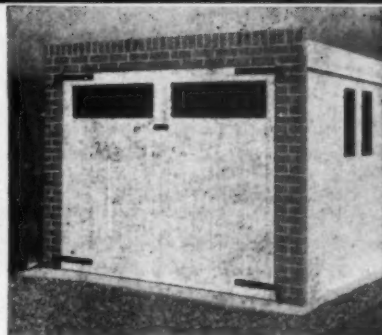
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Brick Style Garage

... the latest in the comprehensive range of Marley Concrete Garages. Far ahead in design, appearance and specification, Marley garages have a nation-wide reputation for a high standard of quality. The concrete posts, wall panels and rafters are reinforced with steel rods, guaranteed to comply with the requirements of British Standard 785:1938. Wide choice of doors, roofs and window arrangements. Models from £55.

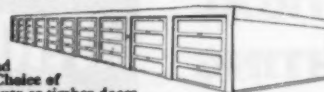


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| Marley Minor             | Marley Medium            | Marley Major             | Marley Magna             |
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| Width 7' 10"             | Width 9' 2"              | Width 11' 10"            | Width 13' 2"             |
| Lengths 11' 2" to 19' 5" | Lengths 14' 1" to 22' 4" | Lengths 14' 1" to 22' 4" | Lengths 14' 1" to 22' 4" |

### MARLEY MULTIPLES

Width 8' 6"  
Lengths 16' 6" and 17' 10" Choice of up-and-over or timber doors.



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Width 9' 2"  
Lengths 14' 1" to 22' 4"



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WOOLAWAY CONCRETE PRODUCTS LTD., WEST BAY WORKS, BRIDPORT 2, DORSET, have completed manufacture of the precast concrete Nave Columns for Coventry Cathedral.

The finished columns are 62ft. in length; they are made of three separate units cruciform in section, which taper from 1ft. 5in. at the base to 2ft. 10in. at the cap. To provide for  $\frac{1}{8}$  in. plastic joints between sections the units had to be finished with great accuracy. All faces were ground to a smooth matt finish.

ARCHITECTS who require high grade concrete products are asked to send their enquiries to WOOLAWAY CONCRETE PRODUCTS LTD., who specialise in such work and in the production of decorative concrete panels.

WOOLAWAY CONCRETE PRODUCTS LTD. have recently been awarded a contract to make the fins for the Guild Chapel adjoining COVENTRY CATHEDRAL.

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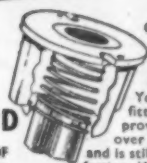
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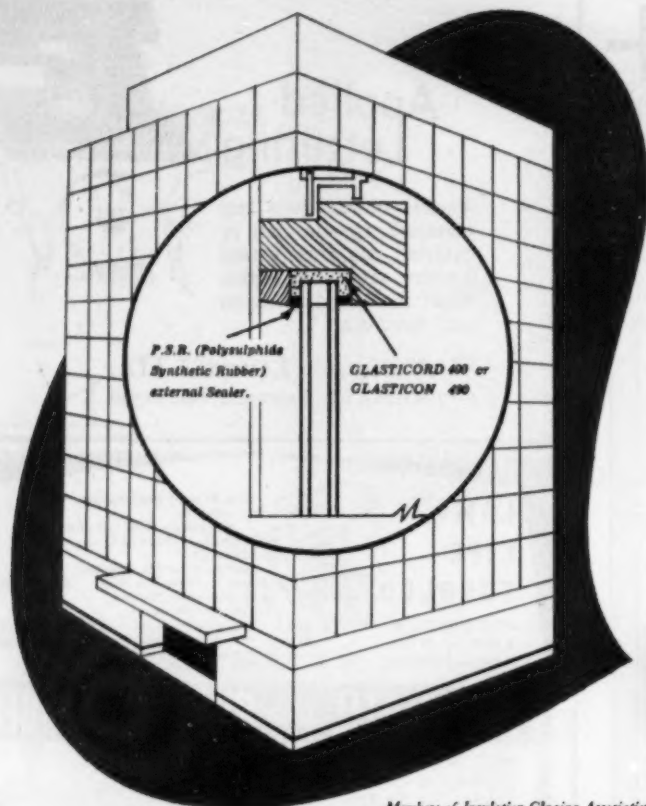
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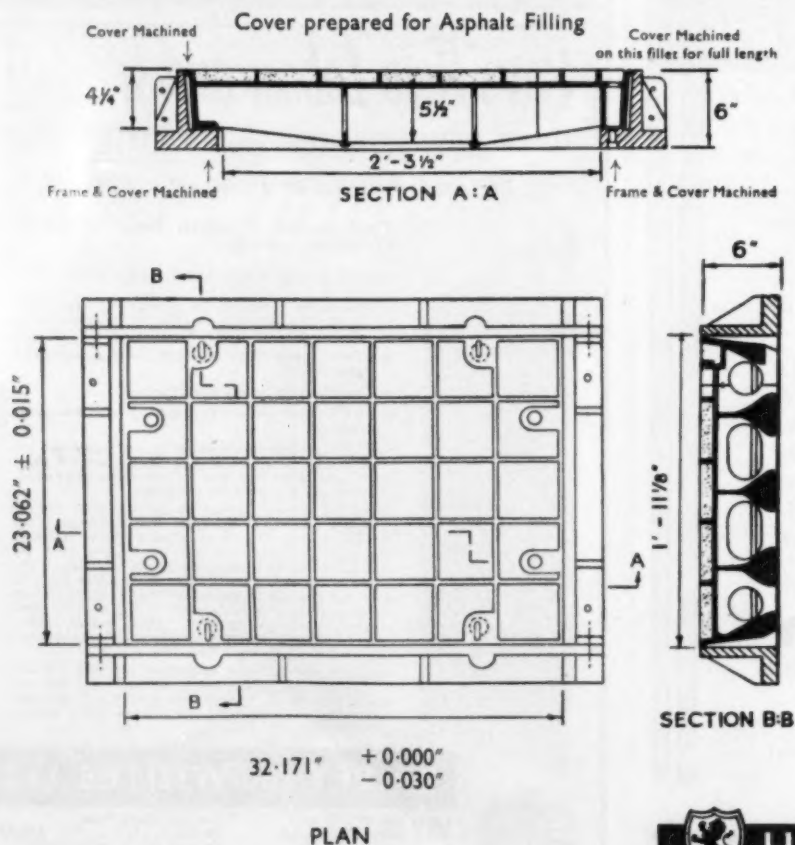
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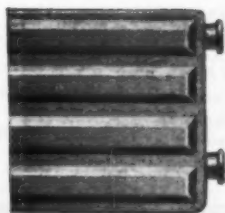
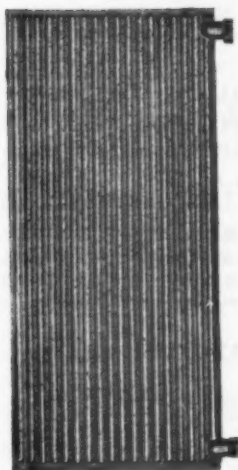
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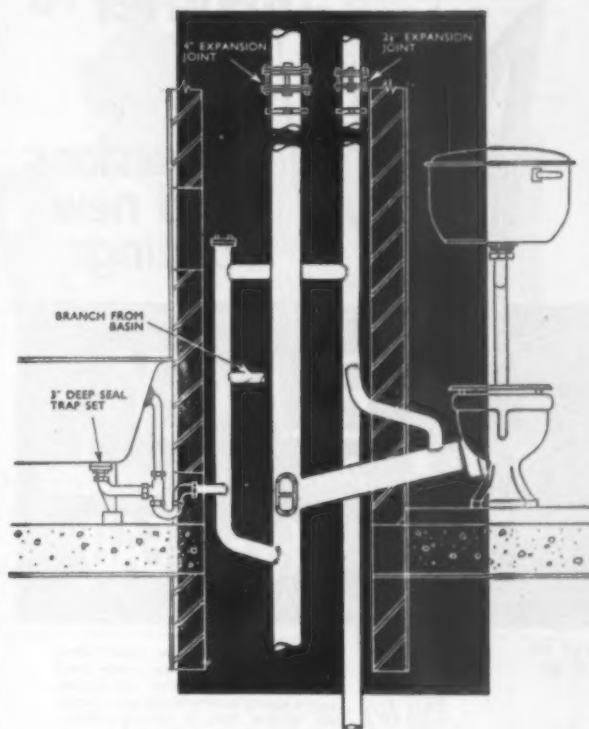
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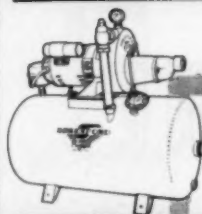
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has been specially developed to control under-floor heating installations to an accuracy of plus or minus one degree. It is a precision instrument, sealed against dust and moisture, and is used in conjunction with the Pullin A2 Room Thermostat. Once set and installed, it usually requires no further attention.



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## CLASSIFIED ADVERTISEMENTS

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

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

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

## Public and Official Announcements

36s. per inch; each additional line 3s.

### BIRMINGHAM REGIONAL HOSPITAL BOARD

**ASSISTANT ARCHITECTS** required for interesting work on all types of hospital architecture. Applicants must be registered architects having passed the requisite examinations. Salary scale £906-£1,310; commencing salary according to age and experience.

Apply naming two referees to Secretary, 10 Augustus Road, Birmingham, 15, as soon as possible. 3790

### VACANCY FOR ARCHITECTS MINISTRY OF WORK, GOVERNMENT OF EASTERN NIGERIA

Vacancies exist for candidates who are Associate Members of the R.I.B.A. or have an equivalent Commonwealth qualification as Architects in the Public Service of the Eastern Region of Nigeria. Candidates should have at least five years' experience after qualifying. Experience in hospital design and construction is desirable. Experience in tropical work will be an advantage. Candidates must not be less than 30 years of age nor more than 40.

The duties connected with the post will be to prepare sketch plans, working drawings, specifications and contract documents and to lead a team of Architects and Assistants under the direction of the Senior Architect.

The salary for the post ranges from £1,716 per annum to £2,166 per annum. The point of entry will depend upon experience. One credit for each year's experience after obtaining the specified qualification for the post is given. Liberal leave and passage conditions.

For further particulars apply to the Recruitment Officer Eastern Region, Office of the Agent-General for Eastern Nigeria, 9, Northumberland Avenue, London, W.C.2. 4096

### TOWN PLANNING ASSISTANTS AND ARCHITECTS

Technical Assistants are required in Dublin for work on the Shannon Free Airport Development Company's town development at Shannon, Eire.

**SENIOR PLANNING ASSISTANTS.** Applicants should possess a recognised planning qualification and a primary qualification in architecture or engineering. Experience with a New Town Development Corporation or similar organisation is desirable.

**PLANNING ASSISTANTS.** Applicants should be architects possessing a recognised planning qualification. Experience of town planning work and housing in local authority or private practice is desirable.

**ASSISTANT ARCHITECTS.** Applicants should possess a recognised qualification in architecture and experience in housing work and/or general practice.

**ARCHITECTURAL ASSISTANTS.** Applicants should be of intermediate R.I.B.A. or R.I.A.I. standard with general office experience.

Applications, stating qualifications and experience, upon which commensurate salaries will be based, should be addressed to Downes & Meehan, Architects, 37 Leeson Park, Dublin. 4190

### BOROUGH OF BEXLEY

Applications are invited for the following appointments:—

(1) **ASSISTANT ARCHITECT—GRADE APT.III** (£960-£1,140 per annum) plus London Weighting. Candidates should be suitably qualified and will primarily be engaged upon school, housing and other municipal projects. **HOUSING ACCOMMODATION WILL BE AVAILABLE FOR THE SUCCESSFUL CANDIDATE.**

(2) **ARCHITECTURAL DRAUGHTSMAN—GRADE APT.II** (£815-£960 per annum) plus London Weighting. Candidates should be good draughtsmen and have a general knowledge of building construction and specification work.

Form of application and conditions of appointment are obtainable from the Borough Engineer, West Lodge, Broadway, Bexleyheath, Kent, to whom completed applications must be returned by the 5th December, 1960. Canvassing will disqualify.

ARTHUR GOLDFINCH,  
Town Clerk. 4169

### CITY OF NOTTINGHAM

#### ESTATES & HOUSING COMMITTEE

#### APPOINTMENT OF ARCHITECTS

Applications are invited from suitably qualified architects for posts in the Chief Architect's Section of the Estates Department at salaries in

(a) A.P.T. Grade 4 (£1,140-£1,310).

(b) Special Grade (£940-£1,140).

There is a large and interesting programme of comprehensive estate development and redevelopment schemes, including multi-storey dwellings, shopping centres, and all ancillary buildings.

The architects appointed will work in small self-contained teams under the general direction of a Group Leader and will be responsible for the design, construction and management of projects.

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

Applications stating age, qualifications, experience, present appointment and salary, and naming two referees, should be sent to the Estates Surveyor & Valuer, The Guildhall Nottingham, by Wednesday, 30th November, 1960.

T. J. OWEN,  
Town Clerk.

The Guildhall,  
Nottingham. 4187

### WORCESTERSHIRE COUNTY COUNCIL COUNTY ARCHITECT'S DEPARTMENT

Applications are invited for the positions of:—  
**SENIOR ASSISTANT ARCHITECTS, Grade IV** (£1,140-£1,310).

**ARCHITECTURAL ASSISTANTS, Grade III** (£935-£1,140).

**ASSISTANT ARCHITECTS, Special Grade** (£940-£1,145).

The Senior Architects should be qualified members of the R.I.B.A. and should preferably have had some experience of Education work.

The Assistant Architects are required for Education, Police, Health and Fire Brigade projects of a large and varied nature. Previous experience of these types of contracts is not necessary, but the applicants should have had an architectural training, a good knowledge of building construction and practice and be reliable draughtsmen.

The County Council has a limited housing accommodation for staff and the successful candidates may apply for this as it is available. The Council also makes some allowance towards necessary removal expenses to married applicants.

A five-day week is in operation.

Forms of application may be obtained from L. C. Lomas, F.R.I.B.A., County Architect, 14, Castle Street, Worcester. (F.65.) 4085

### METROPOLITAN BOROUGH OF WOOLWICH BOROUGH ENGINEER'S DEPARTMENT

Applications are invited for the following permanent appointments:—

(a) **PRINCIPAL ASSISTANT ARCHITECT.** Salary within Grade A of the lettered scales £1,400 x £55-£1,565 per annum, with casual user car allowance. The person appointed will be required to deputise for the Chief Assistant Architect.

(b) **SENIOR ASSISTANT ARCHITECT.** Salary within Grade V, £1,310 to £1,480 per annum, plus London weighting.

Candidates for both vacancies should have passed the Final Examination of the R.I.B.A.

(c) **TWO ASSISTANT ARCHITECTS.** Salary within Grade II, £815 to £960 per annum, plus London weighting.

Applications, stating experience, qualifications and age, and giving names of two referees, should reach the Town Clerk, Town Hall, Woolwich, S.E.18, by 23rd November, 1960. 4086

### BEESTON AND STAPLEFORD URBAN DISTRICT COUNCIL

**TEMPORARY ARCHITECTURAL ASSISTANTS** £1,500 per annum will be paid to suitably qualified Architects required for work in connection with the design and planning of a covered Swimming Bath comprising two pools.

Candidates should have good design ability, with experience in contemporary design and detailing.

Applications, stating age, qualifications and experience, together with particulars of present and previous appointments and names and addresses of two referees, must be received by the Housing Architect, Town Hall, Beeston, Nottingham, not later than the 22nd November, 1960.

H. D. JEFFRIES,  
Clerk. 4199

### BOROUGH OF EDMONTON

#### BOROUGH ARCHITECT'S DEPARTMENT

Applications are invited for the following appointments in connection with the Council's extensive Capital Building Programme. Applicants should be appropriately qualified.

1. **ASSISTANT QUANTITY SURVEYOR—Grade A.P.T. IV.** £1,140-£1,310 plus £45 London weighting.

Duties will include those of estimator and target supervisor in connection with bonus schemes.

2. **ASSISTANT QUANTITY SURVEYOR—Grade A.P.T. III.** £960-£1,140 plus £45 London weighting.

Duties will include those of bonus surveyor. Applications on forms obtainable from the Town Clerk, Town Hall, Edmonton, must be delivered by the 19th November, 1960.

H. BACKHOUSE,  
Town Clerk. 4098

ES/ML

### NEWCASTLE REGIONAL HOSPITAL BOARD EXPANSION OF ARCHITECTURAL DEPARTMENT

P. H. KNIGHTON, M.B.E., A.R.I.B.A., REGIONAL ARCHITECT.

Arising from the number of major projects (totaling about £14 m.) to be carried out in the Newcastle Region as part of the Hospital Expansion Programme, the Board intends to add to its Architectural Department in Newcastle.

The work is of a high-class and varied nature and offers ample opportunity for gaining experience in both highly-specialised hospital structures and many types of ancillary general and domestic buildings. Possession of hospital experience is not essential. The work will involve all stages from sketch plans to supervision of construction and a car mileage allowance will be paid.

Applications are invited for the following (superannuable) posts:—

**ASSISTANT ARCHITECTS** (£905 x £35 (1) x £45 (6) x £50 (2)—£1,310).

Applicants should have passed the R.I.B.A. Final Examination. For registered architects increments can be given above the bottom of the grade in accordance with relevant practical experience since qualifying.

**ARCHITECTURAL ASSISTANTS** (£625 x £30 (8) x £35 (1)—£900).

Intermediate R.I.B.A. and preferably some practical experience.

**ARCHITECTURAL DRAUGHTSMEN** (£475 x £25 (6) x £30 (2)—£685).

Applicants should have had three years' previous experience in an architect's drawing office and be neat and quick draughtsmen.

Evening study facilities are available at King's College of Durham University in Newcastle.

Applications should give details of professional training, qualifications, experience and posts held, present salary and any other relevant information, should be accompanied by the names of three architectural referees, and should reach the Secretary to the Board, Benfield Road, Newcastle upon Tyne, 6, not later than the 24th November, 1960. Canvassing will disqualify. 4145

### HUYTON-ROBY URBAN DISTRICT COUNCIL

#### ARCHITECTURAL AND HOUSING DEPARTMENT

Applications are invited for posts in the above Department as follows:—

(a) **SENIOR ASSISTANT ARCHITECT, Grade A.P.T. IV** (£1,140-£1,310).

(b) **ARCHITECTURAL ASSISTANT, Grade A.P.T. II** (£815-£960).

Candidates for post (a) should be associate members of the R.I.B.A., and candidates for post (b) should have passed the Intermediate Examination of the R.I.B.A.

The work of the Department consists of a large Housing and Capital Works programme.

The appointments will be subject to the Local Government Superannuation Acts and the National Conditions of Service, and will be terminable by one calendar month's notice in writing on either side.

Applications, stating age, qualifications and experience, together with the names and addresses of two referees, should reach R. T. Chappelle, A.R.I.B.A., Architect and Housing Director, Archway Road, Huyton, not later than 28th November, 1960.

Canvassing disqualifies. D. WILLGOOSE,  
Clerk of the Council.

Council Offices,  
Derby Road,  
Huyton. 4059

### BOROUGH OF ANDOVER ARCHITECTURAL ASSISTANT

Applications are invited from suitably qualified and experienced persons for the above appointment in the Borough Engineer & Surveyor's Department in A.P.T. Special Grade of the National Scheme and the usual conditions of service are applicable.

The appointment qualifies for the provision of housing accommodation.

Applications, in writing, together with names and addresses of three persons to whom reference may be made, should reach the undersigned by Monday, 21st November, 1960.

J. WHATLEY,  
Town Clerk.

"Beech Hurst,"  
Weyhill Road,  
Andover. 4110

### BOROUGH OF WIDNES ARCHITECT'S DEPARTMENT

Applications are invited for the appointment of **ASSISTANT ARCHITECT, Grade A.P.T. IV** (£1,140-£1,310). The duties of the post will include development of designs and working drawings for and supervision of erection of new building projects, in a varied programme of housing, schools and public buildings.

Five-day week; housing accommodation to rent or lodging allowance in lieu for married applicants; removal expenses in full; superannuation scheme. Candidates must be registered architects and associate members of the R.I.B.A. and suitably experienced.

Applications quoting two referees by 30th November, 1960, to Borough Architect, Brendan House, Widnes.

FRANK HOWARTH,  
Town Clerk.

Town Hall,  
Widnes.  
November, 1960. 4267



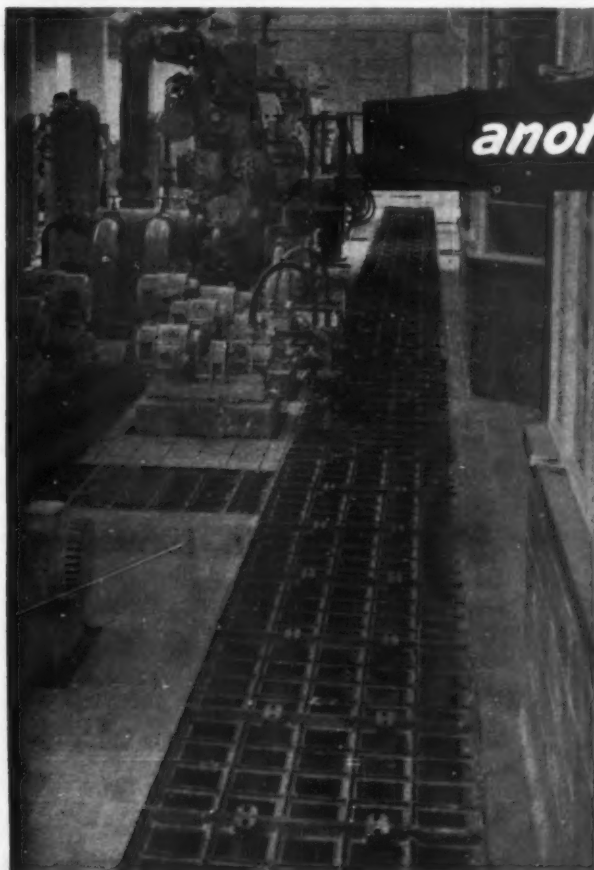
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of professional or final standard who are able to handle contracts from start to completion, in an expanding department working on varied Industrial and Commercial schemes.

These posts offer opportunities for appreciable individual responsibility.

Interviews can be arranged at any time including evenings and Saturday mornings with travelling expenses paid.

Write giving details of career to:

**Personnel Manager,  
345, Ruislip Road, Southall, Middlesex**

## HMSO

### Structural Frameworks for Single-storey Factory Buildings

Modern materials and design methods offer a range of types of roof structure and many considerations affect the appropriate choice. In this study Mr. H. V. Apcar gives details of how costs are affected by roof type, span, column spacing clear height, and loading; and discusses the influence of type on other functional requirements. 37 illustrations. *Factory Building Study No. 7* 4s. (post 6d.)

### Fire Research, 1959

Annual report of official research into the outbreak, ignition and growth of fire, structural aspects of fires in buildings, and related matters. Illustrated. 5s. (post 6d.)

From the Government Bookshops  
or through any bookseller

## HMSO

**WEDNESFIELD URBAN DISTRICT COUNCIL  
ENGINEER AND SURVEYOR'S DEPARTMENT**

Applications are invited for the following appointments on the permanent staff of the Engineer and Surveyor:—

1. **CHIEF ASSISTANT ENGINEER.** Salary in accordance with A.P.T. Grade IV (£1,140—£1,310 per annum).

Applicants must have passed the Final Testamur Examination of the Institution of Municipal Engineers or hold an equivalent qualification, and have had considerable experience in Municipal Engineering.

Particulars of Conditions of Appointment may be obtained from the Engineer and Surveyor, 29, Bolton Road, Wednesfield, Staffs.

2. **ARCHITECTURAL ASSISTANT.** Salary in accordance with A.P.T. Grade II (£815—£960 per annum).

Applicants must have a good experience in Architectural design and construction, and preference will be given to those who have passed the Intermediate Examination of the Royal Institute of British Architects.

Applications must state age, qualifications, previous appointments and details of experience, together with the names and addresses of two referees.

The appointments will be subject to the National Scheme of Conditions of Service, the Local Government Superannuation Acts, the passing of a medical examination, and will be terminated by one month's notice on either side. Housing accommodation will be made available for each appointment, if required, and reasonable removal expenses will be paid.

The district is developing rapidly and offers exceptional experience.

Applications for each appointment must reach the undersigned by not later than Friday, the 18th November, 1960.

**J. HENWOOD JONES,**  
Clerk of the Council.

Council Offices,  
Alfred Squire Road,  
Wednesfield,  
Staffs. 4162

**WARWICKSHIRE COUNTY COUNCIL  
COUNTY PLANNING DEPARTMENT**

Applications are invited for the following appointments:—

(1) **PLANNING ASSISTANTS—Grade A.P.T. IV**

(2) **PLANNING ASSISTANT—Grade A.P.T. I/II.**

For the Grade IV posts applicants must be professionally qualified and must have extensive experience of Development Plan work with particular emphasis on comprehensive redevelopment. For one of the posts experience in Development Control is essential as the successful candidate will be mainly engaged on appeal work.

For Post (2) applicants must have passed the Intermediate Examination of a professional Institution.

The commencing salary in each case will be according to experience and qualifications.

The posts are subject to the provisions of the Local Government Superannuation Act and successful applicants will be required to pass a medical examination.

Consideration will be given to the granting of financial assistance towards removal expenses.

Canvassing directly or indirectly will be a disqualification.

Applications, together with the names and addresses of two referees, should be sent to J. J. Brooks, County Planning Officer, Northgate, Warwick, not later than Monday, 28th November, 1960.

**L. EDGAR STEPHENS,**  
Clerk of the Council.

Shire Hall,  
Warwick. 4150

**SURREY COUNTY COUNCIL**

Applications invited for the appointment of **ASSISTANT ARCHITECTS** on Grade IV (£1,140—£1,310 p.a. plus £45 p.a. London allowance). Must be A.R.I.B.A. and have had experience in preparation of drawings and specifications, and be capable of assuming responsibility for medium to large scale contracts.

Approved removal expenses will be paid to successful candidates.

Candidates will be appointed at the appropriate point within the scale according to age and ability.

Full details, present salary and three copy testimonials to County Architect, County Hall, Kingston as soon as possible. 4214

**DUMFRIES COUNTY COUNCIL  
ARCHITECTURAL ASSISTANT**

Applications are invited for the post of Architectural Assistant in the County Architect's Department. Requisite qualifications, A.R.I.B.A. Salary £900 x £35 to £1,075 per annum. In addition £120 per annum and a mileage allowance in respect of use of car when authorised is payable. The post is supernumerary and the successful applicant may, if appropriate, avail himself of the Council's Car Purchase Scheme. Rented Council house may also be made available. Local Government experience not essential. Applications stating age, qualifications and experience with the names and addresses of not more than three referees to be lodged with the undersigned by 26th November 1960.

**LESLIE T. CARNEGIE,**  
County Clerk.

County Buildings,  
Dumfries.  
7th November, 1960. 4242

**COUNTY BOROUGH OF BLACKBURN  
BOROUGH ENGINEER AND SURVEYOR'S  
DEPARTMENT**

Applications are invited for the appointment of **CHIEF ARCHITECT.** Salary in accordance with Scale "D" (commencing at £1,710 and rising to £1,975 by three increments of £270 and one of £55).

The successful applicant will be responsible, under the direction of the Borough Engineer, for the whole of the Architectural work carried out by the various Committees of the Council, which includes many interesting and varied projects such as the re-development of the Town Centre, New Wharfedale and Retail Markets, a scheme for New Abattoirs in addition to the New Schools' Programme, Housing and General Municipal Buildings.

Applicants must have considerable experience in all branches of the profession and be Associate Members of the R.I.B.A.

An allowance is made for the official use of a car, and housing will be available if required.

Application forms (from the Borough Engineer, Town Hall, Blackburn) are to be returned by the 18th November, 1960.

**FRANK SQUIRES,**  
Town Clerk.  
4062

**COUNTY BOROUGH OF DARLINGTON  
BOROUGH ARCHITECT'S DEPARTMENT**

Applications are invited for the following appointments:—

**TWO SENIOR ASSISTANT ARCHITECTS** (Group Leaders). Salary in accordance with Grade V of N.J.C. Scales (£1,310—£1,480).

**TWO SENIOR ASSISTANT ARCHITECTS.** Salary in accordance with Grade IV of N.J.C. Scales (£1,140—£1,310).

The department has a large programme including Secondary and Primary Schools, Welfare Schemes, Housing, Municipal Offices, Markets and Central Redevelopment. Preference will be given to candidates experienced in this class of work and who are members of the R.I.B.A. One Group will deal with Civic Design and Planning. Experience in this work will be an advantage.

Applications, stating post and giving full particulars of age, qualifications, present appointment with salary, previous appointments with dates and name and address of three referees, to be received by E. A. Tornbohm, A.R.I.B.A., A.M.T.P.I., Borough Architect, Central Buildings, Darlington, not later than 22nd November, 1960.

Housing accommodation will be made available if required. 4160

**CHESHIRE COUNTY ARCHITECT'S  
DEPARTMENT**

Applications are invited on forms obtainable from me for the following posts: A five-day week is in operation and canteen facilities are available.

**ARCHITECTURAL ASSISTANTS**  
A.P.T. III, £960—£1,140.  
A.P.T. II, £815—£960.

**JUNIOR QUANTITY SURVEYING ASSISTANT**  
A.P.T. I, £645—£815.

**EDGAR TABERNER, A.R.I.B.A.,**  
County Architect.

County Hall,  
Chester.  
4th November, 1960. 4219

**CITY OF BIRMINGHAM  
PARKS DEPARTMENT**

**APPOINTMENT OF DRAUGHTSMAN**  
Applications are invited for the post of Draughtsman. The appointment is permanent, supernumerary and subject to a medical examination.

Candidates should have a drawing office background, an appreciation of contemporary design, and a knowledge of specification writing.

Salary ranges:  
Unqualified Draughtsman, £470—£845 per annum  
Qualified Draughtsman, £665—£960 per annum.

Commencing salary will be in accordance with experience, and, where applicable, qualifications.

Applications, stating age, qualifications and experience, together with the names of two referees should reach the undersigned by the 19th November, 1960.

Canvassing disqualifies  
**G. E. E. ROSS,**  
General Manager.

Parks Department,  
Civic Centre,  
Birmingham 1. 4226

**WARWICKSHIRE COUNTY COUNCIL  
ARCHITECT'S DEPARTMENT**

**ASSISTANT ARCHITECTS**  
Applications are invited from recently qualified Architects for appointment on Grade A.P.T. I-IV (£960—£1,310). The persons appointed will work in groups on large projects and an opportunity will be given to men with enthusiasm and ability to design and carry out projects under a group architect.

The commencing salary can be within the grade according to ability. Five-day week worked. The Council have schemes for the payment of removal expenses and a lodging allowance to married officers. Application forms and full conditions applicable to the appointments can be obtained from Eric Davies, F.R.I.B.A., A.M.T.P.I., County Architect, Shire Hall, Warwick.

**L. EDGAR STEPHENS,**  
Clerk of the Council.  
4302

**COUNTY COUNCIL OF THE WEST RIDING  
OF YORKSHIRE**

**OFFICE OF THE COUNTY ARCHITECT**  
Applications are invited for the undermentioned appointments:—

**HARROGATE DIVISIONAL OFFICE**  
(a) **SENIOR BUILDING INSPECTOR.** Grade A.P.T. III, £960—£1,140. Applicants should have a sound knowledge of building construction and maintenance, be capable of preparing reports and approximate estimates of cost for maintenance works and be experienced in the supervision of building works and the checking of builders' accounts and will also be required to control the work of Building Inspectors within the Divisional area.

(b) **ELECTRICAL ENGINEERING INSPECTOR.** Grade A.P.T. I, £645—£815. Applicants must possess the Ordinary National Certificate in Electrical Engineering and have had practical experience in inspecting, supervising and testing electric lighting and power installations and be able to prepare specifications and drawings for simple maintenance schemes.

**HARROGATE AND DONCASTER DIVISIONAL OFFICES**  
(c) **ARCHITECTURAL ASSISTANTS OR BUILDING SURVEYORS.** Grade A.P.T. II, £815—£960. The successful candidates will be required to deal with maintenance, adaptation and minor capital works.

Applications to be submitted by the 22nd November, 1960, on forms to be obtained from and returned to the undersigned.

**A. W. GLOVER, F.R.I.B.A.,**  
County Architect.

Bishopgarth,  
Westfield Road,  
Wakefield. 4225

**WORCESTERSHIRE COUNTY COUNCIL  
PLANNING DEPARTMENT**

(a) **CHIEF ASSISTANT PLANNING OFFICER.** Scale "D," £1,170—£1,975.

A leader is required for the section of the Planning Department concerned with the review of the County Development Plan, the preparation of new Town Maps including schemes under the Town Development Act and particularly schemes of urban renewal.

Applicants must be Chartered Town Planners with considerable experience not only in the preparation of statutory planning schemes but also in conducting the negotiations with Government Departments, local authorities and developers generally which this work entails. The Chief Assistant Planning Officer is third in seniority in the Department.

(b) **SENIOR PLANNING ASSISTANT, A.P.T. IV, £1,140—£1,310.**

A Chartered Town Planner is required for a new appointment in the Development Plan team. He should have special skill and experience in presenting town planning proposals in statutory form, and a thorough knowledge of modern techniques of plan production.

Appropriate arrangements will be made in connection with each appointment for superannuation and the payment of travelling allowances. The County Council also have a scheme for the payment of a lodging allowance and contributing to removal expenses in approved cases.

Application forms obtainable from County Planning Officer, County Buildings, Worcester, returnable by 9th December, 1960. (F.164.) 4235

**BOROUGH OF HAMPSHADE  
Require in the Housing Architect's Department**

(C. E. Jacob, A.R.I.B.A., housing architect) the following staff to work on area redevelopment and the design and construction of new houses and flats:—

(a) **ASSISTANT ARCHITECT (Group Leader).** A.P.T. IV, £1,140—£1,310 per annum.

(b) **ARCHITECTURAL ASSISTANT (Temporary).** A.P.T. I/II/III/IV, £645—£1,145 per annum.

(c) **JUNIOR ARCHITECTURAL ASSISTANT (Temporary).** General Division, £220—£730 per annum.

London weighting (maximum £45) payable in addition.

Applicants for post (a) must be Members of the Royal Institute of British Architects.

Previous Local Authority experience is an advantage but not essential.

Applicants for post (c) should be engaged on or be prepared to take a part-time course of studies and will be allowed up to one day per week to attend a recognised School of Architecture.

Applications giving details of training, experience and the names of two referees should be sent to the Town Clerk (A.J.), Town Hall, Havering Hill, N.W.3, by 30th November, 1960. No housing provided. 4239

**BOROUGH OF WIDNES  
ARCHITECT'S DEPARTMENT**

**QUANTITY SURVEYING ASSISTANT.**  
Applications are invited for the above post, in Grade A.P.T. II (£765—£960). Candidates must have passed the R.I.C.S. Intermediate examination. The successful candidate will work under the supervision of the Senior Quantity Surveyor.

Five-day week; housing accommodation to rent or lodging allowance in lieu for married applicants; removal expenses in full; superannuation scheme; medical examination.

Applications, quoting two referees, by 30th November, 1960, to Borough Architect, Brendan House, Widnes.

**FRANK HOWARTH,**  
Town Clerk.

Town Hall,  
Widnes.  
November, 1960. 4268

## British Home Stores Ltd

require

### ARCHITECTURAL STAFF

QUALIFIED AND UNQUALIFIED

WE HAVE A LARGE AND INTERESTING EXPANSION PROGRAMME OF NEW MULTIPLE STORES, AND ALSO EXTENSIONS AND MODERNISATIONS TO EXISTING PROPERTIES

**Salaries according to qualifications and experience**

- Five-day week.
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- Good Pension and Life Assurance Scheme available to those under 45 years of age.

*Apply in writing, giving full details of age, qualifications, experience, salary, to:—*

**Personnel Controller,  
BRITISH HOME STORES LTD.,  
MARYLEBONE HOUSE,  
129/137, Marylebone Road, London, N.W.1**

## DERBYSHIRE COUNTY COUNCIL



### COUNTY ARCHITECT'S DEPARTMENT

ARCHITECTURAL STAFF REQUIRED:—

#### SENIOR ARCHITECTS

ON SENIOR OFFICERS' SCALES

| SCALE C   | SCALE A   |
|---|---|
| £1580 x £70 (3) and £55 (1) to<br>£1825 per annum | £1370 x £70 (2) and £55 (1) to<br>£1565 per annum |

#### ARCHITECTS

on salaries from £940 to £1480 per annum—commencing salary according to experience and progression subject to satisfactory service.

For senior staff this department provides scope for qualified and enthusiastic architects who possess considerable experience and have a sound knowledge of modern trends in design and the latest forms of construction. A knowledge of large-scale public building projects such as: Schools, Welfare and Children's Homes, Hostels, Clinics, Occupational Centres, Police Fire- and Ambulance Stations in addition to Housing will be an advantage.

For other architects there is scope for initiative and every prospect of advancement.

Local Government Superannuation Scheme. Five-day week. Scheme of allowances towards removal and lodging expenses in appropriate cases. Nationally negotiated Conditions of Service. Canvassing disqualifies.

#### APPLICATION FORMS FROM—

F. HAMER CROSSLEY, Dipl. Arch. (L'pool), F.R.I.B.A.,  
County Architect, County Offices, MATLOCK, Derbyshire,  
to whom they should be returned as soon as possible.

## COUNTY BOROUGH OF WEST HAM BOROUGH ARCHITECT AND PLANNING OFFICER'S DEPARTMENT

Following a review of the Establishment of the Department consequent upon an increased

Capital Works Programme, it is now possible to invite applications from Architects and Assistants for the following permanent appointments:

- (a) SENIOR GROUP ARCHITECT: £1,485-£1,670 and Essential User Car Allowance.
- (b) GROUP ARCHITECTS (TWO): £1,310-£1,480.
- (c) DEPUTY GROUP ARCHITECTS (FOUR): £1,140-£1,310.
- (d) ASSISTANT ARCHITECT: £840-£1,145.
- (e) ARCHITECTURAL ASSISTANT: £815-£1,145.
- (f) ARCHITECTURAL ASSISTANT: £645-£960.
- (g) ASSISTANT PLANNING OFFICER (TWO): £1,140-£1,310.

Posts (b)-(g) carry additional London Allowance in the range £25-£45 p.a.

The programme, running at an estimated Annual Expenditure of over £2 million, consists of a large and varied number of projects, including Primary, Secondary, and Special Schools, Fire Stations, Clinics, and other public buildings, as well as extensive Slum Clearance and High Density residential reconstruction.

Work is also in the preliminary planning stages on a Shopping and Commercial Centre, covering approximately 18 acres. Applications giving full details and names of two referees should be sent to Thomas E. North, O.B.E., F.R.I.B.A., Dist.T.P., M.T.P.I., 70, West Ham Lane, Stratford, E.15, by first post on Saturday, 3rd December, 1960.



**BOROUGH OF GOSPORT  
APPOINTMENT OF TWO ASSISTANT  
ARCHITECTS**

(Amended Advertisement)  
Applications are invited for the above appointments in the Architectural Section of the Borough Engineer's Department, at a salary in accordance with Grades A.P.T. III/IV (£960-£1,310) commencing at a point commensurate with qualifications and experience. The successful applicant would be required to work on housing multi-storey development in conjunction with the Central Area Redevelopment Scheme.  
Applicants should have passed Parts I and II of the R.I.B.A. final examination, or equivalent. The appointment will be subject to the following:—

- (i) The National Scheme of Conditions of Service
  - (ii) Medical examination.
  - (iii) The Local Government Superannuation Acts.
  - (iv) One month's notice on either side.
- Housing accommodation, if necessary, will be made available for the successful applicants.  
Applications, giving age, full details of qualifications and experience, together with the names and addresses of two referees, should reach the undersigned not later than first post on Monday, the 28th November, 1960.

EDWARD ADDENBROOKE,  
Town Clerk.

Town Hall,  
Gosport.  
9th November, 1960. 4279

**NORTH RIDING COUNTY COUNCIL**

Applications are invited for the post of QUANTITY SURVEYOR ASSISTANT at a salary in accordance with A.P.T. Grade I, £645-£815 per annum.

Applicants must be approaching Intermediate R.I.C.S. standard and capable of taking off and working up Bills of Quantities, measuring on site, and taking off for small works, and dealing with final accounts.

Forms of application available from the Clerk of the County Council, County Hall, Northallerton, closing date for applications being 23rd November, 1960. 4303

**METROPOLITAN BOROUGH OF HACKNEY  
ENGINEER AND SURVEYOR'S DEPARTMENT**  
Applications are invited for the following permanent appointments in the Architectural Section:—

(1) ASSISTANT ARCHITECT—Grade A.P.T. IV (£1,140-£1,310 p.a.).

Candidates must have passed the Final Examination of the R.I.B.A. and preference will be given to those with experience in the design and construction of municipal housing schemes and public buildings.

(2) ASSISTANT ARCHITECT or ARCHITECTURAL ASSISTANT.

Candidates must have passed the Final or Intermediate Examination of the R.I.B.A. and appointment will be made as Assistant Architect in Grade A.P.T. IV (£1,140-£1,310 p.a.) or as Architectural Assistant in Grade A.P.T. II (£815-£960 p.a.) or Grade A.P.T. III (£960-£1,140 p.a.) according to qualifications and experience.

(3) ARCHITECTURAL ASSISTANT—Grade A.P.T. I/II (£645-£960 p.a.).

Candidates should have passed the Intermediate Examination of the R.I.B.A. or its equivalent.

(4) JUNIOR ARCHITECTURAL ASSISTANT—Grade A.P.T. I (£645-£815 p.a.).

Candidates must be Students of the R.I.B.A. or Probationers with a good architectural training and several years' experience in an architect's office.

In all cases, appropriate London weighting allowance is payable in addition and commencing salaries will be according to training, qualifications and experience. Modern staff canteen; alternate Saturdays; post-entry educational training facilities.

Application forms, obtainable from the Town Clerk, Town Hall, Hackney, E.8, returnable by 9 a.m., 28th November, 1960. 4274

**BIRMINGHAM REGIONAL HOSPITAL BOARD  
ARCHITECT'S DEPARTMENT**

ASSISTANT QUANTITY SURVEYORS. Salary scale 1965-£1,310 per annum. Corporate membership R.I.C.S. essential. Previous hospital experience not essential. Superannuable. Five-day week. Applications (quoting Arch 9) stating qualifications, age, experience, present appointment and salary and names of two referees to Secretary, R.H.B. 10, Augusta Road, Birmingham, 15, by 5th December, 1960. 4281

**CITY OF WORCESTER  
APPOINTMENT OF ARCHITECTURAL  
ASSISTANT**

Applications are invited for this appointment within A.P.T. Grade I (£645-£815). The appointment is superannuable and subject to medical examination. Housing accommodation available if required, and the Corporation are prepared to make a contribution towards removal expenses. Casual User's Car Allowance will be applicable.

Applications, stating age, present and previous appointments and experience, together with the names of two referees, are to be sent to the City Engineer and Surveyor, 22, Bridge Street, Worcester, by Tuesday, 29th November, 1960.

BERTRAM WEBSTER,  
Town Clerk.

Guildhall,  
Worcester. 4308

**BOROUGH OF EDMONTON  
BOROUGH ARCHITECT'S DEPARTMENT  
TOWN PLANNING ASSISTANT**

Applications are invited for the above appointment on Grade A.P.T. III £960-£1,140 plus London Weighting. The person appointed will be placed on a position on the grade according to his qualification and experience.

Applications on forms obtainable from the Town Clerk, Town Hall, Edmonton, must be delivered by the 3rd of December, 1960.

H. BACKHOUSE,  
Town Clerk.

Town Hall,  
Edmonton, N.9. 4295

**CITY AND COUNTY OF NORWICH**

Applications are invited for the following appointments in the City Engineer's Department:—

**PLANNERS**

(a) SENIOR TOWN PLANNING ASSISTANTS—A.P.T. V.

(b) TOWN PLANNING ASSISTANTS—A.P.T. IV.

(c) TOWN PLANNING ASSISTANTS—A.P.T. II.

(d) TOWN PLANNING DRAUGHTSMEN—A.P.T. I.

These additional posts are required for an expanding programme of Development Plan Review and Urban Renewal. They offer considerable scope and opportunity for creative and positive Town Planning in all its branches.

With regard to appointment (a), applicants must have had considerable experience in Town Planning Offices and will be required to take charge of a branch of the Town Planning Section and be directly responsible to the Chief Town Planning Assistant.

Applicants for the post (b) will also be required to have had a general experience in a Town Planning Office.

Candidates for appointments (a) and (b) must be members of the Town Planning Institute or qualified architects with substantial Town Planning experience.

Applicants for (c) should have reached Intermediate standard of the Town Planning Institute. Housing accommodation will be made available in approved circumstances for all posts as quickly as possible and car allowances may be available for the senior appointments.

Applications, stating age, qualifications, present and previous positions, giving gradings, together with names of two referees, to the City Engineer, City Hall, Norwich, NOR 01A, by 26th November, 1960. 4275

**WEST SUSSEX COUNTY COUNCIL  
COUNTY ARCHITECT'S DEPARTMENT**

Applications are invited for the following appointments on the established staff:—

ASSISTANT ARCHITECTS for interesting work at a salary within the range £880-£1,310. Commencing salary according to experience.

Further particulars should be obtained from the County Architect, County Hall, Chichester, to whom all detailed applications must be submitted not later than 25th November, 1960.

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

County Hall,  
Chichester. 4277

ARCHITECT, Grade III, for design and construction of buildings in parks and open spaces. Excellent opportunity for experience of collaboration with landscape architects. Up to £1,250 according to qualifications and experience. Apply Chief Officer (A1/AJ/2929/11), L.C.C. Parks Department, County Hall, S.E.1 (phone WATERLOO 5000, Ext. 8076). 4293

**GHANA  
TEMA DEVELOPMENT ORGANISATION**

Applications are invited for the following vacancies:—

DEPUTY CHIEF ARCHITECT: Candidates must be A.R.I.B.A. with at least 12 years post-qualification experience. A Town Planning qualification or experience in the design and layout of large communities will be an advantage. Consolidated salary £2,000 p.a.

ARCHITECTS: Candidates must be A.R.I.B.A. and have good experience in the design and construction of houses, flats, schools, public, commercial and industrial buildings; should have initiative and enterprise and be capable of handling building contracts from inception to final account stage. Consolidated salary scale £1,080-£2,080 p.a. Point of entry is dependent upon qualifications and experience.

Appointments will normally be on contract for two years each of 15-18 months in the first instance. Tropical experience is highly desirable. Candidates will be required to join the Organisation's Provident Fund.

For further particulars and application forms, please write to the Director of Recruitment, Ghana High Commission, 248 Tottenham Court Road, London, W.1. 4276

**BOROUGH OF ENFIELD  
BOROUGH ENGINEER & SURVEYOR'S  
DEPARTMENT**

Non-County Borough in the County of Middlesex. Population 109,700. Area 12,400 acres.

Applications are invited from suitably qualified persons for the following permanent appointments:—

1. ASSISTANT ARCHITECT—A.P.T. IV, £1,140-£1,310 plus London weighting.

2. ARCHITECTURAL ASSISTANT (TWO No.)—A.P.T. III, £960-£1,140 plus London weighting.

The commencing salary will be fixed at points within the scale commensurate with qualifications and experience.

There is a large varied programme of work, including the redevelopment of Clearance Areas and other areas scheduled for Comprehensive Development.

Housing accommodation may be made available in appropriate cases. The Council is also prepared to consider 100 per cent. advances to successful applicants for house purchase within the Borough.

Saturday mornings are normally free from duty.

Application forms, obtainable from H. D. Peake, M.Sc. (Eng.), M.I.C.E., Borough Engineer and Surveyor, 7, Little Park Gardens, Enfield, Middlesex, must be delivered to the undersigned not later than Thursday, 24th November, 1960.

CYRIL E. C. R. PLATTEN,  
Town Clerk.

Public Offices,  
Gentleman's Row,  
Enfield, Middx. 4077

**BOROUGH OF SLOUGH  
Appointment of ASSISTANT ARCHITECTS**

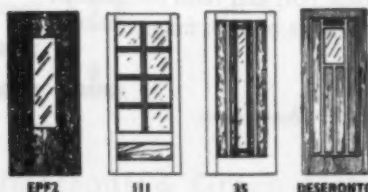
Grade A.P.T. IV (£1,140-£1,310 per annum) and JUNIOR ARCHITECTURAL ASSISTANT, Grade A.P.T. II (£815-£960).

These vacancies on the Council's permanent staff arise in consequence of the Council's approval of a Major Programme of Building Works, including, in addition to normal housing development, 12-storey blocks of flats, factories, shops and buildings for parks and other municipal functions.

The appointments on Grade A.P.T. IV are suited to fully qualified architects who are particularly interested in the application of original thought to the design of buildings for a variety of functions and to whom contemporary architectural design appeals. The junior appointment is particularly suited to students who have passed the Intermediate examination and wish to extend their experience in a progressive town and facilities for part-time release will be arranged for the successful applicant who is pursuing a recognised course of architectural study.

A five-day week is in operation and housing accommodation will be provided for married candidates, if required.

Persons interested in these appointments are invited to write to the Borough Engineer, Town Hall, Slough, Bucks, giving brief details of their qualifications and experience. He will be pleased to send them details of the programme of design work, together with information which would be of particular interest to those not familiar with Slough in regard to the Department, the town and its surroundings. 4286



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**CITY AND ROYAL BURGH OF DUNFERMLINE**

**ARCHITECTURAL ASSISTANT**

An Architectural Assistant is required for programme of Traditional Housing, Redevelopment, and Public Buildings in the office of the Burgh Architect, Dunfermline. Salary within the range £715 to £967 with placing according to experience. The post is superannuable, and assistance may be given with housing.

Detailed applications giving names of referees should be submitted to the Burgh Architect, 6, Abbot Street, Dunfermline, within seven days from this date.

J. DOUGLAS,  
Town Clerk.

City Chambers,  
Dunfermline. 4246

**COUNTY BOROUGH OF SWANSEA**

**BOROUGH ARCHITECT'S DEPARTMENT**  
APPLICATIONS are invited for the following posts:

- (a) SENIOR ASSISTANT ARCHITECT. Salary Grade APT.IV (£1,140-£1,310).
- (b) ASSISTANT ARCHITECT. Salary Grade within the Special Class (£840-£1,145).
- (c) ARCHITECTURAL ASSISTANT MAINTENANCE. APT.III (£960-£1,140).
- (d) ASSISTANT ESTIMATOR, APT.II (£815-£960).

The commencing salary of all posts will be within the grade according to ability and experience.

Applicants for posts A & B must be Associates of the R.I.B.A. and have had considerable experience in the design and supervision of the erection of public buildings, more particularly Housing Estates and Multi-Storey Flats.

Applicants for post (c) holding the necessary qualifications must have had considerable experience of the maintenance of buildings, be able to make complete and accurate surveys of existing buildings, prepare clear and detailed working drawings for minor alterations to existing buildings and write precise specifications for such works.

Applicants for post (d) must possess experience in the pricing of Bills of Materials, Measuring and Valuing of Work in Progress, Preparation of Estimates for minor Works from Plans and Specifications and a thorough knowledge of contract procedure and bonusable work.

Candidates must be under 45 years of age unless in Local Government Service.

The appointments will be subject to the provisions of the Local Government Superannuation Acts and may be terminated by one month's notice on either side. The successful candidates will be required to pass a medical examination.

Forms of Application may be obtained from the Borough Architect, The Guildhall, Swansea, to whom they must be returned not later than Saturday, 3rd December, 1960.

IORWERTH J. WATKINS,  
Town Clerk.

The Guildhall,  
Swansea.  
2.11.1960. 4275

**CRAWLEY DEVELOPMENT CORPORATION**

requires:—  
(a) ASSISTANT ARCHITECT, A.P.T. III/IV (£960-£1,310).

(b) JUNIOR ASSISTANT ARCHITECT, A.P.T. I-II (£645-£960).

(c) ARCHITECTURAL DRAUGHTSMAN—Salary according to experience.

Candidates for post (a) must be Associates of the R.I.B.A. and for post (b) to Intermediate R.I.B.A. standard. Candidates for post (c) should have had experience in Architectural Drawing Offices.

The Architects' Department is at present engaged upon a varied and interesting programme of Housing, Commercial and Industrial projects, etc., and Swimming Bath. Five-day week. Housing may be provided if required. Landscape experience an advantage.

Apply on forms from Chief Architect (Vacancy), Broadfield, Crawley, Sussex, by 10th December, 1960. 4299

**COUNTY BOROUGH OF BURNLEY**

Applications are invited for the following appointments in the Borough Engineer and Surveyor's Department:—

(1) ASSISTANT ARCHITECT—A.P.T. Grade I (£645-£815 p.a.) to Special Grade (£840-£1,145 p.a.). Commencing grade and salary to be fixed in accordance with experience and qualification.

(2) ARCHITECTURAL ASSISTANT—A.P.T. Grade I (£645-£815 p.a.).

Candidates for both appointments should hold appropriate qualifications.

Provision of housing accommodation may be considered in respect of Appointment (1). Forms of application may be obtained from the Borough Engineer, 22/24 Nicholas Street, Burnley, to whom applications should be returned not later than Friday, 2nd December, 1960.

C. V. THORNLEY,  
Town Clerk.

4291

**NORTHERN IRELAND HOUSING TRUST**

ASSISTANT ARCHITECTS  
The Trust has vacancies for Assistant Architects on the salary scale £950-£1,150.

Candidates must be qualified Architects. Placing will be according to experience.

The persons appointed will be required to contribute to a superannuation scheme which allows for the transfer of benefits in local government schemes in suitable cases.

Housing accommodation may be arranged for married candidates.

Please apply not later than 30th November, 1960, giving full details of age, education, qualifications and experience, including present post and salary, to the General Manager, Northern Ireland Housing Trust, 12 Hope Street, Belfast 12.  
Please mark envelope 33/89. 4288

**LANARK COUNTY COUNCIL**  
**COUNTY HOUSING ARCHITECT'S DEPARTMENT**

The Department of the County Housing Architect (S. McColl, F.R.I.B.A., F.R.I.A.S.) at Hamilton has a large number of vacancies for ARCHITECTS AND ASSISTANTS

Salaries ranging from £1,650 to £605, according to qualifications and experience.

The vacancies include a number on salary range £1,450-£1,600.

The department has an extensive and interesting programme of building works on housing development and comprehensive redevelopment of central areas including multi-storey flats and maisonettes, shopping precincts, and other ancillary buildings. The work will provide scope for personal initiative in the field of progressive design and modern constructional technique.

A superannuation scheme is in operation and a 5-day week will apply from 1.1.61.

Consideration given to applicant's housing requirements.

Applications to County Clerk, P.O. Box No. 1, Glasgow. 4286

**QUANTITY SURVEYING ASSISTANTS**

GRADE III required by AIR MINISTRY in the PROVINCES. Duties include abstracting and billing, site measurement and preparation of estimates. Candidates must hold Q.N.C. (Building or Builder's Quantities) or equiv. and have good experience under Quantity Surveyor or Building Contractor. Knowledge W.D. Schedule an advantage. Financial assistance and time off given for recognised courses of study. Promotion and pension prospects. Five-day week with 18 days' paid leave a year initially. Overseas tours for which special allowances granted.

Salary ranges from £770 (at age 26) to £925. Commencing salary dependent upon age, quals. and exp. Applicants, who must be natural born British subjects, should write stating age, quals. and previous appointments including type of work done, to Manager (P.E.2), Ministry of Labour, Professional and Executive Register, Atlantic House, Farringdon Street, London, E.C.4. No original testimonials should be sent. Candidates selected will normally be interviewed in London and certain expenses reimbursed. Only applicants selected for interview will be advised. 3084

**CITY OF CARLISLE**

**CITY SURVEYOR'S DEPARTMENT**

Applications are invited for the following appointments:—

**ARCHITECTS**

Three Principal Assistants A.P.T.V. (£1,310-£1,490). Applicants should be A.R.I.B.A. and should preferably be experienced in work, including that for Education, normally undertaken in a Municipal Office.

**QUANTITY SURVEYORS**

(a) One Chief Assistant, Scale A (£1,480-£1,565). Applicants should be A.R.I.C.S. and be capable of taking charge of this section of the office.

(b) One Principal Assistant A.P.T. IV/V (£1,140-£1,490). Applicants should be A.R.I.C.S. or A.I.Q.S. and be experienced in taking off, abstracting, billing, etc., dealing with Contractors, settling Final Accounts, etc.

(c) One Assistant A.P.T. II/III (£815-£1,140). Intermediate or Final I.Q.S. Salary according to qualifications and experience.

For all appointments, the starting point in the grade will be dependent upon present salary, qualifications and experience. The Council have built a number of Staff Houses which are let at an economic rent.

Applications stating age, qualifications, present and past appointments with dates and salaries, experience and three referees, to be received by the City Surveyor, 18, Fisher Street, Carlisle, by 3rd December, 1960.

H. D. A. ROBERTSON,  
Town Clerk.

4289

**ARCHITECTS AND MAINTENANCE SURVEYORS.**

Pensionable posts for men and women at least 25 and under 35 on 1.1.60 (extension for regular Forces service, Overseas Civil Service, established Civil Service and temporary Government service as Architect or Maintenance Surveyor). Candidates must be registered Architects or, alternatively, for Maintenance Surveyor posts, have achieved Corporate membership of R.I.C.S. (Building Section), or have passed examinations necessary for attaining Corporate membership. Salary (men, London) £830-£1,125 according to age, rising to £1,300. Promotion prospects. Write Civil Service Commission, 17 North Audley Street, London, W.1, for application form quoting S/66-61. 4262

**SENIOR ARCHITECTURAL ASSISTANT** required to supervise work of architectural drawing office with about ten assistants and to be responsible direct to the Architect for organisation and supervision of work, primarily in connection with transport depots including offices, transit buildings, vehicle workshops and ancillary facilities, in that office and in progress. Applicants should be architects of considerable experience, preferably on industrial or allied work and have sound constructional knowledge. Contributory superannuation fund. Salary range £1,410-£1,685. Applications giving age, experience and qualifications to Personnel Officer (135), British Road Services Ltd., Melbury House, Melbury Terrace, London, N.W.1. 4254

**COUNTY BOROUGH OF BURTON UPON TRENT**

**BOROUGH ARCHITECT'S DEPARTMENT**

Applications are invited from suitably qualified persons for the appointment of an ASSISTANT ARCHITECT and an ASSISTANT QUANTITY SURVEYOR, each in A.P.T. Grade IV (£1,140-£1,310 per annum) of the National Scheme of Conditions of Service, Five-day week.

Housing accommodation, at a rent, will be provided for the successful candidates if required. The Corporation operates a scheme for assisted house purchase.

Applications, giving age, qualifications, full details of experience and names of two referees, to the Borough Architect, Town Hall, Burton upon Trent, by Tuesday, 29th November, 1960.

H. T. MEADES,  
Town Clerk.

Town Hall,  
Burton upon Trent.  
10th November, 1960. 4307

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Walter  
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THE FIRST comprehensive illustrated book on the subject of the conversion and improvement of all kinds of house property. It is designed to help architects, local housing authorities and private owners. Mr. Walter thoroughly illustrates and describes a large variety of successful conversions, from luxury Belgravia terrace houses to remote rural cottages, giving full details of building costs, rent and rates for most of them. And specialist authors contribute chapters on law, finance, management and town planning.

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**AIR MINISTRY require JUNIOR WORKERS**  
UP in Quantities Division in London. Must be fully experienced and competent to Work Up entire Bills of Quantities. Candidates must hold O.N.C. or C. & G. (Quantities) or equiv. technical qual. Financial assistance and time off given for recognised courses of study. Promotion and pension prospects. Five-day week with 15 days' paid leave a year initially.

Salary ranges from £820 (at age 26) to £975. Applicants, who must be natural-born British subjects, should write stating age, quals. and exp. to the Manager (FE 1234), Ministry of Labour, Professional and Executive Register, Atlantic House, Farringdon Street, London, E.C.4. No original testimonials should be sent. 3085

# TOWN PLANNING ARCHITECT GOVERNMENT OF KENYA

To prepare Development Plans for towns and villages with special emphasis on architectural control, research into densities, shopping centres and other urban planning problems.

Contract appointment salary range £1,194-£1,863 per annum with 13½ per cent. gratuity. Free passages.

Candidates aged 25-40 years must be A.R.I.B.A., preferably with A.M.T.P.I. or post graduate training in Town Planning.

Write Director of Recruitment, Colonial Office, London, S.W.1. giving full names, age, qualifications and experience quoting BCD 62/7/63/E2. 4244

## Amended Advertisement

### RADNORSHIRE COUNTY COUNCIL

#### ARCHITECTURAL ASSISTANTS

Applications are invited for the following permanent appointments on the established staff of the County Architect's Department:

Two Architectural Assistants, salary grade A.P.T. III (£960-£1,140). The commencing salary within the grade will be dependent on qualifications, and experience.

The Council have a varied and interesting building programme on hand including new schools, police houses and old people's homes.

The appointments will be subject to the National Scheme of Conditions of Service; to the Local Government Superannuation Acts and to termination by one month's notice in writing by either party.

Applications stating age, qualifications and experience with the names and addresses of two persons to whom reference may be made must be received by the undersigned not later than the 28th November, 1960.

D. C. S. LANE,  
Clerk of the Council.

County Hall,  
Llandrindod Wells,  
Radnorshire.

4246

### CITY OF CANTERBURY

#### SENIOR ASSISTANT ARCHITECT

Applications are invited for the above appointment in the City Architect and Planning Officer's Department.

Commencing salary within A.P.T. III/IV (£960-£1,310) according to ability and experience. The successful candidate will be engaged initially on the new Technical College project and must have attained the necessary standard of professional qualification.

Housing accommodation available if required. Applications, with the names of two referees, to the City Architect and Planning Officer, John L. Berbers, F.R.I.B.A., A.M.T.P.I., by Saturday, 3rd December, 1960.

Canvassing will disqualify.

J. BOYLE,  
Town Clerk.

Municipal Buildings,  
Canterbury.

4249

## AUSTRALIA THE UNIVERSITY OF NEW SOUTH WALES, SYDNEY

### SENIOR LECTURER SCHOOL OF ARCHITECTURE

The University invites applications for appointment to the position of Senior Lecturer in the School of Architecture.

Salary: £A2,563 range £A3,013 per annum. Commencing salary according to qualifications and experience.

Applicants must be registered architects and possess a degree, diploma or equivalent qualifications and be eligible for membership of R.I.B.A. The successful applicant will be responsible to the Head of the School for the syllabus and conduct of the courses and classes in building construction. In addition to lecturing and conducting studio work in aspects of materials, components and construction techniques for multi-storied buildings, the senior lecturer will be required to supervise and co-ordinate the activities of other members of staff concerned with the subject.

First-class ship fares to Sydney of the appointee and his family will be paid.

Subject to passing a medical examination, the appointee will be eligible to contribute to the State Superannuation Fund.

The appointee will be eligible for 12 months' study leave on full salary after six years' service.

Four copies of applications, including the names of two referees, should be lodged with the Agent General for New South Wales, 56-57 Strand, London, W.C.2, and a copy forwarded by air mail in an envelope marked "University Appointment" to the Bursar, Box 1, Post Office, Kensington, New South Wales, Australia, before 23rd December, 1960. 4216

### PADDINGTON BOROUGH COUNCIL

#### BUILDING SURVEYING ASSISTANT

(£686-£845 A.P.T. I)

Starting salary according to qualifications and experience which should include repair, adaptation and conversion of civic and residential properties. Candidates should be capable of preparing plans, specifications, costs. Five-day week. Applications stating age, qualifications, present and past appointments, names of two referees should reach me by 30th November, 1960 (quoting A.510).

W. H. BENTLEY,

Town Clerk.

Town Hall,  
Paddington Green, W.2.

4248

### SOUTH EASTERN ELECTRICITY BOARD

#### CLERK OF WORKS-SURREY AREA

Salary £780 x £25-£280 p.a. under N.J.C. Grade 3. Applications are invited from competent Clerks of Works who are experienced in the supervision of repair, maintenance, alteration of buildings and general building construction.

Applications, quoting A.J. and naming two referees, on forms from Surrey Manager, Seaboard, Rough Rew, Ridgeway Road, Dorking, Surrey, by 30th November, 1960.

GEORGE WRAY,

Secretary.

4298

**AIR MINISTRY require SENIOR TAKERS**  
OFF in the Quantities Division, London. Must have wide experience of all classes of work and preferably be A.R.I.C.S. (Sub-Division III Quantities). Salary scale £1,375 to £1,785. Commencing salary according to age, qualification and experience. Non-pensionable but long term. Good prospects of establishment and/or promotion. Five-day week, 22 days' paid leave. Applicants must be natural born British subjects. Forms from Ministry of Labour, Technical and Scientific Register (K), 26, King Street, London, S.W.1. Quoting J.340/OA. 3564

### CORPORATION OF LONDON

#### CITY SURVEYOR'S DEPARTMENT

Require BUILDING SURVEYOR (Permanent Staff). Salary £630-£990. Work will comprise assistance in maintenance and surveys.

Applicants should be at approximately Intermediate R.I.C.S. (Building Sub-section) level and good draughtsmen.

Medical examination; superannuation scheme. 4311

## Tenders Invited

36s. per inch; each additional line, 3s.

### COUNTY BOROUGH OF BLACKPOOL

Tenders (by Wednesday, 7th December) are invited for taking out and replacing existing steel windows in the sunlounge with triple glazed hardwood framed windows at the Derby Baths.

Particulars from Borough Surveyor (Arthur Hamilton, A.R.I.B.A.), Municipal Offices, Blackpool. 4238

## Architectural Appointments Vacant

3s. per line; minimum 12s. Box Number, including forwarding replies, 2s. extra.

**RONALD WARD AND PARTNERS** invite applications from ARCHITECTS, Senior and Junior. Long-term prospects. Scope for initiative and responsibility in interesting commercial, industrial and civic projects in British Isles, West Africa and Australia. Salaries commensurate with ability. Non-contributory Pension and Life Insurance schemes. Five-day week. Pleasant offices. Apply 29, Cheesnam Place, Belgrave Square, London, S.W.1. Tel.: BEL-gravia 3561. 2596

**ARCHITECTURAL ASSISTANT** required in busy City Office. Assistants should be capable of carrying through schemes from sketch stage to final construction. Mainly office and residential buildings in London area. Varied and interesting projects. Long term engagement to right person. £1,600 per annum plus luncheon vouchers. Five-day week. Applicants must be capable of producing sketch schemes on contemporary buildings, and preparing working drawings. Box 4228.

**ARCHITECTURAL ASSISTANT** required for City Office. Qualifications unnecessary, but experience in the preparation of working drawings essential. Salary £1,000 per annum plus luncheon vouchers. Five-day week. Box 4229.

**WEST END OFFICE** requires ASSISTANT ARCHITECTS of Final and Intermediate standards for interesting industrial projects in Home Counties. Good salaries offered to men with initiative and ability. Bonus Scheme, five-day week, holiday arrangements honoured. Box 2039.

**GUILDFORD ARCHITECTS** urgently require qualified and unqualified ASSISTANTS to work on projects of considerable interest. An opportunity exists for applicants living or wishing to live in Surrey to work locally in a pleasant atmosphere and at a good salary. Would applicants please reply stating age, experience and salary required to Malcolm Peck, Roberts & Associates, 18 Friary Street, Guildford, Surrey (Guildford 66363). 4156

**ARCHITECTURAL ASSISTANTS** required in busy Bloomsbury office with varied practice. Good salary and prospects for suitable applicants. Five-day week. Write giving particulars of age, qualifications, experience, etc., to Box 910, c/o 7 Ooptic Street, W.C.1. 3815

**ELIE MAYORCAS** requires ARCHITECTURAL ASSISTANTS with a minimum of three years' office experience in this country. Write, giving brief particulars of architectural education and experience, and salary required, to 13, David Mews, Baker Street, W.1. 3293

**BASIL SPENCE & PARTNERS** require qualified and experienced ARCHITECTS to fill positions of responsibility on a major building programme. Write to 48, Queen Anne Street, W.1, stating experience and salary required. 2624

**SENIOR ASSISTANT** required by Harker & Hall, L.F.R.I.B.A., in their office in Warwickshire. Good salary, with scope for initiative and responsibility. Write London House, High Street, Knowle, or telephone Knowle (Birmingham) 3502. 2143

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**£1,000** experienced competent ARCHITECTS by a private practice in the City of London. The work will be primarily on the drawing board on new and interesting projects of magnitude. A high standard of design and detailing ability is required. Please apply in writing to Box 9350.

**£850-£1,400.** TURAL ASSISTANTS with imagination and designing ability required to assist with large and important new developments in the central London Area. Telephone or write—Trehearne & Norman, Preston & Partners, 43, Kingsway, W.C.1. HOLBORN 4071.

**MONRO AND PARTNERS** require ARCHITECTURAL ASSISTANTS of Intermediate/Final R.I.B.A. standard in their London, Watford, and Glasgow Offices for work on interesting industrial and commercial projects. Salary range £800-£1,000 p.a. Non-contributory Pension Scheme. Five-day week. Apply in writing to M. Clarendon Road, Watford.

**SIR JOHN BURNET, TAIT & PARTNERS** have vacancies for ARCHITECTURAL ASSISTANTS of all grades. Salaries ranging from £1,000 to £1,500 per annum. Luncheon vouchers. Pension and Medical schemes (non-contributory). Telephone LANGHAM 3626 for appointment.

**ARCHITECTURAL ASSISTANT** required, with at least two years' office experience. Apply in writing to Thomas Mitchell & Partners, 20, Bedford Square, London, W.C.1.

**SIR GILES SCOTT, SON & PARTNER** require ARCHITECTURAL ASSISTANT, qualified or unqualified, with practical experience. Interesting and varied practice. Salary up to £1,000 plus luncheon vouchers. Write 9, Gray's Inn Square, W.C.1, or telephone CHANCERY 8387/8.

**CITY OFFICE** requires ASSISTANTS for industrial and commercial work. 5-day week, luncheon vouchers. Salary £1,200 p.a.

**BRYAN & NORMAN WESTWOOD & PARTNERS** require Senior and Junior ASSISTANT ARCHITECTS. Please apply to 31 Suffolk Street, London, S.W.1. Trafalgar 4411.

**SCHERRER AND HICKS**, 60 Spring Gardens, Manchester, 2, require an Intermediate ASSISTANT with some office experience for interesting work on school projects. Five-day week. L.V.'s and bonus scheme.

**SENIOR ASSISTANTS** required immediately. Salary by arrangement. Leo H. Birks, 38, Portland Place, London, W.1. LEO 7236.

**SIR GILES SCOTT, SON & PARTNER** require a SENIOR ASSISTANT with good general experience in practical supervision of work and also in administration. Varied work including schools, hostels, churches, office buildings, municipal buildings, etc. Five-day week, luncheon vouchers, and salary in accordance with experience. Please apply in writing to 9, Gray's Inn Square, London, W.C.1.

**ASSISTANT ARCHITECTS** required for staffing a new office opening in Southampton for work on interesting projects including University, War Department and Ecclesiastical programmes. Juniors also required. Apply stating age, qualifications, experience and salary required to Robert Potter, F.R.I.B.A. & Richard Hare, B.Arch., A.R.I.B.A., De Vaux House, Salisbury.

**WILLIAM H. ROBBINS, A.R.I.B.A.** requires ARCHITECTURAL ASSISTANTS of Final and Intermediate standard for interesting work in expanding office. Applicants should be experienced in design and construction and taking responsibility. Excellent opportunity of advancement, salary range from £750 to £1,400 per annum according to experience. Five-day week. Apply to 77 Wigmore Street, London, W.1. WELBECK 0274/5.

**SENIOR ARCHITECT** required to take charge of branch office in Chelmsford, age 35/45. Salary £1,600/£2,000, according to experience. Replies will be treated with confidence. Box 3996.

**YORKE, ROSENBERG & MARDALL** require recently qualified or office-trained ASSISTANTS for working drawings on large jobs. Write to 2, Hyde Park Place, W.2, or ring AMBASSADOR 4521 for appointment.

**ARCHITECTURAL ASSISTANTS** required of both Intermediate and Final R.I.B.A. standard. Busy progressive office in York. Practice interesting and varied. Salary according to experience and ability. Apply in writing giving full particulars to Needham, Thorp & White, 5 High Petergate, York.

**SENIOR ARCHITECTURAL ASSISTANTS** urgently required, interesting projects needing job architects, including Civic Centre, Police Headquarters, Laboratory buildings, Factories, Hospitals, etc. Write full particulars, including salary required, to Lancaster & Lodge, 10 Woburn Square, W.C.1.

**ARCHITECTURAL ASSISTANTS** required for most interesting and varied work. Salary grades ranging from £550 to £1,000. R.I.B.A. Intermediate to Final standard. Five-day week. Excellent working conditions. Pension Scheme and three weeks' holiday. Paid overtime. Car allowance. Apply Gordon Payne and Preece, Grosvenor House, Gloucester.

**ANGUS McDONALD & PARTNERS, F.A.R.I.B.A.** of Bristol and Guildford, require a SENIOR ASSISTANT to take charge of their Bristol Drawing Office, with sound practical experience in the preparation of Working Drawings and Specifications, capable of supervising large contracts and controlling Junior Staff. Car available if required. The Principals believe in progressive modern design combined with a proper office system. Forward details of experience and salary required to 1, Unity Street, College Green, Bristol, 1.

**INTERESTING** and varied small practice urgently requires SENIOR and JUNIOR ASSISTANT for high quality work—not industrial. Telephone or write Bird & Tyler, 13, Welbeck Street, W.1. WEL 0982.

**FARNER AND DARK** require ASSISTANT ARCHITECTS with some office experience, initiative and ability. Varied work. Apply Romney House, Tufon Street, S.W.1. Tel. Abbey 6311.

**SHINGLER & RISDON** require ARCHITECTURAL ASSISTANTS to work on modern comprehensive developments in their London office. Five-day week. Salary by agreement. Phone CHA 2951.

**LONDON** Architect prepared to pay up to £1,000 per annum for competent JUNIOR ARCHITECTURAL ASSISTANTS. Write stating age, experience and salary required to Box 4195.

**DOUGLAS J. OLIVER & PARTNERS** require ARCHITECTS in their Rugby Office. Salaries £1,000-£1,500 per annum for qualified Architects according to ability and experience. Salaries reviewed annually. Office Superannuation Scheme in operation. Apply to Douglas J. Oliver, F.R.I.B.A., 10 St. Matthew's Street, Rugby. Telephone NO. Rugby 4452.

**DESMOND HALL** requires full time ASSISTANTS in Beaconsfield, and qualified man to take charge of Daventry Office. Apply Beaconsfield 1366.

**LARGE** Development Company Architects' Department requires two SMALL ASSISTANTS to work in impossibly overcrowded office, on buildings varying from £350,000 office blocks to small housing, including industrial and commercial buildings of all types. Salary £800-£1,200. Write or phone G. W. Mills, A.R.I.B.A., Staff Architect, Ronald Lyon Estates Co. Ltd., Lyon House, Lyon Road, Hershaw, Surrey. Tel. Walton on Thames 26311.

**YOUNG** qualified ARCHITECTURAL ASSISTANT required in old established practice in expanding South Eastern town. Salary according to experience. Box 4071.

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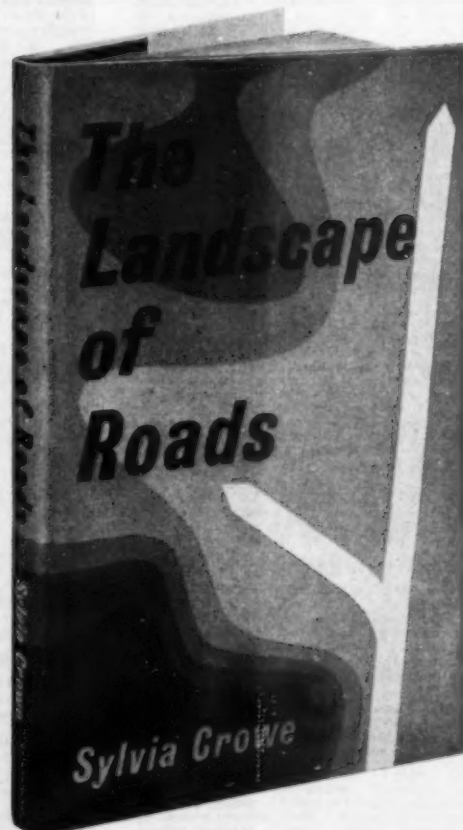
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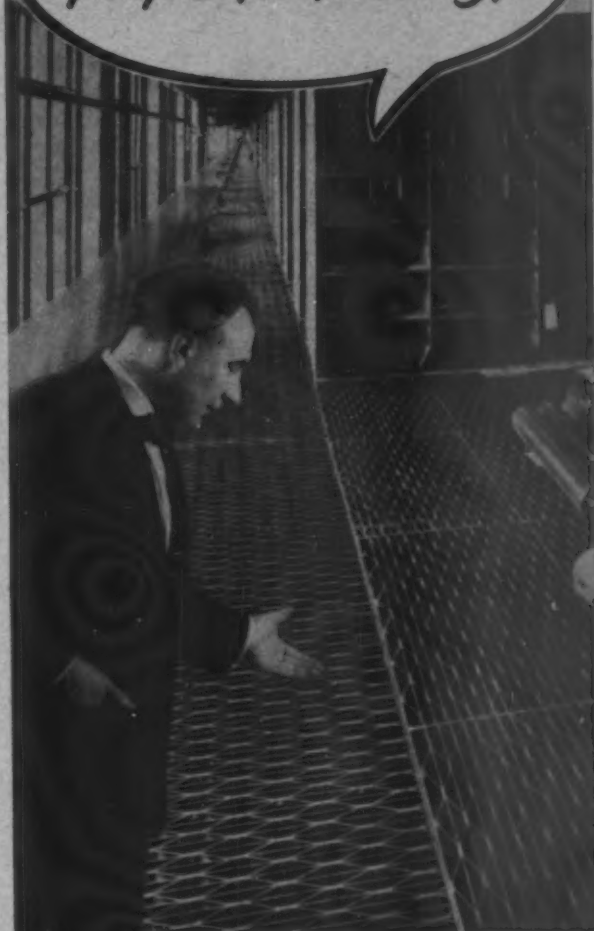
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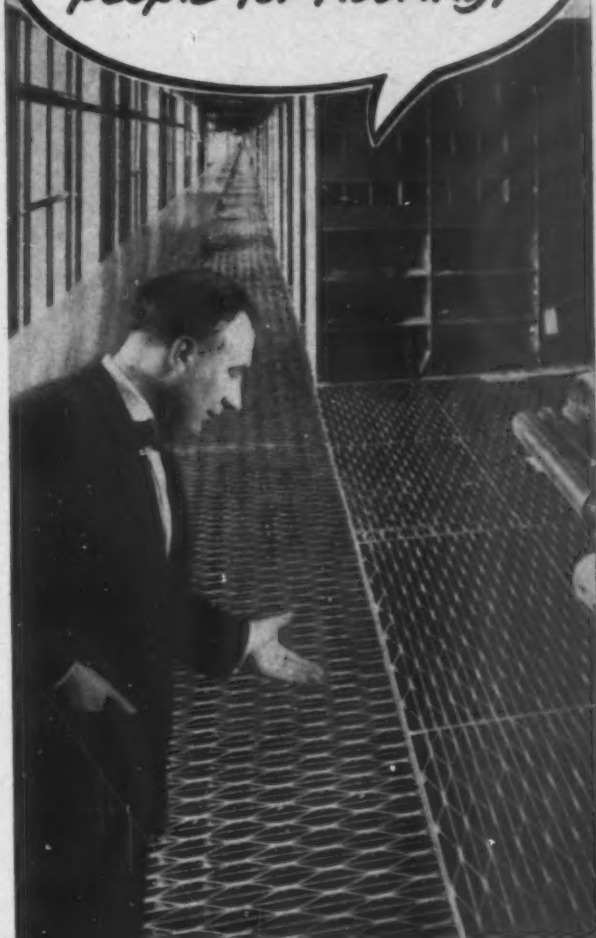
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