

# THE ARCHITECTS' JOURNAL



## standard contents

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

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

IGE	Institution of Gas Engineers. 17, Grosvenor Crescent, S.W.1.	Sloane 8266
IHVE	Institution of Heating and Ventilating Engineers. 49, Cadogan Square.	Sloane 1601/3158
IIBDID	Incorporated Institute of British Decorators and Interior Designers. Drayton House, Gordon Street, W.C.1.	Euston 2450
ILA	Institute of Landscape Architects. 12, Gower Street, W.C.1.	Museum 1783
I of Arb	Institute of Arbitrators. 35/37, Hastings House, 10, Norfolk Street, Strand, W.C.2.	Temple Bar 4071
IOB	Institute of Builders. 48, Bedford Square, W.C.1.	Museum 7197/5176
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. 47, Victoria Street, S.W.1.	Abbey 6172
ISE	Institution of Structural Engineers. 11, Upper Belgrave Street, S.W.1.	Sloane 7128
LDA	Lead Development Association. Eagle House, Jermyn Street, S.W.1.	Whitehall 7264/4175
LMBA	London Master Builders' Association. 47, Bedford Square, W.C.1.	Museum 3891
LSPC	Lead Sheet and Pipe Council. Eagle House, Jermyn Street, S.W.1.	Whitehall 7264/4175
MARS	Modern Architectural Research Group (English Branch of CIAM). Secretary : Trevor Dannatt, 6, Fitzroy Square, W.1.	Euston 7171
MOA	Ministry of Agriculture and Fisheries. 55, Whitehall, S.W.1.	Whitehall 3400
MOE	Ministry of Education. Curzon Street House, Curzon Street, W.1.	Mayfair 9400
MOH	Ministry of Health. 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' Square, S.W.1.	Whitehall 6200
MOS	Ministry of Supply. Shell Mex House, Victoria Embankment, W.C.	Gerrard 6933
MOT	Ministry of Transport. Berkeley Square House, Berkeley Square, W.1.	Mayfair 9494
MOW	Ministry of Works. Lambeth Bridge House, S.E.1.	Reliance 7611
NAMMC	Natural Asphalt Mine Owners and Manufacturers Council. 94/98, Petty France, S.W.1.	Abbey 1010
NAS	National Association of Shopfitters. 9, Victoria Street, S.W.1.	Abbey 4813
NBR	National Buildings Record. 31, Chester Terrace, Regent's Park, N.W.1.	Welbeck 0619
NCBMP	National Council of Building Material Producers. 10 Storey's Gate, S.W.1.	Abbey 5111
NEFMAI	National Employers Federation of the Mastic Asphalt Industry. 21, John Adam Street, Adelphi, W.C.2.	Trafalgar 3927
NFBTE	National Federation of Building Trades Employers. 82, New Cavendish Street, W.1.	Langham 4041/4054
NFBTO	National Federation of Building Trades Operatives. Federal House, Cedars Road, Clapham, S.W.4.	Macaulay 4451
NFHS	National Federation of Housing Societies. 12, Suffolk St., S.W.1.	Whitehall 1693
NHBRC	National House Builders Registration Council. 82, New Cavendish Street, W.1.	Langham 4341
NPL	National Physical Laboratory. Head Office, Teddington.	Molesey 1380
NSAS	National Smoke Abatement Society. Chandos House, Buckingham Gate, S.W.1.	Abbey 1359
NT	National Trust for Places of Historic Interest or Natural Beauty. 42, Queen Anne's Gate, S.W.1.	Whitehall 0211
PEP	Political and Economic Planning. 16, Queen Anne's Gate, S.W.1.	Whitehall 7245
RCA	Reinforced Concrete Association. 94, Petty France, S.W.1.	Abbey 4504
RIAS	Royal Incorporation of Architects in Scotland. 15, Rutland Square, Edinburgh. Fountainbridge 7631	
RIBA	Royal Institute of British Architects. 66, Portland Place, W.1.	Langham 5721
RICS	Royal Institution of Chartered Surveyors. 12, Great George St., S.W.1.	Whitehall 5322/9242
RFAC	Royal Fine Art Commission. 22A, Queen Anne's Gate, S.W.1.	Whitehall 3935
RS	Royal Society. Burlington House, Piccadilly, W.1.	Regent 3335
RSA	Royal Society of Arts. 6, John Adam Street, W.C.2.	Trafalgar 2366
RSI	Royal Sanitary Institute. 90, Buckingham Palace Road, S.W.1.	Sloane 5134
RIB	Rural Industries Bureau. 35, Camp Road, Wimbledon, S.W.19.	Wimbledon 5101
SBPM	Society of British Paint Manufacturers. Grosvenor Gardens House, Grosvenor Gardens, S.W.1.	Victoria 2186
SCR	Society for Cultural Relations with the USSR. 14, Kensington Square, London, W.8.	Western 1571
SE	Society of Engineers. 17, Victoria Street, Westminster, S.W.1.	Abbey 7244
SFMA	School Furniture Manufacturers' Association. 30, Cornhill, London, E.C.3.	Mansion House 3921
SIA	Structural Insulation Association. 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 5051
WDC	War Damage Commission. 6, Carlton House Terrace, S.W.1.	Whitehall 4341
ZDA	Zinc Development Association. 34, Berkeley Square, W.1.	Grosvenor 6636

No. 3143]

[Vol. 121

THE ARCHITECTURAL PRESS

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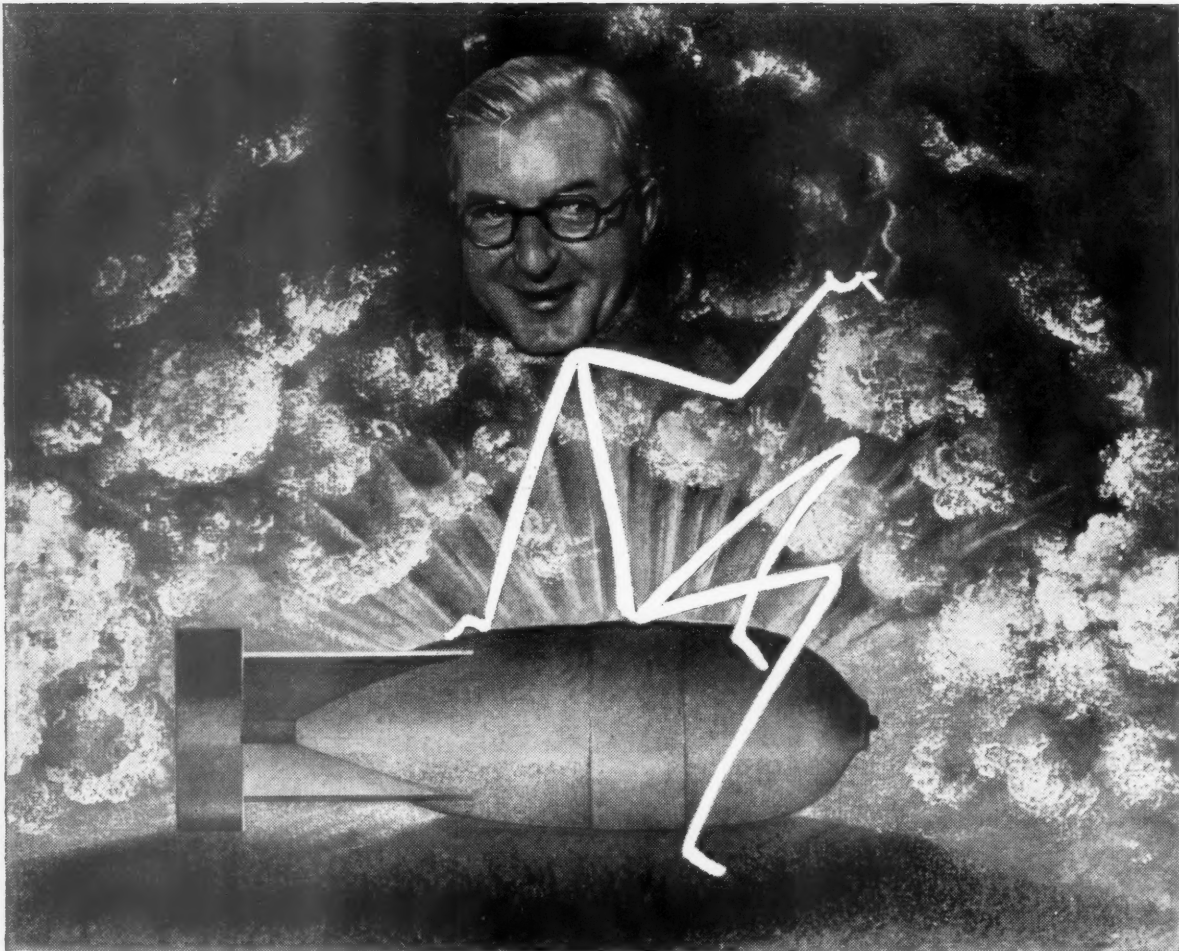
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MET



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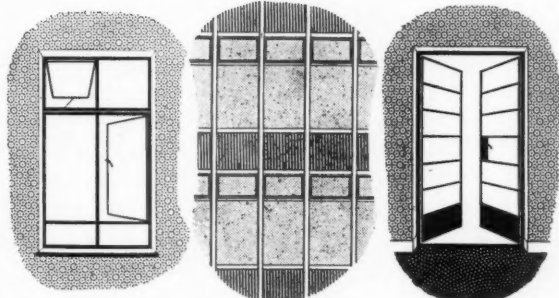
\* Major H. Yard supervises NEWCASTLE-UPON-TYNE 21353.  
NOTTINGHAM 52131 • LEEDS 21208 • AND SHEFFIELD 51594.

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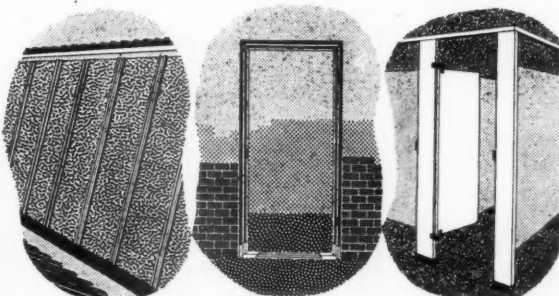
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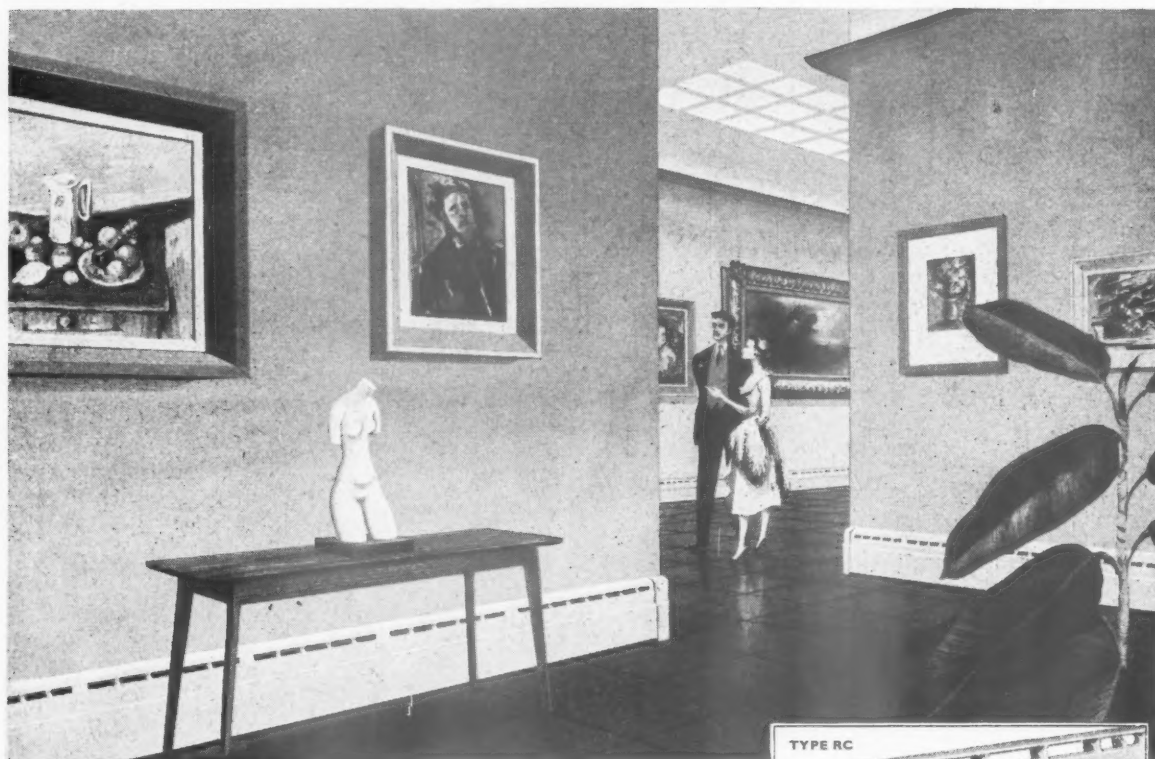


Aluminex

Metal Door Frames

Rosten Toilet Cubicles





Z.2

## The Crane skirting heating system

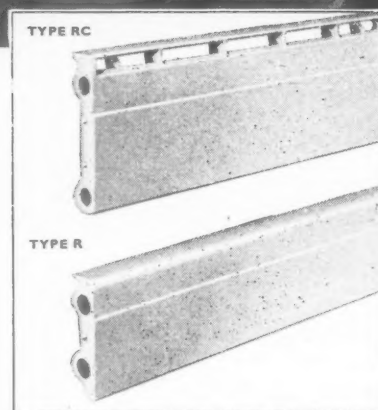
### INVISIBLE WARMTH—UNLIMITED SCOPE FOR PLANNING

ONCE INSTALLED—and that's quite a simple job—Crane Cast Iron Skirting Heating is virtually invisible! It simply takes the place of normal wooden skirting and can be decorated in any colour desired. It doesn't take up one square inch of floor space so there's plenty of scope when it comes to planning interior decoration. There are two types of Crane Skirting Heating—'RC' (Combined Radiant and Convection) and 'R' (Radiant). **Both distribute warmth evenly.** This is particularly noticeable along the outside walls and under windows where normally there is the greatest heat loss. The temperature gradient for type 'R' is only one or two degrees and for type 'RC' no more than two or three! Crane Skirting Heating can be used on hot water or low pressure steam systems. *Write to the address below for our free booklet giving full details of the Crane Skirting Heating System.*

**Outputs in B.Th.u.'s per hour per linear foot.**

Mean water temp. in heater	160°F				170°F				180°F				190°F			
Room Temp.	55°	60°	65°	70°	55°	60°	65°	70°	55°	60°	65°	70°	55°	60°	65°	70°
6" high Type R	200	185	175	165	225	210	200	185	250	235	220	205	275	260	250	235
9" high Type RC	510	470	450	420	570	530	510	470	630	600	570	530	690	660	630	600

*These figures were achieved in conjunction with a Crane Boiler*



The main illustration shows 9" high type 'RC' sections installed. This type is particularly suitable for offices and public buildings such as libraries and art galleries, etc. Also for rooms in private houses with large windows and low sills. Manufactured in 2' lengths only. The 6" type 'R'—for flats and houses—is also manufactured in 2' lengths. On walls where heating is not required, matching wood skirting can easily be included for continuity. Both types are normally delivered unassembled unless otherwise instructed. Standard pipe connections  $\frac{3}{4}$ "—both types. Crane Skirting Heating is designed for inclusion in buildings in the course of construction, but can also be installed in existing property.

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# THE ALUMINIUM CENTENARY EXHIBITION

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Organised by The Aluminium Development Association, this Exhibition marks the Centenary of Aluminium and illustrates its progress from a semi-precious metal into second place in volume of world consumption amongst industrial metals.

The Exhibition is designed to illustrate the many and varied applications for aluminium in industry today. Admission tickets are available on application to The Aluminium Development Association, 33 Grosvenor Street, London, W.1.



The British Aluminium Company, a member of The Aluminium Development Association, was founded in 1894. It pioneered both the electrolytic production and the fabrication of aluminium in the United Kingdom, and from the outset has played a leading role in the commercial development of the metal in this country and many other parts of the world. In addition to the service available through the Aluminium Development Association, the Company's Development and Technical Service Departments are freely available for consultation.

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Stowe School, from a recent painting by Felix Kelly



Stowe School, in Buckinghamshire, is a modern Public School founded in 1923. The central building dates from the 18th Century, when it was the home of the Temple family. Oil-fired space heating was installed in 1947.

## STOWE SCHOOL IS COMFORTABLY WARM EVEN IN WINTER

*It is heated easily and cleanly by oil fuel*

THERE ARE OVER five hundred boys at Stowe School in Buckinghamshire. They are fortunate enough to work in classrooms which are always kept at a comfortable temperature, however cold the weather may be. This temperature can be changed quickly and easily, just by setting a dial—because the School has an oil-fired space heating system.

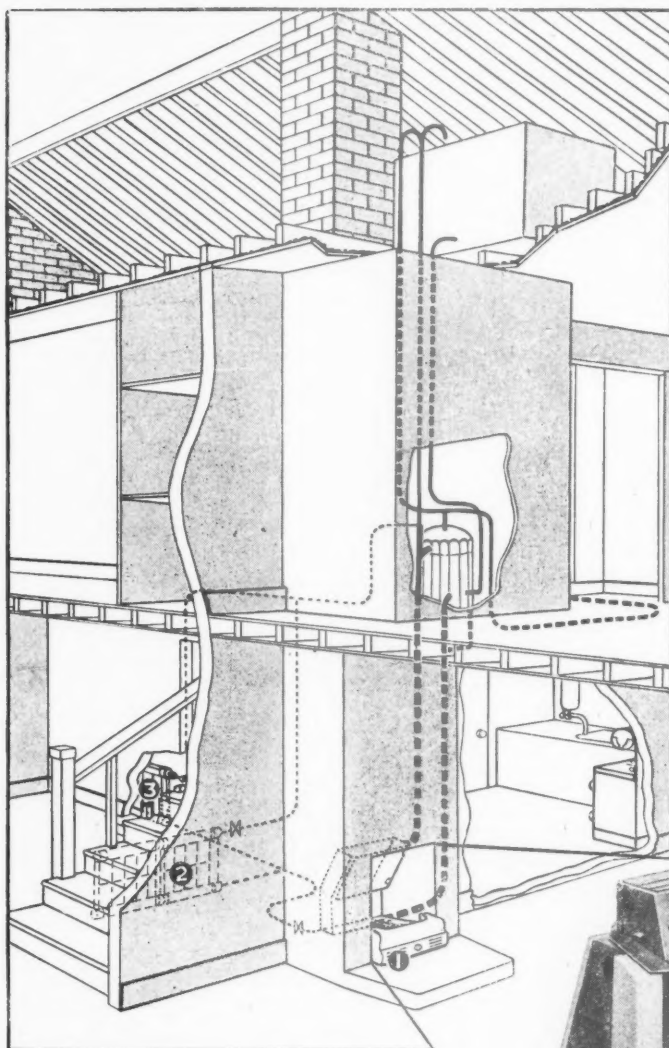
Ease of control, and freedom from

fluctuations in temperature, are by no means the only benefits of this most efficient of modern heating systems. Another advantage is simplicity of operation. There is no stoking to be done, and no ash to clear out. Then again, oil is a clean-burning fuel. And there are no supply problems.

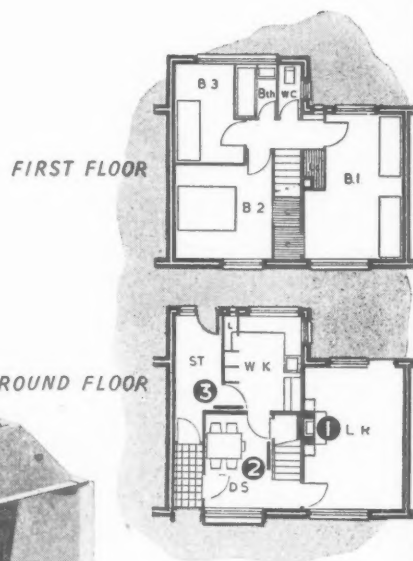
When you are designing or altering a largish building, whether private house

or office block, factory or school, it will be worth your while to consider making provision for an oil-fired heating system. If you would care for more detailed information about this most efficient means of heating space or water, please do not hesitate to get in touch with Shell-Mex and B.P. Ltd., Fuel Oil Dept. 10F, Shell-Mex House, Strand, London, W.C.2.

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**SMOKELESS  
OPEN FIRE**  
with large  
back boiler\*

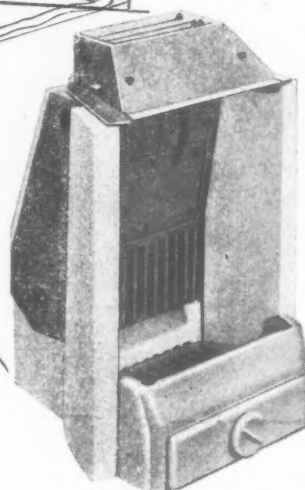


\***For MORE warmth  
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The smokeless open fire, with large back boiler, provides very greatly improved standards of comfort and is particularly suitable for "Large Living Room" and "Dining Hall" houses†. These fires will heat the whole living room, give supplementary heating up to 35 sq. ft. of radiator service including pipe run together with full domestic hot water service.

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† As recommended in "Houses 1952," H.M.S.O.



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2. Radiator in Dining Room.
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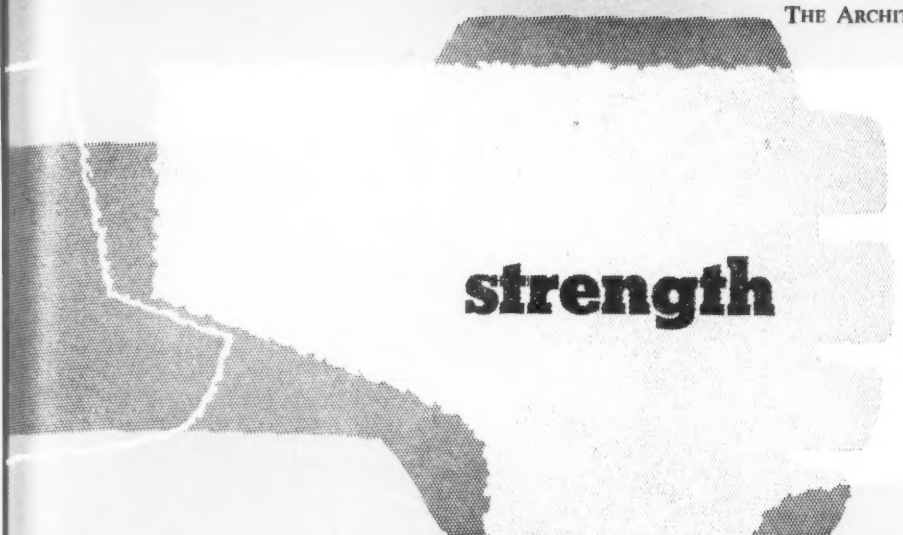
TELEGRAMS: "CAFFERATA, NEWARK"







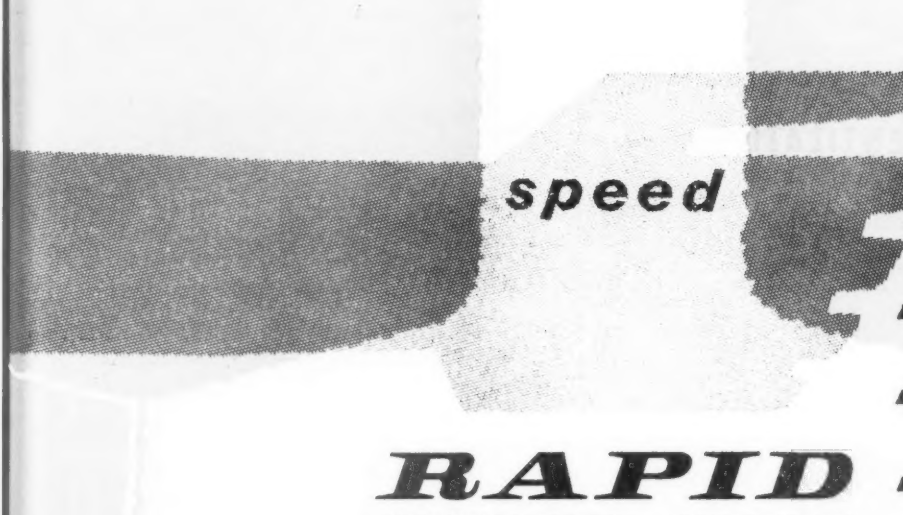




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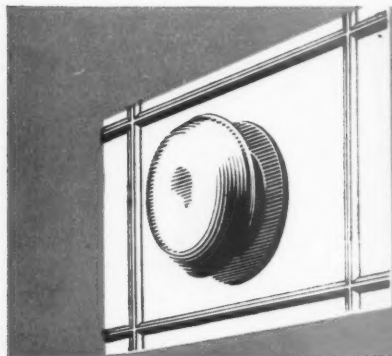
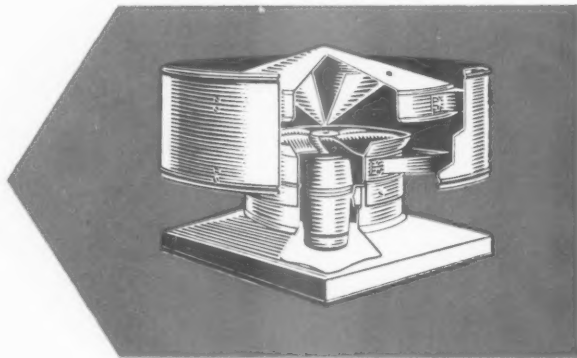
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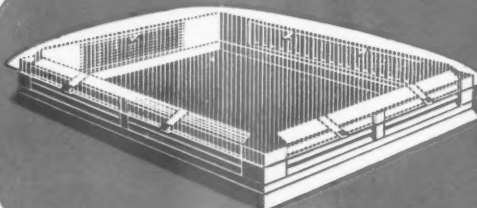


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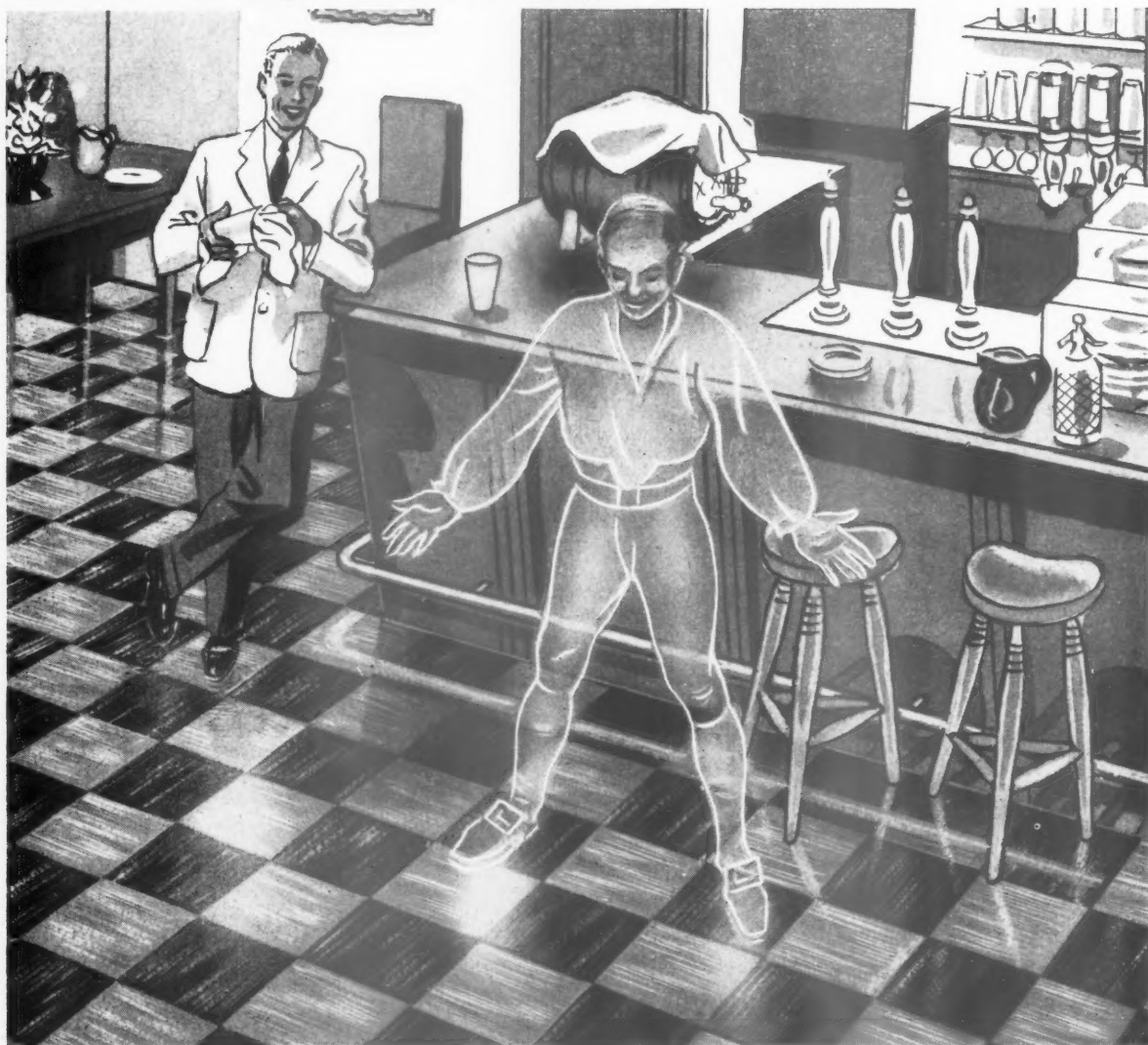
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*We deliver to all parts of England, Scotland, Wales and N. Ireland.*

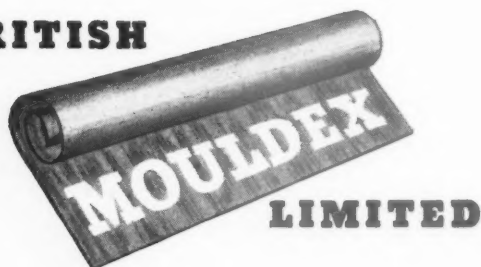


## *In Olden days...stone flags*



*but today for  
Beauty and Hard Wear*

**BRITISH**



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(AMERICAN TYPE)

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*British North Greenland Expedition chose*  
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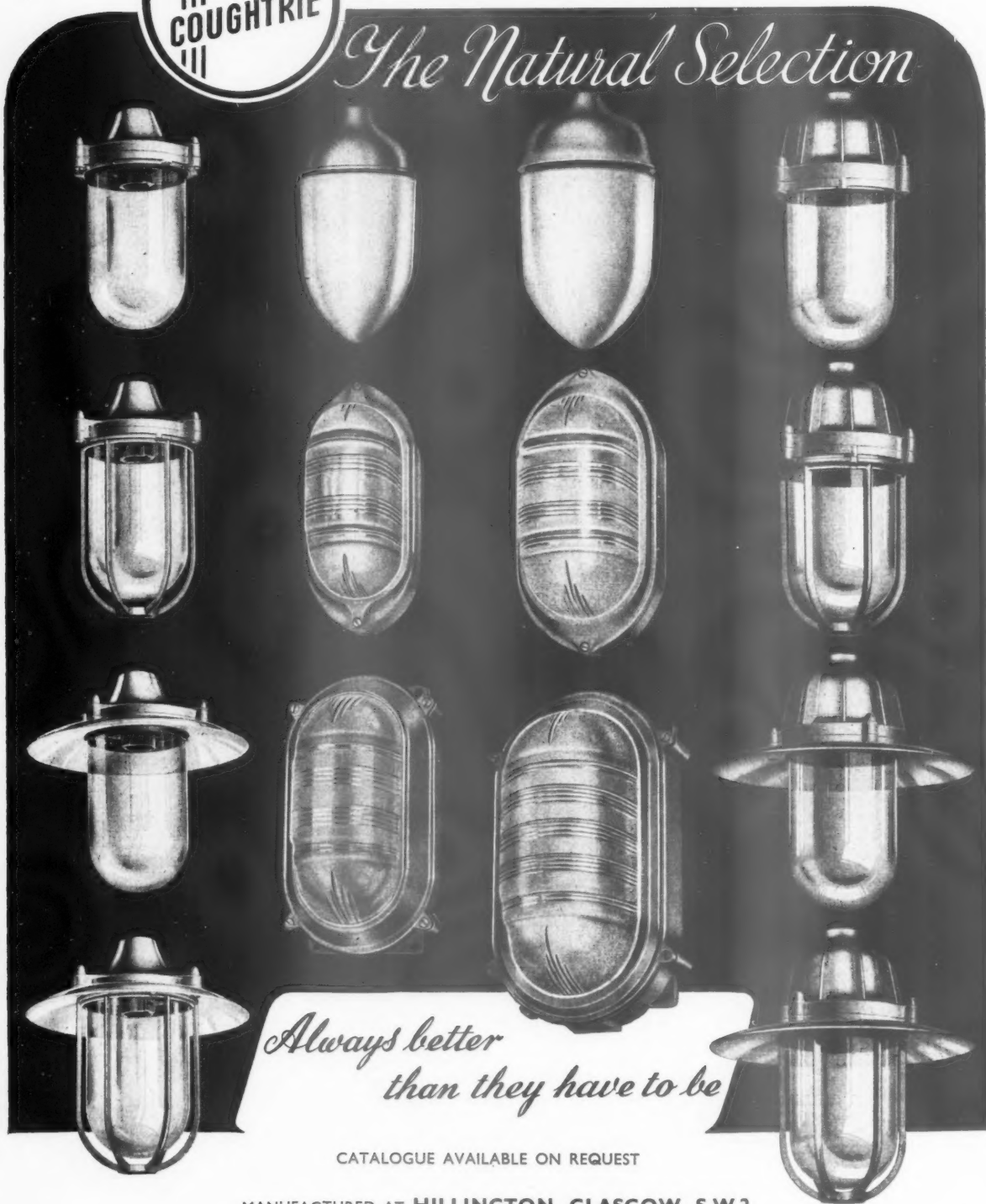
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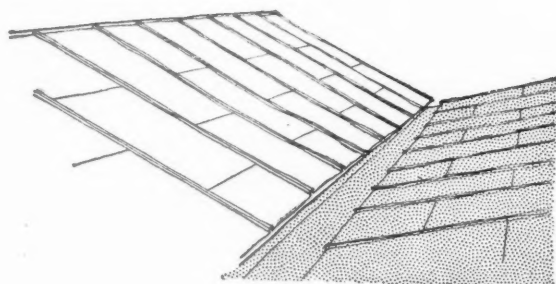
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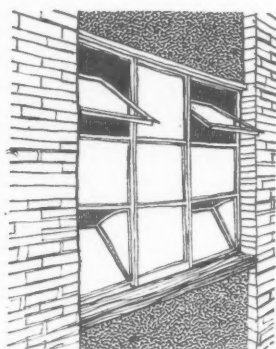
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# BRABY *metal products*

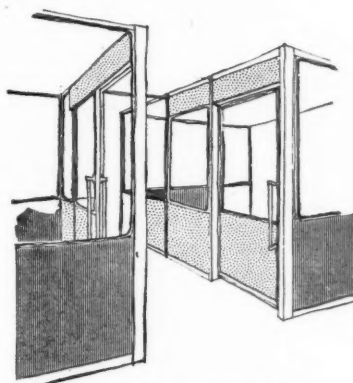
## for Building



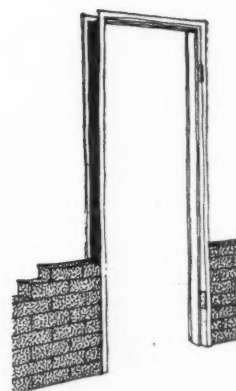
*Copper roofing*



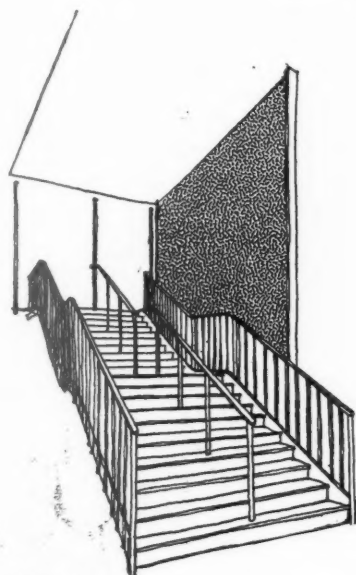
*Metal windows*



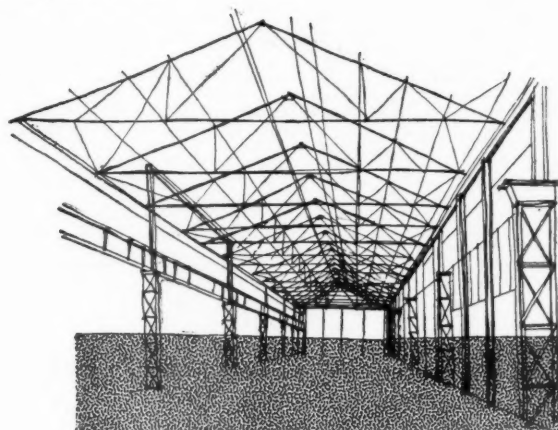
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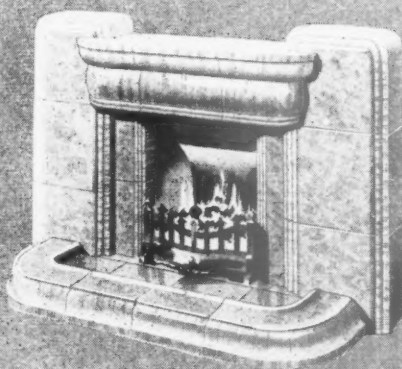
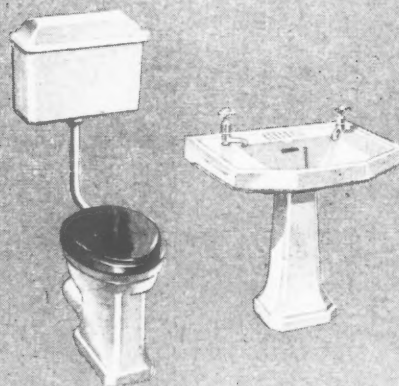
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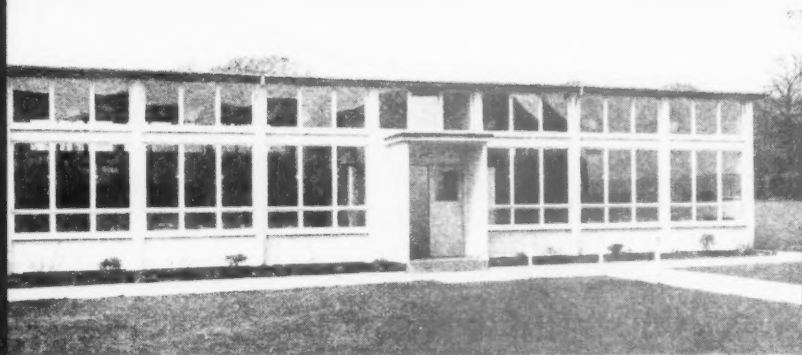
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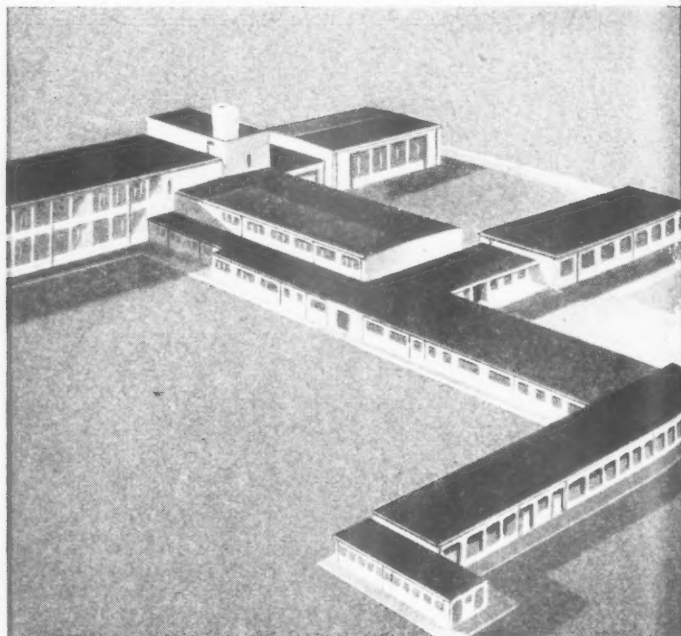
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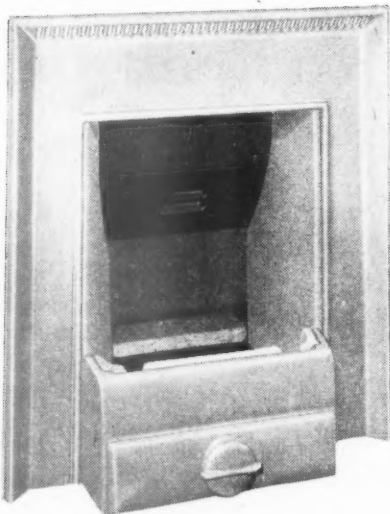


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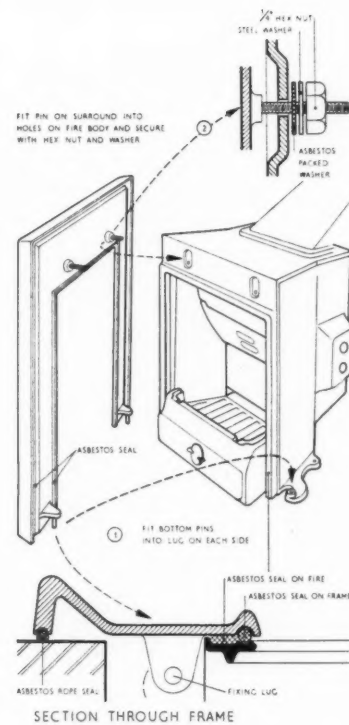


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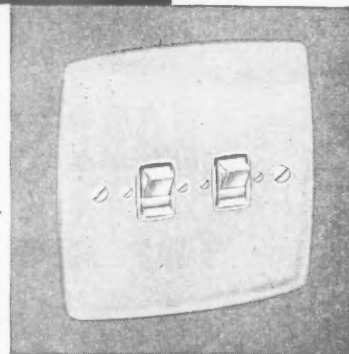
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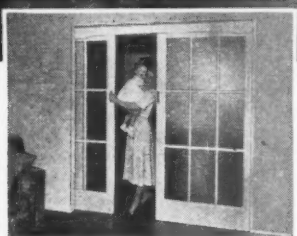
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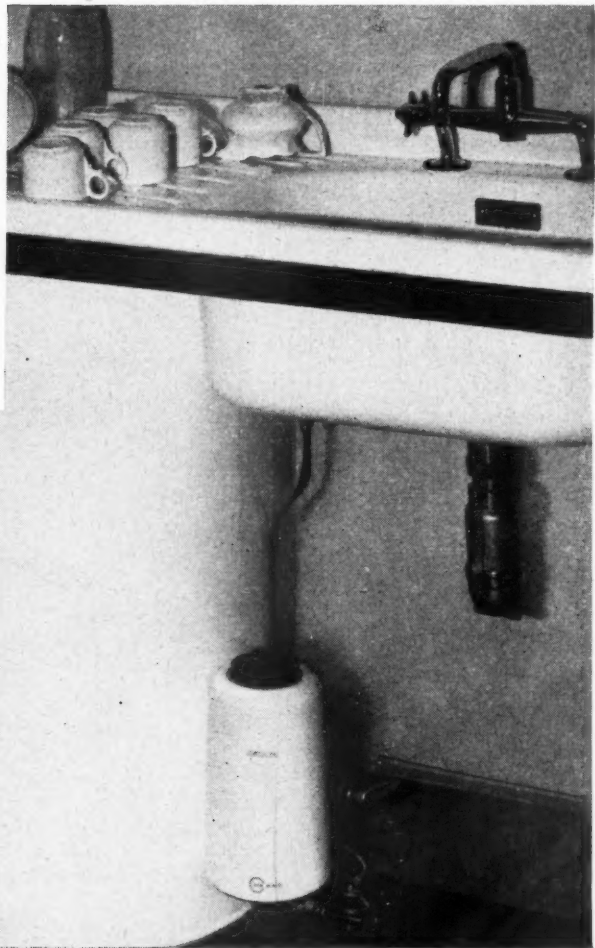
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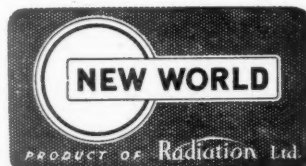
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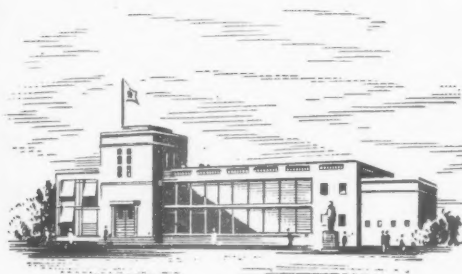
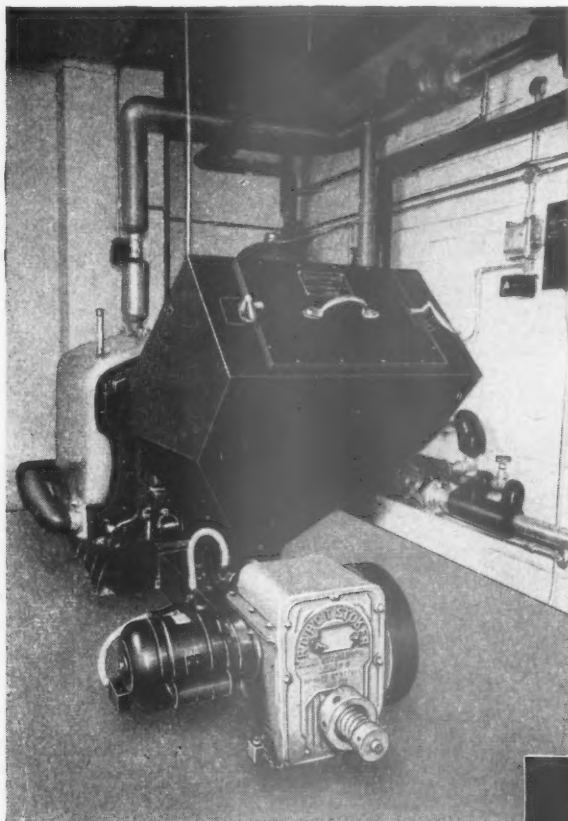
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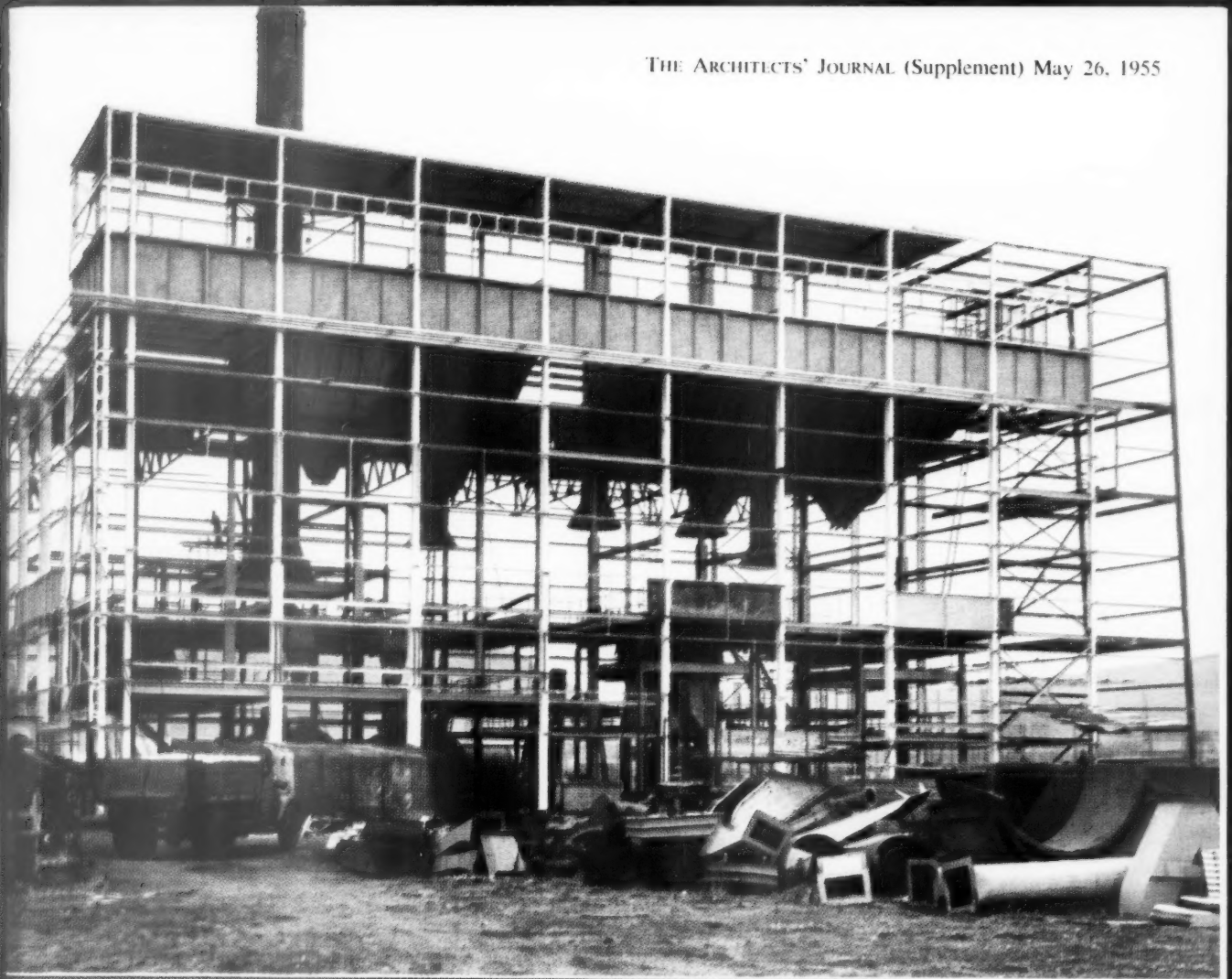






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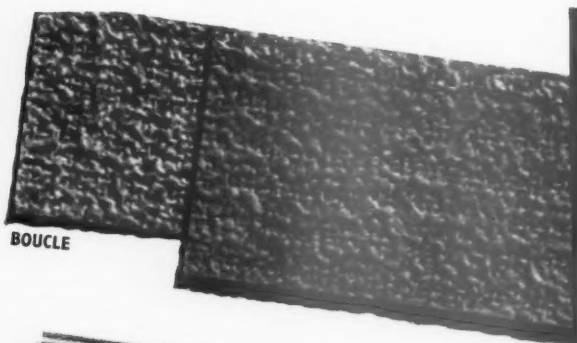
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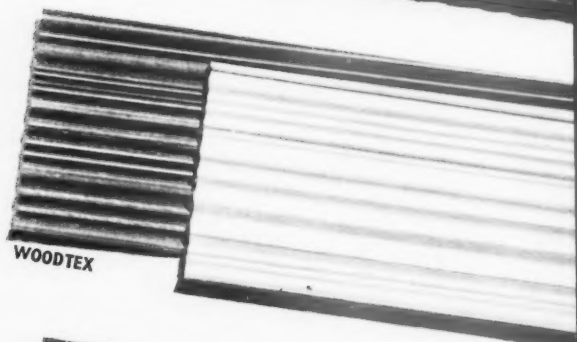
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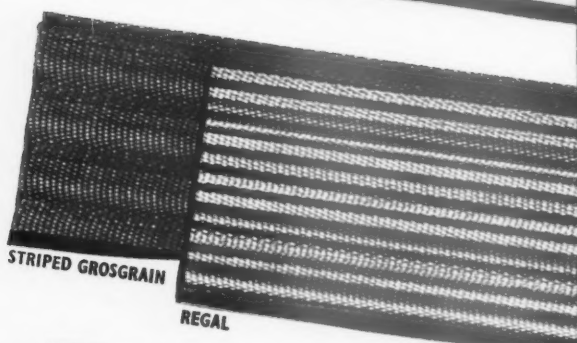
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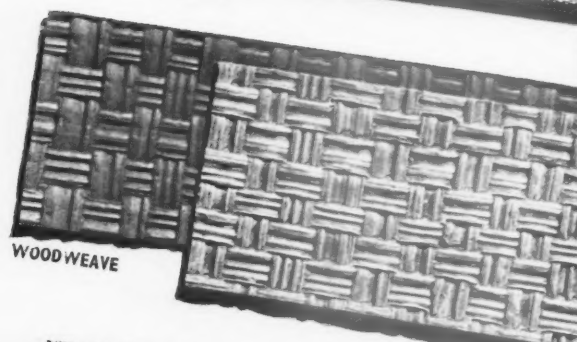


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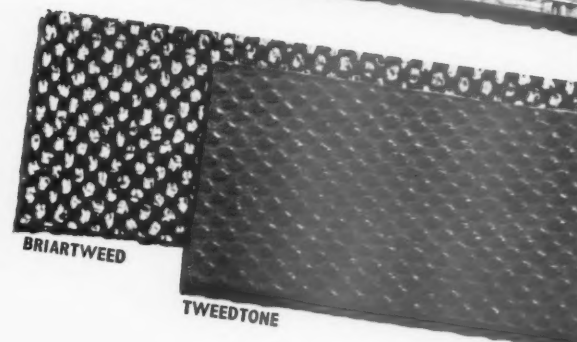


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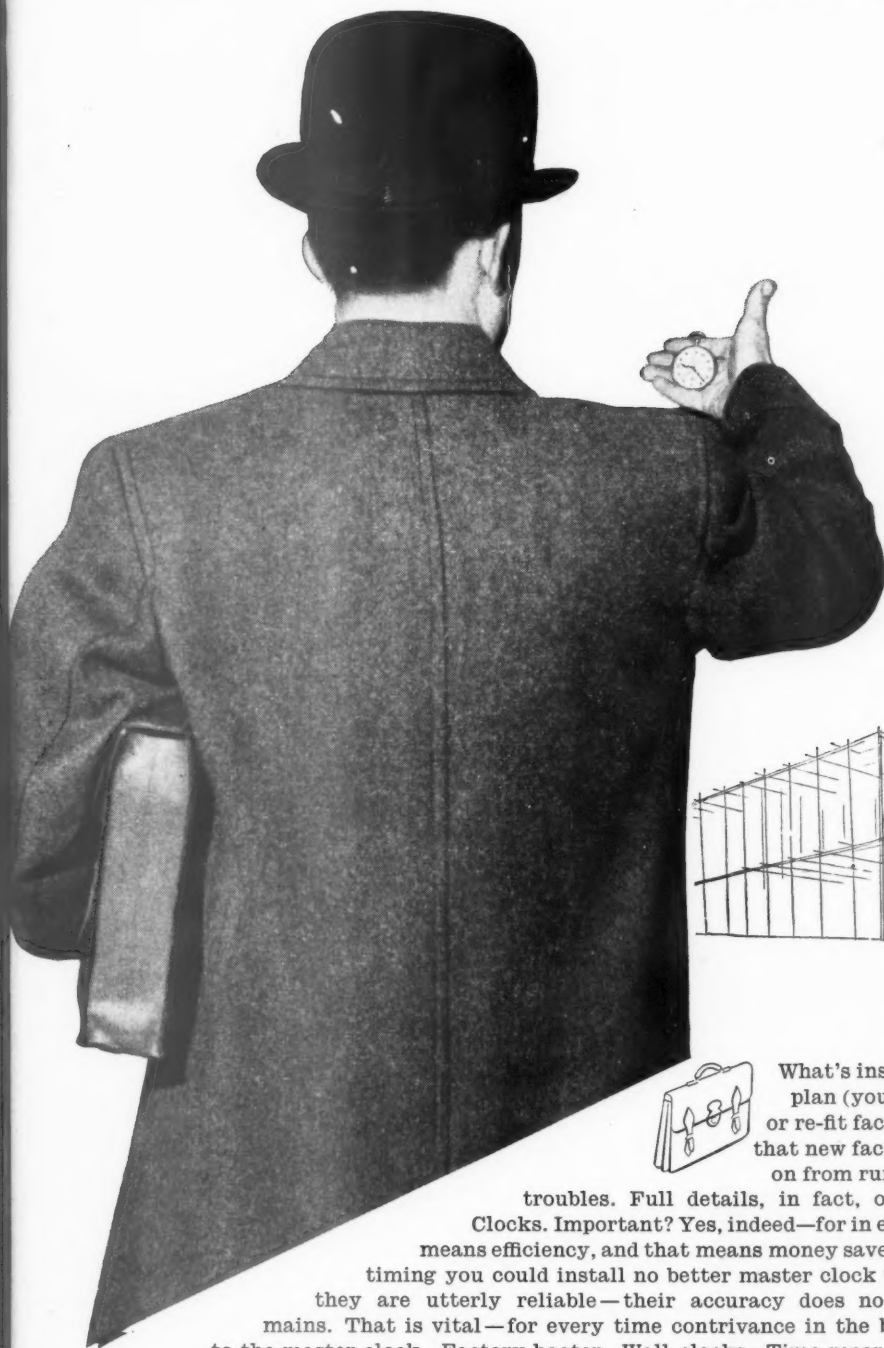


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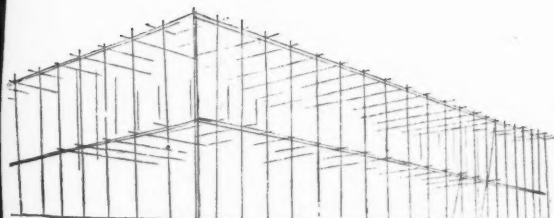






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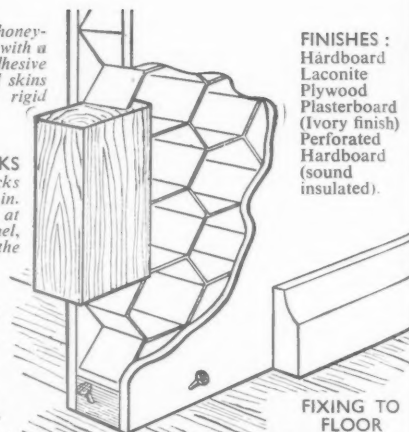
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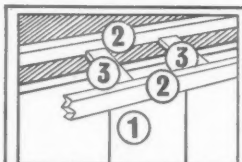
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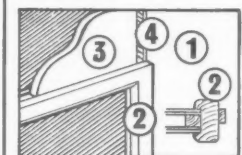
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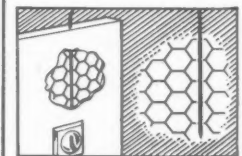
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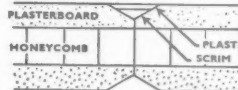


Door casings can be fitted anywhere in the panel. (1) Panel. (2) Door casing (also shown in section). (3) Panel above door. (4) Long stile casing cut back above door head to receive plaster board.



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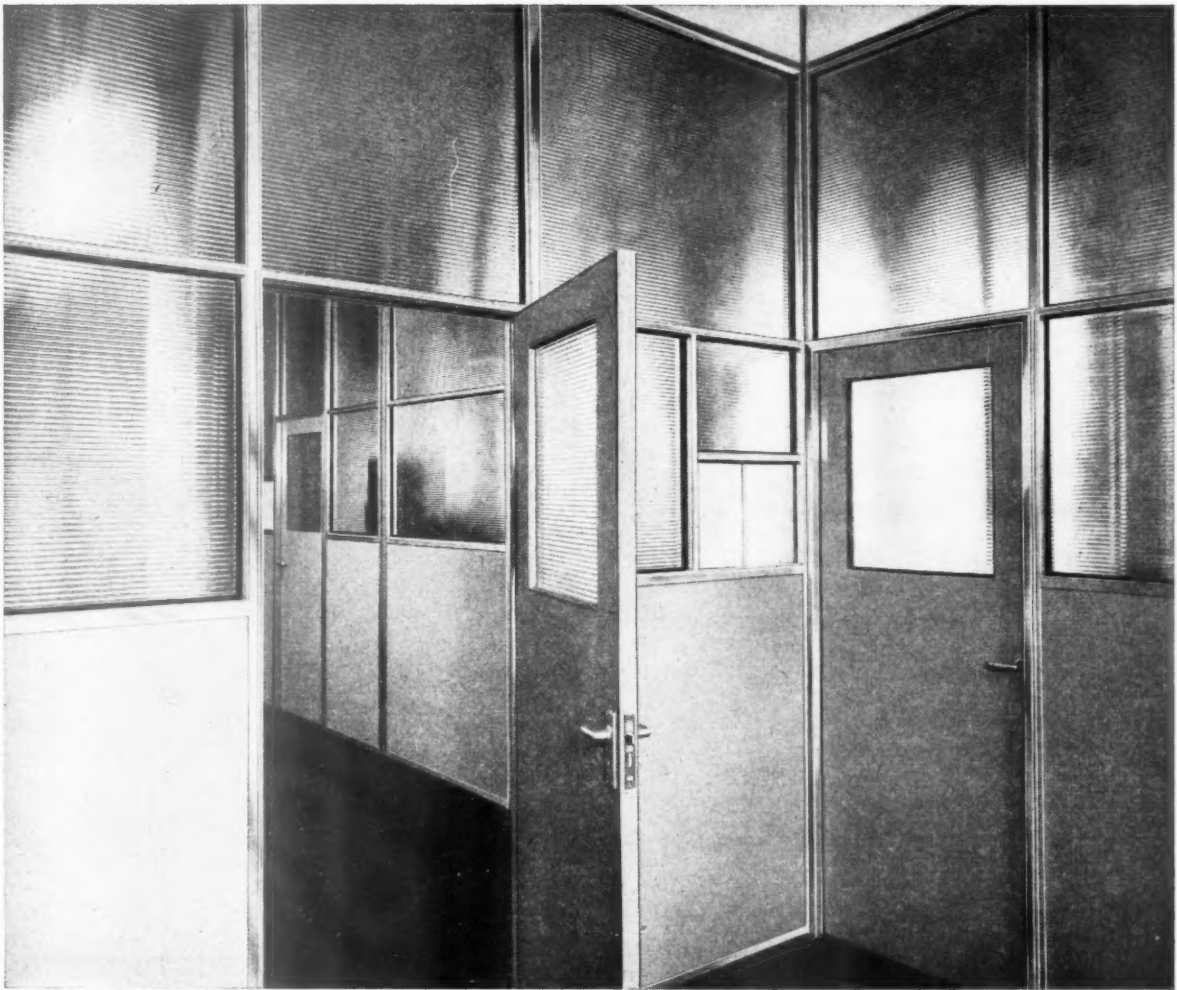
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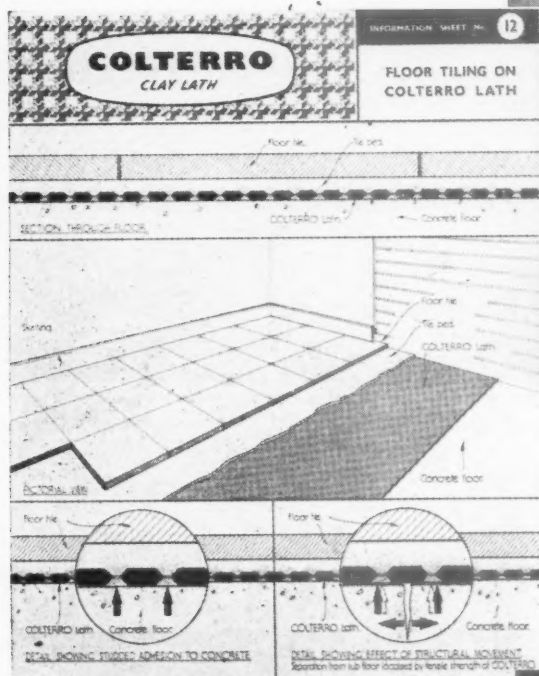
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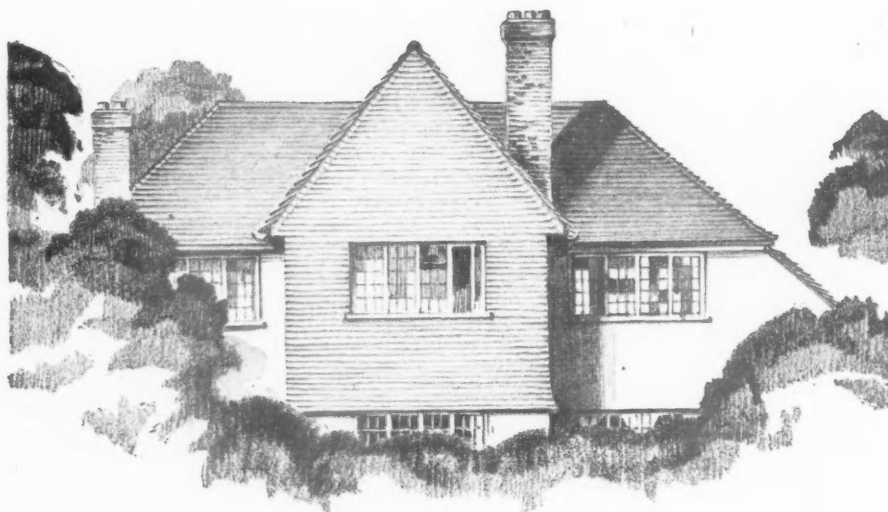
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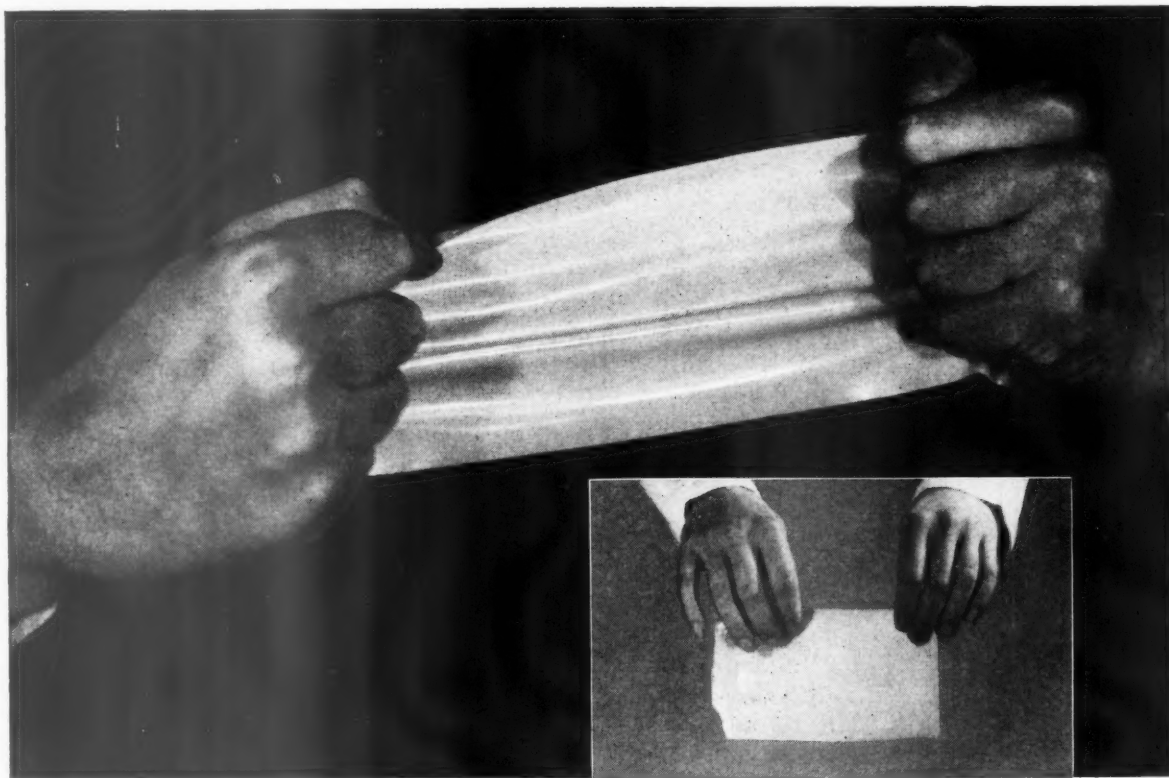
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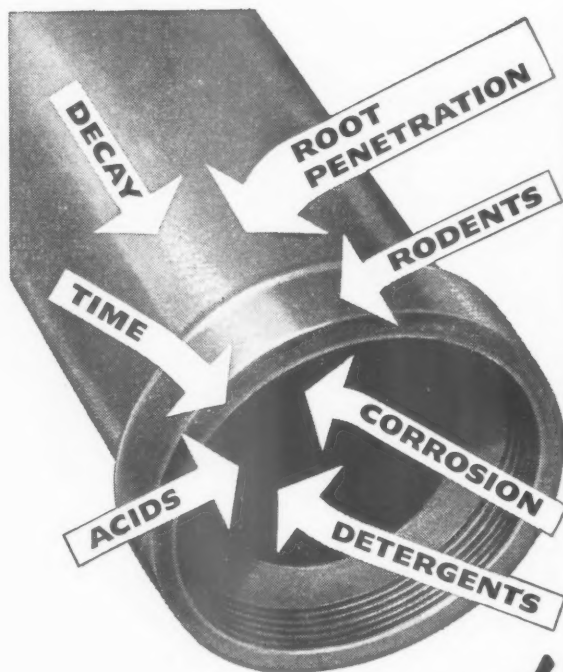
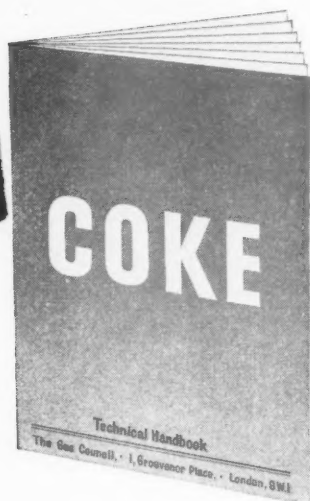
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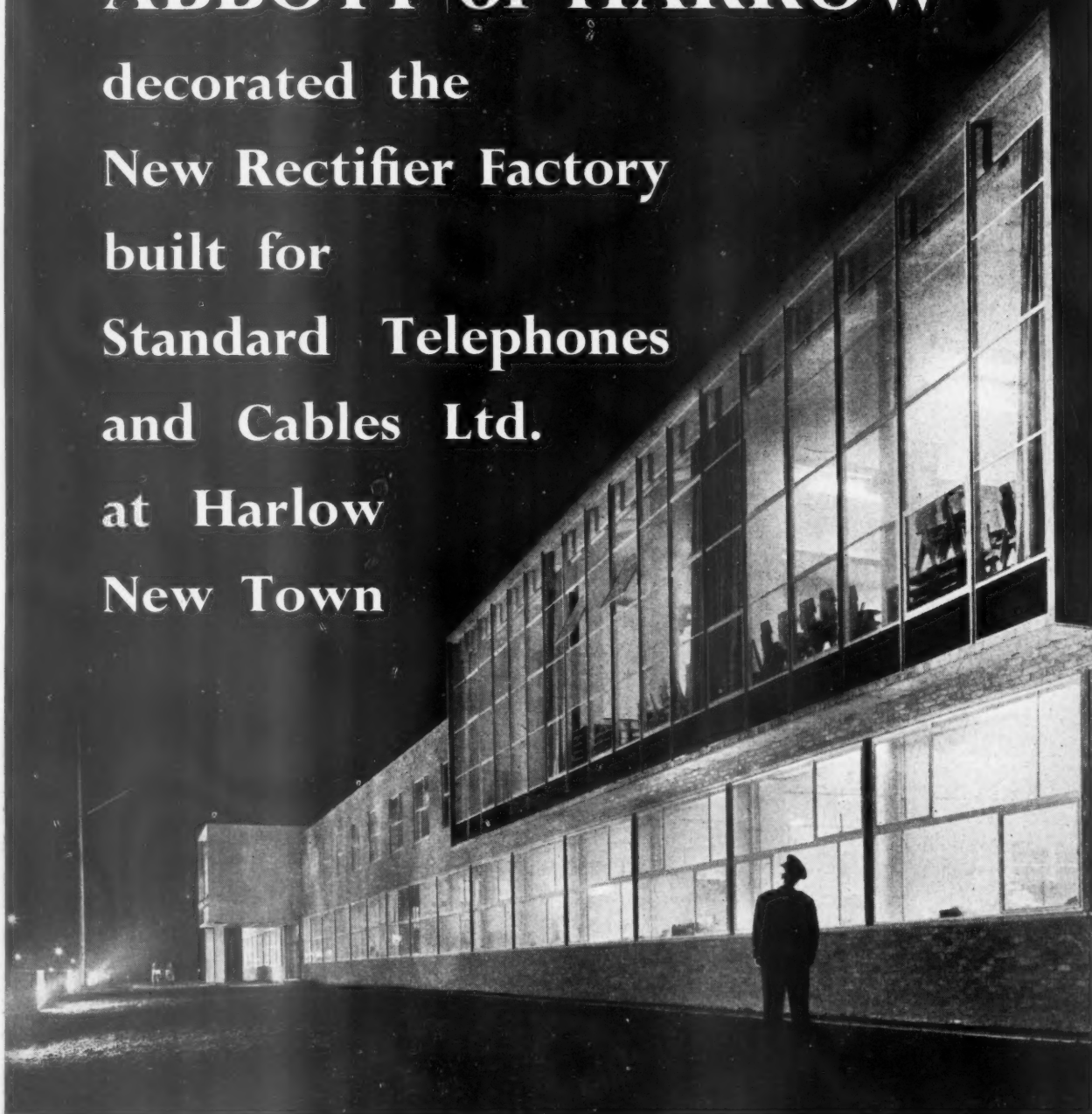
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Main Contractors: Wilson, Lovatt & Sons Ltd.

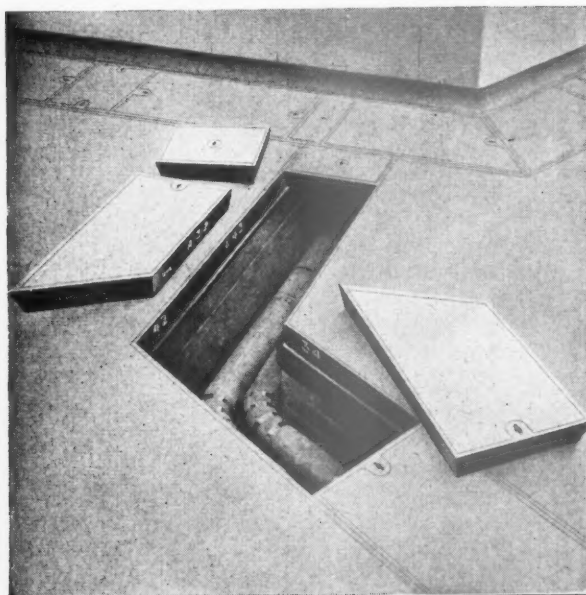
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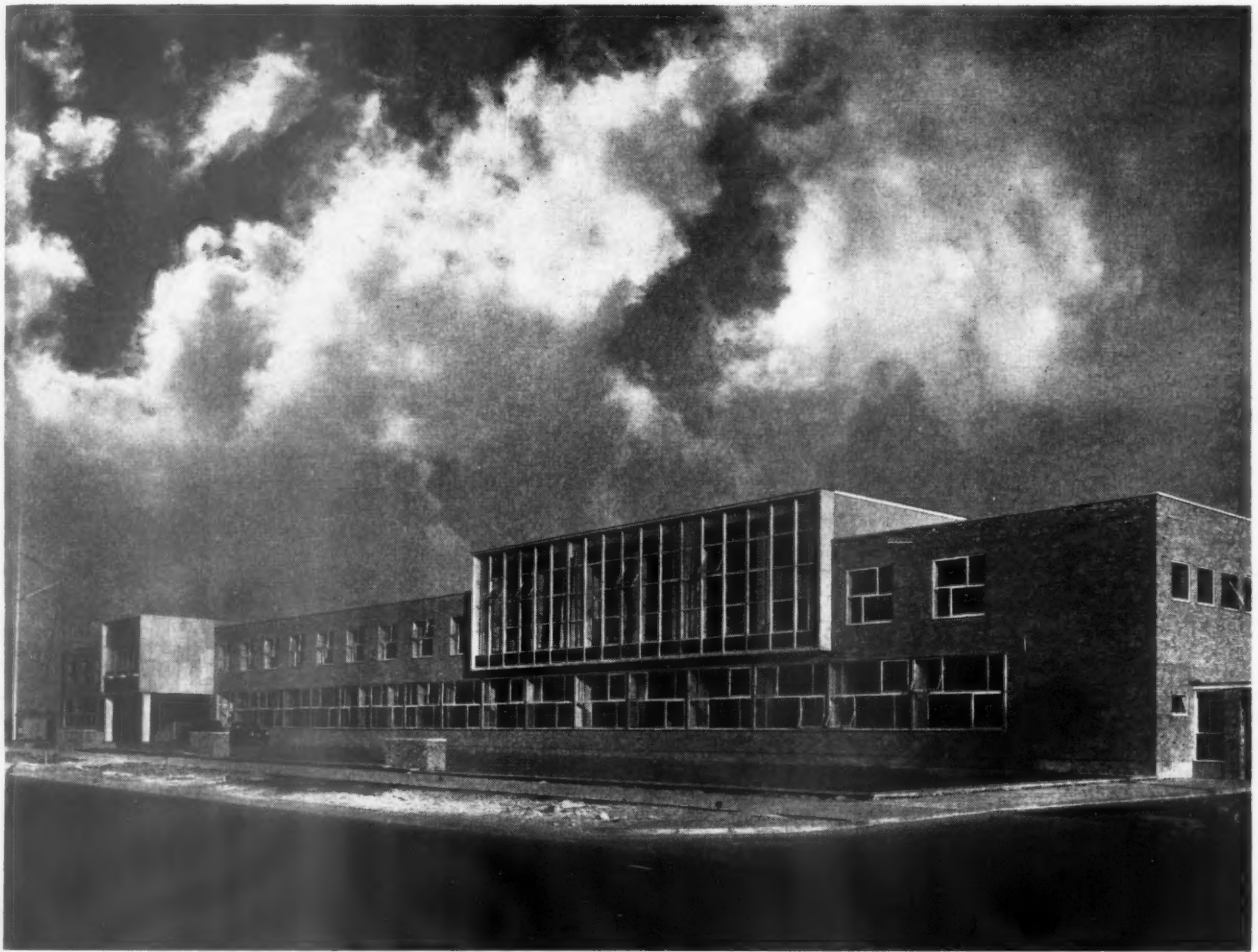
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*Acknowledgments to the Harlow Development Corporation.  
Architects: Fredk. Gibberd, C.B.E., A.R.I.B.A.  
Contractors: Messrs. Wilson, Lovatt & Sons.*

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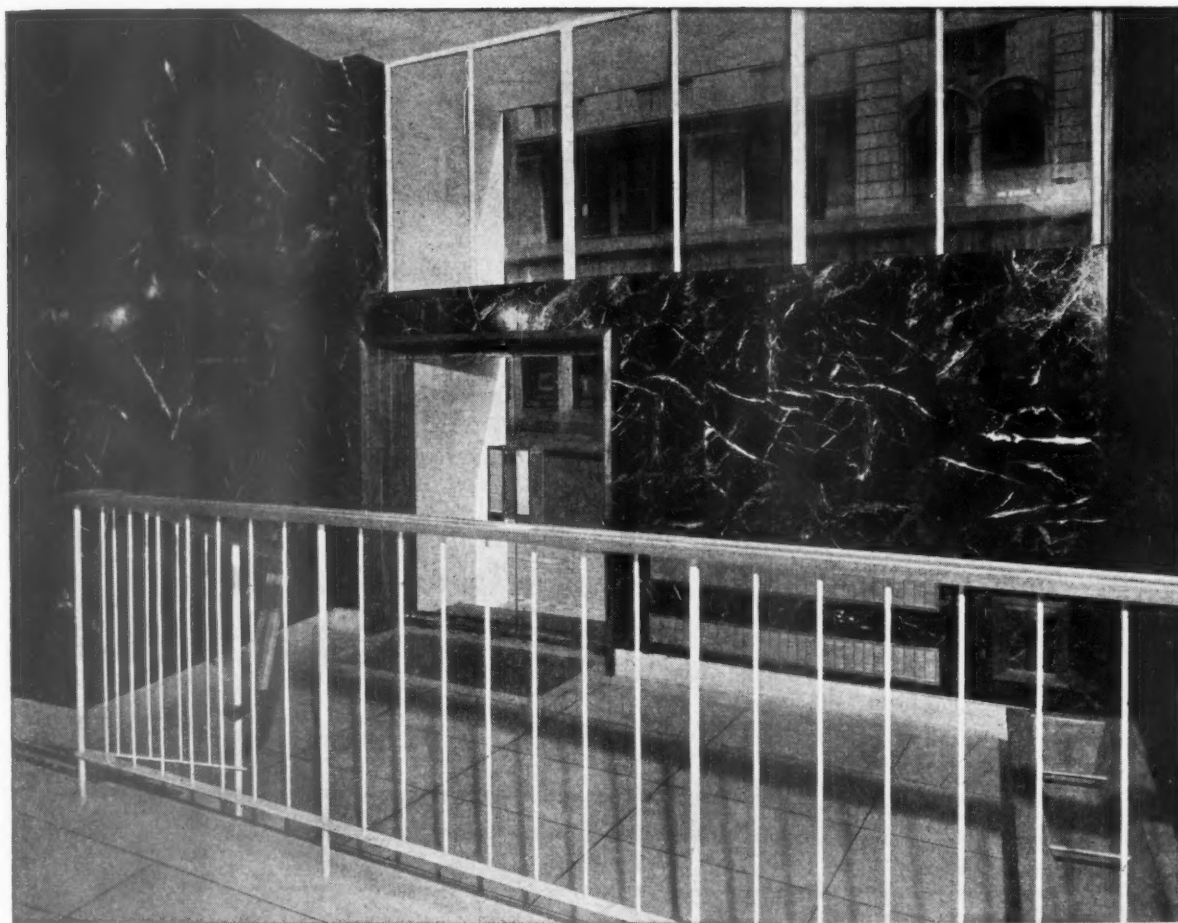
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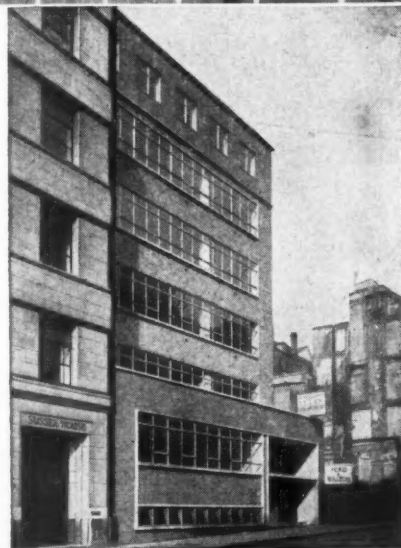
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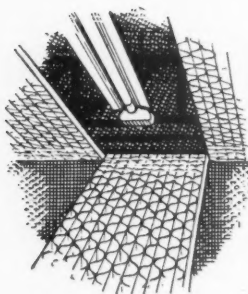
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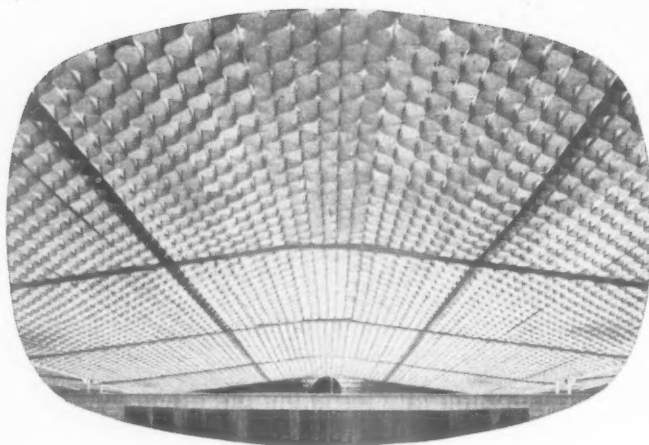
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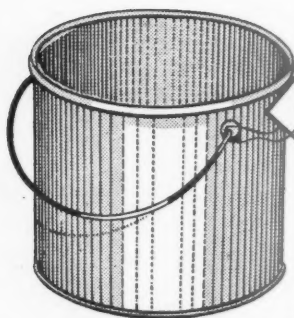
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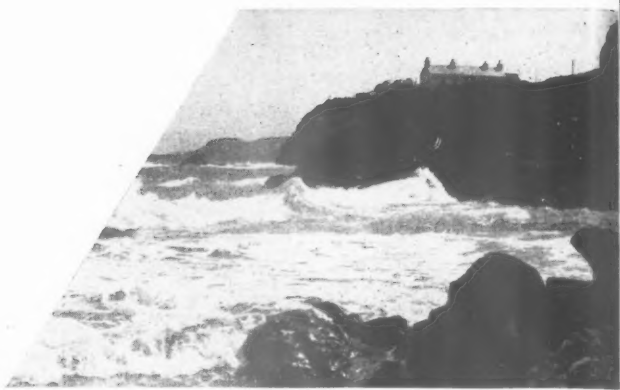
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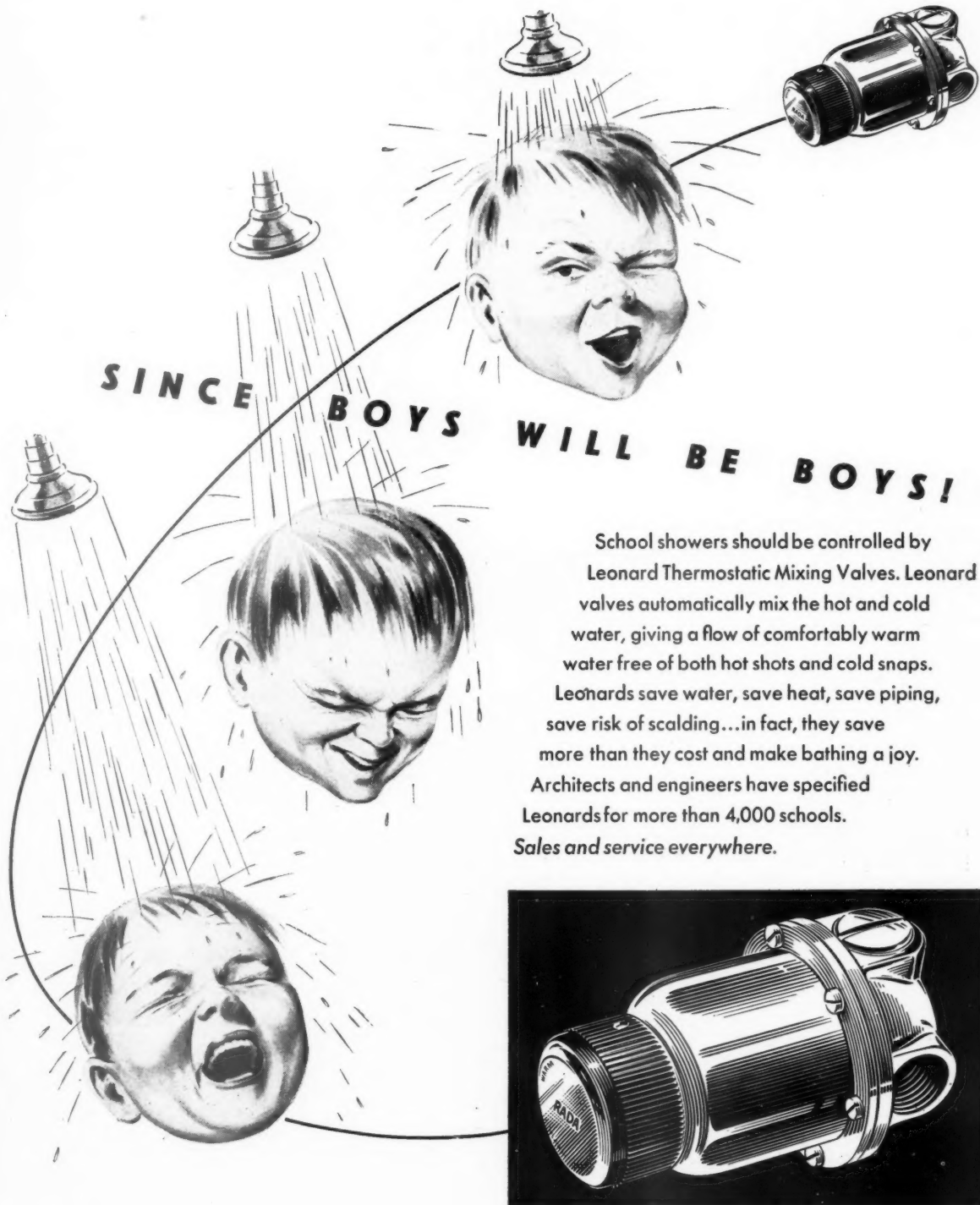
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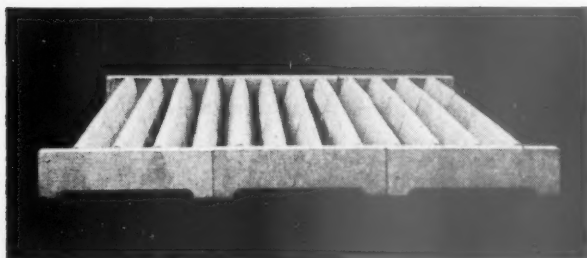


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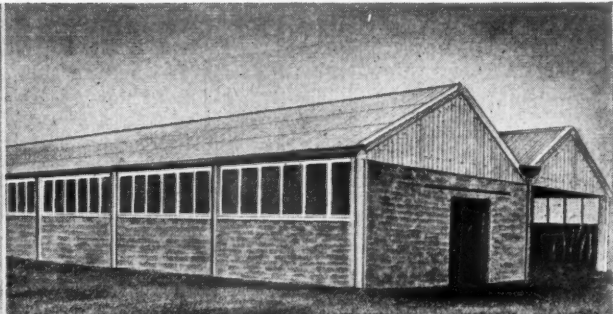
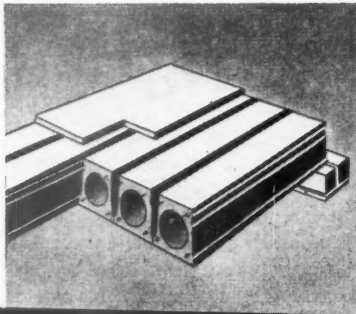
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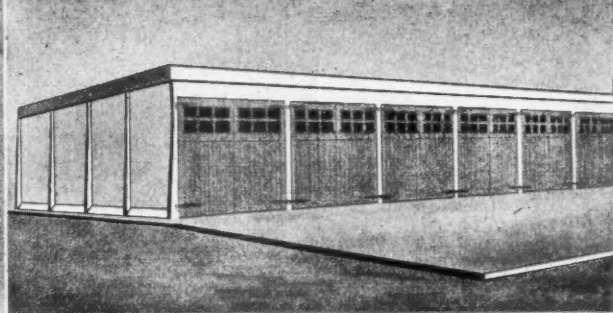
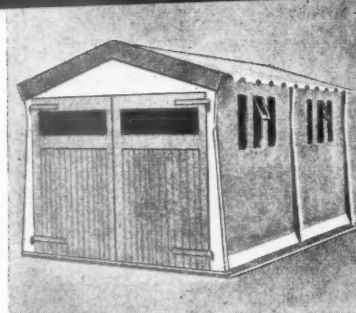
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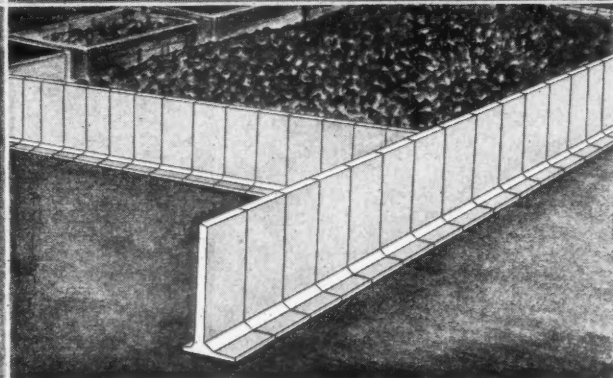
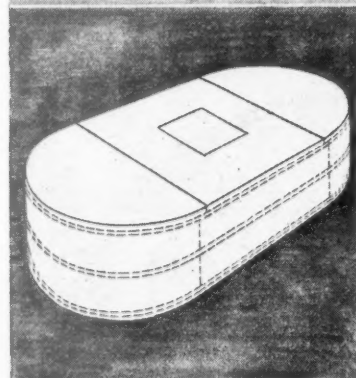
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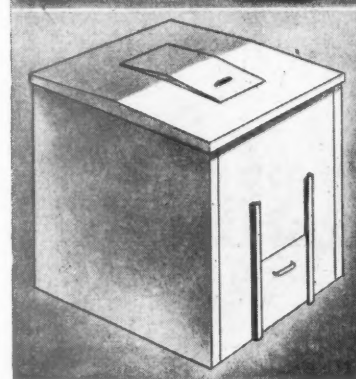
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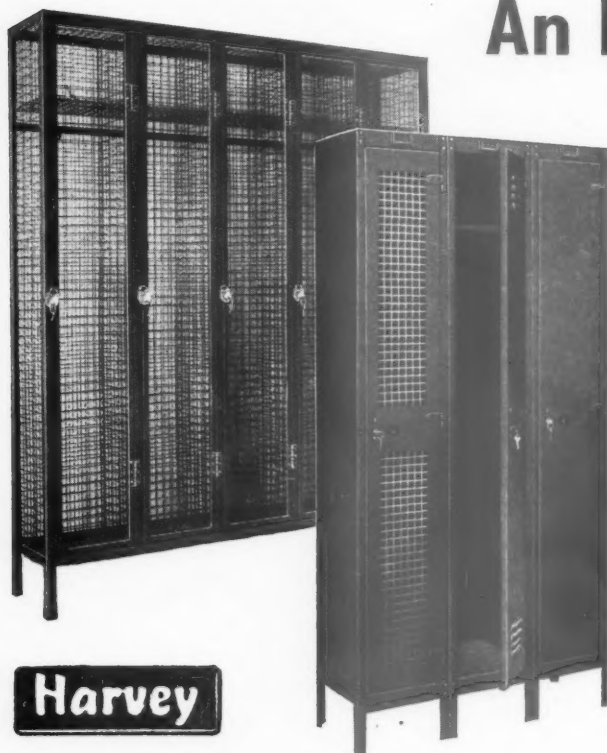
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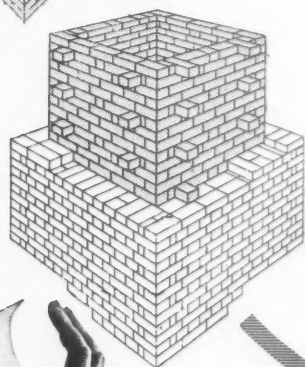
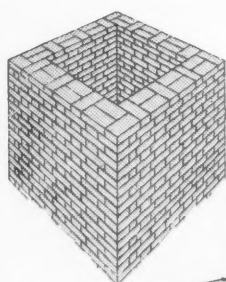
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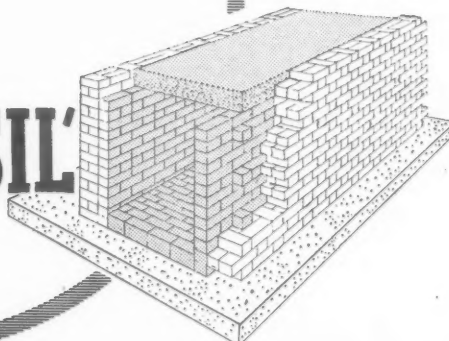
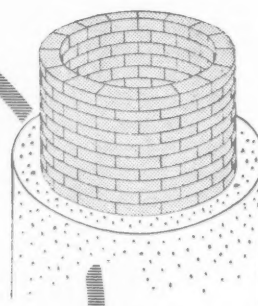
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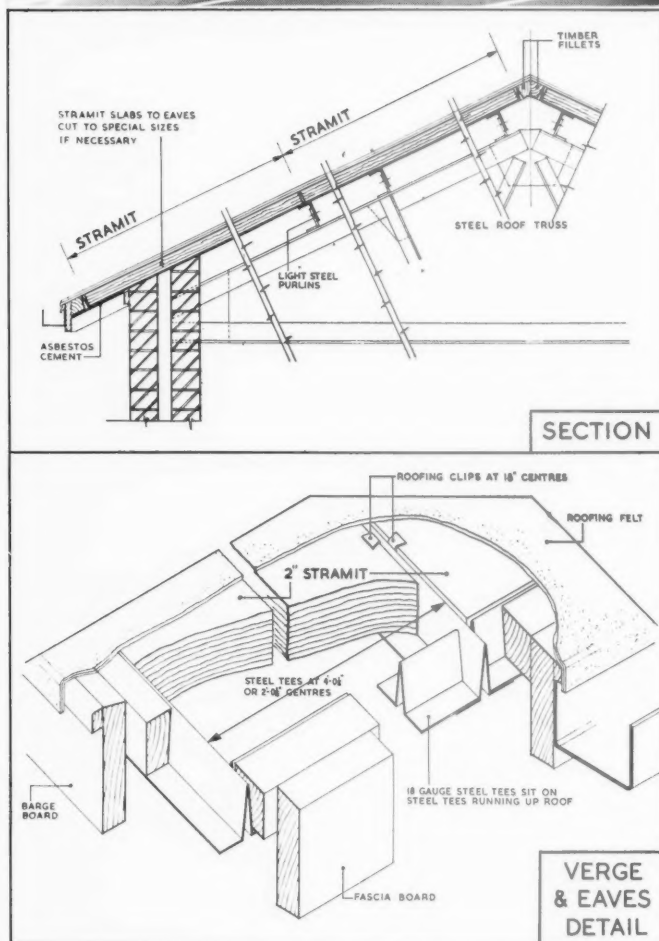
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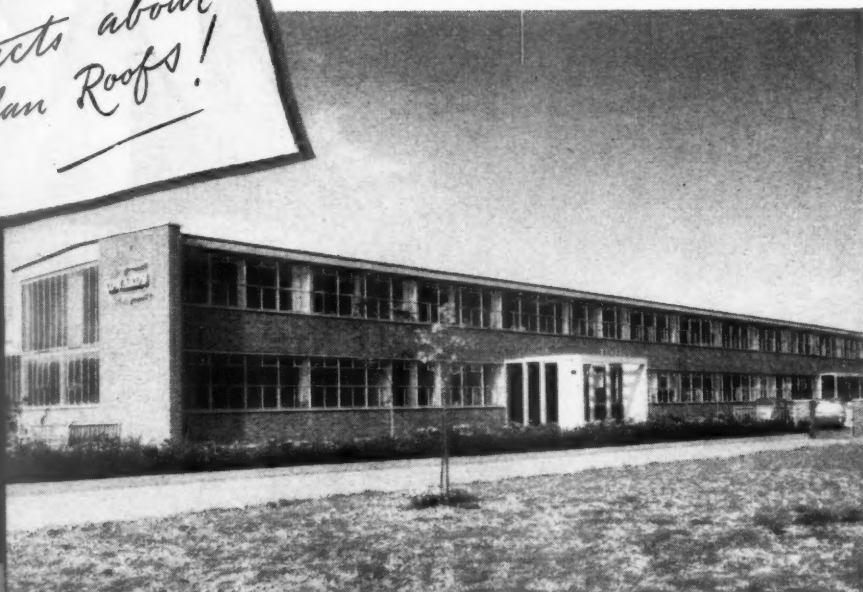
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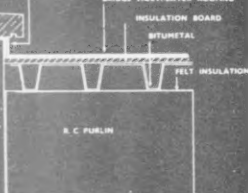
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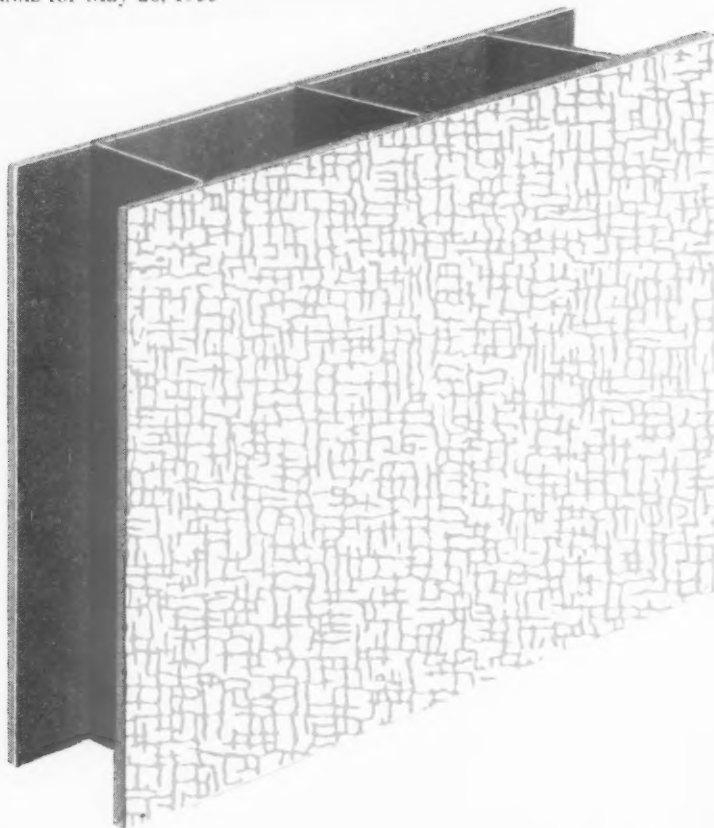


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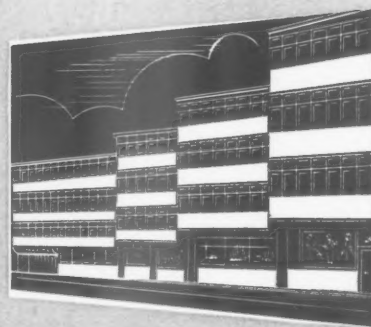
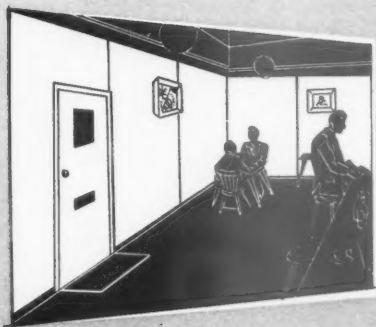
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# ELECTRIC HEATING

## THERMAL STORAGE BLOCK HEATERS

Electric thermal storage heating has many advantages and possibilities, some of which are considered in H.1, where its application to new buildings was discussed. There are, however, many existing buildings of varying types and ages to be found all over the country: they are admirably suited to this form of heating owing to their comparatively massive construction, and the difficulty and expense of installing traditional central heating. These and many modern buildings can be efficiently and economically warmed by electric thermal storage block heaters which are self-contained units.

This type of heater is designed to take electricity *only* at off-peak periods during the night when special low rates are available, and to provide continuous heating throughout the twenty-four hours.

### The Construction of the Heater

The construction of the appliance is very simple. It consists of an electric resistance heater of the required loading surrounded by heavy blocks of concrete or similar material to hold the heat produced. The assemblage of blocks is enveloped in a layer of efficient heat-insulating material such as fibreglass, and contained within a pressed steel casing. In spite of its considerable weight (which is essential for efficiency) it is not unduly bulky and occupies only a small floor area (see Table 1).

When the current is switched on, the heating element quickly reaches its working temperature, and heat is transferred to the storage blocks which gradually heat up. The layer of insulating material enables the blocks to be heated to a temperature considerably in excess of what is desirable at the surface of the heater, and to control the rate at which the heat stored is given off.

### Manner of Operation

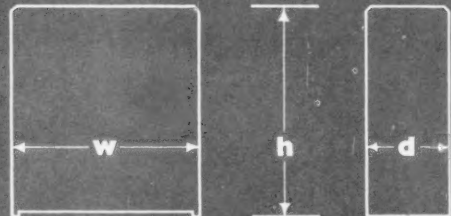
Electricity is normally consumed during the night only, 8 hours being the maximum period for which the heater is usually "on charge". Some heat is, of course, given off to the room during the warming up period, so that the output of heat to the room is continuous, though the amount given off varies over a wide range: see Fig 2. It may well be asked how an installation using heaters with such a varying output can maintain an even temperature within a room or building. The reason is that the structure of the building itself is also used for heat-storage: as the output of the heaters falls off, some of the heat energy absorbed by the structure during the period of maximum output of the heaters, is given up to the room. Hence lightly constructed buildings, i.e., those with low thermal capacity, are not suitable for this form of heating.

As a reduced heat output is necessary during mild spells, the heat input during the preceding charge period is reduced by thermostat. Although the night and early morning temperatures of the room are thus used to determine the amount of heat available for the following day, the results in practice are satisfactory, largely due to the considerable time lag between outdoor and indoor temperature movements induced by the thermal capacity of the enveloping structure.

### Control

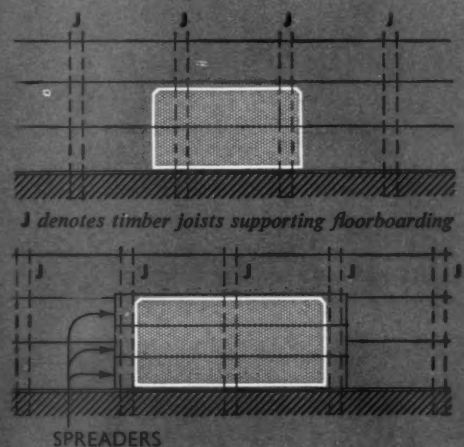
The most important feature here is the automatic time switch for ensuring that electricity is used only during off-peak hours (usually 11 p.m. to 7 a.m.): it is supplied and installed by the Electricity Board. For thermostatic control as described in the previous paragraph, ordinary room thermostats will be quite satisfactory for smaller installations and for individual rooms in large buildings. In large installations it is advisable to take direct account of the outside temperature: this can be done in various ways, and

**TABLE 1 BLOCK STORAGE HEATERS**

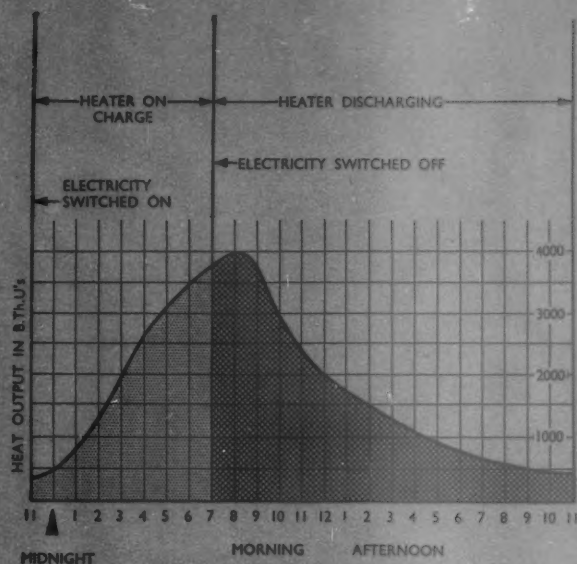


Loading kW	H ins.	W ins.	D ins.	Weight lbs. (approx.)
<b>Type A</b>				
1	29½	16½	11½	227
1.5	29½	26½	11½	400
2.25	34	26½	11½	470
<b>Type B</b>				
1	22	21	11	274
1.5	30	21	11	380
<b>Type C</b>				
1.5	34	30	13	350

*Some Heaters can be assembled on the premises. The others are delivered complete in returnable carrying cases.*

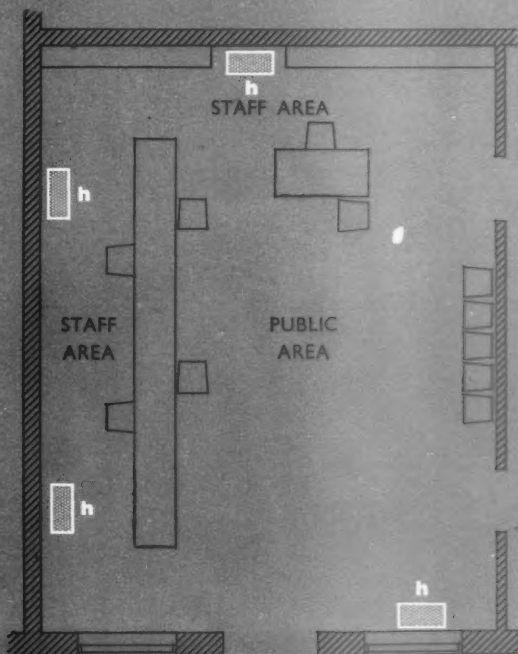


**Fig. 1 Support on suspended timber floors**



**Fig. 2 Heating and cooling characteristics**

*For typical 1½ kW model with 8 hr. charging period*



**Fig. 3 Layout of block storage heaters in an enquiry office**

*h indicates thermal storage block heaters*

the advice of the Electricity Board or manufacturers of the heating units should be obtained.

The socket outlets into which the heaters are plugged must be on a separate circuit controlled by the Board's time switch, and provision for thermostatic control should be made.

#### Number of Heaters Required

As a thermal storage block heater is not usually switched on for more than 8 hours out of the 24 — sometimes less — its rated loading is not a direct measure of the amount of heat given off or of electricity consumed, the thermal capacity of the building and its heat loss being controlling factors that must be taken into account when assessing the number of heaters required for a building of any size. Reasonable approximations can however be made for estimating purposes on the following lines.

For buildings of traditional construction occupied during normal working hours it is a safe general rule to assume that a thermal storage block heater of 1½ kW loading is equivalent to an ordinary 1 kW heater. This means that the total loading required in kilowatts will be one-and-a-half times that required for ordinary electric heaters (which is given by dividing the hourly heat loss of the building in B.Th.U.'s by 3410).

In the case of the majority of small installations simple rule of thumb methods will give satisfactory results. For shops, showrooms and similar situations where temperatures around 60°F. to 62°F. are required, the required service will be obtained from a loading of 1 to 1½ kW per 1,000 cubic feet. In offices and places where a slightly higher temperature is required, this figure may be increased to 1½ to 1¾ units per 1,000 cubic feet.

#### Estimated Consumption

The consumption of electricity will, of course, depend on the location and exposure of the building, its construction, the temperature maintained inside and the severity or otherwise of the weather. Consequently, it is only possible to give an approximate figure for the consumption of electricity over a full heating season: for shops and offices as discussed above this will probably lie between 1,200 and 1,500 kWh for every kilowatt of installed load.

#### Suitable Applications

All buildings of normal traditional construction are suitable for heating by thermal storage block heaters: the most obvious point that has to be considered is the weight of each heater, which for the 1½ kW size is around 400 lbs. The majority of suspended floors of joist and board construction will take this load if the heaters are arranged to bear on at least two floor joists — preferably three — immediately adjacent to their points of support: see Fig. 1. In case of doubt, spreaders can, of course, be used to avoid overloading an old floor.

These heaters can be used in many types of building, especially commercial and industrial premises, where continuous heating is required, and in the public rooms of hotels: they are not likely to be economical where the occupation is only intermittent. In the case of shops and showrooms, the heaters can be placed in the staff areas as indicated in Fig. 3. The staff will benefit from the direct radiation, while farther away, where the effective temperature is somewhat lower, the public will be equally comfortable. In this way the often conflicting needs of the staff in indoor clothing and the visiting public — in overcoats and staying for short periods — can be reasonably met.

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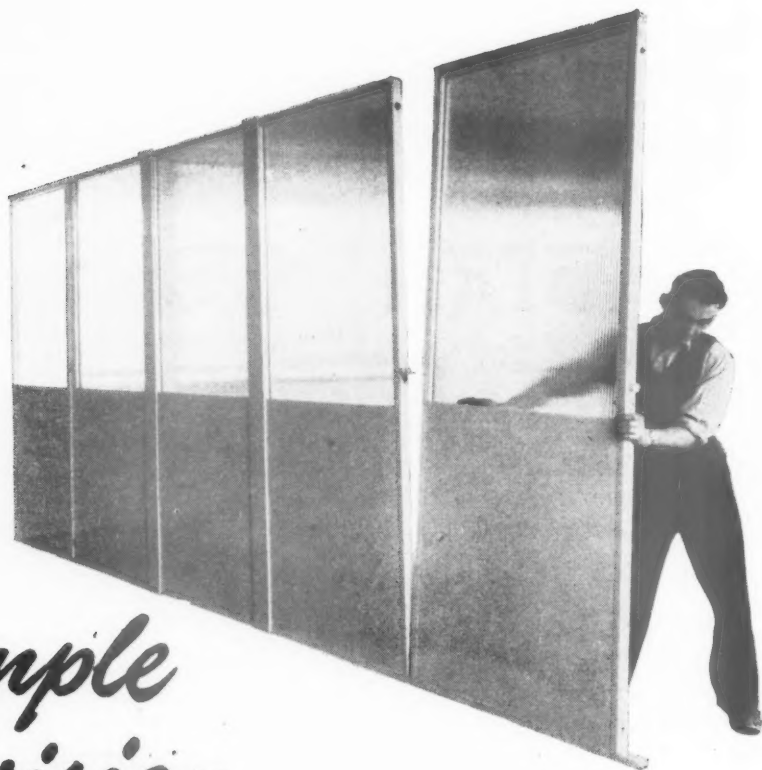


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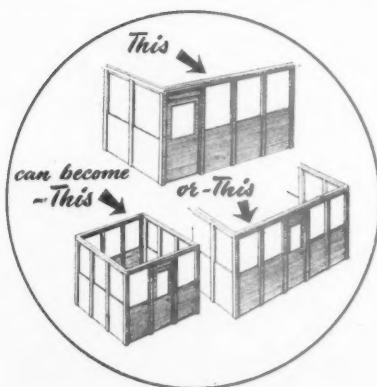
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No. 3143 May 26, 1955 VOL. 121

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## INTERNATIONAL EXHIBITION

The (relatively) young modern architects Cassidy, Farrington and Dennys have designed an attractive little twenty-screen exhibition for the fourth IUA Congress at The Hague in July. The subject of the exhibition and of the Congress is post-war housing and neighbourhood planning. The buildings shown were selected by the UK Committee of the IUA (a joint committee of the RIBA, as you'll remember with a mild start when you look in your RIBA calendar) and the exhibition was financed by the Building Centre, where it is now on view until June 4.

\*

Last week C. H. Aslin opened the exhibition and presented it, with a careful and worthy little speech on the

value of architects meeting internationally, to Sir Patrick Abercrombie, the IUA's *President d'Honneur*, who received it with similar phrases. The examples of housing shown on the screens are the rather familiar cream: Hatfield, Harlow, Pimlico, Wimbledon, and so on. You have seen them all in the architectural journals. Indeed it might have been easier and handier to have printed a booklet—readers know now how intolerant I am of exhibitions of fair-sized photographs on medium-sized screens. But such a pamphlet would have clashed with a book reviewing international examples of post-war housing which is being issued at the Congress, and which promises to be very interesting indeed. It will be fascinating to discover just how British housing matches up to that of other countries.

## A GHOST AT THE FEAST

ASTRAGAL was disappointed by the paper on Conditions of Building in City Centres which Sir William Holford read last week at the RIBA. It really started off on the wrong foot. Too many RIBA papers have begun with Wotton's tag, which was the only bit of history Sir William gave us—apart from three-minutes with Greece and Rome. Without even touching on 19th century economics he jumped quickly to an analysis of traffic problems and of the superficial nature of present ideas on the subject—and then he dealt with "design and lettable area" and "friction of space" (see page 700 to find out what that last phrase means).

\*

All this was clear, succinct and—needless to say—well-received. What, then, was the ghost at the feast? No one

knows better than Holford that the modern client is greedy and needs educating, and that he regards "art" as a hazard which he pays technicians to negotiate—with the RFAC or the Planning Authority. And no one knows better than Holford that the client—the product of 19th century economics—must, more than anyone, be controlled.

\*

That is why, some years ago, Holford and Holden were asked to plan the City. And no one knows better than Holford that the one dynamic way of solving the City's problem was the cartesian solution of Le Corbusier. (Holford actually said so.) That was the moment when Le Corbusier could, so to speak, have been brought into history as a reality. And now you see why there was a ghost at the RIBA feast the other evening.

## LUNCH WITH THE LORD MAYOR

At the LMBA's little annual lunch, to which one is asked in order to meet the Lord Mayor of London—and of course one never gets within a mile of him—the LMBA's president, L. J. Holloway, very sensibly used the occasion to publicize the point that economic building can best result from pre-planning. It is to be hoped that some clients, somewhere, noted the fact over their breakfast and *The Times*.

\*

The surprise of the lunch, however, was the determined way Lord Mayor Sir Seymour Howard demanded "planning very much more closely than we do now." By "closely" it was obvious from the context that he meant "precisely and positively," which leads

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one to hope that in the forthcoming appointment of a City Architect the opportunity will be taken to pick the right chap—if he's available. Quite obviously one does not want merely an ex-city or country architect who is eager for a rise in salary, but someone who, in his architectural activities has shown himself capable of persuading the client to set higher and higher standards, while at the same time producing more and cheaper buildings.

\*

The architects in this category can be numbered on one hand, but the value of the good such an architect could achieve, in handling building clients and, even more important, in negotiation with the planning section of that now near-paralysed body, the MOHLG, would be enormous, and would have repercussions in central areas throughout this close-packed land. Which is why, of course, ASTRAGAL would have liked really to meet the Lord Mayor at that excellent LMBA lunch.

#### GUIDE TO DESIGN

The industrial art bursaries—awarded annually to RSA students in various fields of design—give us a useful guide to the way the bright boys of design are going, because all student-work tends to reflect the current crazes for shape, colour and material, and the best student-work—or the sort that wins prizes—does so in an even more revealing way.

\*

This year ASTRAGAL finds that wall-paper and furnishing fabrics are patterned with overlapping, irregular geometries—a sign that such prominent recent work as Stefan Knapp's Kingston mural have not gone unnoticed. Electrical appliances show that COID's abhorrence of Borax is not shared by the bright young things, and plastics designs suggest that engraved Perspex is now unavoidable.

\*

One thing that caught ASTRAGAL's attention at the RSA's exhibition was the relationship of elevation and plan in shoes. Allowing for local variations, feet are much of a muchness in plan, and this is reflected in the premiated designs in the use of a standard convention for the shape of the sole, and the disposition of the ankle-strap in plan. But if Plan is the Generator in architecture, goodness knows what it is



*The ship that died of shame? ASTRAGAL was sent this photo by a friend in Belgium.*

in footwear, for the sole plan tells you hardly a thing about the treatment of the upper. Or do the theories of Functionalism apply only to what the fashion magazines gloomily refer to as "sensible" shoes?

#### INDUSTRIAL ART SURVEYED

When Professor Nikolaus Pevsner produced his survey of industrial art in England far too much work was being done by odd production men to the orders of sales directors. There were few design jobs for the few designers available, and the rewards for the few were small. After reading Michael Farr's follow-up survey\* one concludes that although more manufacturers agree that design is important and must be paid for, and there are more designers on the market, the rewards for designers have not kept pace with general salary increases.

\*

Mr. Farr has more to say than Professor Pevsner about what is, and what is not, good design. This is dangerous ground: an author must have vast technical knowledge if he is to cover widely-differing industries—from textiles to cars—without making mistakes. Mr. Farr makes a few, but he must have put an enormous amount of work into his book, which is virtually the only source of facts about the design profession and its clients.

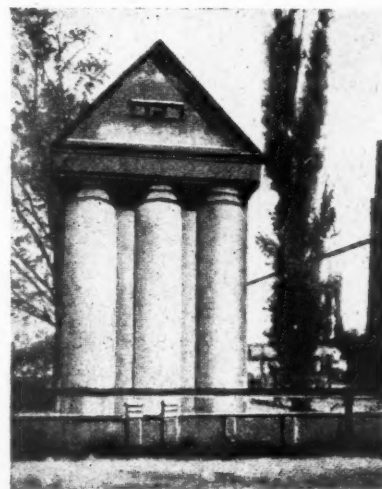
#### FAREWELL TO STEAM

Railway fans will already know all about the valedictory exhibition in the shareholders' room at Euston, commemorating the great locomotive designers from Robert Stephenson onwards. It is a remarkably interesting show, though ASTRAGAL would have

liked to see more about Brunel and Gooch and the broad-v.-narrow-gauge controversy. The models and photographs include present-day examples, including the latest diesel and electric locomotives which are adequate but hardly inspired in external shape or painting. With the reservation that labour can no longer be spared for brass polishing or elaborate paint lining, it is interesting to speculate what designers like Stirling or Johnson, who had an unerring eye for shapes, would have made of current designs. And what *would* they have said about B.R.'s lion?

#### WRIGHT REVISITED

Two solid squarish tomes, with big red squares on the dust covers and smaller red squares on the inside fly-leaves, have arrived on ASTRAGAL's combined desk, tea-tray and drawing board. They are not—as you will have guessed, in your clever way—about the Kremlin, but about Frank Lloyd



*Another example of something wanting not to seem what it is: a grain silo in Hungary.*

\* *Design in British Industry.* By Michael Farr. Cambridge University Press. £3.





## Symbolism Without A Steeple

In *The Future of Architecture*, a collection of discourses and lectures by Frank Lloyd Wright which has recently been published by the Architectural Press (50s.), the Master of Taliesin has gone on record with commendable frankness about his use of symbolism in architecture. Speaking of his Unitarian Church at Madison, Wisconsin, and illustrating his point with a characteristic gesture of the hands (left), he says: "Unitarians believe in the unity of all things. Well, I tried to build a building here that expressed that over-all sense of unity. The plan, you see, is triangular. The roof is triangular and out of this—Triangulation—(aspiration) you get this expression of reverence without recourse to the steeple. The building itself, covering all, all in all and each in all, sets forth—says what the steeple used to say, but says it with greater reverence I think, both in form and structure." ASTRAGAL comments on this on page 695.



Wright records domestic escaping paint—*Future* omnium interview periods larges c tecture everyth both b tremen

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soliloqu city; (b topical party.

\* Horizon  
† Architect

## POINTS FROM THIS ISSUE

Sir William Holford talks about city planning ..	pages 693 and 699
More letters about the RIBA and the Union question ..	page 698
Building education: board to be set up ..	page 699
Factory at Harlow New Town ..	page 704
Hertfordshire schools: a record of development work ..	page 717

## The Editors

## THE CINDERELLA OF DSIR

THE news, published in the BRS Report for 1954\*, that the advisory council of DSIR will not countenance a staff increase at BRS proportionate to that permitted to DSIR as a whole is very disturbing. True, the advisory council has sanctioned a staff increase of 5%. But this is to be spread over four years, and even when fulfilled will not go half-way towards making up for the 12% cuts made two years ago (and lamented by the JOURNAL in the issues of May 12 and November 21, 1953). It is not always easy for the layman (and in respect of building most of the advisory council are presumably laymen) to appreciate what Building Research—particularly when it is basic—can mean in terms of ready cash. To quote at random from the report on the subject of hydraulics, we find that it has given us the one-pipe system which effects a 40% saving in piping—which means between £12 and £20 a dwelling—and a new ball valve which should save most of the million and a half defective valves that have to be replaced every year. Savings such as these are universal and cumulative, and far outweigh actual expenditure on BRS.

The idea of the advisory council seems to be that BRS should look to the industry and should encourage "the larger firms or collective bodies" to create research fellowships at the Building Research Station. Our contemporary, *The Builder*, taking up this idea, suggests that the industry should have its own research organization. But as the chairman of BRS, Sir Herbert Manzoni, points out in his report, research is made difficult in building by the divisions between professional people, building contractors and manufacturers, and by the disparity between the very large firms and the one-man firms. When you come to hand round the hat for some concerted project, you are faced with the problem "what is the building industry?" However valuable research by industrial firms may be, it is the common problems in building—the problems common to many widely different interests—which are the most important, and these only BRS can tackle.

Its progress must not be made dependent on casual non-governmental support. We therefore ask the advisory council to put an end to so false an economy.

Wright. One, *The Natural House*\*, records the master's views about domestic architecture, furniture, landscaping, pre-cast structural units, glass, paint—the lot in fact. The other, *The Future of Architecture*,† is a grand omnium gatherum of lectures, TV interviews, and sundry chats from all periods back to 1930, in which he enlarges on the concept of organic architecture in a more general way. Like everything Wright has written or said, both books are autobiographies of a tremendous and unique personality.

\*

The discussions following the London lectures in *The Future of Architecture*, where he is not pursuing his own line of thought, but producing Usonian answers to other people's objections, are particularly revealing, and full of extraordinary information—"... if everybody in the USA had an acre of ground at his disposal, we should not fill the state of Texas..." But the most intriguing of all the papers published here is the transcript of a TV interview he gave for NBC in 1953, accompanied by photographs which record his gestures. One of these you can see in the frontispiece opposite. ASTRAGAL, who feels this gimmick has possibilities for the journalist, records first his impression of the two books



... and adds an action photograph taken of himself during a recent

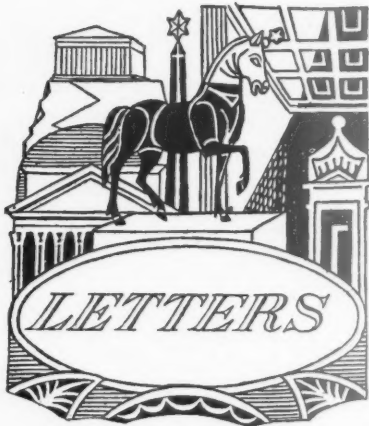


soliloquy on: (a) Rebuilding in the city; (b) spec. building; or (c)—good topical stuff this—a certain political party.

ASTRAGAL

\* Horizon Press, New York \$6.50  
† Architectural Press 50s.

\* Building Research 1954. HMSO. 4s.



R. E. W. Fer, A.R.I.B.A.

Edward Procter, L.R.I.B.A.,  
President I.R.A.

A. F. Hunt, L.R.I.B.A.

Arthur P. Lambert, Registered  
Architect

C. R. Vinycomb

### Letter from a Nominee for the RIBA Council

SIR.—I am one who has been nominated for election to the Council of the RIBA, but was away when your issue of May 12 was published. These are my answers to your questions:—

1. Still greater steps should be taken by the RIBA to publicize the work of architects with the public, especially from the point of view of giving the average person more confidence in the profession. Displays of work by architects should be taken to the people by all means practicable, i.e., local libraries and in larger towns take over permanent premises where permanent displays could be shown. To help raise confidence in architects the RIBA should lay down minimum standards of construction to eliminate shoddy methods and materials. In my opinion the architect must attract the house builder as a first step to making him architect conscious. One satisfied owner may one day have more lucrative work to place.

2. If the RIBA is to function as a learned society, the standard required for entry into the profession should be considerably raised. In my opinion the layman's chief anxiety in approaching an architect is the uncertainty of his commitment. When the client is handed the Scale of Fees he naturally bases the cost on a percentage basis, but has no idea that the extras can involve him in as much as another 50 per cent. I feel that the fee should be agreed on as soon as the client's requirements are known and given as a lump sum based on the architect's estimated cost. If the contract figure exceeds this the fee would remain unaltered. The client would then know exactly his liability. It has been suggested to me it is in the architect's interest for the contract sum to be higher than his estimated figure so that he can charge extra! Further, the architect's estimated cost should be set within reasonable limits.

3. Definitely yes! This was clearly brought out by those attending the last annual general meeting of the RIBA.

R. E. W. FER.

Herts.

### Mr. Spragg: Do You Mean Us?

*This is a copy of a letter recently sent to the secretary of the RIBA:—*

SIR.—As a member of the RIBA I duly received your letter of April 25.

I must confess I am at a complete loss to understand whether the severe strictures and inferences contained in your letter are intended to apply to the second largest architectural body to the RIBA, namely, the Institute of Registered Architects of which I have the honour to be president.

Since your letter has appeared in the technical press I am asking for a similar courtesy for the sake of clarification and I should feel obliged by an early reply from you since this matter cannot possibly remain as at present.

EDWARD PROCTER.

London.

### Private Architects Must Defend Themselves

*This is also a copy of a letter recently sent to the secretary of the RIBA:—*

SIR.—I have read with interest your circular letter of April 25, and whilst in agreement, in the main, with the observations of the Council, there is one sore point upon which your letter does not touch. I mean the undertaking of private work by employed architects, and I think I am only voicing the opinion of most architects in private practice, when I say that unless this is restrained, some sort of Society for Protecting Private Practitioners is bound to be formed in their own defence.

It would seem impossible for an employed architect who takes on building work to look after it properly without neglecting the interests of his employers, whether government departments, municipal bodies, or commercial undertakings. This seems to me to be unfair to the employer, the client, and to practising architects.

Unless the Council are prepared to take whatever steps are necessary to deal with this point, I, for one, will certainly give my strongest support to any Society for the Protection of Private Practising Architects.

It seems to me that with the ever-increasing number of employed architects, weight of numbers will soon be sufficient to out-vote any proposal to regulate private work undertaken by employed architects.

ARTHUR F. HUNT.

London.

### Joint Conference Wanted

SIR.—As an architect who lived through the many years of discussion and argument leading up to the introduction of Registration, and has thereafter served as a member of ARCUK, it is with growing alarm and despondency that I learn of the present unrest within the architectural profession, and I feel sure that my many colleagues, who have similarly worked to maintain high standards and principles in architectural practice, view with equal concern this destructive element originating, not from without, but from within the profession itself.

I cannot be opposed in principle to the right of individuals to band together in order to discuss matters of common interest, or to introduce such machinery and to form such bodies as they consider necessary to represent their interests; I am opposed, however, to any monopoly or dictatorship within the profession, as I feel that this would lead to the ultimate and complete destruction of the architect as we have known him over many years.

In keeping with the basic principles of democracy by which our national heritage has been maintained throughout the centuries it is essential that there should be within bodies representing the profession a

"healthy opposition." Suggestions, however, for forming yet further societies within the profession are another matter, for it is my considered opinion, and that of a number of my colleagues, that we have already reached saturation point as far as the number of professional organizations representing the interests of architects is concerned. The setting up of yet further satellites can only have one outcome—and that is the disintegration of the profession.

I do not maintain that the existing representative bodies are blameless, as I feel that they have in themselves created individual pockets and loyalties. In spite of the varying interests represented on ARCUK, the professional organizations have failed to get together and find a solution to the many problems which have arisen in the last ten years, which unresolved problems have created the present unrest and discontent within all sections of the profession.

Surely it should be possible for the existing organizations represented on the Architects' Registration Council—namely the Royal Institute of British Architects, the Incorporated Association of Architects and Surveyors, and the Faculty of Architects, with the addition of the Institute of Registered Architects (which in the main represents the interests of a large proportion of the "unattached" architects) to get together, sink their differences, forget the personalities of the past, and possibly under the chairmanship of the president of the Royal Institute, as the senior architectural body, to hold joint discussions with the one purpose of furthering the interests of architecture and of those engaged in its practice?

I feel that it is not too late for this courageous step to be taken. Having met representatives of these professional organizations within the structure of the Architects' Registration Council and seen the way in which they can work amicably together in a common cause, I feel sure that we have in this suggested joint conference the solution to all the problems which face the architect of today.

Let us not further divide our ranks, but let us with good will try to come together and work together in resolving those crucial problems which afflict architecture and its practitioners today, irrespective of the professional body to which any individual architect belongs.

ARTHUR P. LAMBERT.

Sutton.

### Are Architects French Cooks?

SIR.—The JOURNAL has been commendably forward in putting the case for energetic trade union activity on behalf of architects and in reporting the resolutions from the floor at the RIBA annual general meeting.

Is there not an alternative to hysterical attempts to jump on to the Tolpuddle bandwagon 136 years late?

I suggest that the alternative form of organization is syndicalism and its concomitant, "Workers' Control at the Point of Production."

Away with voting, struggles for power, elected "representatives"; "on behalf of"; NALGO, NOGO, ABT, NBG, national joint councils and Uncle Tom Cobleigh and All. Forward to delegacy with power of recall and to talented men (and women) helping themselves.

I believe that architects (and many other workers) are unconsciously reaching towards a syndicalist form of organization. The RIBA's caution may be a blessing in disguise.

Those interested can read about syndicalism in "The French Cooks' Syndicate" and "Syndicalism: The Workers' Next Step" (2d. and 1s. respectively, London: Freedom Press).

Are not architects the French Cooks of the building industry?

Beds.

C. R. VINYCOMB.



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## SCOTLAND

### AGM of City and Burgh Architects' Association

At the third annual general meeting of the Scottish County, City and Burgh Architects' Joint Association, George Bartholomew, county planning architect and planning officer, Dumfries, was appointed chairman, and A. G. Jury, city architect and planning officer, Glasgow, was appointed immediate past chairman. The new vice-chairman is Clark Fyfe, director of housing and town planning officer, Motherwell; the hon. secretary and treasurer is W. H. Henry, county architect and planning officer, Clackmannan.

The executive committee includes the following representatives of county architects: T. Bertram, Midlothian, Edinburgh; D. Livingstone, Haddington; A. J. Smith, Stirling; W. R. Wark, Banff.

Burgh architects on the committee are: A. J. M. Currell, Falkirk, and N. S. Sutherland, Kilmarnock.

There is one city architect on the committee, Alexander Steele, Edinburgh; and deputy county architects on it are D. G. Bannerman, Lanarkshire, and T. C. Watson, Aberdeen.

The association was founded in 1952 under the guidance of Colonel Alexander Cullen, past-president of the RIAS.

Its objects are: to collate and discuss information affecting salaries, service conditions and duties, and to safeguard and uphold the status of its members as well as to provide a means whereby their knowledge and experience can be made available to its own members and for their councils.

The association has two permanent seats on the joint negotiating committee for chief officials of local authorities in Scotland.

### Old Adam In New Buildings

Adam House, the new examination halls of the University of Edinburgh, was informally opened by the Principal, Sir Edward Appleton, on May 18. The halls were designed by Messrs. Rowand Anderson, Kininmonth and Paul, and stand near Robert Adam's University College on the site of the square where Adam at one time lived. The designer's respect for the tradition of the site, most fully expressed in the stone façade to Chambers Street, is less evident in the spacious foyers and staircases inside, but even in the delightfully functional small theatre in the basement and in the Art Gallery on the top floor, where the party was held, the detail here and there savours of Adam.

The building is multi-purpose. Besides providing four large examination halls, one above the other, it is capable of housing public lectures, dinners, balls, art exhibitions, films and stage productions. It also provides, in the foyers on each floor, a permanent setting for the paintings and bronzes of the Torrie Bequest, which was made to the University by Sir James Erskine in 1824, and includes Veronese's "Venus and Adonis," previously shown in the National Gallery of Scotland.

Sir Edward, in his opening speech, revealed himself to be in favour of the "civic embellishment" beloved by Professor Richardson, and said that if any controversy arose he would definitely be "pro-vase." There are two large ones flanking the entrance door.

The Senatus Academicus will certainly expect brighter and better examination results as a reaction to the internal colour, and the common citizens may congratulate themselves on new facilities for enlightenment and entertainment.

## IOB

### Building Education Board to be Set Up

The Institute of Builders is to set up a Board of Building Education. The NFBTE welcomes this move and agrees that there should be close collaboration between the two organizations in matters concerning the education and practical training of the executive, administrative and managerial grades in the building industry.

"Such collaboration" (says the IOB) "would be directed towards securing the general recognition of proper standards of training and qualifications for such personnel and towards supporting and strengthening the activities of the Institute, which has the major responsibility in this field."

"To this end the Institute, with the support and collaboration of the Federation, is resolved to establish a Board of Building Education to advise on methods and standards of technical education and practical training for executive, administrative and managerial positions in building. Initially the Board will comprise not more than ten Institute members appointed by the Council, who will invite the Federation to appoint not more than eight representatives. At an early date the Board might invite representatives of professional, educational and operatives interests to join the Board, provided that the total number of such representatives shall at no time exceed one-third of the total number of the representatives of the Institute and the Federation."

## SIR WILLIAM HOLFORD

### Corbusier's Solution Still An Ideal

"Le Corbusier's Cartesian solution, to separate the buildings altogether from the fast traffic and give the entire ground level to the pedestrian remains an ideal." That is what Sir William Holford, lately joint city-planner for London with Dr. Charles Holden, told RIBA members at a meeting last week. "Traffic engineers have come to look on traffic as a kind of superfluid," he said; "architects are unwilling to go beyond the static composition in its three dimensions, and can hardly conceive of a design for velocities as well as for position."

Sir William, who was speaking on "Conditions of Building in City Centres," began his talk by reminding his audience of Wotton's three Conditions of Building, touched for a moment on Greece and

"The Board will elect its own chairman, who need not necessarily be a member of the Board. The Board will annually submit a report to its component bodies through the Institute Council, who will authorize publication. The Board may also issue from time to time interim reports and recommendations on specific matters. The Institute will appoint a secretary and other staff to the Board."

## SOUTH BANK

### Development Report

Visitors to the South Bank will have noticed that a certain amount of building work is going on. A first step has now been made towards the realization of the permanent development scheme. Work has commenced on the foundations for the extension of the north block of County Hall, and a start will soon be made on the re-alignment of Belvedere Road. This will be 70 ft. wide, with an improved line following the curve of the river. The first section on which alterations will be carried out lies between County Hall and Hungerford Bridge; it is expected that they will be completed in the autumn. After that a start will be made on the re-alignment of Chicheley Street.

The LCC has agreed to the Shell Petroleum Company's proposal to increase the height of the tower clock on its proposed office building to about 330 feet. Discussions are continuing between the LCC and the Company, who will later submit detailed drawings for final town planning approval. The South Bank land originally allocated for the BEA air terminal is now included in the lease to the Shell Company. BEA have decided not to build a permanent headquarters on the South Bank; their new terminal, at Cromwell Curve, Kensington, will be opened at the end of 1957.

The LCC's permanent development scheme included car parks beneath open spaces, and the Council is seeking parliamentary powers to construct them. Meanwhile, preliminary plans are being prepared for an underground garage for about 250 cars beneath the open space on the downstream section of the site. The Shot Tower will be demolished before this garage is built.

The gardens between Belvedere Road and the river will be affected by the construction of the garages and the widening and re-alignment of Belvedere Road. The opportunity is therefore being taken to produce a comprehensive design that will embrace both the gardens and the squares resulting from the new development. It is hoped to include in the new gardens the Thameside Restaurant and the children's playground, though it may be necessary to re-site the latter.

Rome, and then discussed "Circulation," from which the opening sentence above is quoted: "Design and Lettable Area" and "The Friction of Space."

After criticizing our attitude towards planning for traffic, and mentioning one example of building in this country where a comprehensive approach to architecture was being attempted—at J. L. Womersley's Park Hill scheme in Sheffield, Sir William discussed "the economic conditions and its effect on the external appearance of the building."

"It is quite common in practice" he said "to have to meet the requirements of more than one client. The planning authority represents the public interest. It tries to interpret the main recommendations of its development plan, which may have been



approved—subject to modifications—by the Minister. It also tries to secure comprehensive rather than piecemeal development; and even when there is delegation arrangements in force it is the authority for development control, subject always to appeal. Its relation to the designer is by no means a wholly impersonal one. For every building of importance, as you all know, there are informal discussions in which the phrase occurs more than once: "... we (the Planning Authority) would like you to do so-and-so, quite apart from any regulations under the Building Act, or the By-Laws."

"The local authority may represent the landlord's interest; for, willingly or otherwise, by Compulsory Purchase Order or as a result of a Purchase Notice served upon it by a disgruntled developer, it may own the land. Or it may not be a local authority but a private company, or a Trust. In any case there are conditions in the building lease which govern use and bulk and access, and may even lay down requirements as to height, character and external appearance."

"But somewhere there is the executive client—if one may so call him; with his surveyor and his accountant. This is the man who specifies the 'commodity', leaving it to his technical advisers to see to the 'firmness' and to create the 'delight.' The perfect marriage of patron and architect should produce the best possible conditions for design. But who is the patron? The building owner, who may be building his firm's head office for part-occupation, or wholly to let, is concerned first and foremost to make his enterprise pay. The adviser who is really planning his building is his estate manager or his accountant."

"All three are likely to leave matters of appearance, amenity and civic design to the public authorities; and they will expect their architect to see the scheme through the Royal Fine Art Commission, the Preservation Societies, and the local town planning committee—all of whom they regard from their own point of view as hazards. Elaboration of the machinery for passing plans simply increases the hazards; and this widens the gap between private and public interests. A speculative architect like John Wood at Bath, or John Nash in London, put his designs quite literally on the market; he knew that his patrons would judge him by them. Even Haussmann, in the rebuilding of Paris between 1853 and 1869, offered his clients a building venture in which design was an integral factor. But it is often the case today that even public-spirited owners disregard the factor of design, because it does not seem to them to be their business. If you doubt this, look about you."

"The position of the architect in this situation is one of great difficulty. If his reputation is as great as his personality he may ignore the economic condition of building and concentrate on design. If he is a greater man still, he will bring his client round to his own way of thinking."

"From the point of view of civic architecture the interests in building promotion appear to be too divided. The public patron is very largely supplanting the private one, and yet—paradoxically enough—the public interest in architecture is not being so well served. Could there not be a greater concentration of interest at one point in the sequence? Could not the landlord combine public conscience with private enterprise, and become the real patron of the designer? ... Could we not more frequently apply the experience of the great urban estates to what is now called 'comprehensive development areas' in our towns? The owner of the land could be a local authority, a public body, a Trust; and should be held accountable for it in all its aspects—social, economic, architectural. The landlord should appoint his architect and his other technical advisers, he should obtain a 'clearance' for the site, write a careful programme for the designers to

work on, and approve necessary amendments afterwards. This would be no formal matter of administration; it would be personal and particular—an active promotion of a scheme, in which all the participants would have a common interest to produce something not only economic but worthwhile. ...

"It is quite common for the design of a potential building to be shown to the public and reproduced in the Press before there is a client or a building programme at all. And under these circumstances the more old-fashioned landlords and their estate managers also find themselves a focus of architectural interest and inquiry long before their plans are settled, or an executive architect appointed. In central areas, more especially, something has to go into the shop window at an early stage, and be made available to the Press, even if the designs are subsequently altered. This seems to be essential not only for purposes of comprehensive design, but as a concession to public interest."

"This is really a problem of presentation. Models, or photographs of models, to a small scale, are sometimes prepared in block form. Occasionally elaborate perspectives are drawn. The danger is that laymen and authorities alike may fix on a building form that has been designed from the outside inwards, instead of from the plan outwards. It is then difficult to depart from it. Nevertheless there is much to be said for some form of presentation at this preliminary stage; and the planning authorities themselves could take a larger hand in it."

Sir William Holford went on to talk of "the friction of space—a term applicable to the town as a whole, but in a particular degree to its core, the place where maximum accommodation and maximum circulation occur together."

"The visual symbol of this condition is the mediaeval walled town, as depicted for example in the maps and views of Braun and Hogenberg. The town first appears like a flat shopping basket with a few valuable objects carefully placed in it, and plenty of space around them. Later, the town appears like the same basket at the end of the shopping round, stuffed with toys, the larger ones sticking up above the rim, and producing a silhouette. Towns that grew without fortifications, on the other hand, were not so restricted, but developed congestion at the centre, just the same, by centripetal pressure. London in the 18th century, and St. Andrews right up to the present day, show characteristic silhouettes arising out of congestion and constriction respectively. Above the general level of the roofs and chimneys, the towers and spires are decorative or pious adjuncts to a workaday world."

"The 20th-century city is emptying out from the centre its residential buildings, its theatres and churches, its factories and its playgrounds. In their place it is concentrating financial and administrative buildings, exchanges, offices and banks. The new buildings are not interested in silhouettes and have no money to spare for towers and cupolas, turrets and ornamental roofs. A decent lid for the tanks and lift-motor rooms is the most to which they aspire; and silhouette, if it is to be achieved at all, is made from the body of the building itself and not by any ornamental headgear. ...

"It seems to me, we ought to endow our buildings of architectural interest, whether they are contemporary or of the past, with sufficient space to enable us to use them and to look at them. At the same time, if efficiency of distribution and productivity in industry is to be maintained, the centre must provide at least headquarters accommodation for these activities and for the finance houses, the exchanges and the commodity markets that go with them. Otherwise, as can already be seen in the older towns of America, these central elements

will move out of the city altogether and leave it to decay; and this is by no means a graceful form of decay. How otherwise can be combined the three kinds of space required in the central area of a town—production space, circulation space and leisure space—than by piling up one in the vertical plane so as to disencumber the horizontal plane for the benefit of the other two?"

"If this theory were put into practice it would, of course, demand comprehensive design and an over-riding control on the quantity of accommodation that town services and transport would permit. I have already suggested how areas of comprehensive development might be planned, on estate lines, as unified building operations; and these would obviously follow an appreciation of the town pattern of use and density zoning (including that particular reflection of zoning in the third dimension—the town silhouette) by the Planning Authority."

"As to the floor space control, this is as necessary but as negative as all forms of regulation unless combined with imaginative handling of the limitations and opportunities which it embodies. Central London has now had some years' experience of a control based roughly on a ratio of 5 to 1-floor space to site space. The control has been criticized as being either too rigid or too flexible. Inasmuch as it is regarded by many developers as a minimum (which they are aggrieved if they cannot obtain), and since ministerial policy has now changed in the direction of reducing the employment opportunities in the centre, so as to increase them in the new and expanded towns, it is probably true that the plot ratio and the floor space index need reconsideration. Had they not been applied—and I think I am right in saying that London City and County have pioneered in this matter—how much worse would the present situation have been. Despite traffic delays and the dissatisfaction expressed over the architectural form of much of our post-war reconstruction, London retains the special attraction of what Steen Eiler Rasmussen has called 'the scattered city'. It is still open to improvement. And in comparison with other and better-planned towns whose pattern of growth is denser and more fixed, this is in itself a virtue. Most British towns, in fact, assisted by a sound and consistent policy of dispersal for all those activities which are not essential at the centre, could still solve many of the problems created by the friction of space. But it is only too clear that in this connection time is not on our side. ...

"My conclusion is, of course, that the individual design has little chance until the 'grand design' is improved, together with all the conditions necessary to its 'well-building'."

## DIARY

*Landscape in the Town.* Talk by Peter Shephard. BBC Third Programme. 6.15 p.m. MAY 29

*Criticisms of Members' Works.* Discussion on the Malory School, South Lewisham, designed by D. L. Bridgwater and Peter Shephard. At the AA, 36, Bedford Square, W.C.1. 6.15 p.m. JUNE 2

*Housing 1954-1955.* Preview of the British contribution to the exhibition, organized by the IUA, to be held at the Hague. Prepared by the BC from material selected by the UK committee of the IUA. At the BC, 26, Store Street, W.C.1. Daily 9.30 a.m.-5 p.m. Saturday 9.30 a.m.-1 p.m. UNTIL JUNE 4

(CLOSED MAY 28 AND 30)

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## BUILDINGS IN THE NEWS

The laboratory and office building seen in the photographs right and below was recently constructed for Electronic Instruments Ltd. in 35 weeks at a cost of approximately £56,000. The total floor area is 17,000 sq. ft., consisting of six floors in the main block each 75 ft. long by 30 ft. wide and with an overall height of 60 ft. and a two-storey office block 25 ft. by 20 ft. The six-storey block is steel framed. External walls have an outer skin of



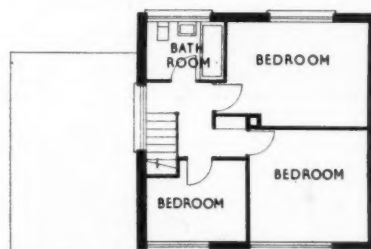
Laboratories, Lower Mortlake Road, Richmond

pre-cast concrete slabs, faced with an exposed Derbyshire spar aggregate, criggon granite or faience slabs. Behind this outer cladding is an inner skin of "No-fines" semi-cellular concrete, plastered direct internally. Internal partitions are of breeze blocks. The floor finish is thermoplastic tiles in the laboratories and wood block in offices. Heating is by radiators served by one cast-iron sectional boiler (oil fired) and there is another similar boiler for the hot water supply. Electrical installations include floodlighting, loudspeaker system, telephones and a smoke detector system for fire prevention. The architects were A. Llewellyn Smith and A. B. Waters in association with K. Anns. The general contractors were C.A.S. (Industrial Developments) Ltd.

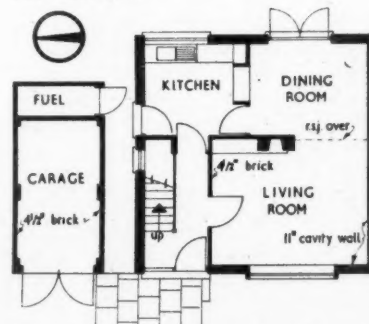


House at Geddington, Northants

The photographs below are of a three-bedroom house in Skeffington Close, Geddington, near Kettering, designed by Gotch, Saunders and Surridge. The house, which has an area of 1,080 sq. ft., excluding garage and covered way, cost £2,000, including garage and is built on a site with a 36-ft. frontage. Below left, from the north-west. Below right is the dining room, servery hatch and kitchen beyond.



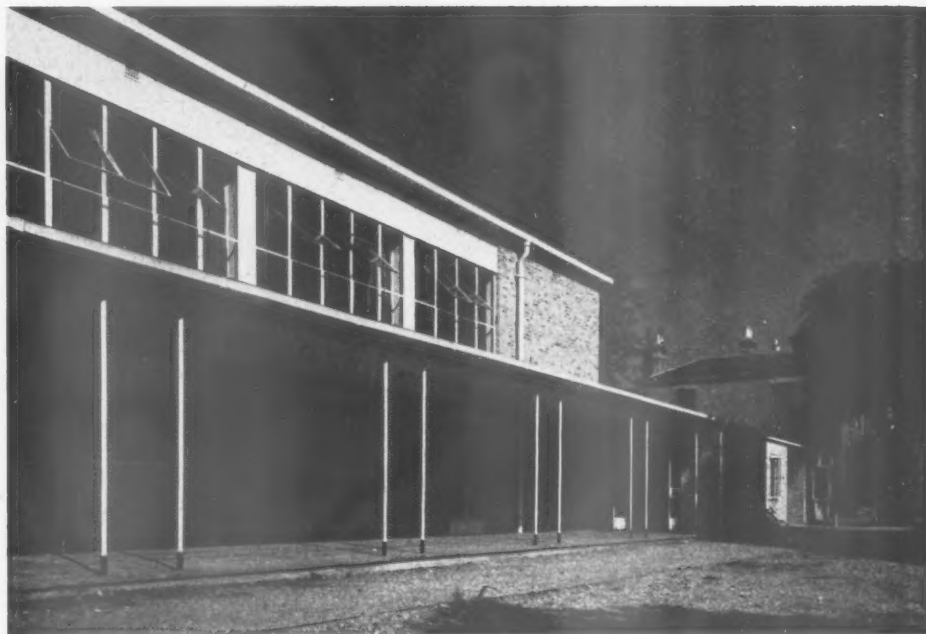
First floor plan



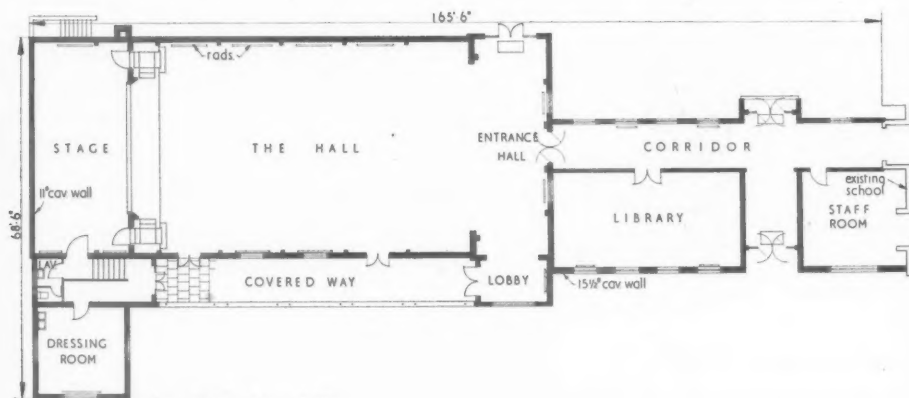
Ground floor plan [Scale: 1/4" = 1' 0"]

**BUILDINGS IN THE NEWS** (continued)

The new assembly hall, library and staff room at the Perse School for Girls at Cambridge were designed by the late J. M. Macgregor and J. Wyn Roberts to provide for the increased number of pupils and to replace a temporary hut erected after the 1914-18 war. The consulting engineer was Professor F. G. Ball and the quantity surveyors were Davis, Belfield and Everest. On the right is the east facade of the hall, and below is the covered way. The hall, which accommodates 450 pupils, is constructed of steel portal frames and brick and concrete block infilling. The contract price was £15,000.



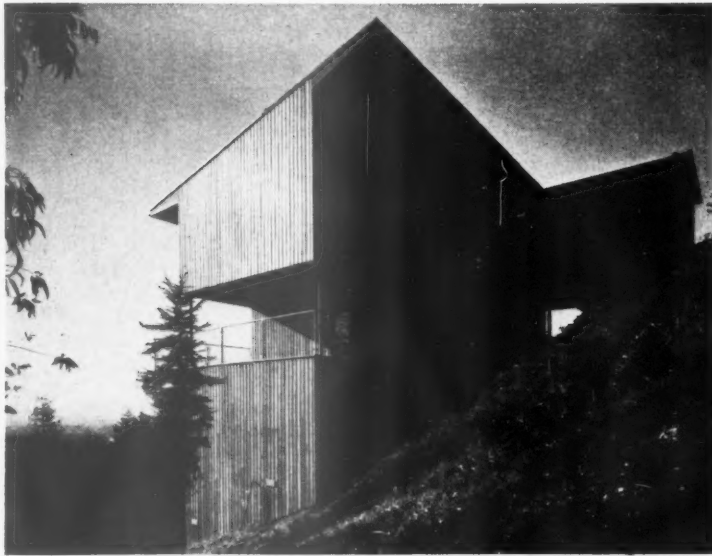
Perse School for Girls, Cambridge

Ground floor plan [Scale:  $\frac{1}{4}$ " = 1' 0"]**Stores Building, Southall**

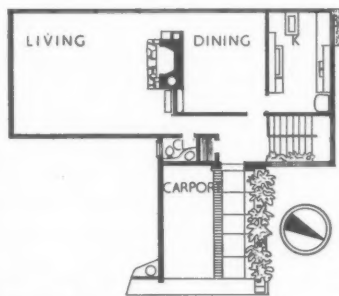
On the left is a view from the south-east of the spares stores Buildings for A.E.C. Ltd., in Windmill Lane, Southall, Middlesex, designed by Harry W. Weedon and Partners. An independent building was required to be occupied by A.C.V. (Sales) Ltd., an associate company, for the purpose of storing and distributing spare parts for commercial vehicles manufactured by the parent company. The store is steel framed on a grid of 42 ft. by 60 ft. There are two single-storey bays, 60 ft. wide by 294 ft. long and one 2-storey bay of similar proportions.



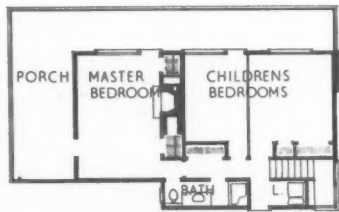
## TWO ARCHITECTS DESIGN THEIR OWN HOMES



House in California, U.S.A.



Upper floor plan

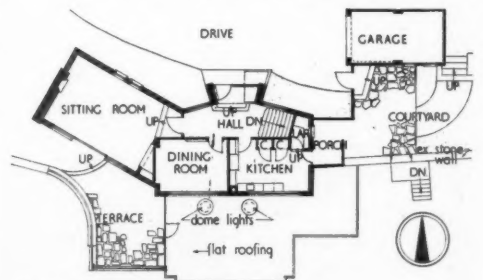


Lower floor plan of house above

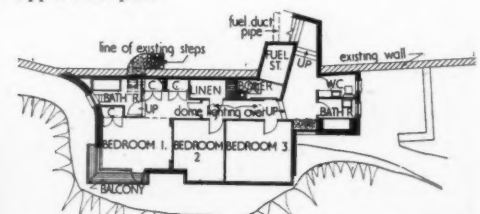
House at Torquay



The two houses illustrated on this page have a number of points in common. Both houses were designed and built by an architect for his own occupation; both sites are very steeply sloping; the approach to the house is, in each case, from the top level of the site; both plans have bedrooms on the lower floor level and living accommodation above. The advantages of this plan arrangement are also similar, firstly the fine views, which are best seen from the higher level, and secondly ease of access for pedestrians and cars. The house seen in the photographs above from the east and south is at Berkeley, California, and was designed by William Corlett. The interior photograph is of the living room; the windows on the left overlook San Francisco Bay. The house seen from the south-west in the photograph below was designed by Edward Narracott. In this house the plan is stepped so that part of the flat roof over the bedrooms becomes a terrace, from which Torquay bay and harbour may be seen.



Upper floor plan

Lower floor plan of house on left [Scale:  $\frac{1}{32}'' = 1' 0''$ ]



## FACTORY

in EDINBURGH WAY, HARLOW, ESSEX

designed by HARLOW DEVELOPMENT CORPORATION,

FREDERICK GIBBERD, architect-planner; VICTOR HAMNETT, executive architect

J. S. RANK, senior architect; G. T. GOALEN, senior architect (industrial development)

P. J. DARVALL, R. G. BINNS, M. C. BROWN, K. G. ELLIS, D. G. FENTER, J. A. GRAHAM,

E. JONES and H. PRINS, assistant architects; BODFAN GRUFFYDD, landscape design

H. S. SUTTON and H. WATSON, electrical installations,

HORACE W. LANGDON and EVERY, quantity surveyors.

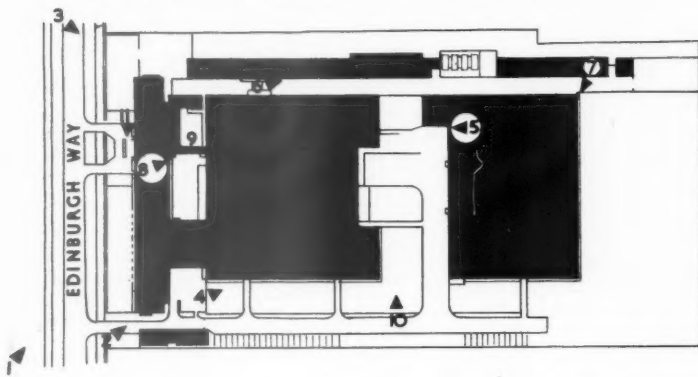


The production area of this factory is the largest in Templefields, the south industrial area of Harlow. Over five hundred people are employed in this factory. Because of the differing processes used, and because the building is to be expanded later, the production blocks have been separated and different methods of construction have been used. However, the detailing and the general layout very much resembles those of other factories in Templefield designed by the same architects. The general contractors were Wilson Lovatt and Sons, Ltd. The sub-contractors are listed on page 726.'

Left: entrance porch. Below: north facade from viewpoint 1.



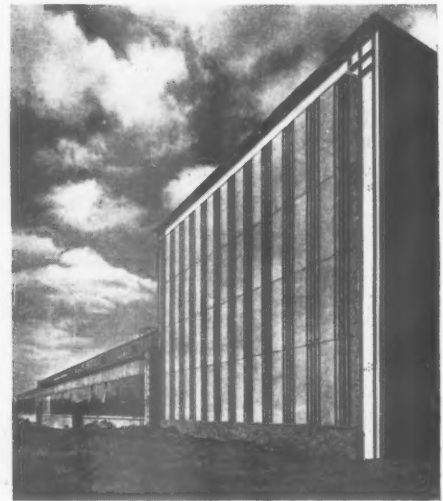
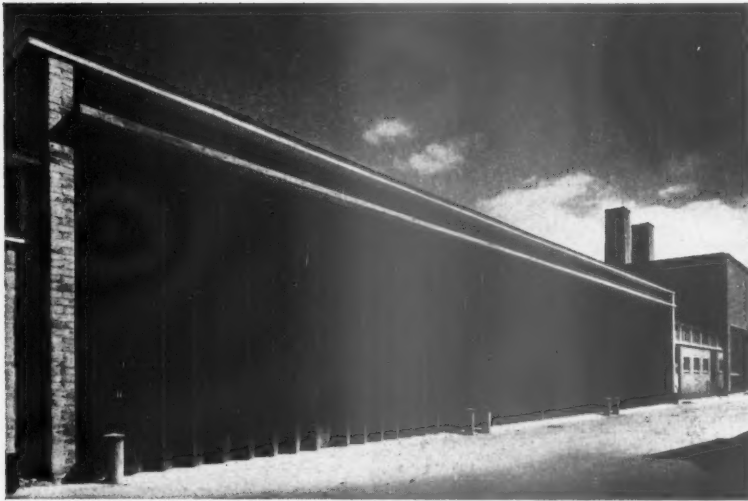
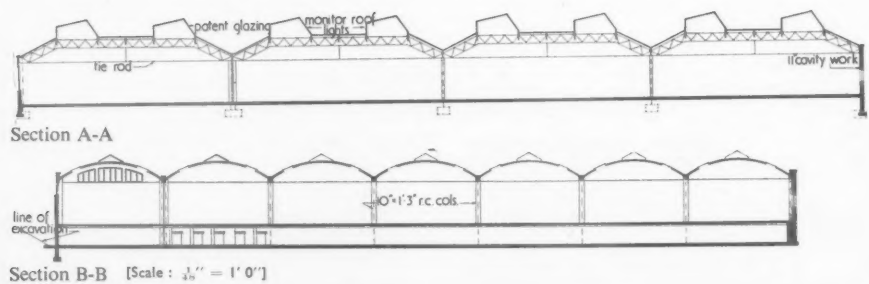
BUILDING A BUILDING B BUILDING C



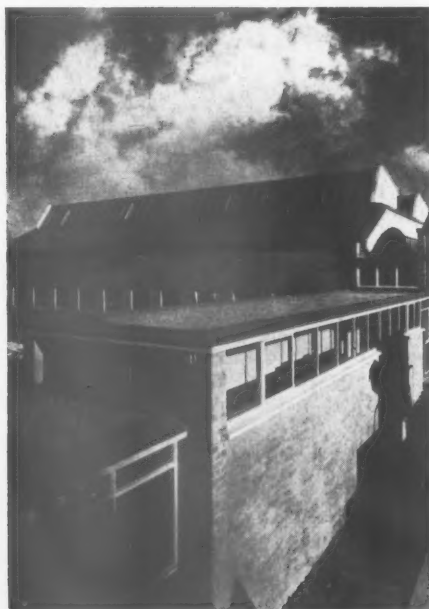
Key plan showing photographic viewpoints



The factory has a site of 8½ acres with a frontage of about 140 yards on the south side of Edinburgh Way, the main east-west spine road running through Templefields. Left (viewpoint 3) the administrative block (right of picture) has been sited along the road frontage, in front of production areas. Ancillaries such as stores, garages and the boiler house have been separated from the production areas and placed along the east edge of the site. The main access for vehicles and employees is by the works entrance (top right: viewpoint 2) at the west end of block A. Centre left, production block B (viewpoint 4). The rectifier equipment block C beyond has been raised to a higher floor level in order to cope with changes in site contours. Block C was commenced at a later stage, and although changes have been made to the structure, the same cladding and roof profile has been retained. Bottom left, loading bay for block B (viewpoint 5). Beyond the loading bay is the central section of the block which houses processes requiring an air-conditioned and dust-free environment. In order to produce a suitable internal section free of ledges or other projections, RC barrel vaults have been used, and a basement provided under the floor, for the circulation of the warmed and humidified air, and other services, which are thereby kept clear of the production space, but may be tapped at any convenient point.



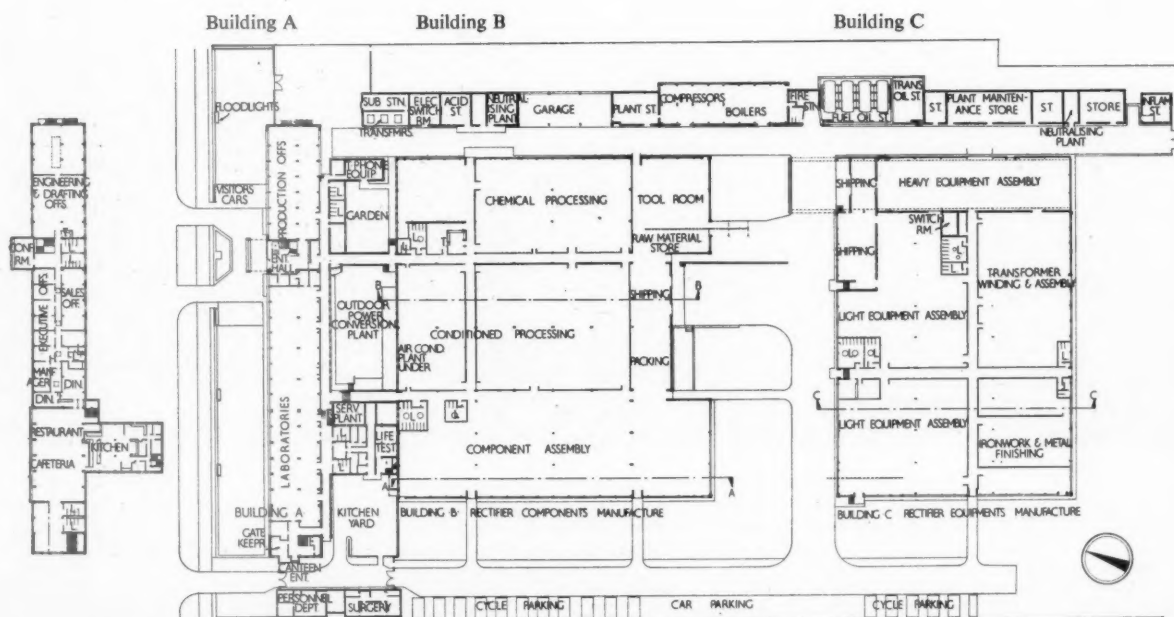
As far as possible the main production blocks B and C have been kept free of ancillaries which are not an integral part of the production processes. Above, reading left to right, the garages, plant store and boiler house (viewpoint 6). Between the administrative block A and block B space has been left to act as a fire break, and to allow for the intakes of the air-conditioning in block B central bay. Above right, the south end of the crane bay, block C, (viewpoint 7) has the welded portal frame exposed to facilitate any future extension in this direction. The rest of block C is also framed in welded steel. Bottom left (viewpoint 8), the two blocks are linked by a ramp which continues as a circulation area between the light steel sections and the RC central section. Bottom right, the flat roof over this strip running directly through the block (viewpoint 9) is designed to have a permanent covering of water, as are the majority of flat roofs of the factory. Clerestory lighting is provided at the ends of the barrel vaults, in addition to the main strip roof lights.





## FACTORY AT HARLOW

Viewpoint 10: The client wanted allowance made for future expansion of the factory floor space for both rectifier and rectifier equipment production. The architects separated these production blocks (B to left of photograph; C to right) so that each could eventually be extended southwards. This separation was not a disadvantage from the point of view of manufacture, for each type of production may function independently. As can be seen here, the service road runs between blocks B and C and passes through the open end of the large crane bay at the far end of block C. The crane can be used both for the assembly of heavy equipment, and for loading and unloading. When both buildings have been extended they will be linked by the crane bay—also extended—so that the crane can be used for unloading in each.

Ground and first floor plans [Scale:  $\frac{1}{8}'' = 1' 0''$ ]

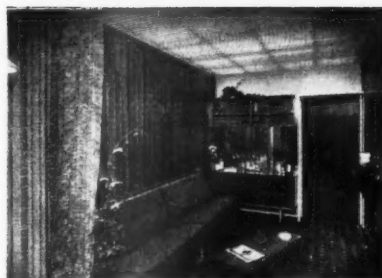




Viewpoint 11: The entrance to the administrative offices is approached from beneath the projecting board-room. At this point the architects have provided a contrast to the general simplicity of other buildings by using a variety of textures and patterns. In this night photograph the dominating pattern is formed by the recessed light fittings, set in a dark red ceiling (Munsell: 7.5 R 3/12) which runs through from the exterior to the interior of the entrance hall.



Above: to the left of the main doors to the entrance hall is the enquiry desk, which is faced in vertical hardwood strips finished with a natural waxed polish. It forms part of the framed-partition behind which is the porter's office. Above right: the partition can also be seen in the background of this picture; in the foreground is the main staircase which leads to the administrative offices. The ceramic floor tiles have a pattern of grey, brown and speckled white. The treads to the staircase, which is a free-standing RC monolithic structure, are of dark blue terrazzo, and the risers are white ceramic tiles. On the first floor are a private bar (shown on the right) and a dining room, adjoining the manager's office. Fittings and furniture here have been specially designed or selected by the architects in consultation with the client. In the bar an overall treatment of light timber slats painted white has been used to make the ceiling seem lower and to conceal the roof light and fluorescent fittings. The visitors' dining-room and a refectory for senior staff are connected by a servery to a kitchen. The main works canteen (below), which is served by the same kitchen, is approached from another

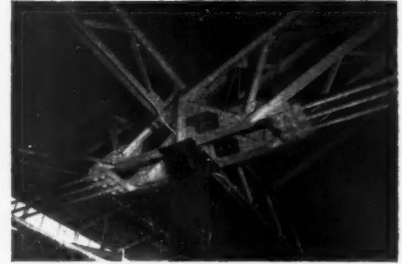
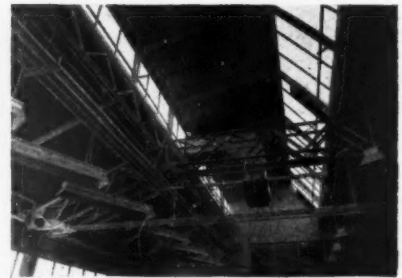


#### FACTORY AT HARLOW

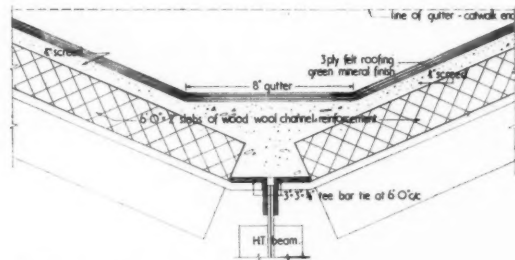
staircase at the west end of the block. Two bays of the canteen are used by the non-industrial staff, who have a waitress service and are separated from the industrial staff by a sliding-folding partition. The ceiling height of the canteen was raised so that clerestory lighting could be provided on the south side, over the roof of the kitchen. The canteen is used for various social functions, and on such occasions the sliding-folding partition can be drawn back—as shown in the photograph. The floor is finished with Rhodesian teak. The structure has been painted pale primrose (B.S.155). The ceiling is white. The end walls have been faced, up to door height, with grey plastic fabric—behind vertical teak slats. The panels below the sill of the clerestory are dark red (Munsell 7.5 R 3/12); above it Venetian blinds are used to control sunlight.



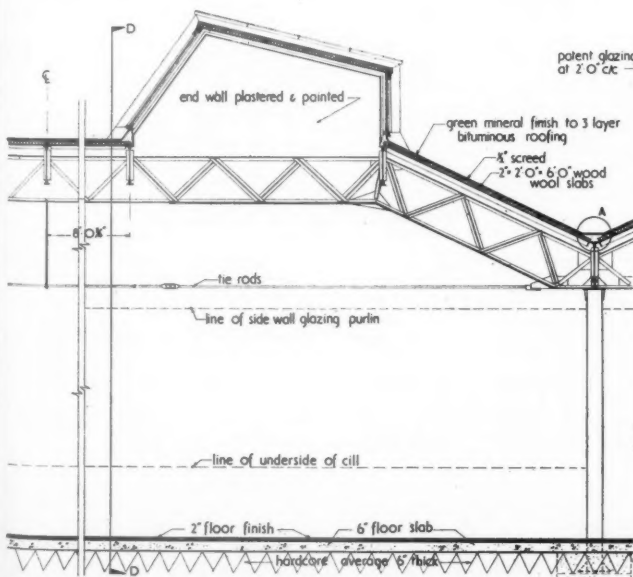
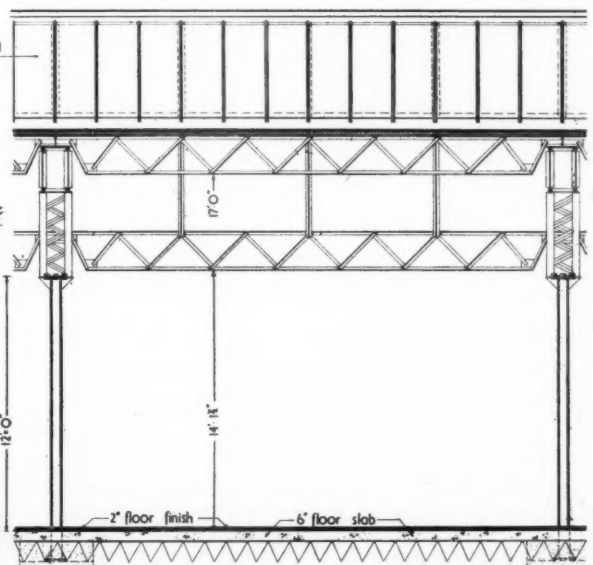




The outer section of block B on the west side houses the main light assembly area, above left, constructed in the light lattice framework of high-tensile steel. Although the surface area and complexity of the structure is increased here, and this has a bearing on maintenance costs, the weight of lattice steelwork is only 3.4 lb. per square foot (excluding monitor rooflight frames), compared with 3.0 lb. per square foot (including steel in columns) for the barrel vaults. The weight of welded steelwork in building C is 5.5 lb. per square foot. Since the handing over of the building, the client has erected a number of full-height steel partitions in order to close off some of the stages of processing. This has raised considerable problems of trimming to the structure, but it appears that the use of such elements was not anticipated when the structural plans were made. The main girders span 60 ft. at 24-ft. centres. Each main beam consists of a cranked lattice compression member, with three horizontal tension bars, above right, and with two monitors for each 60-ft. bay. These are built up in light angles with patent glazing clipped on. The built-up bitumen roof is carried on screed on channel reinforced wood-wool slabs left exposed and painted white. Two air changes per hour are provided by the HPHW unit heaters which are housed within the monitors. Extract ventilators are provided at intervals in the patent glazing. At end bays the lattice steelwork takes on a measure of complexity in order to cope with carrying the end walls of the monitor roof lights, top right, which are set back from the main face of the building. At intervals light vertical members are introduced to carry the cladding rails for external walls. Light tension wires provide wind bracing for the monitors in the end bays. Colour generally is subdued in this area: white is used on the steelwork; and the columns are picked out in grey (Dove grey B.S. 694) and the external walls are light yellow (Pale primrose B.S. 155).



Detail at A [Scale: 1 1/4" = 1' 0"]

Cross section Block B steel construction  
[Scale: 1/4" = 1' 0"]

Section D-D



**CLIENT'S BRIEF : his stated requirements**

The client required an administration and research block containing offices and laboratories; a canteen to serve 500 in two sittings; a production building for the manufacture of

metal rectifiers; a production building with crane facilities for the manufacture of larger equipment; a separate building to accommodate the surgery and the personnel department; a

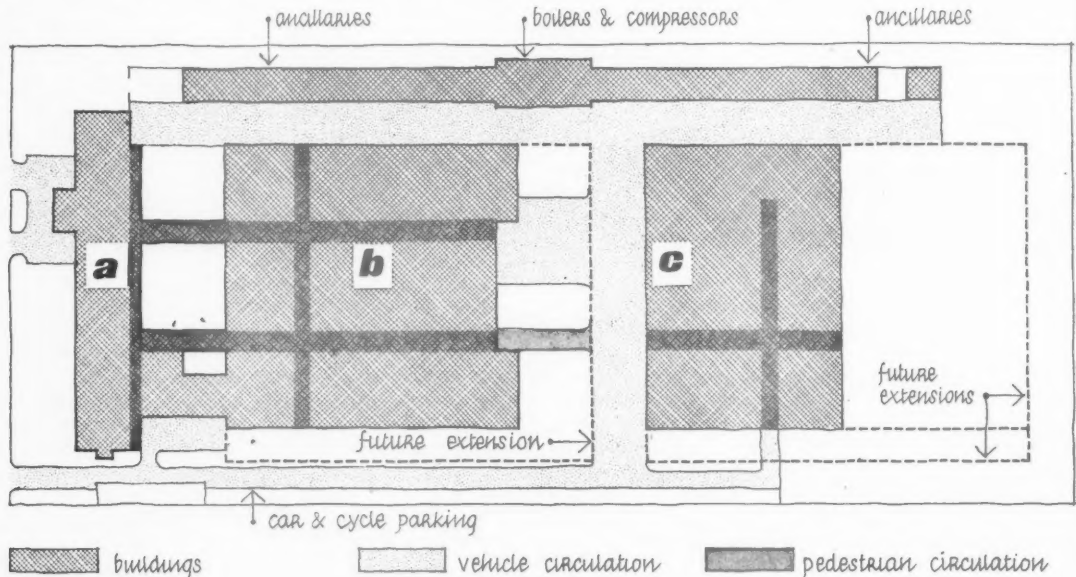
number of ancillary buildings; and provisions for expansion. Separate buildings were required for (a) rectifier manufacture and (b) equipment manufacture, so that either can be expanded.

**SITE : topography, surroundings, access**

The site is in the Harlow Industrial Estate, with a frontage of 440 ft. to Edinburgh Way and a depth of 850 ft. Ground level at the back

(south) of the site is 10 ft. higher than at the road frontage. Access to the site is limited to two points: the main factory gates, and the office

entrance. Levels of the various buildings have been varied to minimise site works. *Area of site:* 8½ acres.



Site plan

**PLAN : general appreciation**

A two-storey office block, 40 ft. wide, required lighting on two sides and was therefore separated from the adjacent production building (building B). The canteen kitchen had to serve manager's and senior dining rooms as well as

cafeteria, but it was stipulated that access to the cafeteria should not be through office corridors. Space for expansion was left at the south end of building B, but the equipment manufacture building (building C) will

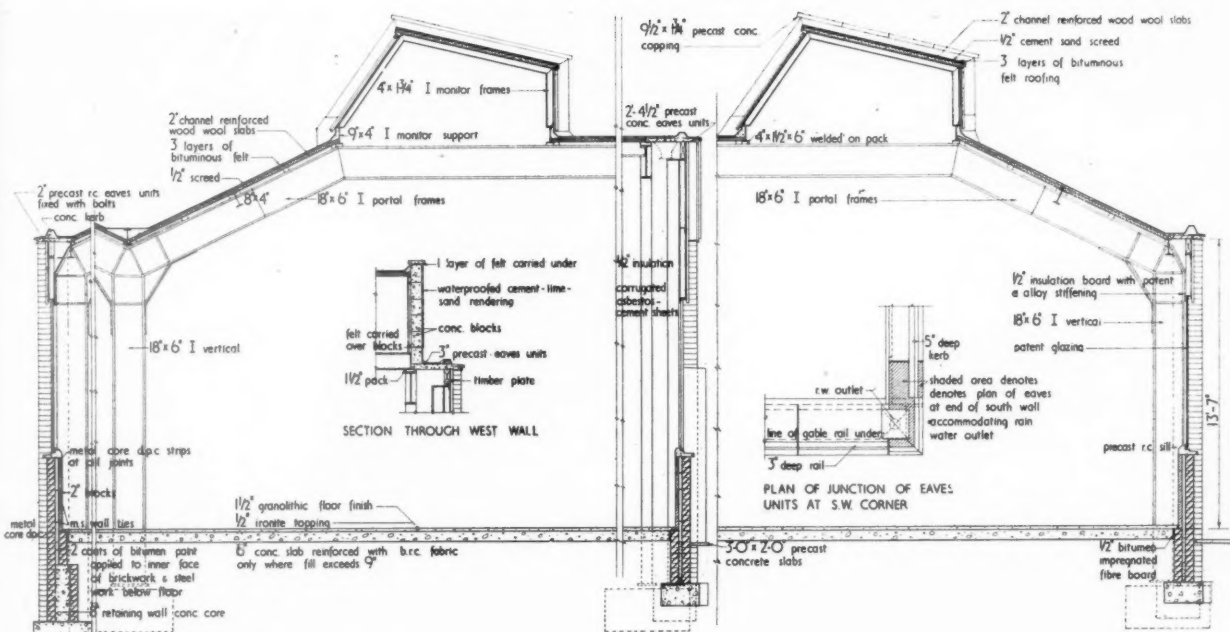
eventually be linked to B by the extended roof of the C crane bay, so that the crane can be used for unloading into both buildings. The surgery and personnel block is at the main entrance.

**MAIN CONSTRUCTION**

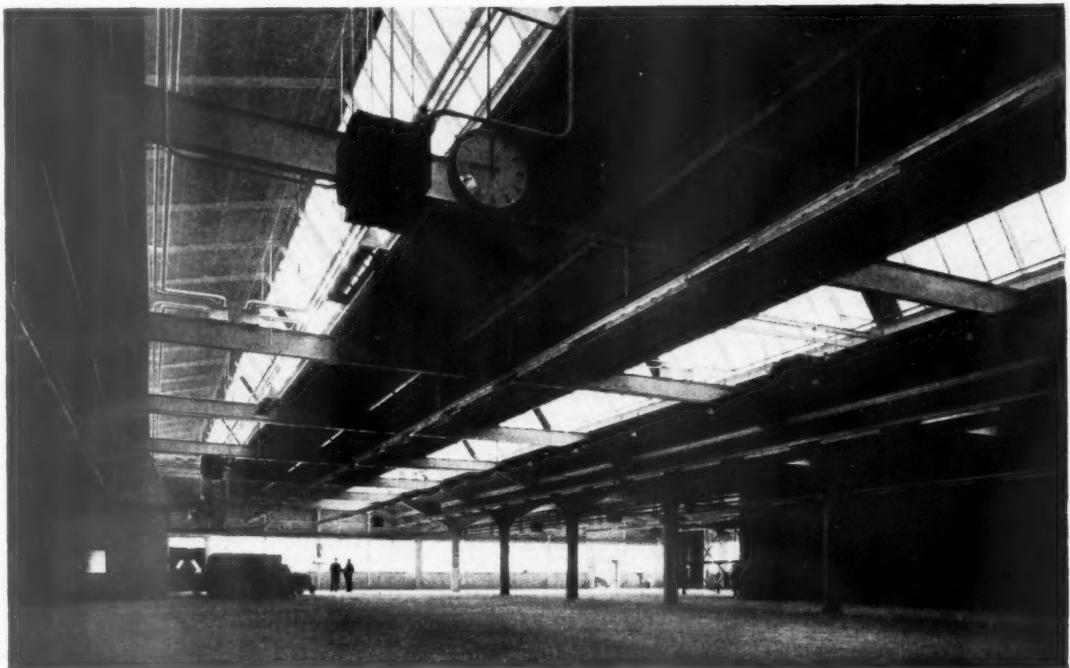
Load bearing element	Location	Beam spans	Column grid	Reasons
RC in situ frame	Office block	12 ft., 18 ft.	12 ft. x 22 ft.	Economy of steel required by licensing authorities
Brick walls at 6-in. centres	Basement of conditioned processing shop			Shallow basement (5 ft. 6 in. deep) for services
Shell concrete on r.c. columns	Conditioned processing shop	49 ft.	30 ft. x 49 ft.	This area had to be entirely free from dust-harbours ledges. All services to the area are in basement. Basements preferred to ducts for flexibility
High tensile steel	Remainder of Building B	60 ft. (prestressed high tensile lattice beams) and 24 ft.	60 ft. x 24 ft.	Flexibility and economy of steel was required but authorization could not be obtained for the quantity of steel required for a conventional steel frame
Mild steel welded frame	Building C	60 ft. (Portal frames) and 24 ft.	60 ft. x 24 ft.	Economy of steel required by licensing authorities
RC in situ frame	Boiler house			Economy of steel required by licensing authorities
Brick external walls	Ancillary buildings	24 ft.		Economy of steel required by licensing authorities

Foundation type	Location	Subsoil	Depth
RC	Offices, conditioned processing shop, boiler house	Clay	Shallow
Mass concrete	Buildings B and C	Clay	Shallow
Mass concrete strip	Ancillary buildings	Clay	Shallow



Section C-C, block and section through west wall [Scale 1/4" = 1' 0"]



The third block of the factory, C, has formed a separate contract, and was commenced at a time when steel was freely available. Whilst retaining the identical external profile, it was possible to revert to a more conventional structure, above. This area will house production of larger-sized equip-

ment, with processing almost entirely separate from that in block B. Load-bearing partitions divide off ancillaries, including toilets and the special "tea stations" which the Factories Acts insist on where poisonous substances are used in processing. The structural bays are identical to those in block B

but by the use of welded sections, partly shop fabricated, it has been possible to achieve a greater simplicity of structure, and at the same time allow the client a measure of flexibility by designing the portal frames to carry a point load of one ton at mid span.

Outer wall type	Location	Material	Finish	Reason
Panel brickwork	Office block	11-in. cavity brickwork	Plastered internally	Minimum thickness required
RC	Conference room	RC, reconstructed stone externally	Plaster on wood-wool internally	
"Standard factory" type	Buildings B and C	a. Up to sill height: 4 1/2-in. brick, 2-in. cavity, 2-in. hollow clay blocks rendered b. Vertical patent glazing c. Corrugated asbestos cement lined with fibre board		
Load-bearing	Ancillary buildings	9-in. brick	Painted internally	

The profile of the BRS type monitor roof light has been adopted generally in the Templefields area. Its purpose is to provide an even distribution of light without dark shadows so that complete flexibility of machine layouts and working positions is achieved. In this case, by use of a glass area of about 25 per cent. floor area a minimal daylight factor of 8 per cent. is achieved. Artificial lighting generally in the production areas is provided by twin tube trough industrial fluorescent fittings, to give at least 30 lumens on the working plane. Generally block C is painted in soft "receding" colours with the portal frames light grey (Munsell reference N 8) and the rest of steelwork white. Monitor ceilings are white, the remainder being pale blue-green (Munsell reference 7.5 BG 6/2) and the walls warm grey (Munsell reference 5.0Y 6/2) or light yellow (Pale primrose B.S. 155). Stronger colour has been introduced on shutter gates and unit heaters by the use of strong red (Munsell 7.5 R 3/12).



Roof type	Location	Material	Finish	Reason
Wood-wool on open web nailable joists	Office block	2-in. wood-wool slabs	Bitumen felt on screed	Economy, insulation, freedom from thermal movement
Barrel vault	Conditioned processing shop	Shell concrete	Bitumen felt on screed	
Channel-reinforced wood-wool	Buildings B and C and ancillary buildings	CR wood-wool on steel beams	Bitumen felt on screed	
Floor structure type	Location	Finish		
Concrete on hardcore	Ground floor office block	Thermoplastic tiles on screed		
In situ RC	1st floor office block	Thermoplastic tiles on screed		
Concrete on curved expanded metal	Conditioned processing shop	Thermoplastic tiles on screed		
6-in. concrete with 1/2-in. granolithic	Buildings B & C and ancillaries	Hardener laid monolithic		
Internal wall type	Location	Material	Finish	
Permanent office partitions	Office block	3-in. clinker concrete blocks	Plaster	
Permanent factory partitions	Building B	Steel tees and window sections, glass, brick nogging at low level		
Movable partitions	Building B and laboratories	Steel and glass, fixed by client after completion of contract		
Ceiling type	Location	Material	Finish	
Plaster	Ground floor office block	1/2 in. plaster on concrete soffits		
Plasterboard	1st floor office block	1/2-in. plasterboard	Skim coat of plaster	

## ARTIFICIAL LIGHTING

Source and fitting type	Location	Illumination level	Comments
Fluorescent, special design GEC 2 x 80 W.	Conditioned processing shop	30 L. sq. ft.	Special fitting designed to fit contour of roof
Industrial fluorescent trough fittings 2 x 80 W.	Other production areas	30-40 L. sq. ft.	
Tungsten and fluorescent fittings: GEC	Office block	20-30 L. sq. ft.	Specially designed
Wiring and switching types		Reasons and comments	
VIR cables enclosed in HG conduits and trunking. Surface and domestic flush type		BMA finish brass plates in shell area and office block. Protected dolly industrial surface switches in other areas	
Power supply type		How distributed	
HT switchroom. 2 No. 1000 kVA transformers to LT switchroom		LT PILCSWAS cables to switchboards in appropriate positions. 4-pole busbar trunking run through ducts in basement	

## NATURAL LIGHTING

Wall glazing	Location	Reasons and comments
Continuous windows	Laboratories	Clerestory lighting in south wall of laboratories
Separate windows	1st floor offices	Allows flexible planning of small offices and makes sound insulation easier
Vertical patent glazing	Production areas	Standard Harlow practice. Much cheaper than windows

<i>Roof glazing type</i>	<i>Location</i>	<i>Reasons and comments</i>
Monitors with patent glazing (wired cast glass)	Production areas generally	Standard Harlow practice. Has proved very satisfactory. Special felt roofing detail devised to form walkways for window cleaners on sloping roof
Strips of patent glazing	Plate shop	Flat pitch, glazed with glass ply to reduce solar heat and glare

## THERMAL INSULATION

<i>Type</i>	<i>Location</i>	<i>U-Value</i>	<i>Comments</i>
Wood-wool	All roofs except those below	0.22 where there is no ceiling	U-Value is 0.18 in office block, where a ceiling is provided
1-in fibre-board internally	Shell roofs	0.35	
1-in. fibre-board between asbestos cladding and steel	Upper parts of walls to production areas	0.40	

## HEATING AND VENTILATION: artificial and natural

<i>Heat exchanger type</i>	<i>Location</i>	<i>Criteria temp.</i>	<i>Air change rate</i>	<i>Reason</i>
h.p.h.w. unit heaters	Production areas	65°	2 per hour	Efficient and economical
Warmed, filtered and humidified air through low-level grilles	Plate shop	68°	2 per hour	Conditions required
l.p.h.w. radiators	Offices	70°	2 per hour	

<i>Boiler type and capacity</i>	<i>Fuel type</i>	<i>Reasons</i>
4 h.p.h.w. boilers, each rated at 5,000,000 B.Th.U.	200 sec. viscosity oil	Required by clients' engineers

<i>Water heater type</i>	<i>Location</i>	<i>Reasons for choice</i>
Calorifiers fed from high-pressure mains	Various	High pressure mains in operation throughout the year for process

<i>Pipes and jointing types</i>	<i>Location</i>
Class "C" welded steel	High pressure mains
Class "B" steel	Low pressure mains
Class "C" galvanised	Hot and cold water services

<i>Cold water storage</i>	<i>Location</i>	<i>Materials</i>	<i>Capacity</i>
Main tank	Above compressor room	Braithwaite tank	60,000 galls.
Smaller tanks	Close to lavatories	Galvanised steel	Various
Soft-water tank	Kitchen roof	Galvanised steel	500 galls.

## REFUSE

<i>Refuse Method</i>	<i>Type of refuse</i>
Neutralizing tanks	Acid effluent
Incinerator	Solid waste

## SPECIAL ACOUSTICAL TREATMENT

<i>Sound absorption material</i>	<i>Sound insulation</i>
No special acoustical treatment, but absorbent ceilings and wall linings have reduced noise levels in production areas	Generally no special precautions have been taken but sound insulation between adjacent private offices was one of the factors leading to the decision to use separate windows rather than continuous strips to light the first floor of the office block

## SOIL WASTE

<i>Type of system</i>
Trade effluent passes through neutralizing tanks and floor gauging chambers before being connected to the main runs of soil drainage

<i>Drain types</i>	<i>Materials</i>
Trade effluent	G.S.W. acid resisting joints
Domestic effluent	Glazed stoneware

<i>Rainwater disposal type</i>	<i>Materials</i>	<i>Comments</i>
To separate surface-water sewers	Glazed stoneware Concrete in large sizes	Petrol and oil interceptors used in internal road drainage

<i>Lifts type</i>	<i>Capacity, speed</i>	<i>Relation to traffic circulation</i>	<i>Motor room position</i>
Goods platform	5 cwt.	For deliveries to kitchen on 1st floor	Hoist unit within shaft at ground floor level
Hoist	30 ft./minute		



## FIRE

*Structural precautions*

Office block in fire-resisting construction apart from roof (which has a plasterboard and skin ceiling)

*Planning precautions. Access for fighting*

Separation of buildings. Access to all sides of buildings. Fire station in central position. In case of obstructed access at main gate, Fire Brigade can obtain access at east end of site. Building B divided into three compartments by fire-resisting partitions, at request of insurers

*Apparatus, sprinklers, etc.*

Hose reel points. CO<sub>2</sub> in electrical sub-station. Fire main under internal roads with hydrants. Trailer pump.

*Means of escape*

As required by Local Authority under Section 34 of Factory Act: panic doors at strategic positions, etc.

## COLOUR

*Paint types*

Emulsion  
Oil-bound distemper  
Oil paint  
Paint

*Where used*

Walls  
Ceilings  
Wood and metal  
Where resistance to acids required

*Colour treatments*

Colour schemes carefully considered and much strong colour was used. Wall papers used in canteen and other special rooms. Architects collaborated with clients and the furniture sub-contractors on furnishing and special finishes in canteen, dining rooms, conference room, manager's office, etc. Architects were consulted in selection of colours for machinery, etc. The dado in the canteen is faced with plastic cloth with hardwood trimmings.

## TIME SCHEDULE

	<i>Drawings (working)</i>	<i>Contract signed</i>	<i>Work commenced</i>	<i>Work completed</i>
Stages I and IIa	August 1952	April 1953	April 1953	*December 1954
Stage IIb	August 1953	February 1954	February 1954	February 1955

\* occupation started in August 1954

*Type of contract*

RIBA form with quantities

*Comments*

A preliminary meeting was held between architect and client in November 1951, a site was chosen, and a rough sketch plan was prepared. In April, 1952, the first of a series of meetings was held to draw up a final schedule of accommodation. For licensing reasons it was decided to erect the buildings in two stages: Stage I consisted of the office block, part of building B and certain ancillaries, and by August, 1952, the clients' requirements were sufficiently firm to enable working drawings for Stage I to be started. During their preparation further licence provision was promised and by the time tenders were received working drawings and bills of quantities were ready for the completion of building B and its ancillaries, and this additional work (known as Stage IIa) was incorporated in the first contract.

## COST ANALYSIS

		BLOCK CHOSEN FOR ANALYSIS		ELEMENT	Cost per
Total ground floor area of superstructure	139,735 sq. ft.		Cost per		sq. ft.
Total floor area (excluding basement)	155,735 " "		sq. ft.		s. d.
Total floor area of basement	21,000 " "	Building C (tender costs only)	s. d.	Ironmongery	1'4
Storey heights of basement	6 ft., 2 ft. & 9 ft.			Plumbing (external)	5'7
Total depth of basement	8 ft., 10 ft. & 10 ft.			" (internal)	0'4
		ELEMENT		Sanitary fittings	4'7
TENDER DATE: March, 1953 and January 1954		Preliminaries and insurances	5 8'9	Gas installation	3'7
*Tender cost of superstructure	£145,485	Contingencies	5 2'6	Electric installation	4 1'8
*Installations and finishings	£123,563	Work below ground level	3 0'5	Heating installation	10 7'7
*Tender cost of foundations and basement	£38,365	External walls and facings	—	Ventilation	2 6'8
*Tender cost of ancillary buildings	£52,312	Internal load bearing walls	10'4	Drainage	
External works	£66,098	Internal partitions	7 9'9	Glazing included above	
Gross total cost	£469,894	Frame	6 10'2	Decoration	1 10'3
* Exclusive of preliminaries and contingency sum.		Roof		Paved areas excluded	
Cost per ft. super of floor area	£2 13s. 2d.	Roof lights	8'4	Special sound insulation	
including basement		Doors (external)	1'6	" thermal "	included above
Cost per ft. cube including basement	2s. 11d.	Doors (internal)	1 4'2	Crane	1 11'5
		Roller shutters*	3'7	Total	54 6'4
		Wall finishes		* Special design to allow passage of crane	
		Difference between tender cost and final cost	Not yet known		

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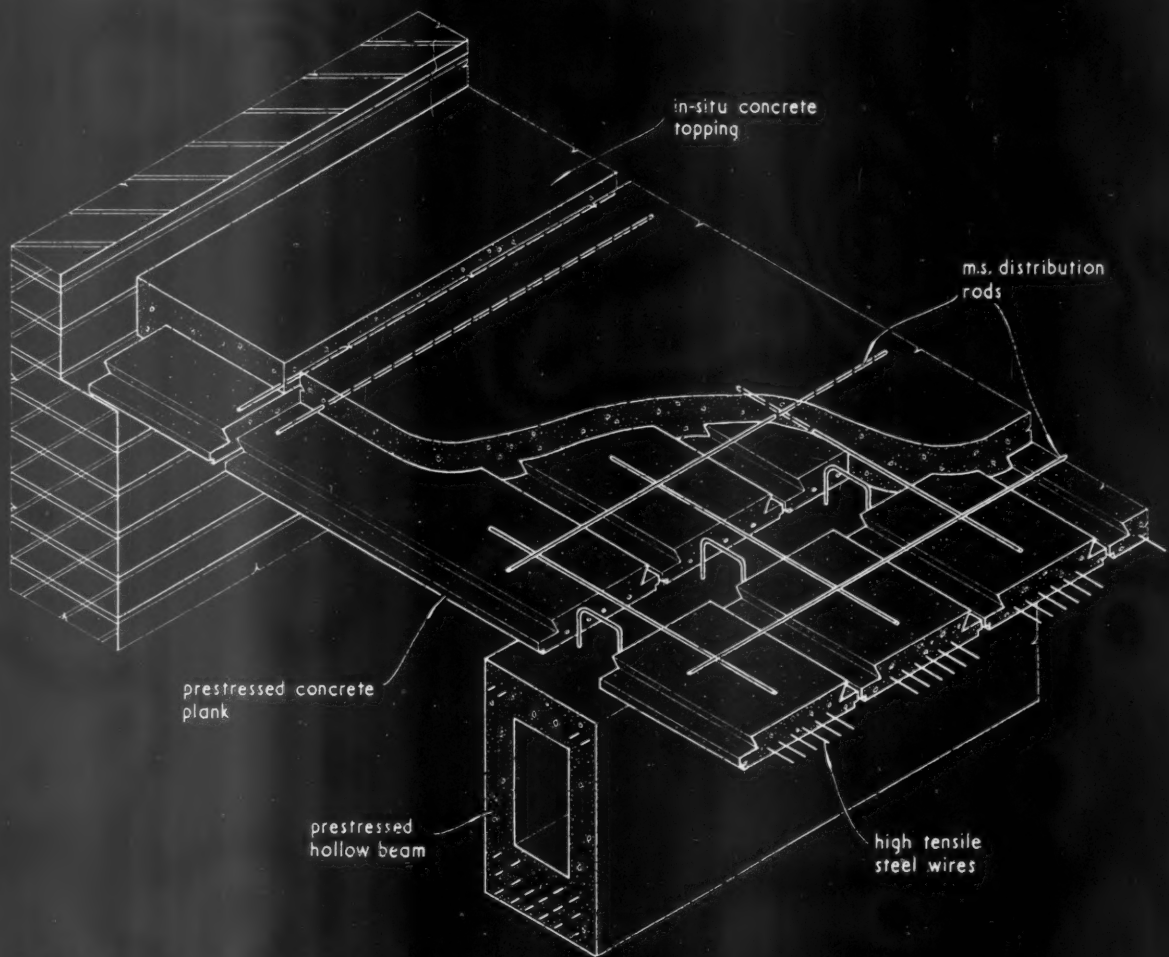
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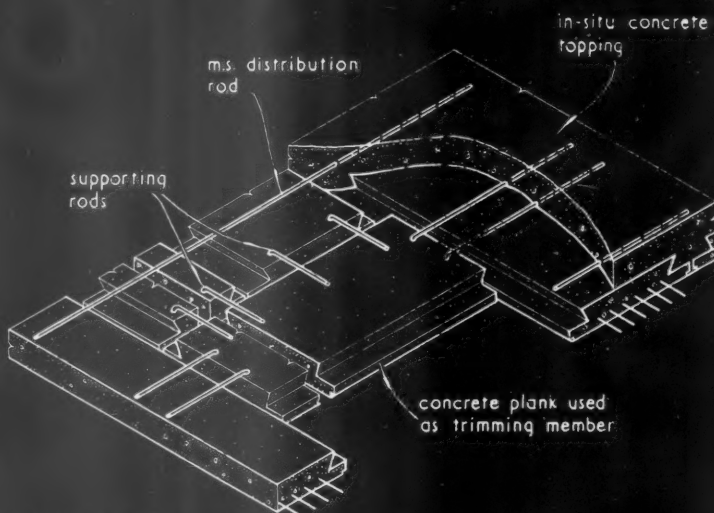
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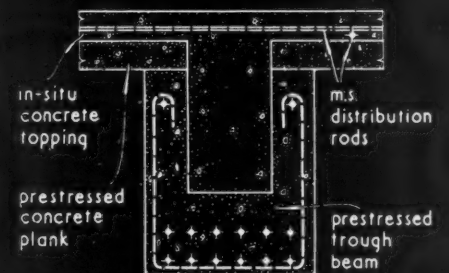
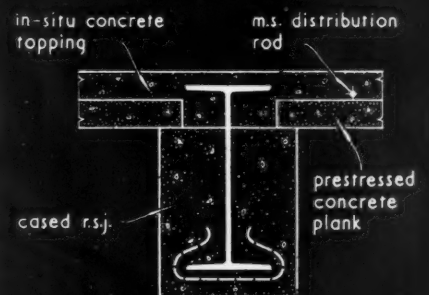




ISOMETRIC VIEW OF FLOOR WITH TYPICAL BEARINGS



DETAIL OF OPENING



TYPICAL BEARING DETAILS



## 20.D2 • BISON • PLANK FLOOR

This Sheet describes the Bison plank floor. The drawings on the face show a general view of the flooring, the method of trimming at openings and sections through typical bearings. The floor is designed according to the method approved by the Ministry of Works and the London County Council.

### General

The flooring system can be used in any situation where an in-situ concrete floor would normally be used. It consists of precast prestressed concrete planks with in-situ topping. No shuttering is required, and a minimum of support is needed for the planks during the pouring of the in-situ concrete. It is particularly suitable for T-beam construction and is easily adaptable for openings and balconies. Services can be accommodated in the floor thickness.

### Components

The planks are of prestressed reinforced concrete, shaped as shown in the drawing on the face of the Sheet. They are normally 10 in. wide by 2 or 2½ in. deep and are obtainable in lengths up to 18 ft. 0 in. Special widths can be made for use where holes for service pipes etc. are required.

### Fixing

Bearing can be taken on loadbearing walls, plain or cased r.s.j.'s or reinforced concrete beams. Contiguous bays may bear on a 4½-in. wall. It is usual to have a 2-in. bearing on end supports. Spans up to 8 ft. 0 in. require no temporary support before the in-situ concrete is laid, and spans up to 15 ft. 0 in. require a single prop only. The planks are normally propped to a ¼-in. camber, a small part of which disappears when the props are removed, leaving the floor level.

To obtain a minimum thickness the in-situ topping should generally be of 1:1½:3 concrete. Where there is weigh-batching control it may be possible to reduce the cement content, as the maximum stress taken in the topping is 1,250 lb. per sq. in., which requires a concrete strength of 3,750 lb. per sq. in. at 28 days. Maximum economy is obtained by using a vibrated screed on the topping, in which case 10% higher stresses can be applied. In the case of medium and short spans a slight increase in the topping thickness permits the use of normal-grade site concrete. For floors the topping is normally from 2 to 2½ in. in depth with ¼-in. m.s. distribution rods at 2 ft. 0 in. centres; reinforcement can be incorporated to ensure greater transverse rigidity

under heavy partitions or concentrated loads. For roofs, 2-in. deep planks are used with 1-in. topping. Casing for r.s.j.'s can be poured at the same time as the floor, with consequent saving in time and labour. Service pipes, etc., up to 1 in. in diameter can be included in the floor thickness.

The underside of the planks may be keyed for plaster or, where this finish is not required the joints may be pointed.

**Openings:** Trimming for openings is quite simply carried out, as shown in the drawing on the lower face of the Sheet, by a cross plank held in position by supporting rods. The curb for a roof-light can be cast in-situ on top of the prestressed plank to form a composite L-shaped beam.

### Loading

The 4-in. composite prestressed floor has the same performance as a 6-in. solid or hollow tile floor with regard to deflections and load-carrying capacity. The following examples are given for comparison:

Total thickness of floor or roof	Length of plank (ft. and in.)	Max. safe load (lb./sq. ft.)
4 in. (2-in. plank + 2-in. topping)	15 0	50
	13 6	80
	12 6	112
	10 0	224
5 in. (2½-in. plank + 2½-in. topping)	18 0	60
	16 6	80
	15 0	112
	12 0	224
3 in. (2-in. plank + 1-in. topping)	15 0	15
	14 0	30

### Further Information

The manufacturer maintains an advisory department which is available to answer questions and advise on problems dealing with this subject generally. Full design data are available on request.

Compiled from information supplied by:

Concrete Limited.

Address: 16, Northumberland Avenue, London, W.C.2.

Telephone: Whitehall 5504.





TRADE NAME	DESCRIPTION AND APPLICATIONS	THICKNESS	WEIGHT PER SQ. FT.	STANDARD SIZES
Lloyd insulation board	made from long, tough wood fibres—cellular construction internal use only for sound and heat insulation; for ceilings, wall linings, permanent shuttering to concrete, floor underlays	1/2 in.	0.7 lb.	6 ft. 0 in., 8 ft. 0 in., 9 ft. 0 in., 10 ft. 0 in. and 12 ft. 0 in. long x 2 ft. 0 in. and 4 ft. 0 in. wide
		3/4 in.	1.0 lb.	8 ft. 0 in. long x 3 ft. 0 in., 3 ft. 4 in. and 3 ft. 6 in. wide
Lloyd standard hardboard	a highly compressed fibreboard giving a high degree of resistance to wear and moisture for all internal uses; wall linings and partitions, panelling, flush doors, furniture etc.	1/8 in.	0.68 lb.	6 ft. 0 in., 8 ft. 0 in., 9 ft. 0 in., 10 ft. 0 in. and 12 ft. 0 in. long x 4 ft. 0 in. wide
		3/16 in.	1.00 lb.	8 ft. 0 in. long x 5 ft. 0 in. wide 6 ft. 6 in. long x 2 ft. 6 in. and 5 ft. 0 in. wide
Lloyd leathergrained hardboard	as Lloyd standard hardboard but with one surface patterned during manufacture to produce a leather-grain effect	1/8 in.	0.68 lb.	6 ft. 0 in., 8 ft. 0 in., 9 ft. 0 in., 10 ft. 0 in. and 12 ft. 0 in. long x 4 ft. 0 in. wide
		3/16 in.	1.05 lb.	8 ft. 0 in. long x 5 ft. 0 in. wide
Lloyd super hardboard	similar material to standard hardboard but hardened by a special process to give superior strength and surface for internal or external use; concrete form lining, floor covering etc.	1/8 in.	0.72 lb.	8 ft. 0 in. long x 5 ft. 0 in. wide
		3/16 in.	1.05 lb.	8 ft. 0 in. long x 5 ft. 0 in. wide

LLOYD BOARDS: RANGE, STANDARD SIZES AND TYPICAL APPLICATIONS.  
Manufacturer: Bowaters Building Boards Ltd.



## 15.B1 LLOYD BOARDS: RANGE, STANDARD SIZES AND TYPICAL APPLICATIONS

This Sheet supersedes Sheet 15.B1 published 8.1.53 and tabulates the range of Lloyd insulation and hardboards and gives standard sizes, properties and typical applications for each type.

*Lloyd insulation boards* have a low thermal transmission value (conductivity  $k = 0.35$  B.Th.U./sq. ft./hr./1 deg. F./1 in. thickness). The sound absorption coefficient is 0.30 (average) on 2 in. by 1 in. nominal battens at 1 ft. 4 in. centres. As a base for plaster these boards minimise drumming.

*Thermal conductivity of a sample of Lloyd  $\frac{1}{2}$  in. insulation board (approximate density of insulation board:  $16\frac{1}{2}$  lb. per cu. ft.):*

Cold face temperature		Hot face temperature		Thermal conductivity	
				Gram. cal. per sq. cm. per second for 1 cm. thickness and 1 deg. C. difference in temperature	B.Th.U. per sq. ft. per hour for 1 in. thickness and 1 deg. F. difference in temperature
Deg. C.	Deg. F.	Deg. C.	Deg. F.		
18	64	30	86	0.00012	0.35

*Lloyd standard hardboard:* This is manufactured entirely of wood fibres highly compressed to give

a high degree of resistance to wear and moisture. The board is of a homogeneous nature and rich brown in colour, glazed on one face and textured on the other. Although the natural finish is pleasing, it also provides an excellent base for all forms of decoration, as described on Sheet 15.C4. Boards can be cut and worked with ordinary woodworking tools and can be bent to any reasonable curve without steam.

*Lloyd leathergrained hardboard:* This is similar to standard hardboard but one surface is patterned during manufacture to represent a leather grain.

*Lloyd super hardboard:* This is similar to standard hardboard, but possessed of greater strength, moisture resistance and wearing properties. It is specially recommended for concrete form lining, floor covering, van bodies and all external uses.

*Compiled from information supplied by:*

**Bowaters Building Boards Limited.**

Address: Bowater House, Stratton Street, London, W.1.

Telephone: Grosvenor 4161.

**Irish Wallboard Company Limited.**

Address: Athy, County Kildare.

Telephone: Athy 80.

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Editor: Cotterell Butler, A.R.I.B.A.

## TECHNICAL SECTION

The Beaver Report on Air Pollution stated that smoke emission could only be stopped by prohibiting the use of bituminous coal, and this prohibition is in fact enforced in a "smokeless zone." Dr. Harold Hartley, the Chairman of Radiation Ltd., speaking at this year's CUC Convention, questioned the validity of the banning of bituminous coal. He pointed out that an up-draught fire burning "smokeless" fuel produces almost as much smoke as a down-draught closed fire burning small bituminous coal. Quoting Dr. Foxwell's statement (in an Appendix to the Beaver Report) that we could not get a sufficient supply of "smokeless" fuels for 10-15 years, Dr. Hartley suggested that we should have an agreed definition of "smokeless" and that we could get rid of the black areas more quickly by using down-draught appliances which would burn small coal "smokelessly." This seems very sensible. It is interesting to note that Radiations Ltd.'s "Heatmaster" (mentioned in "The Industry" of May 5), which was recently tested in five maisonettes in Coventry, burns coal or coke. Unfortunately most of the tests had to be confined to coke as the maisonettes were in Coventry's "smokeless zone."

Committee on Air Pollution Report, Nov. 1954. HMSO. 2s. 6d.

This week's  
special feature

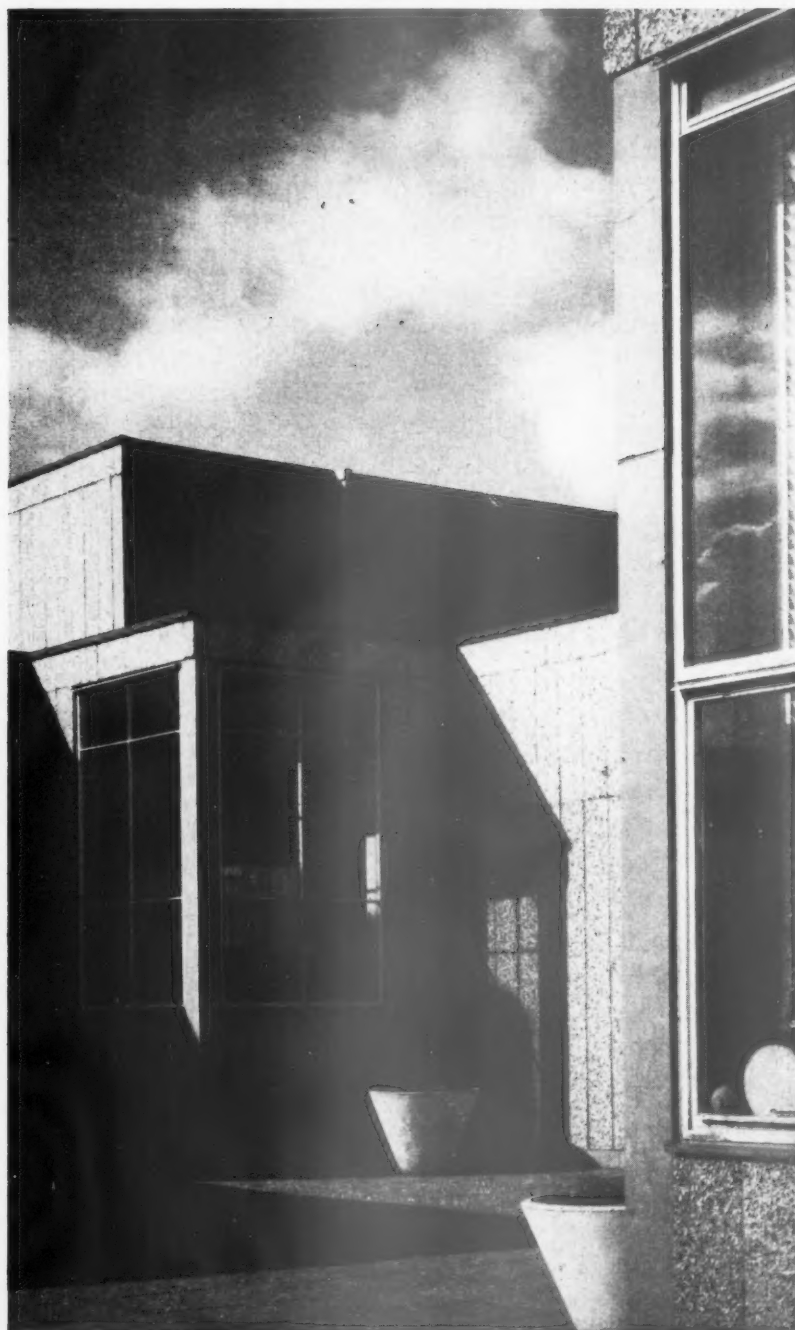
### 10 DESIGN: BUILDING TYPES Hertfordshire schools development: 2

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

*In our issue of May 12, 1955, W. D. Lacey and H. T. Swain began their series of articles on the development work carried out by the Herts County Architect's Department on their school building programme. This first article described the principles on which the department worked and gave a record of the first prototype, Cheshunt J.M.I. Infants' section, and the two prototypes which followed, the Junior section of Cheshunt J.M.I. and Essendon J.M.I. This week the same authors carry the story on a stage further by recording the changes which were made to frame, roof, walls and partitions for the eight schools in the 1947 programme and for the 21 schools in the 1948/49 programme. To which last must be added the ten primary schools of the 1950 programme on which the same detailing was used.*

The prototype constructional system developed over two stages at the Cheshunt JMI school (described in the first article in this series, AJ May 12, 1955) had to be developed further for the 1947 programme. This necessitated an expansion to mass production scale, since the 1947 programme consisted of

eight schools. Unfortunately the Cheshunt school could not be completed before work was due to start in the drawing office on the year's programme, but meetings between the architects and production and design engineers were held to reconsider the constructional system in the light of experience



gained so far.

This article describes two more phases in the evolution of the four basic elements of frame, roof, walls and windows and internal partitions. The first phase relates to development work carried out for the 1947 programme, the second phase to work carried out for the 1948/49 programme.

In 1950 an important change came about in the department due to the fact that the County was for the first time faced with a large secondary school programme. To meet this situation it was decided to form two separate groups: one for primary schools and the other for secondary schools. The primary group decided to persevere with the same structural details used in 1948/49 for the 1950 programme. For this reason the 1950 primary schools are included in this article. The criticisms relating to this phase are based on experience gained in the three years from 1948 to 1950 inclusive.

The next article will discuss the development in heating, and the next but one the development in fittings. Both will carry their subject through from phase 1, the Cheshunt Infants section, to phase 4, the 1948/49 programme.

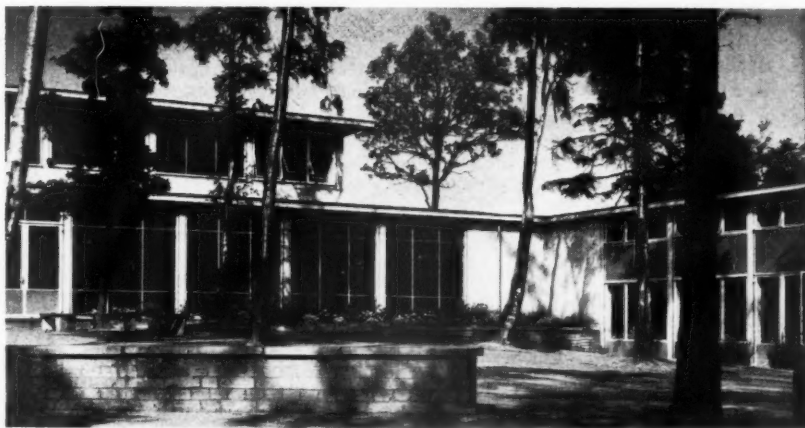
*Note for readers:* All articles in this series which relate to structure are designed on the same layout. Each phase in the development is represented by four sections each occupying one full column and treating respectively the frame, the roof, walls and windows, and internal partitions. To understand the significance of each section it is therefore necessary to compare it with the corresponding section in the previous phase. To quote an example, the frame section on page 720 must be compared with the frame section on page 650 in the issue of May 12.

*Left, two schools from the 1947 programme. Top, Strathmore Avenue Infants' School, Hitchin. Bottom, detail of Little Green Lanes Junior School, Croyley Green. The schools in this programme had flush eaves; the walling blocks were arranged vertically as opposed to the horizontal blocks used on the prototype.*

*Three schools  
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Three schools from the 1948/1949 programme. Right, Templewood J.M.I. School, Welwyn Garden City.



Left, Aboyne Lodge Infants' School, St. Albans.

Right, Morgan's Walk J.M.I. School, Hertford. The difference in character of these schools compared with those of the previous programme is remarkable; it is mainly accounted for by the re-introduction of a wide eaves and the use of a white wall block.





## 1947 PROGRAMME

### DEVELOPMENT WORK

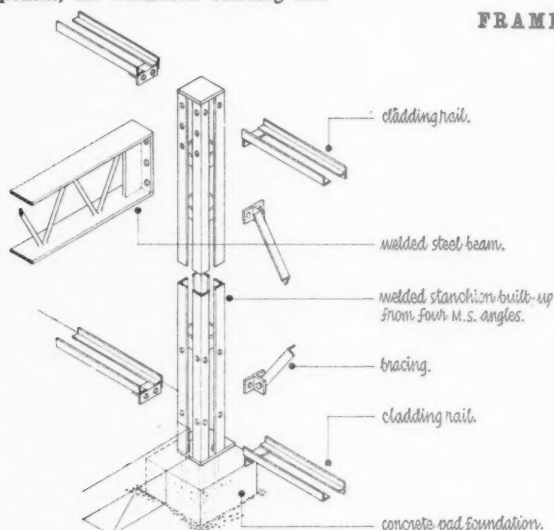
This programme consisted of eight schools; the system had therefore to be developed from the prototype to mass production scale. Unfortunately the timing of the jobs did not allow the completion of the Cheshunt Junior School before work was commenced in the drawing office on the 1947 programme.

Meetings between the architects and the production and design engineers resulted in a standardized form of stanchion with the following advantages:

- (1) All possible combinations of beam connections, windows, wind bracings and cladding rails were catered for. Drawing office work was simplified by punching the shaft with the maximum number of holes necessary to deal with any combination of parts.
- (2) The number of stanchion types for a single storey building was reduced to 3 (low, medium and high).
- (3) A convenient change of level, 3 ft. 5½ in., between parts of the school could be achieved with the standard heights.
- (4) Cables and pipes up to 1½ in. dia. could be passed through the stanchion vertically and horizontally.

The new form of stanchion necessitated re-design of the end connection of the beam and at the same time the manufacturer modified the lacings in order to reduce the number of welds.

Developments to the concrete walling introduced a new steel component, the horizontal cladding rail.



FRAME

### CRITICISM

**Drawing office.** The new steel frame design was a great improvement on previous versions, since the members were standardized and had only to be detailed once for the whole programme. This meant that steelwork drawings were merely layout drawings, while junctions between partitions and stanchions, and also all fibrous plaster work could all be standardized.

**Manufacture and erection.** The standard frame was more straightforward to manufacture and quicker to erect because of the greater speed with which components could be recognised on the site. The degree of standardization enabled the manufacturer to produce components at a time most convenient in the organization of the factory and to stockpile them against site requirements.

Unfortunately these advantages were partially invalidated by the shortages of skilled labour and materials which were prevalent at the time, but in order to ascertain the potentialities of the system a carefully planned erection operation was carried out on one job. The result was that half of the steel frame for the whole school was put up in a day, only a small gang of erectors being required on the job afterwards to complete plumbing and lining of steelwork.

The principal disadvantage associated with the erection of the frame was the time required to excavate holes by hand for the concrete foundation pads of the stanchions.

### DEVELOPMENT WORK

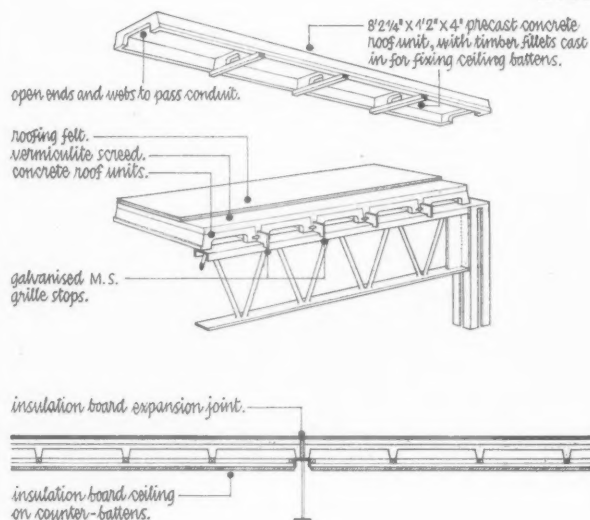
In order to provide an even surface for the laying of the felt it was decided to introduce a screed, and since this could be used to provide equivalent insulation the lightweight concrete panels in the roof blocks were omitted: dense precast concrete blocks with panels and ribs of the same mix were used instead.

The softwood fillets for fixing the counterbattening were dropped below the level of the ribs so that they could be trimmed *in situ* to take up fixing and casting irregularities.

The design of this new unit was discussed with Hills, who were unable to take on the manufacture of it because of the other commitments of their concrete works.

Arrangements were made with Millbank Floors Limited, a local firm, to make the roof blocks. This firm were already working on a roof block similar to that which the architects had in mind. The details of the block were worked out through collaboration between the architects and the managing director, who was also the designer.

### ROOF



### CRITICISM

**Drawing office.** The standard roof block, together with the range of specials for trimming around rooflights, ventilators, flues and at changes in level, worked satisfactorily. All *in situ* concrete work (except for screeding) had now been omitted.

**Manufacture and erection.** The manufacture of the roof blocks was impeded by the national shortage of bar reinforcement. In order to keep up with the rate of demand from the sites, mesh reinforcement salvaged from war-time aerodromes was cut into bars and used for the blocks. Complications arose when it was found that the blocks using this reinforcement were incapable of standing up to the loading tests. In addition, the speed of manufacture and erection was slowed down by labour shortages and the limited size of the manufacturer's organization.

The erection of the blocks was facilitated by the use of carrying handles. These enabled them to be lowered into position without damage to adjacent blocks. All blocks were erected manually.

Despite the material and manufacturing problems encountered on the programme, the roof was an improvement on previous jobs. The vermiculite screed provided a good base for the felt, although owing to its softness the movement of workmen on the roof before the felt was fitted had to be controlled. The fixing of the ceiling battens was more accurate than previously.

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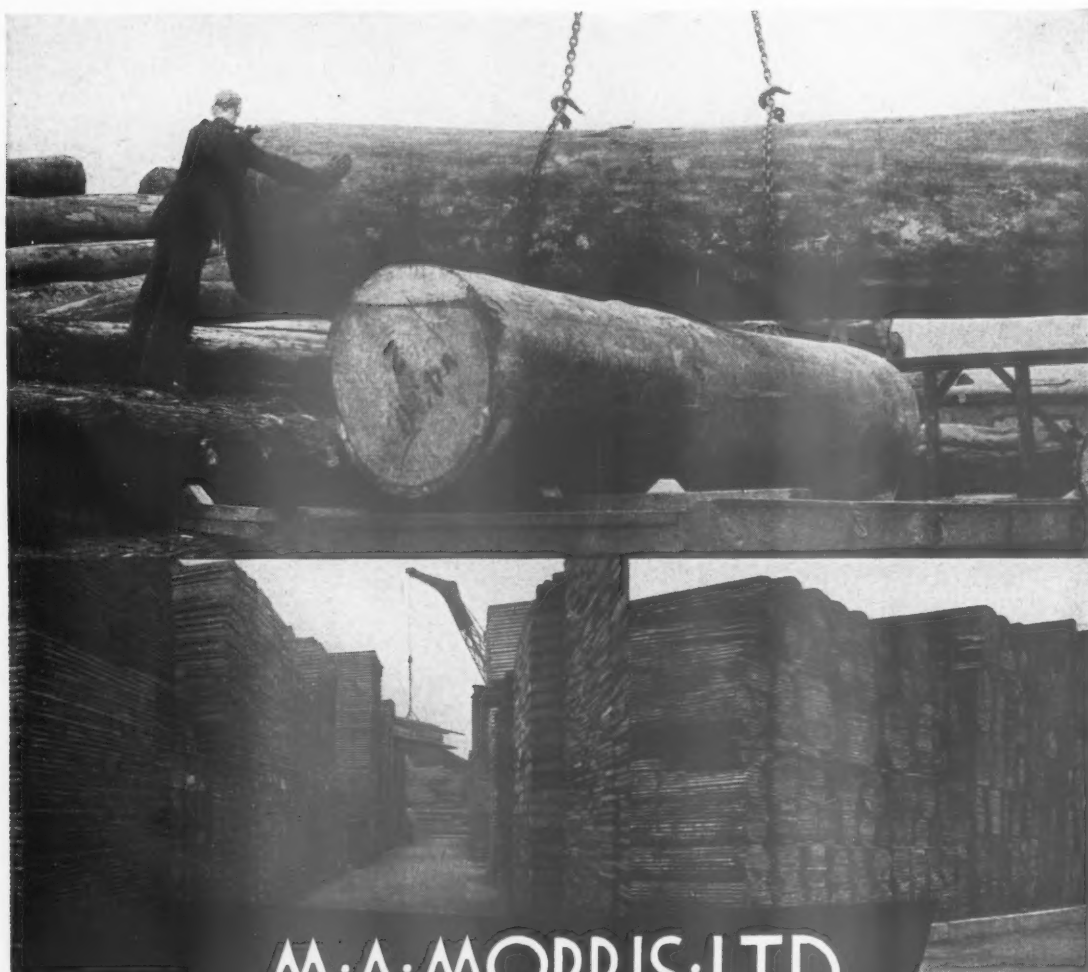
**FALKIRK** Etna Road, Falkirk. Falkirk 1585

**EDINBURGH** Sighthill Industrial Estate, Edinburgh. Craiglockhart 1729

CON/29

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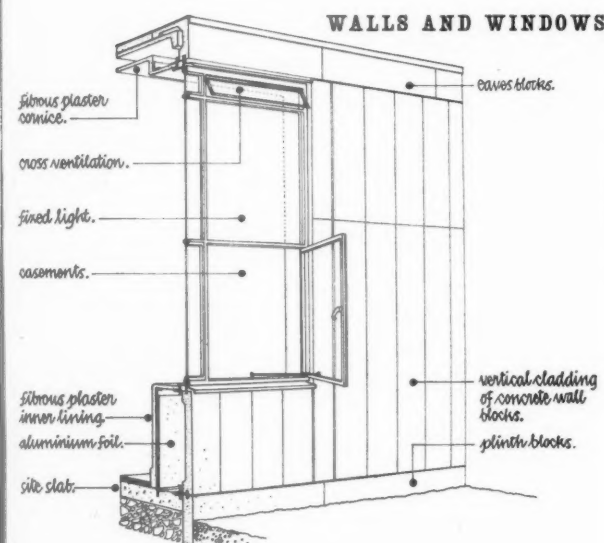
## 1947 PROGRAMME

### DEVELOPMENT WORK

The architects came to the conclusion that the disadvantages of the existing walling could be overcome by adopting a walling system using vertical concrete blocks instead of horizontal.

The problems of fixing the new system to the steel frame were discussed with Hills. This period—early 1947—was a particularly difficult one in the building industry owing to national shortages of cement and steel. For this reason Hills decided that they were unable to undertake the manufacture of this new system of walling.

The Cement and Concrete Association were asked for the names of firms who would be willing to carry out the work. The whole of the design work, including the scheduling of the sizes and shapes of the reinforcing bars, was done by the architects. Eventually arrangements were made with Uniment Ltd. to manufacture the blocks.



### CRITICISM

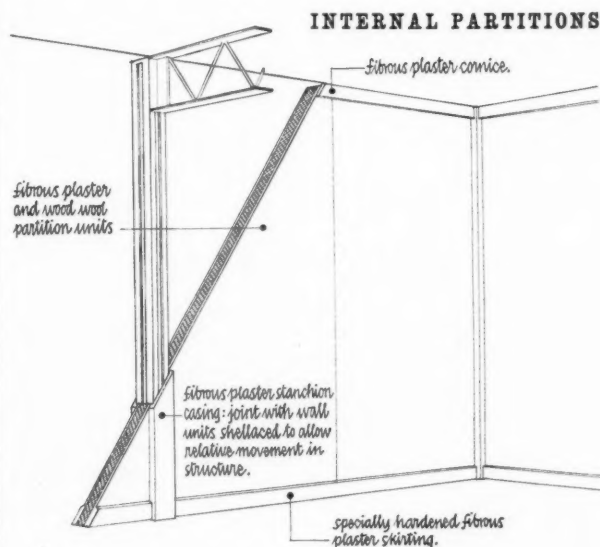
**Drawing office.** The new arrangement of wall slabs appeared to be very satisfactory.

**Manufacture and erection.** The wall slabs were not as pleasing in colour as had been hoped for. The face consisted of an exposed aggregate bedded in ordinary grey cement, with the result that the blocks looked flat and uninteresting. The architects had decided as an economy measure to use ordinary cement instead of white cement because on the small sample block this finish looked satisfactory. The finish was used throughout except for the stanchion slabs.

Some organizational problems were encountered at the beginning of the programme by the manufacturers not fully appreciating the standards of tolerance and finish required on the jobs. These problems were reduced by a Clerk of Works spending some time at the factory and inspecting the units before they were despatched. One criticism of the walling system which became apparent as the jobs were going up was that no tolerance for thermal movement had been allowed between the roof and the wall. This resulted in a certain amount of hair-cracking in the vertical and bedding joints of the cornice blocks.

### DEVELOPMENT WORK

Very little erection experience was available when the schools in this programme were being designed; it was therefore decided to proceed with the same form of partition as on the Cheshunt Junior School.



### CRITICISM

**Drawing office.** There appeared to be no major difficulties in relation to the design of the partition system.

**Manufacture and erection.** During the early stages of the programme it became obvious to the architects that the labour force of one fibrous plaster firm would not be able to cope with the work of manufacturing and erecting partitions on eight schools at the same time; arrangements were therefore made with several other plaster firms to erect the partitions on some of the jobs. Unfortunately the number of skilled fibrous plasterers available for the work was still insufficient for the jobs to be done in a reasonable time. As an expedient it was therefore decided to build the partitions in the assembly hall, dining and kitchen areas of the schools with clay pots and *in situ* plaster. In this way a certain amount of additional labour was tapped for the work.



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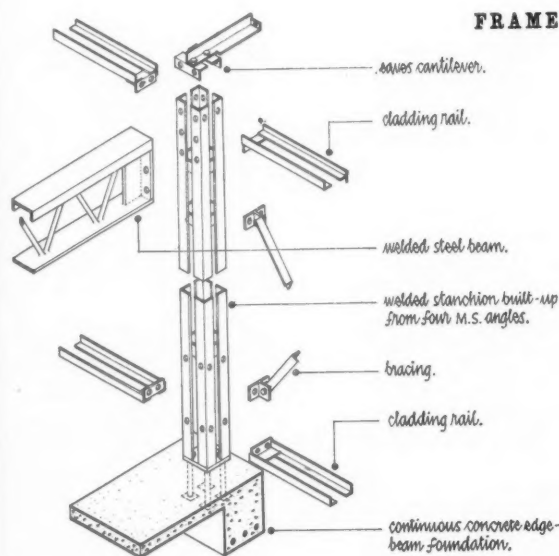
## 1948/1949 PROGRAMME AND 1950 PRIMARY PROGRAMME

## DEVELOPMENT WORK

It was agreed that the design of the frame was basically satisfactory. Two changes in detailed design were, however, introduced for this programme. The first was in relation to the foundations: a "pin joint" base was adopted for the stanchions with the bolt within the shaft of the stanchion. This meant that the base plate could be raised to floor level without projecting bolt heads or plates showing on the finished job. The second modification was at the top of the stanchion where, owing to the redesign of the eaves, a steel cantilever bracket was required.

These changes gave a reduction in the depth of the foundations, which now on good sites became edge beams for perimeter stanchions and shallow pads for internal stanchions. It was also possible for the whole of the site slab to be laid before the steel erection so that in bad weather the erectors had a hard platform off which to work.

Both modifications were introduced as a result of criticisms by the architects and the details of the development were worked out jointly by the architects and engineers.



## CRITICISM

*Drawing office.* The steel frame was structurally very satisfactory but over the three programmes the range of standardized components had become too complex. For example, the number of different cladding rails had risen to 18. Further factors which suggested that some rationalizing of the frame was necessary were:

- The national shortage of steel.
- The introduction by the Ministry of Education of a cost limit of £140 per place on primary schools, which necessitated a reduction of cost on all structural items.
- The introduction of a satisfactory roof light for classrooms which meant that the height could be reduced from "medium" to "low." Since medium height stanchions had previously been essential in order to obtain adequate day lighting in classrooms, it now seemed possible to omit them except for the occasional changes in floor level.

*Manufacture and erection.* The manufacture and erection processes steadily improved as the programmes progressed. Having the concrete site slabs off which to work, the erection proceeded more rapidly, especially during the winter months.

## DEVELOPMENT WORK

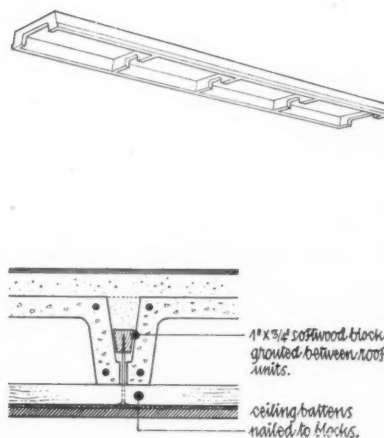
It was decided to continue with the same design of roof as used on the previous programme. The only changes made were in connection with the screed and the fixing of the battens.

In order to get over the limitations of the soft screed, a  $\frac{1}{2}$  in. topping of cement and sand was introduced so that the surface was harder for working on.

The wooden noggings cast into the blocks were omitted and various methods of fastening the ceiling battens by fixing in the joints of the blocks were tried. The method mostly adopted was that shown on the drawing. A woodwool ceiling was introduced in assembly halls and dining rooms to provide a greater degree of sound absorption. This was fixed to battens in a similar way to the insulation boards.

The roof blocks on the first four schools were made by Millbank Floors Ltd. and for the remainder of the programme by Dow-Mac Ltd.

## ROOF



## CRITICISM

*Drawing office.* The roof system generally was satisfactory; the developments which had been introduced were an improvement on the previous programme.

The schools were proving in practice to be rather too noisy and it seemed necessary to find an alternative ceiling finish which would help to reduce this disadvantage.

For buildings which were mostly simple single-storey structures the use of a heavy concrete roof seemed to be a misuse of materials, and it was thought that the possibility of designing a lightweight roof should be investigated.

*Manufacture and erection.* The manufacture and erection of the roof blocks proceeded satisfactorily. The time required to erect the roof and ceilings was excessive and it appeared that some simplification of the erection processes was necessary to reduce cost and save time. The slowest single operation was the fixing of the ceiling battens and boards, since this involved overarm work.

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## 1948/1949 PROGRAMME AND 1950 PRIMARY PROGRAMME

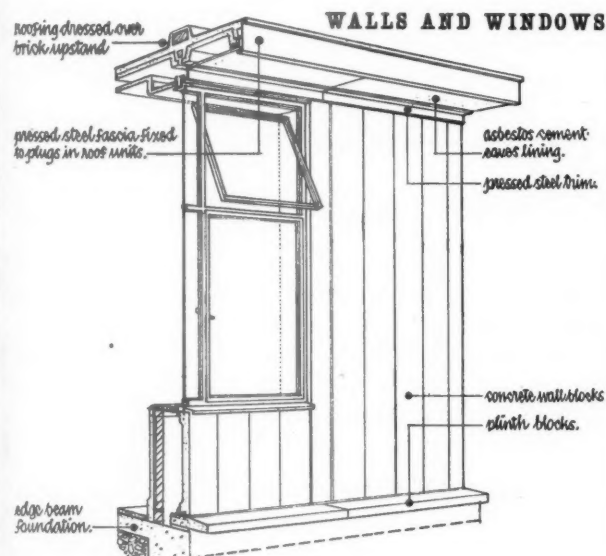
## DEVELOPMENT WORK

The consensus of opinion was that the system of walling was satisfactory but more attention ought to be given to the appearance of the buildings.

The first improvement was the introduction of a wide eaves, which also had the advantage of providing a tolerance between the wall and roof. As a result of discussions with Hills it became obvious that the standard of pressed metal work had improved since the Cheshunt eaves. The eaves was designed to use a pressed metal fascia and closure piece.

The second improvement was the adoption of a white wall block. This finish took two forms: on the first four schools it was a white cement and Derbyshire spar finish and on the remainder of the programme a white cement and sand finish scraped with a wire brush after application. The blocks for these last were manufactured by Orlit Ltd.

The redesign of the stanchion base necessitated changes to the plinth detail and the introduction of a concrete sill member. The reinforcement in the blocks was redesigned on the basis of handling stresses. Ove Arup and Partners, who were consultants to the Department generally, assisted in this work.



## CRITICISM

*Drawing office.* Aesthetically the walling was much more pleasing than on the previous programmes; with the white blocks the schools regained a great deal of the sparkle which had been missing since Cheshunt and Essendon.

In adopting the vertical wall block system it had been presumed that the possibility of having windows less than an 8 ft. 3 in. bay in width would be an asset; in practice it was found that the narrower windows were only used in a limited number of positions.

This experience, plus the fact that the range of cladding rails and the range of wall blocks necessary to standardize the system had become excessive, suggested a review of the walling.

*Manufacture and erection.* The manufacture and erection processes proceeded satisfactorily on the three programmes. In the 1948/49 programme the windows were of steel, made by Hills and Williams & Williams. On the 1950 programme mill finish aluminium windows, made by Gardiner Sons & Co. Ltd., were introduced.

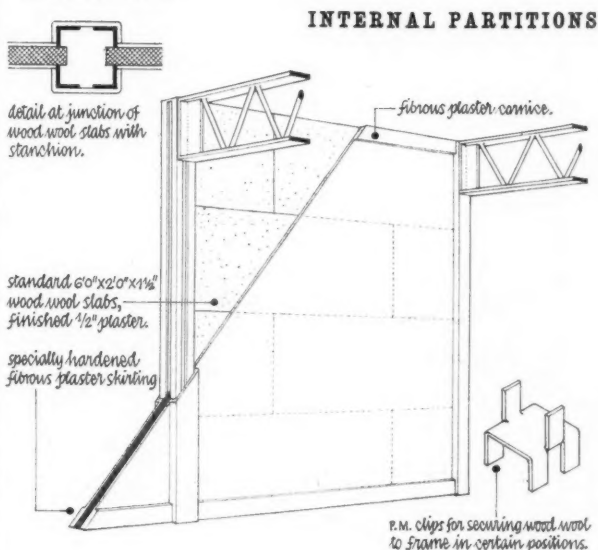
## DEVELOPMENT WORK

It was obvious to the architects that, with its other commitments at that time (including exhibition and film work), the fibrous plaster industry would not be able to deal with a large programme on schools where the work included stanchion casings, beam casings, cornices, internal linings and internal partitions. Since fibrous plaster was the only suitable material for the casings and cornices it was apparent that alternative methods for the internal partitions would have to be adopted.

The first system which was investigated was the *in situ* erection of a woodwool and plaster partition. This was used on the first part of the programme.

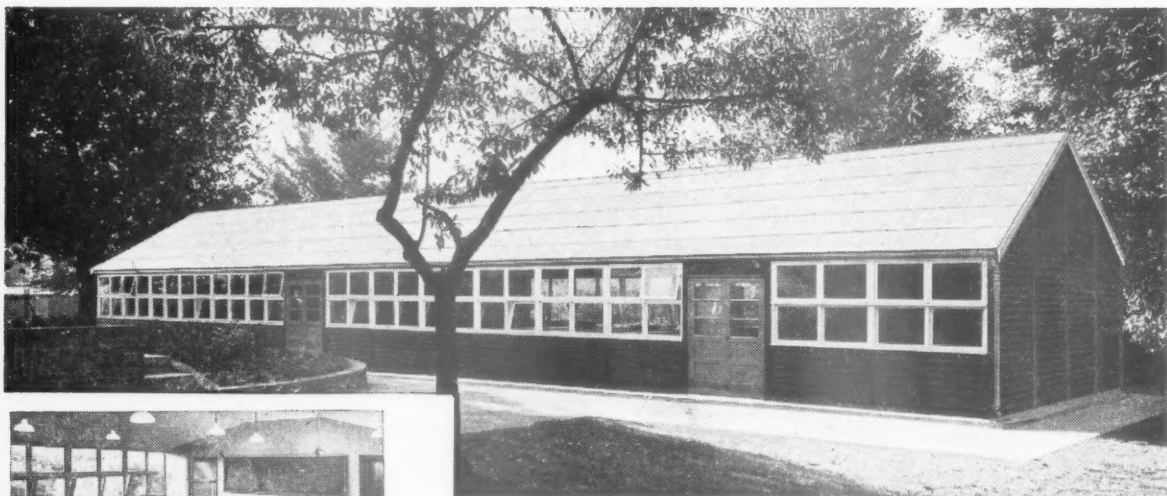
On later jobs in the programme a good quality clinker block was used. This had an advantage over the woodwool in that it was a traditional type of partition with which the general building contractors were familiar.

Although regretted, it was accepted that the conception of a system of internal partitioning using factory-made components would have to be shelved for the present. Clearly the fibrous plaster industry was unable to cope with the rate of building, and the alternative systems of dry partitioning were unsuitable for one reason or another.



*Editorial note:* In view of the fact that at an early stage it was accepted that a "wet" interior partitioning system would be necessary for some time, it is thought that it may be of interest to print here (see overleaf) details of a semi-prefabricated system which has recently been evolved, and which is at present under test on one of the Hertfordshire County's latest schools.





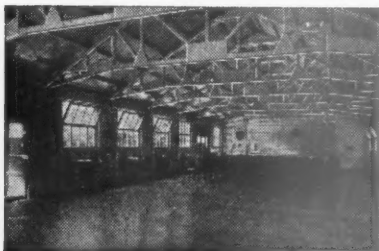
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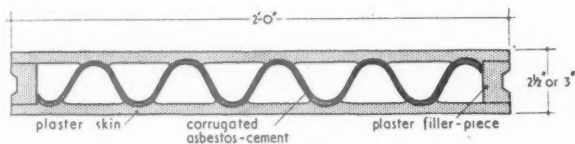
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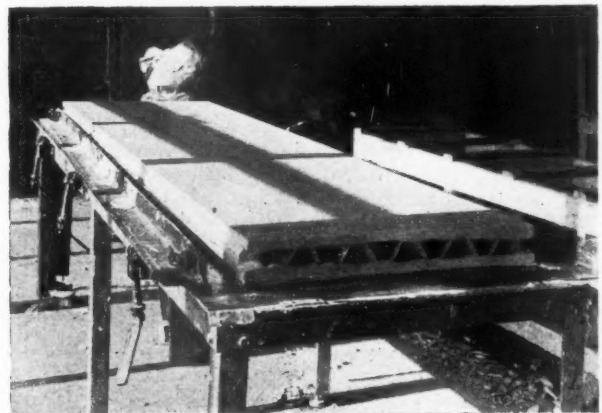
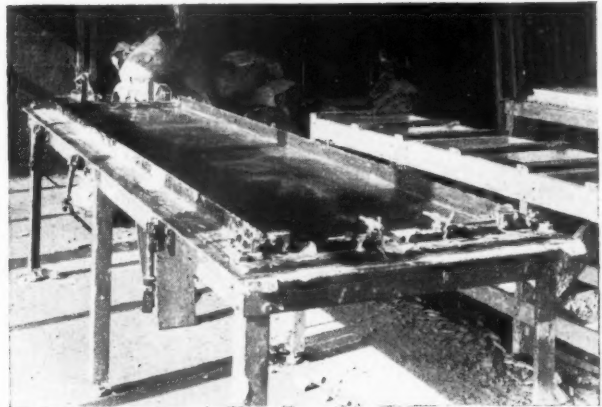
## PRECAST PLASTER-FACED WALLING UNITS

A new plaster-faced walling unit, the "Superpanel," has recently been developed. The photographs on this page show the system under trial as interior partitioning at a Hertfordshire County Council J.M.I. school now being built at Redhall, Hatfield. The panels, which are normally 2 ft. wide and can be up to 10 ft. high, each consist of a corrugated asbestos cement core, on either side of which is cast a skin of gypsum plaster, see section below. The plaster is treated with a special hardener which also produces a chemical bond between the two materials. This chemical bond is supplemented by a mechanical bond, provided by perforated aluminium cleats riveted to the corrugated sheeting.



Section through panel [Scale: 1 1/2" = 1' 0"]

Although the panels can be factory-made the manufacturing process has been so simplified that they can also be produced on the site. Each panel takes about 15 minutes to cast and is then ready for immediate erection. In this way damage through handling can be almost eliminated and the highly finished surface preserved. The top photo shows the plant, which consists of three benches, on two of which are stainless steel moulds. The plaster for the first skin is mixed and spread evenly in one of the moulds, which also has the edge filler-pieces placed in it. After a minute or two, when the plaster has begun to set, the corrugated core is pressed down upon it. The position of the core is regulated by fixed distance-pieces with wing-nuts. Within five minutes the plaster is sufficiently set to allow its removal from the mould, and the half-finished unit is placed, plaster face upwards, on the second bench. The operation is repeated, using another mould, for the other face, and work can be started on another panel while this is setting. Centre, the unit is removed from the mould; right, the unit in course of erection. The system can be used for either loadbearing or non-loadbearing walls, and is made in two thicknesses, 2 1/2 in. and 3 in. For loadbearing walls the 3-in units are used, and carry up to four tons per foot run. Joints between units are filled with gypsum plaster to give an unbroken surface. Supply and erection is carried out either by the patentees, or by licensee contractors. The patentees are Petradene Ltd., and the consultant architects Brunton, Baden, Hellard and Partners.



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## Buildings Illustrated

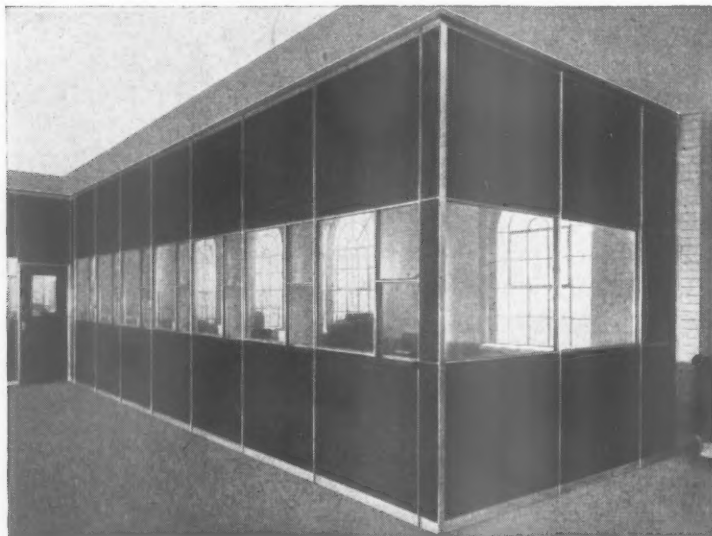
Rectifier Factory in Edinburgh Way, Harlow New Town, Essex, for Standard Telephones & Cables Ltd. (Pages 704-716.) Architects: Harlow Development Corporation, Frederick Gibberd, C.B.E., F.R.I.B.A., M.T.P.I.; Architect-planner: Victor Hammett, A.R.I.B.A., B.Sc., DIP.T.P., A.M.T.P.I., A.R.I.C.S.; Executive Architect: J. S. Rank, A.R.I.B.A.; Senior Architect: G. T. Goalen, B.A.R.C.H., A.R.I.B.A., A.M.T.P.I.; Senior Architect (Industrial Development): P. J. Darvall, B.A., A.R.I.B.A., DIP.L. ARCH., R. G. Binns, A.R.I.B.A., M. C. Brown, D.A. (Glas.), A.R.I.B.A., K. G. Ellis, D. G. Fenter, B.A. (ARCH.), A.R.I.B.A., J. A. Graham, B.A. (ARCH.), A.R.I.B.A., E. Jones, A.R.I.B.A., and H. Prins, B.A.R.C.H. (RAND.), A.R.I.B.A.; Assistant Architects: Bodfan Guffydd, F.I.L.A., Landscape Design: H. S. Sutton and H. Watson, Electrical Installations: Horace W. Langdon & Every, Quantity Surveyors: J. Clanachan, Clerk of Works: Wilson Lovatt & Sons Ltd., General Contractors: Sub-contractors: dampcourses, Permanite Ltd.; asphalt, Wainwright Paving & Contracting Co. Ltd., (acid resisting) Field & Palmer Ltd.; reinforced concrete, Holst & Co. Ltd. (Shell roof), Twistee Reinforcement Ltd. (Design and Reinforcement Supply, Office Block); bricks, Eastwoods Ltd. (London Stocks), London Brick Co. Ltd. (Fletttons); artificial stone, Stuarts Granolithic Co. Ltd.; terracotta, London Brick Co. Ltd. (hollow blocks); structural steel, Sommerfelds Ltd. (Stage I and IIa), Power's & Deane Ransome's Ltd. (Stage IIb); roofing felt, Engert & Rolfe Ltd.; partitions, Henry Hope & Sons Ltd., Geo. M. Hammer & Co. Ltd. (folding partition in canteen); glass, patent glazing, Faulkner Greene & Co. Ltd.; wood strip flooring, Acme Flooring & Paving Co. (1940) Ltd.; patent flooring, Marley Tile

Co. Ltd. (thermoplastic tiles); waterproofing material, Pudlo; central heating, Bearfoot & Bryett Ltd.; gas fitting, Eastern Gas Board; boilers, La Mont Steam Generator Ltd.; electric wiring, telephones, Standard Telephones & Cables Ltd.; electric light fixtures, General Electric Company Ltd.; stairtreads, Small & Parks Ltd. (Don), Bowes, Scott & Western Ltd. (Feralum); door furniture, Lockerbie & Wilkinson Ltd., Yale & Towne Ltd. (locks); casements, Henry Hope & Sons Ltd.; folding gates, Bolton Gate Co. Ltd.; roller shutters, Arthur L. Gibson & Co. Ltd., G. Brady & Co. Ltd.; ventilation, Bearfoot & Bryett Ltd.; plumbing, Henry Tattersall Ltd.; sanitary fittings, John Bolding & Sons Ltd.; plaster, Southern Counties Plastering Ltd., Jeffries & Grant Ltd.; metal work, V.M.E. Engineering Ltd.; joinery, P. H. Barker & Sons Ltd.; marble, Anselm Odling & Sons Ltd.; tiling, Zanelli Ltd., Parkinsons (Wall Tiling) Ltd.; textiles, Heal's Contracts Ltd.; wallpapers, Arthur Sanderson & Sons Ltd., Cole & Son (Wallpapers) Ltd., John Line & Sons Ltd.; furniture, Heal's Contracts Ltd.; shop fitting, A. Davies & Co. Ltd. (main entrance front); lifts, cranes, Herbert Morris Ltd.; clocks, Synchronome; signs, Chatwood Safe & Engineering Co. Ltd. (Webslight Division), I.R.S. Ltd. (Company Sign); water softening plant, Permutit Co. Ltd.; paint, Duresco Ltd., British Paints Ltd.

## Correction

Lionel Weaver, A.R.I.B.A., was responsible for the drawing of the bungalow at Corbiere illustrated in our Royal Academy feature, on May 5—not Lionel Weanor as we stated.

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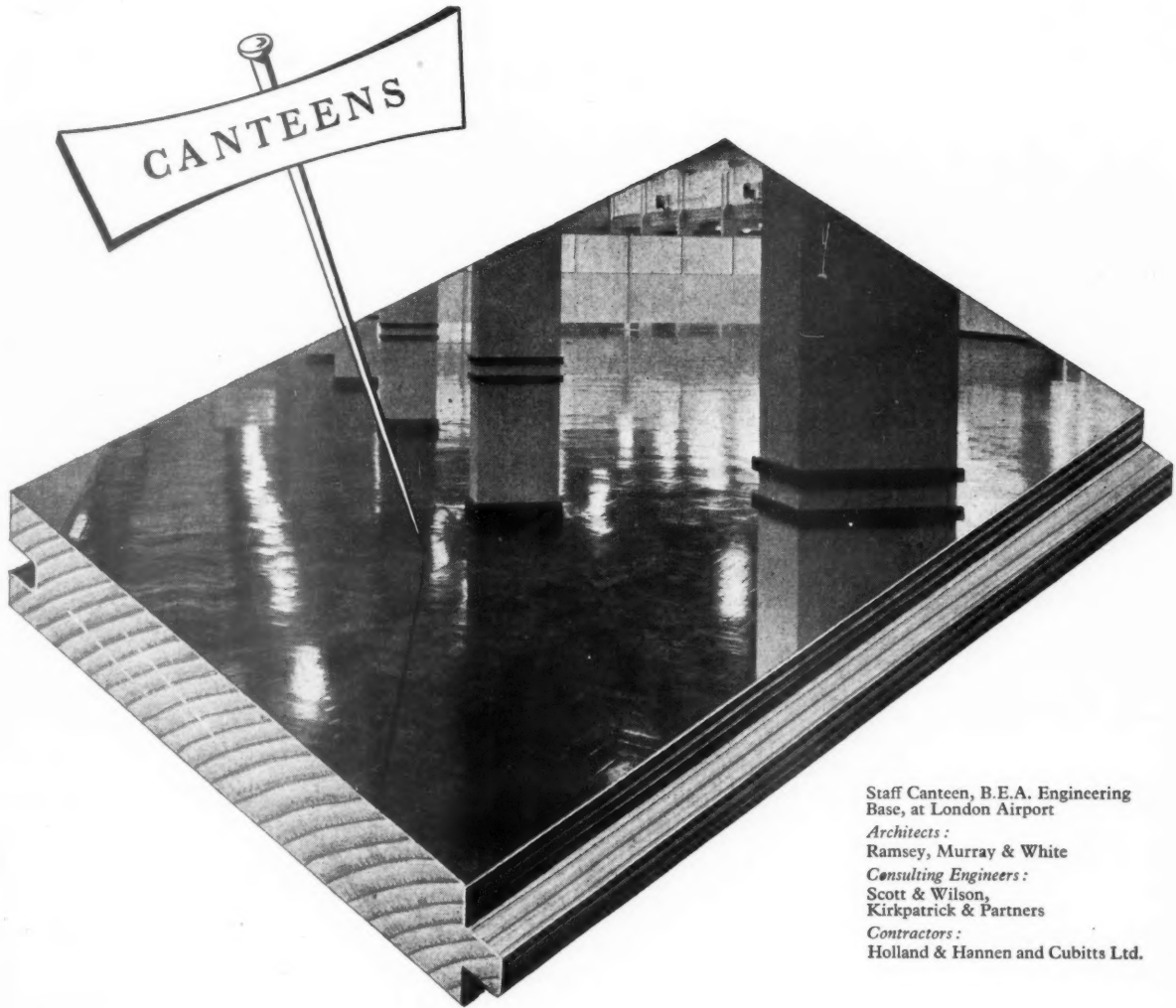
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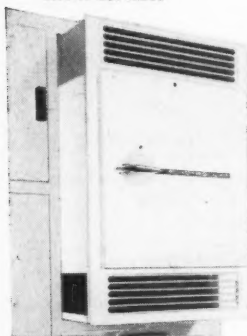


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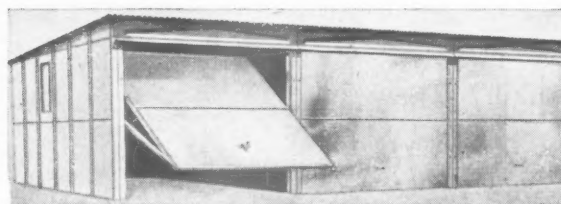
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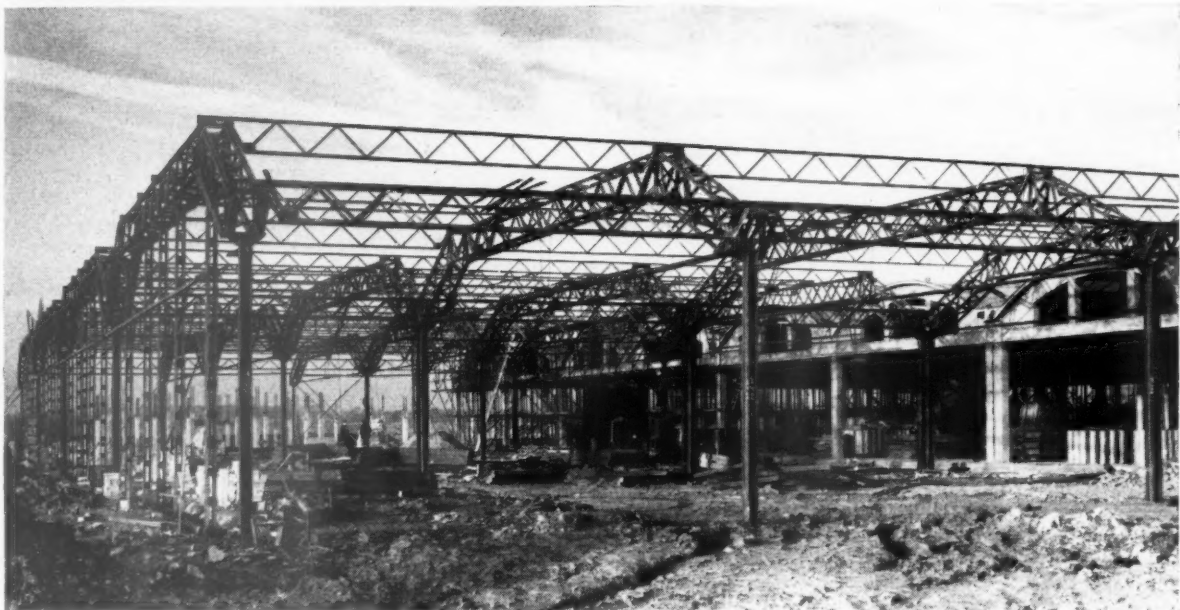
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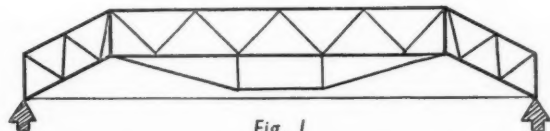
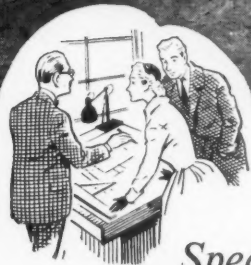


Fig. 1

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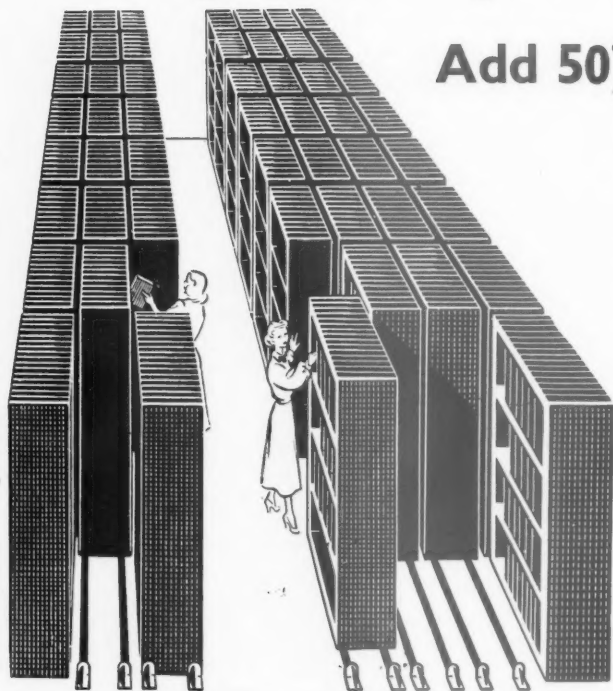
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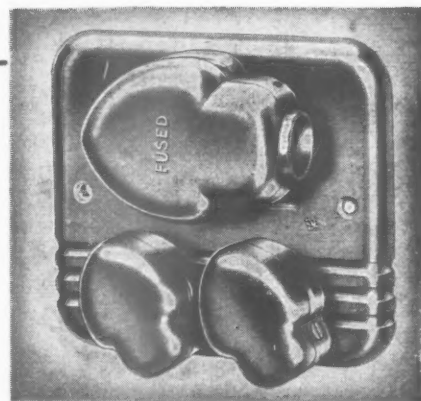


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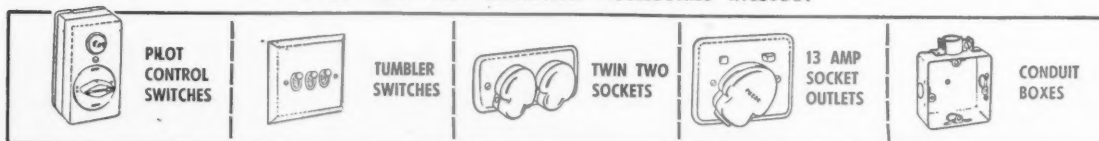
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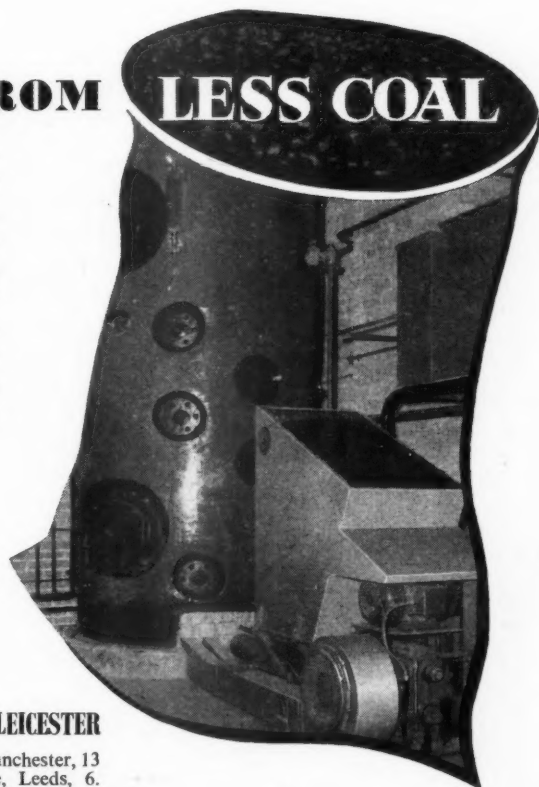
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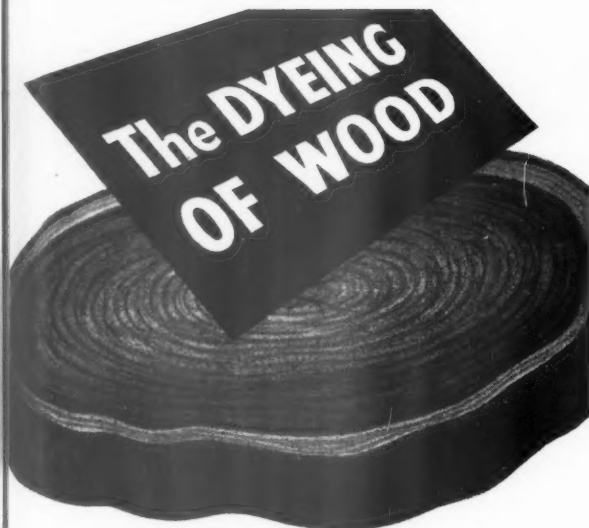
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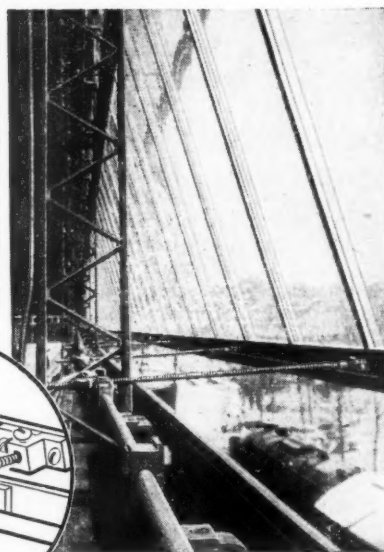
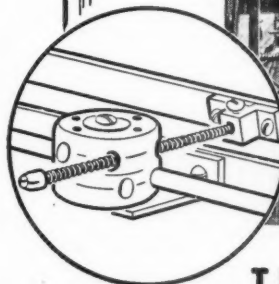
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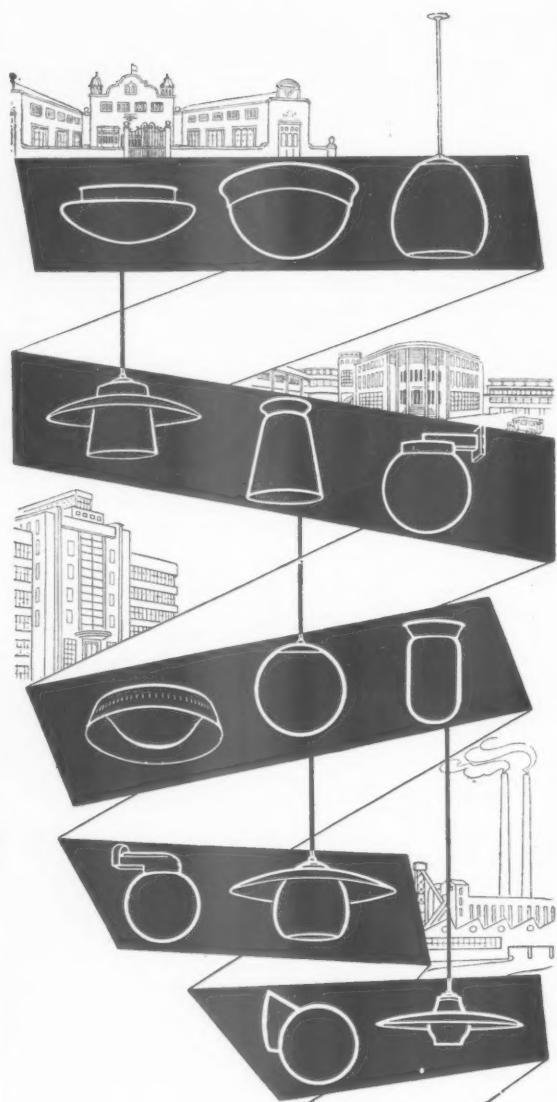
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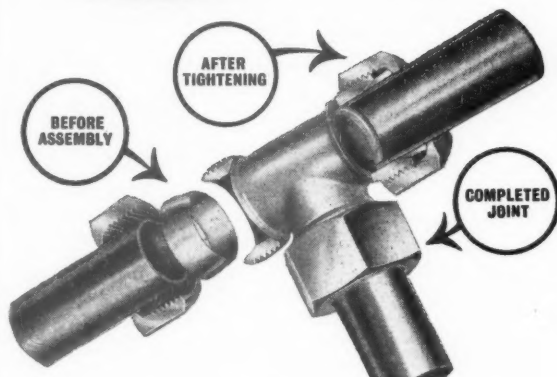
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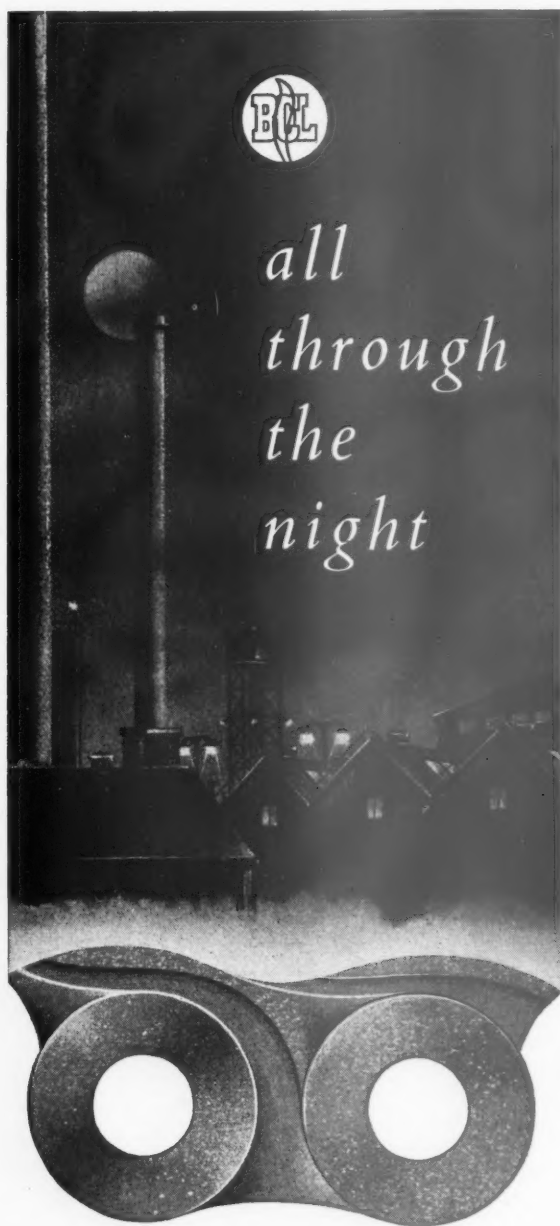
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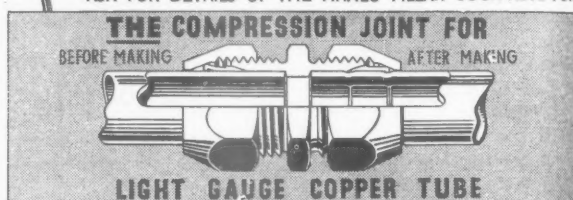
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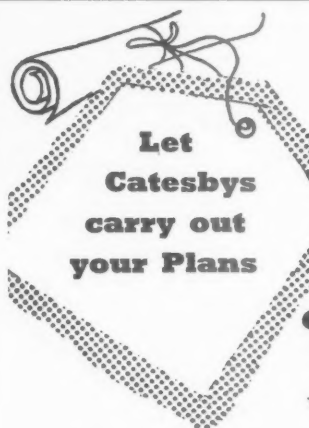
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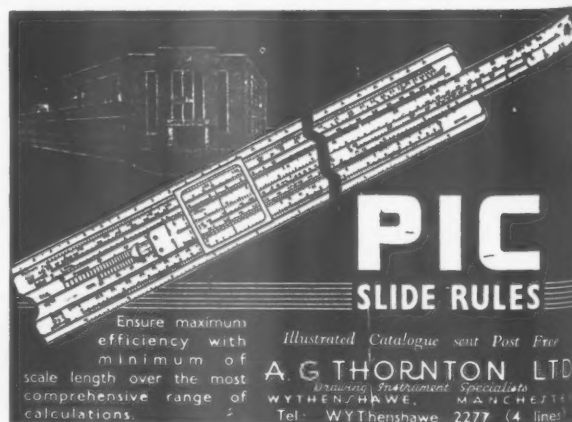
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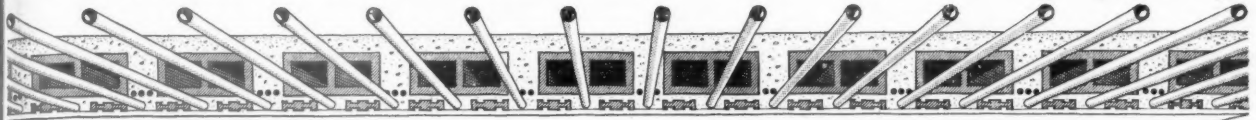
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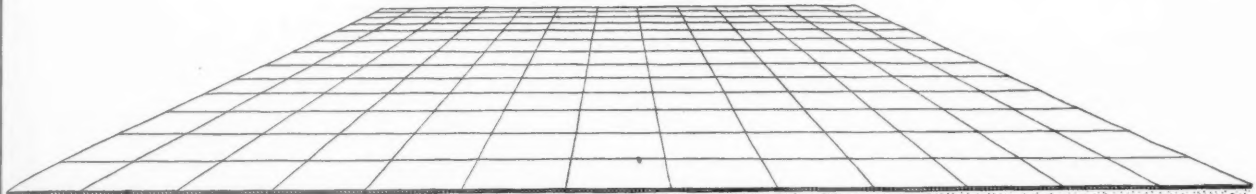
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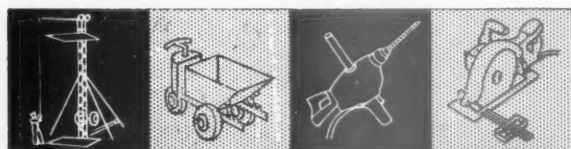
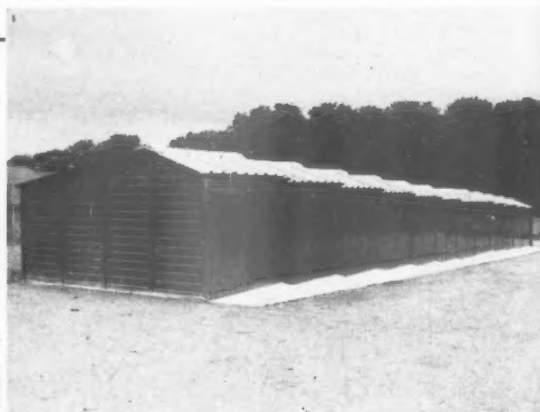
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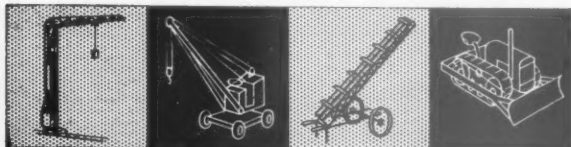
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ASSISTANT QUANTITY SURVEYOR, salary £625 × £25—£675.

ASSISTANT QUANTITY SURVEYOR, salary £675 × £30—£825.

The appointments will be subject to the provisions of the Local Government Superannuation Act, 1937, and the N.J.C. Scheme of Conditions of Service so far as adopted by the Council.

Medical examination.

Applications stating age, qualifications and experience, with the names of two referees, should be submitted to the Borough Architect, 30, Alexandra Street, Southend-on-Sea, forthwith.

ARCHIBALD GLEN  
Town Clerk. 9884

### LONDON COUNTY COUNCIL.

Architects and surveyors required for safety regulations of theatres and special buildings, and for general building regulation work. Salaries up to £892 10s., according to experience. A.R.I.B.A. or A.R.I.C.S. essential. Particulars and application form from Architect (AR/EK/TBE/3), The County Hall, S.E.1. (848) 3487

## BRICK AND TILE INDUSTRY. TECHNICAL OFFICER.

The National Federation of Clay Industries invites applications for the post of Technical Officer, to take charge of the Clay Products Technical Bureau. Candidates should possess a good technical knowledge of building methods and materials, and should be interested in the development of clay products to meet modern trends in building design and construction. Duties will be concerned mainly with obtaining information by investigation and liaison with architects, engineers and technical bodies; and its dissemination among brick and tile manufacturers and users by advisory work, lectures, drafting reports and preparation of articles for the professional and trade Press.

Remuneration will be at the rate of £1,250 per annum, plus expenses, and the appointment in the first instance will be for three years, subject to a probationary period of six months.

Applications, giving full details of qualifications and experience, should be sent by 9th June to the Secretary, The National Federation of Clay Industries, Drayton House, 30, Gordon Street, London, W.C.1. 1024

### BOROUGH OF HESTON AND ISLEWORTH.

Applications are invited for the under-mentioned appointments in the Town Planning Section of the Borough Engineer and Surveyor's Department:—

(a) SENIOR TOWN PLANNING ASSISTANT. Salary in accordance with A.P.T. Grade IV (£675 × £30—£825), plus London weighting.

Applicants must have obtained the qualifying examination of the Town Planning Institute, or an equivalent diploma in town planning recognised by that body. It will be an advantage if applicants hold additional examination qualifications of another professional institute of standing. Applicants must have had considerable experience in the Town and Country Planning Department of a local authority. Experience in the control of staff will be deemed an advantage.

(b) DRAUGHTSMAN. Salary in accordance with A.P.T. Grade I (£500 × £20—£580), plus London weighting.

Candidates must be capable and expeditious draughtsmen, and Town and Country Planning experience would be an advantage.

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

Applications are to be submitted by 31st May, 1955, on forms to be obtained from and returned to the Borough Engineer and Surveyor, 88, Lampton Road, Hounslow.

D. MATHIESON,  
Town Clerk. 9966

### Town Hall, Hounslow.

### CITY AND COUNTY OF THE CITY OF EXETER.

Applications are invited for the following appointments on the staff of the City Architect's Department:—

(a) SENIOR ASSISTANT QUANTITY SURVEYORS.

Salary within new A.P.T., Grade IV (£675—£825 per annum). Candidates must be experienced in the preparation of Bills of Quantities, Interim Valuations and Final Accounts.

(b) QUANTITY SURVEYING ASSISTANTS.

Salary within new A.P.T., Grade II (£560—£640 per annum). Candidates must be experienced in Abstracting, Working Up Bills of Quantities, and Site Measurement.

Candidates for the above posts must possess the appropriate qualifications under N.J.C. Conditions of Service.

The appointments will be subject to one month's notice on either side and to the provisions of the Local Government Superannuation Acts, 1937 and 1953. Successful candidates will be required to pass a medical examination.

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

Applications, stating age, qualifications, previous and present appointments and salaries, full details of experience, and the earliest possible date when available, should be sent to H. B. Rowe, F.R.I.B.A., A.M.I.Struct.E., City Architect, Municipal Offices, Exeter, not later than the 6th June, 1955.

C. J. NEWMAN,  
Town Clerk. 9981

### Exeter, May, 1955.

### BUCKS COUNTY COUNCIL.

Applications are invited for the following appointments in the County Architect's Department:—

(i) ASSISTANT QUANTITY SURVEYOR. A.P.T. Grade IV (£675—£825 p.a.).

(ii) ASSISTANT QUANTITY SURVEYOR. A.P.T. Grade II (£560—£640 p.a.).

(iii) ASSISTANT ARCHITECT. Architect's Special Scale (£650—£775 p.a.).

The appointments are superannuable and subject to medical examination.

A weekly allowance of 25s. and return fare home once every two months may be paid for six months to newly appointed married officers of the Council unable to find accommodation.

Applications on forms, giving full particulars of the appointments, are obtainable from F. B. Pooley, County Architect, County Offices, Aylesbury, and returnable by 30th May, 1955. 9986

## LONDON COUNTY COUNCIL. ARCHITECT'S DEPARTMENT.

Vacancies for ARCHITECTS, Grade III (up to £892 10s.) and ARCHITECTURAL ASSISTANTS (up to £739 10s.), for widespread construction programme, which includes houses, blocks of flats, schools of all types, and various public and industrial buildings. Application forms and particulars from Architect (AR/EK/A/2), The County Hall, S.E.1. (678) 9967

### LONDON COUNTY COUNCIL. QUALIFYING EXAMINATION FOR THE OFFICE OF DISTRICT SURVEYOR.

An examination for certificates of proficiency to perform the duties of district surveyor will be conducted in London in the week commencing 17th October, 1955. The minimum age limit for candidates is 25.

Possession of this certificate is necessary for appointment to positions as District Surveyor (Salary scales £1,400 to £2,900 a year) or as Assistant District Surveyor (salary scale £1,071 to £1,224 a year).

Subsequent examinations will be held annually. Apply to The Architect to the Council (AR/ED/CTB), County Hall, Westminster Bridge, S.E.1, for application forms and further particulars. 9606

### COUNTY BOROUGH OF STOCKPORT. TEMPORARY CLERK OF WORKS required.

to supervise new school buildings. Inclusive salary: £11 8s. 2d. per week. Conditions of appointment and application forms from the Director of Education, Town Hall, Stockport. 9965

### LONDON COUNTY COUNCIL. GRADE III ENGINEERS (salary up to £892 10s.) and SURVEYING ASSISTANTS (up to £739 10s.) required in District Surveyor's Service. Qualifications A.R.I.B.A., A.M.I.Struct.E., or A.R.I.C.S.; structural knowledge essential. Particulars and application forms from Architect (AR/EK/DS/2), County Hall, S.E.1. (1025) 3511

### BOROUGH OF ERITH.

Appointments of:—

(a) TWO SENIOR ENGINEERING ASSISTANTS.

(b) CHIEF ARCHITECTURAL ASSISTANT.

(c) THIRD ARCHITECTURAL ASSISTANT.

Applications are invited for appointments (a) and (b) at a salary in accordance with the special grade £650—£775 per annum, plus London weighting, and for appointment (c) at a salary in accordance with A.P.T. II, of £560 × £20—£640 per annum, plus London weighting.

Applicants should hold good appropriate qualifications and have had a good general Municipal experience.

The appointment will be subject to the scheme of conditions of service, and the provision of the Local Government Superannuation Acts.

Applications, sliding scale, previous appointments, qualifications and experience, together with the names and addresses of two referees, should be sent to the Borough Engineer and Surveyor, Town Hall, Erith, Kent, not later than Tuesday, 31st May, 1955.

THE COUNCIL WILL ASSIST IN THE PROVISION OF HOUSING ACCOMMODATION, IF REQUIRED, IN CONNECTION WITH APPOINTMENTS (a) and (b).

J. A. CROMPTON,  
Town Clerk. 9988

### Town Hall, Erith, Kent.

### CARDIGANSHIRE COUNTY COUNCIL.

Applications are invited for the following appointments in the County Architect's Department, County Hall, Aberystwyth:—

(a) TWO ASSISTANT ARCHITECTS, on A.P.T., IV (£675—£825).

(b) ONE ARCHITECTURAL ASSISTANT, on A.P.T., III (£600—£725).

(c) ONE ARCHITECTURAL ASSISTANT, on A.P.T., I-II (£500—£640).

Applicants for (a) should be Members of the R.I.B.A.; applicants for (b) should have passed the R.I.B.A. Intermediate Examination, and applicants for (c) should preferably be students R.I.B.A.

Commencing salary will be according to qualifications and experience. Application forms and conditions of appointment can be obtained from the County Architect, and must be returned to the undersigned not later than 6th June, 1955.

J. E. R. CARSON,  
Clerk of the Cardiganshire County Council.

Swyddfa Sir, Aberystwyth, Cards. 9957

### COUNTY COUNCIL OF NORTHUMBERLAND. COUNTY ARCHITECT'S DEPARTMENT.

Applications are invited for the post of JUNIOR ARCHITECTURAL ASSISTANT from those who have passed the R.I.B.A. intermediate examination and have some practical experience. Salary (A.P.T. Grade I—£500—£580 or A.P.T. Grade II—£560—£640) according to qualifications and experience.

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

Applicants should be able to prepare working drawings for minor improvements and alterations to buildings, and to make surveys and use a level, also to prepare specifications, etc., for minor works.

Application stating age, qualifications and previous experience, accompanied by recent testimonials should be forwarded to the County Architect, County Hall, Newcastle-upon-Tyne, not later than Tuesday, 31st May, 1955. 1041

# METROPOLITAN WATER BOARD. APPOINTMENT OF ASSISTANT ARCHITECTS AND ARCHITECTURAL ASSISTANTS.

There are vacancies for (a) ASSISTANT ARCHITECTS and (b) ARCHITECTURAL ASSISTANTS on the permanent pensionable staff. For (a) the salary scale is £760-£940 p.a., and it is a condition of the appointment to and the holding of the positions that the selected candidates must be and continue to be subscribing Corporate Members of the Royal Institute of British Architects. The salary scale for (b) is £490 p.a. at age 21, rising to £730 p.a., and candidates must have passed, or be exempted from passing, Inter. R.I.B.A. or be Corporate Members of the Institute. Commencing salaries according to age, qualifications and experience. Maximum age 45 years. Housing accommodation may be available, if required, in a good neighbourhood, at an inclusive rent of approx. £130 per annum. Forms of application may be obtained from the undersigned on receipt of a stamped addressed foolscap envelope, quoting reference (G.P.11), and completed forms must arrive not later than 20th June, 1955.

W. S. CHEVALIER.

Clerk of the Board.

Offices of the Board, New River Head,  
Rosebery Avenue, E.C.1. 9952

# BARNET URBAN DISTRICT COUNCIL. SENIOR ARCHITECTURAL ASSISTANT.

Applications are invited for the above appointment in the Engineer and Surveyor's Department (Grade IV, £675 to £825 + £30 London weighting). Applicants should be A.R.I.B.A., with responsible housing experience. Appointment subject to N.J.C. conditions, superannuation and medical examination. Housing accommodation can be provided. Applications, with full details, should be submitted to the Engineer and Surveyor, Ravenscroft House, Wood Street, Barnet, Herts., by 6th June, 1955.

ALFRED S. MAYES.

Clerk of the Council.

Municipal Offices, Wood Street, Barnet, Herts. 9956

# COUNTY BOROUGH OF DUDLEY. BOROUGH ARCHITECT'S DEPARTMENT— STAFF.

Applications are invited for the following appointments on the Staff of the Borough Architect:—

TWO ASSISTANT ARCHITECTS, Grade V. Salary: £750 to £900.

Commencing salary will be fixed according to experience. Applicants should be Associate Members of the Royal Institute of British Architects. Applications, together with copies of two recent testimonials and the names and addresses of two referees, to reach me by Wednesday, 1st June, 1955.

P. D. WADSWORTH.

Town Clerk.

The Council House, Dudley. 9964

# WORKING URBAN DISTRICT COUNCIL. ARCHITECTURAL ASSISTANT—A.P.T., GRADE II.

Applications are invited for the appointment of ARCHITECTURAL ASSISTANT in Architectural Section of the Engineer and Surveyor's Department at a salary in accordance with A.P.T., Grade II (£560-£640 p.a.).

Candidates should have had experience in the preparation of sketch schemes and working drawings for houses, flats, etc., and preference will be given to persons who have passed the Intermediate Examination of the R.I.B.A.

The appointment is subject to the National Scheme of Conditions of Service and the provisions of the Local Government Superannuation Acts, and the successful candidate will be required to pass a medical examination.

Forms of application may be obtained from Mr. H. P. Tame, A.M.I.C.E., M.T.P.I., Registered Architect, Engineer and Surveyor, Council Offices, Woking, and are to be returned to the undersigned, endorsed "Architectural Assistant," not later than Tuesday, 31st May, 1955.

F. H. SMITH.

Clerk of the Council.

Council Offices, Woking. 9984

# WARWICKSHIRE COUNTY COUNCIL. ARCHITECT'S DEPARTMENT.

Applications are invited for the following appointments:—

(a) SENIOR ASSISTANT ARCHITECT Grade IV (salary scale (£675-£825)).

(b) ASSISTANT ARCHITECT (salary scale £650 + £25-£775).

(c) ARCHITECTURAL ASSISTANT grade A.P.T. II (salary scale £560-£640).

(d) CLERK OF WORKS (resident) to supervise the erection of new schools within the country. Salary, £14 per week.

All appointments are subject to the provisions of the Local Government Superannuation Acts 1937-53 and applicants for (a) and (b) should have passed the final examination of the Royal Institute of British Architects or possess some other similar qualification.

Applications to be made on form which can be obtained from G. R. BARNESLEY, F.R.I.B.A., County Architect, Shire Hall, Warwick.

L. EDGAR STEPHENS.

Clerk of the Council.

Shire Hall, Warwick. 1084

# SOUTHERN ELECTRICITY BOARD.

SENIOR DRAUGHTSMAN.  
No. 3 (Portsmouth) Sub-Area. Salary N.J.B. Schedule D, Grade V (£640-£740 per annum). N.J.B. Conditions of Service.

The successful applicant will be responsible to the Sub-Area Civil Engineer for design work, preparation of drawings and making calculations; candidates should have knowledge of building construction, steel work and reinforced concrete structures. Experience in an Architect's office would be an advantage.

The successful candidate for the above appointment will be required to contribute to the C.E.A. and Area Boards' Superannuation Scheme, if eligible.

Applications on forms obtainable from the Sub-Area Secretary, Lower Drayton Lane, Cosham, Portsmouth, and returned to him in envelopes suitably endorsed, not later than June 3, 1955.

1044

# COUNTY COUNCIL OF THE COUNTY OF LANARK.

Applications are invited for the following appointments in the County Planning Department at Hamilton:—

PLANNING ASSISTANTS—

One—A.P.T. Grade V (£665/£715).

Two—A.P.T. Grade IV (£615/£660). Preference given to Corporate Members of Town Planning Institute, or equivalent qualification.

Posts superannuable. Medical examination. No canvassing.

Applications stating age, qualifications and experience, together with names and addresses of three referees, should be lodged with the County Planning Officer, St. Katharines, 3, Muir Street, Hamilton, not later than 6th June, 1955.

W. M. C. BROWNIE.

County Clerk.

THE LONDON HOSPITAL, Whitechapel, E.1.

REQUIRES JUNIOR ARCHITECTURAL ASSISTANT. Salary £440 to £650 p.a. according to experience, plus London Weighting. Post superannuable. Applications stating age, present salary and brief particulars of experience to be sent to the House Governor.

1128

# NORTHAMPTON.

(a) ARCHITECTURAL ASSISTANT A.P.T.II (£600-£640).

(b) JUNIOR ARCHITECTURAL ASSISTANT A.P.T.I (£500-£580).

Apply to Borough Architect, Guildhall, Northampton, for particulars and application forms to be returned by 8th June.

C. E. VIVIAN ROWE, Town Clerk.

1146

# BOROUGH OF HARROW. BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

ARCHITECTURAL ASSISTANTS.

Applications are invited for the undermentioned appointments in the Department of the Borough Engineer and Surveyor (Mr. J. H. Melville Richards, A.M.I.C.E., M.I.Mun.E.).

(a) ARCHITECTURAL ASSISTANT, A.P.T. GRADE II. Salary £560-£640 per annum, plus London "Weighting."

(b) ARCHITECTURAL ASSISTANT, A.P.T. GRADES I/II. Salary £500-£640 per annum, plus London "Weighting."

Candidates for each appointment should have passed the R.I.B.A. Intermediate examination and in the case of appointment (a) have had at least one year's experience in an architectural office. In the case of appointment (b) the commencing salary will be in accordance with the successful applicant's experience.

Each appointment will be subject to the provisions of the Local Government Superannuation Acts; the passing of a medical examination and the National Joint Council's Scheme of Conditions of Service.

The Council is unable to assist in obtaining housing accommodation for the successful candidates.

Forms of application may be obtained from the undersigned, to whom they should be returned not later than Saturday, 18th June, 1955.

D. H. PRITCHARD.

Town Clerk.

Council Offices, Harrow Weald Lodge, Harrow, Middx. 1147

# ST. MARYLEBONE BOROUGH COUNCIL.

Applications are invited for the following appointments in the Housing Department:—

(a) SENIOR ARCHITECTURAL ASSISTANT, Special Scale (£650-£775, plus London Weighting) for candidates holding Final Examination, R.I.B.A. and with good experience in design of flats and supervision of contracts.

(b) ARCHITECTURAL ASSISTANT, Grade A.P.T. I (£500-£580) or A.P.T. II (£560-£640) for candidates holding R.I.B.A. Intermediate Examination, according to experience as defined in National Scheme of Conditions of Service, plus London Weighting, progressing to Special Scale (£650-£775, plus London Weighting) for R.I.B.A. finalists. Learners or probationers of R.I.B.A. also considered at salary according to age in Higher General Division.

Permanent appointments subject to medical examination and superannuation scheme.

Applications stating age, qualifications, experience and positions held, with the names of three referees to Establishment Officer, Town Hall, St. Marylebone, W.1, within 14 days of publication.

1100

# HORNCHURCH URBAN DISTRICT COUNCIL.

Applications are invited for the following posts:—

(a) ARCHITECTURAL ASSISTANT Grade II—£560/£640 p.a.

(b) BUILDING CLERK OF WORKS (Temporary)—£610 p.a.

Applicants for post (a) should have served or be serving articles of pupilage or have worked in an Architectural Office for a minimum period of 3 years, and have passed the R.I.B.A. intermediate examination or its equivalent at a recognized school of Architecture.

For post (b) applicants must have a thorough knowledge of the building trade and have had practical experience of the organization and supervision of building work, including new construction, repair and decoration.

Application forms and details of the conditions of service can be obtained on application to me, and completed applications in envelopes endorsed appropriately must reach me not later than Saturday, 4th June, 1955.

P. L. COX.

Clerk of the Council.

Council Offices, Hornchurch.

18th May, 1955.

1132

MINISTRY OF WORKS requires TEMPORARY ASSISTANT ARCHITECTS for duty in London and Manchester. Candidates must be Registered Architects by examination, or Registered Architects who, since registration, have passed any professional examination in Architecture recognized by the Architects' Registration Council of the United Kingdom as qualifying for registration under the Architects' (Registration) Acts. They must also possess wide professional experience in private or outside practice, or in the service of a Local Authority or Government Department.

London salary range £729-£1,117 per annum, according to age and experience; rates in Manchester slightly less.

State age and full details of training and experience to Ministry of Works, W.G.10/A22(E), Abell House, John Islip Street, London, S.W.1.

1131

# ROYAL TECHNICAL COLLEGE OF EAST AFRICA.

(Principal: Major-General C. Bullard, C.B., C.B.E., B.Eng., M.I.Mech.E., M.I.E.E.).

Applications are invited for posts of LECTURER and ASSISTANT LECTURER in the DEPARTMENT OF AGRICULTURE, to assist the Head of Department in launching and running a 5-yr. course up to level of R.I.B.A. final examination. Candidates should be F. or A.R.I.B.A. Good teaching experience essential for lecturer, desirable for assistant; experience in practice desirable for both.

The College, established under an autonomous Governing Council by the Royal Technical College of East Africa Act, 1954, is being built in Nairobi as the main instrument in British East Africa of higher technical and commercial education for students of all races and will admit first students in March, 1956.

Salary scales (including temporary c.o.l.a.): Lecturers £1,162-£1,637 p.a.; Assistant Lecturers £937-£1,241 p.a., or slightly lower for transferred staff wishing to retain Col. Govt. pension rights. (Scales quoted are for staff who would contribute to proposed College pensions scheme or maintain existing rights under e.g. F.S.S.I. or Ministry of Education, with College paying employer's contributions.) Starting salaries according to qualifications and experience. Partly furnished houses or flats provided, rent according to salary. Free 1st cl. passages to and from Kenya on first appointment, leave and normal retirement for persons appointed and wives: up to equivalent of 1 adult passage for dependent children under 21. Leave on full salary at rate of 4 days for each month's resident service. Tours of service 24-36 months.

Write for further information to Secretary, Advisory Committee on Colonial Colleges, 1, Gordon Square, London, W.C.1. Closing date for applications (6 copies) 13th June, 1955.

1130

# HAMPSHIRE COUNTY COUNCIL.

## PLANNING ASSISTANTS.

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

(a) One A.P.T. Grade IV (£675-£825). Candidates should be A.M.T.P.I. and/or a Chartered Architect, Engineer, or Surveyor.

(b) One A.P.T. Grade II (£560-£640). Candidates should have an Intermediate professional qualification, and a flair for work having an administrative bias.

The appointments are pensionable, and will be subject to satisfactory medical reports. They will both be tenable at the Lyndhurst Office in the New Forest Area, one of the most rapidly developing areas in the whole County.

Officers using their own cars when travelling on County Council duties will receive travelling allowances on the N.J.C. Scale.

In approved cases the County Council are prepared to assist in meeting removal expenses. No form of application is issued, but applications, stating age, qualifications and experience, together with a copy of one testimonial and the names of two referees, should be sent to the County Planning Officer, Litton Lodge, Clifton Road, Winchester, by the 10th June, 1955.

1128



## CITY OF BELFAST—EDUCATION COMMITTEE.

Applications are invited for the following positions on the staff of the Education Architect (D. A. Shanks, Dipl. Arch., A.R.I.B.A.).

## (a) ARCHITECTS CLASS 1.

Applicants must be Registered Architects and should possess enthusiasm and ability for contemporary architectural design and construction. Preference will be given to applicants with experience in modern school design. Previous Local Government experience is not essential.

The salary scale is £580 × 25—£990 × 15—£995. For one of those posts the minimum salary will be linked to age 26 with one increment for each year up to 32 and for certain of them applicants are to be over age 32, the commencing salary within the scale being determined in accordance with the qualifications, ability and experience of the successful applicants.

## (b) ASSISTANT HEATING ENGINEER.

The person appointed will be required to assist in the design of heating, and hot and cold water installations and must have had experience of this work including surveys and reports on existing installations, the preparation of detailed and record drawings and must be a good draughtsman. The salary scale is £495 × £25—£545 × £30—£575 × £25—£675 × £30—£705.

The commencing salary within the scale will be determined in accordance with qualifications, ability and experience of the successful applicant. Superannuation contributions payable at the rate of approximately 6 per cent. of remuneration. Canvassing in any form will be a disqualification.

Application forms, etc., are obtainable from the Education Office, Academy Street, Belfast, on personal application or by sending a stamped addressed foolscap envelope. Completed applications must reach the undersigned not later than 4 p.m. Thursday 2nd June, 1955.

JOHN DUNLOP,  
Town Clerk.

City Hall, Belfast.  
P.O. Box 234  
16th May, 1955. 1145

## BOROUGH OF BRIDLINGTON.

## APPOINTMENT OF ARCHITECTURAL ASSISTANT GRADE A.P.T. IV (£675—£825).

Applications are invited for appointment of ARCHITECTURAL ASSISTANT, Salary Grade A.P.T. IV—£675—£825 p.a. Candidates must be Registered Architects and preference will be given to those who have passed the R.I.B.A. examination, have good architectural training, and are experienced in general architectural work, particularly Housing Applications, with names of three referees, must be received by the undersigned not later than 3rd June, 1955.

## HOUSING ACCOMMODATION AVAILABLE IF REQUIRED.

S. BRIGGS,  
Town Clerk.

Town Hall,  
Bridlington.  
9th May, 1955. 1057

## COUNTY BOROUGH OF EAST HAM.

## VALUATION ASSISTANT—HOUSING

Applicants should be qualified Surveyors by examination and experienced in valuation and the acquisition of properties.

Salary Special Grade for Surveying Assistants (£650 × £25—£775 per annum, plus London weighting).

Further details and form of application (returnable by 10th June, 1955) from the Town Clerk, Town Hall, East Ham, E.6. 1070

## METROPOLITAN BOROUGH OF HAMPSTEAD.

require a TEMPORARY ASSISTANT ARCHITECT at A.P.T. III (£600—£725 plus London Weighting) and a PERMANENT JUNIOR ARCHITECTURAL ASSISTANT on the Higher General Division Scale (at age 18 £230 to a maximum of £475, plus London Weighting), to work under the direction of the Housing Architect.

Successful applicants would be members of a team engaged on schemes of house and flat development and there are opportunities to gain valuable experience in an Architect's office and on the site.

Applications to the Town Clerk, Town Hall, Hampstead, N.W.3, with names of three referees by 3rd June, 1955. 1071

## COUNCIL OF THE COUNTY OF ABERDEEN.

## COUNTY ARCHITECT'S DEPARTMENT.

Applications are invited for an appointment as ARCHITECTURAL ASSISTANT in the County Architect's Department on salary scale A.P.T. VI—VIII (£750—£915 per annum). Applicants for this appointment must be Associates of the Royal Institute of British Architects, preferably with experience in the design of educational buildings. The appointment is subject to the Local Government Superannuation (Scotland) Acts 1937 to 1953 and the successful candidate will require to pass a medical examination.

Conditions of appointment and forms of application are obtainable from the undersigned and should be returned not later than 3rd June, 1955. Canvassing of members of the Council directly or indirectly in connection with this appointment shall disqualify the candidate.

JAMES L. CRAIG,  
County Clerk.

County Buildings,  
22, Union Terrace,  
Aberdeen.  
13th May, 1955. 1061

## NORTH WEST METROPOLITAN REGIONAL HOSPITAL BOARD.

ASSISTANT ARCHITECT required. Applicants must be associate members of R.I.B.A. and be experienced in design and construction preferably in new hospitals and associated buildings. Salary scale: £625 × £25 (7) × £30 (3)—£890 plus London Weighting £20—£40. Commencing salary above minimum may be paid subject to certain conditions.

Apply giving age, qualifications (with dates) and experience with names of two referees to the Secretary, North West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, by 1st June. 1072

## CITY OF BIRMINGHAM.

## CITY ARCHITECT'S DEPARTMENT.

Applications are invited for the appointment of an ASSISTANT ARCHITECT in the Schools Section, which is responsible for carrying out a large School Building Programme involving the planning, design and erection of all types of School Buildings in both traditional and new traditional construction.

The appointment will be within Grade A.P.T. V (£750—£900 per annum), at a commencing salary according to experience.

Applicants must be Associate Members of the R.I.B.A., or hold equivalent qualifications.

The post is permanent, superannuable, subject to medical examination and to one month's notice on either side.

Applications, endorsed with the headings of the post, stating age, present position and salary, qualifications and experience, together with the names of two persons to whom reference can be made, should reach the undersigned not later than 14th June, 1955.

Canvassing disqualifies.

A. G. SHEPPARD FIDLER,

City Architect.

Civic Centre,  
Birmingham, 1. 1074

## NORTH RIDING EDUCATION COMMITTEE.

—Vacancy for ASSISTANT ARCHITECT in the Education Architect's Department, Grade A.P.T. II, salary £560 × £20—£640. Candidates must have passed the R.I.B.A. Intermediate. Previous experience may be taken into account in fixing commencing salary. Local Government Superannuation Act. Form and further particulars from the undersigned. Canvassing disqualifies. F. BARRACLOUGH, County Hall, Northallerton. 1082

## COUNTY BOROUGH OF STOCKPORT.

BOROUGH ARCHITECT. Salary and Conditions of Service in accordance with J.N.C. for Chief Officers: £1,832 10s.—£2,050 (inclusive). Commencing salary according to qualifications and experience. Candidates must be Associates or Fellows of R.I.B.A. and may be required to live in the Borough. Car allowance. Conditions of appointment and particulars of duties from Town Clerk, Town Hall, Stockport. (Applicants who replied to previous advert, need not submit another application, but should state whether they wish their application to be considered.) 1105

## BOROUGH OF SHREWSBURY.

BOROUGH SURVEYOR'S DEPARTMENT. Applications are invited for the following appointments:—

1. ARCHITECTURAL ASSISTANT.  
Salary Grade A.P.T. III—£600 × £25 to £725. Applicants must have passed the R.I.B.A. Intermediate Examination and have good experience of Housing and General Architectural Work or  
Salary Grade (Special Scale) £650 × £25 to £775, in the case of suitably experienced applicants who have passed Parts I and II of the R.I.B.A. Final Examination.

2. ENGINEERING ASSISTANT.  
Salary Grade A.P.T. III £600 × £25 to £725. Applicants must possess at least the Intermediate Examination of the Municipal Engineers or equivalent qualification and have had not less than two years' practical experience. Knowledge of design of Main Drainage and Sewage Disposal Schemes will be an advantage.

Note.—The commencing salary can be adjusted within the Grade according to qualifications and experience.

The posts are permanent, superannuable, and subject to one month's notice on either side.

Forms of application to be obtained from the Borough Surveyor, Guildhall, Shrewsbury, and returned to him not later than 7th June, 1955.

S. R. H. LOXTON,

Town Clerk. 1104

## CITY OF PERTH.

## BURGH SURVEYOR'S DEPARTMENT.

Applications are invited for the appointment of ASSISTANT ARCHITECT, A.P.T. Grade V (£665—£715) or Grade Va (£695—£755) depending on experience.

Candidates should be Associate Members of the R.I.B.A.

The appointment is subject to the Corporation Conditions of Service and Superannuation Scheme and the successful candidate will be required to pass a medical examination.

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

Applications, stating age, qualifications, experience, present position and salary, accompanied by copies of three recent testimonials, should be lodged with the Burgh Surveyor & Architect, 16, Tay Street, Perth, within seven days of the date of this advertisement. 1038

## PADDINGTON BOROUGH COUNCIL.

Require ASSISTANT ARCHITECT (£705—£855 p.a.) preferably A.R.I.B.A. with experience in contemporary design, the construction and supervision of general municipal works, particularly multi-storey flats, or should have had similar experience with architects in private practice.

Commencing salary dependent upon qualifications and experience of successful candidate. N.J.C. Conditions. One month's notice.

Applications (quoting A.214) should state age, qualifications, experience, past and present appointment (with salary), and names and addresses of two referees, and should reach the undersigned by 4th June, 1955.

W. H. BENTLEY,  
Town Clerk.

Town Hall,  
Paddington Green, W.2. 1099

## LONDON ELECTRICITY BOARD.

## ENGINEERING DRAUGHTSMEN.

Vacancies exist for ENGINEERING DRAUGHTSMEN as follows:—

## NORTH EASTERN SUB-AREA, West Ham District. (Ref. V/1939/A.)

Candidates should have had a good general and technical education, up to Ordinary National Certificate standard. They should have had considerable experience in transformer chamber layouts, mains records and system diagrams. Knowledge of building construction would be an advantage.

ST. MARYLEBONE/ST. PANCRAS DISTRICT, Design & Planning Branch. (Ref. V/1967/A.)

HAMPSTEAD/WILLESDEN DISTRICT, Design & Planning Branch. (Ref. V/1972/A.)

Applicants should have had a good general and technical education in electrical engineering and building construction, and experience in a mains records office dealing with systems of all voltages up to 11 kV.

## NORTHERN SUB-AREA, Design &amp; Planning Branch. (Ref. V/1965/A.)

Applicants should preferably have had experience in mains recording with a public utility authority, preferably with an Electricity Board, and be able to obtain particulars on site and compile accurate permanent records. Some knowledge of electrical plant layout, building construction and simple reinforced concrete structures would be an additional advantage.

## NORTH EASTERN SUB-AREA (Ref. V/1971/A.)

Candidates should have had a good general and technical education and be experienced in one or more of the following subjects: engineering drawing; plant layout in substations; layouts and site plans of mains work; electrical diagrams.

The posts are graded under Schedule "D" of the National Joint Board agreement as Grade 6 (£535 10s. to £661 10s. per annum, plus London Allowance, and are superannuable.

Application forms for the aforementioned vacancies obtainable from Personnel Officer, 46/7, New Broad Street, London, E.C.2, to be returned completed within 10 days of the publication date of this advertisement. Please enclose addressed envelope and quote appropriate reference of vacancy preferred. 1087

## COUNTY BOROUGH OF CROYDON.

## ASSISTANT ARCHITECT.

Applications are invited for this appointment. Candidates must have considerable experience of local authority housing work including multi-storey flats. Salary A.P.T. IV £675 × £30—£825 p.a. plus London Weighting (£30 p.a. at age 26 and over).

Applications on forms from The Borough Engineer, Town Hall, Croydon, must be submitted to him by the 3rd June, 1955.

The Corporation will endeavour to assist with living accommodation if necessary.

E. TABERNER,

Town Clerk. 1097

Applications are invited for the appointment of ARCHITECTURAL ASSISTANT within Grade A.P.T. II (£590 p.a.—£670 p.a. including London Weighting allowance of £30 if over 26 years of age).

Candidates must have had a good architectural training and have passed the Intermediate examination of the R.I.B.A. or its equivalent. The commencing salary will be fixed according to the qualifications and experience of the successful candidate.

Application form obtainable from the Town Clerk, Town Hall, Hackney, E.8, returnable by 11th June, 1955. 1143

ARCHITECTURAL ASSISTANT required for the Works Department of the University of Edinburgh, with experience in traditional buildings, alterations and laboratory fittings. Salary scale up to £750 per annum, with placement according to qualifications and experience. Superannuation scheme in operation. Applications, in writing, should be sent to the Master of Works, University Works Department, Infirmary Street, Edinburgh, 1. 1063

## BOROUGH OF RUGBY.

## ASSISTANT ARCHITECT.

Required in Borough Surveyor's Department. Salary A.P.T. IV (£675 × £30—£825). Preference given to candidates who have passed the final examination of the R.I.B.A. and have had municipal experience.

Application forms obtainable from Borough Surveyor, Burford House, Rugby, to whom applications should be sent by June 2nd, 1955.

T. L. DUFFY,

Town Clerk. 1091



**BURGH OF HAMILTON.  
ASSISTANT ARCHITECT.**

Applications for the above post in the Burgh Architect's Department are invited from Associates of the Royal Institute of British Architects, or equivalent qualification, with experience in post-war housing and civic building design, etc. The post is superannuable and the salary A.P.T. V-1 (£665-£815) with placing according to qualifications and experience. The successful applicant will be given the tenancy of a house if required.

Applications, containing full particulars of age, qualifications and experience, together with the names of three referees, should be lodged with the undersigned not later than 4th June, 1955.

Canvassing, either directly or indirectly, will be a disqualification.

JAMES KELLY,  
Town Clerk.

The Town House,  
Hamilton.  
17th May, 1955.

N095

**BOROUGH OF BEDFORD.  
ASSISTANT ARCHITECT Grade A.P.T. IV**

(£675-£825).

Applicants should be A.R.I.B.A.

Form of Application from the undersigned, returnable not later than 3rd June, 1955.

Housing Accommodation.

F. W. DAWKES,  
Borough Engineer & Surveyor,  
B.Sc.(Eng.), A.M.I.C.E., M.I.Mun.E.,  
A.M.T.P.I.

Newnham House,  
Horne Lane,  
Bedford.

1094

**CITY AND COUNTY OF KINGSTON-UPON-HULL.****APPOINTMENT OF DEPUTY TOWN  
PLANNING OFFICER.**

Applications are invited from suitably qualified persons for the post of DEPUTY TOWN PLANNING OFFICER (Scale A: £1,063 15s. x £28 15s. -£1,150 x £26 5s. -£1,228 15s.). Application forms may be obtained from the undersigned and should be returned not later than Tuesday, 7th June, 1955.

H. F. ALSTON  
Town Planning Officer.

Guildhall,  
Kingston-upon-Hull.

1102

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

The City Architect will be pleased to receive applications for vacancies in the Architectural section of his Department on the following salary grades:—

- (a) A.P.T. Division, Grade IV (£675-£825);
- (b) A.P.T. Division, Grade III (£600-£725);
- (c) A.P.T. Division, Grade II (£560-£640).

The appointments will be subject to the provisions of the Local Government Superannuation Act, 1953, and to one month's notice on either side. Successful candidates will be required to pass a medical examination.

Candidates for posts (a) and (b) should be fully qualified architects with an appreciation of good design and possessing sound experience.

Applications stating position applied for, age, particulars of training, qualifications, experience, present and past appointments, together with copies of two recent testimonials or the names and addresses of two persons to whom reference may be made, should be addressed to George Kenyon, A.R.I.B.A., A.M.T.P.I., City Architect, 18, Cloth Market, Newcastle-upon-Tyne, 1.

JOHN ATKINSON  
Town Clerk.

Town Hall,  
Newcastle-upon-Tyne, 1.  
13th May, 1955.

1039

**BOROUGH OF HENDON.**

Applications are invited for the following appointments:—

**ARCHITECTURAL ASSISTANT—Grade A.P.T. IV—£575 to £825.**

**ARCHITECTURAL ASSISTANT—Grade A.P.T. III—£600 to £725.**

London Weighting at £30 per annum is paid in addition to the above scales. Salary in excess of the minima may be paid according to qualifications and experience.

The Council is prepared to consider assisting applicants in suitable cases by the provision of housing accommodation.

The appointments will be subject to:—

- (a) The provisions of the Local Government Superannuation Acts.
- (b) The National Scheme of Conditions of Service.
- (c) The satisfactory passing of a medical examination.

Applications stating age, qualifications and experience, together with the names and addresses of two referees, should be sent to the Borough Engineer and Surveyor, Town Hall, Hendon, N.W.4, on or before Thursday, 2nd June, 1955.

R. H. WILLIAMS,  
Town Clerk.

Town Hall,  
Hendon, N.W.4.

1062

**LONDON COUNTY COUNCIL.  
ARCHITECT'S DEPARTMENT.**

Vacancies for ASSISTANTS in the District Surveyor's Service, duties include supervision of works in progress and checking of calculations. Grade II (£822 10s. to £1,071 and Grade III £701 5s. to £891 10s.). Qualifications A.R.I.B.A., A.M.I.Str.E., or A.R.I.C.S.; structural knowledge essential. Particulars and application form, returnable by 8th June, from Architect (AR/EK/SDS/2), The County Hall, S.E.1. (738)

1101

**NORTHERN IRELAND HOUSING TRUST.  
ASSISTANT ARCHITECT.**

The Trust has a vacancy for an ASSISTANT ARCHITECT on the salary scale of £825 x £25-£900. Candidates must be Associate Members of the Royal Institute of British Architects and should have experience of housing projects.

Preference will be given to ex-service candidates.

The person appointed will be required to participate in a contributory superannuation scheme allowing for the reciprocal transfer of benefits in Local Government Superannuation Schemes in suitable cases.

Assistance in obtaining housing accommodation may be given in suitable circumstances to the successful candidate.

Please apply, not later than 7th June, 1955, 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.

Please mark envelope 33/49. 1061

**ABERDEEN HARBOUR COMMISSIONERS.  
HARBOUR ENGINEER'S DEPARTMENT.**

Applications are invited for the post of STRUCTURAL ENGINEERING ASSISTANT or BUILDING SURVEYOR in the Harbour Engineer's Office, Aberdeen. Applicants should have experience in structural steelwork, reinforced concrete and general building design and construction. The salary, £515-£715 according to qualifications, rising by annual increments of £15. Applications stating age and qualifications with full details of experience, together with copies of recent testimonials, should be lodged with the Harbour Engineer, 15, Regent Quay, Aberdeen not later than 4th June, 1955.

Harbour Engineer's Office.

Aberdeen, 10th May, 1955. 1060

**BOROUGH OF SOLIHULL.  
PRINCIPAL ASSISTANT ARCHITECTS.**

A.P.T. GRADE VI (£825-£1,000).

Applications are invited for the above-mentioned posts in the Borough Engineer & Surveyor's Department.

Solihull has a population of 75,000 which is expected to increase to 110,000 over the next few years, and the appointments are primarily in connection with the large programme of schools and capital work schemes including libraries, crematorium, corporation depot etc., which are in hand as a result of the rapid expansion of the Borough.

No Application Forms are being issued but the Borough Engineer will be pleased to answer specific questions regarding the positions.

Applications, giving the names of two referees to Mr. C. R. Hutchinson, B.Sc., A.M.I.C.E., Borough Engineer and Surveyor, 50, Station Road, Solihull, not later than 3rd June, 1955.

The appointments are superannuable, subject to the National Scheme of Conditions of Service and to one month's notice.

Where applicable housing accommodation will be made available, as soon as possible.

W. MAURICE MELL,  
Town Clerk.

11th May, 1955. 1107

**LANCASHIRE COUNTY COUNCIL.  
ARCHITECT'S DEPARTMENT.**

There are vacancies for TWO ARCHITECTS, salary scale £675 x £30-£825; one in the Schools branch and one in the General branch where there is a large and interesting building programme.

There is also a vacancy for an ARCHITECT, salary special scale £650 x £25-£775 in the Schools branch.

Applicants for all posts should be Associates R.I.B.A.

Application forms, to be obtained from the County Architect, P.O. Box No. 26, County Hall, Preston, must be returned not later than Monday, 13th June, 1955, quoting ref.: A/AJ, together with two recent testimonials and the name of one Referee. Indicate preference for "Schools branch" or "General branch." 1068

**ARCHITECTURAL DRAUGHTSMAN required.**

Applicants must have had suitable training, including three years' technical experience in architectural drawing. Salary £380 (age 21 and over) x £20 (3) x £25 (2) x £20 (4)-£570 plus London Weighting, £20-£30.

Commencing salary at minimum of scale. Apply giving age, qualifications and experience with names of two referees, to Secretary, North West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, by 8th June. 1109

**CITY AND COUNTY OF BRISTOL.  
APPOINTMENT OF ASSISTANT ARCHITECTS.**

Applications invited for appointment of ASSISTANT ARCHITECTS on staff of City Architect's Department in undermentioned grades.

Grade A.P.T. IV (£675 x 30 to £825 p.a.).

Special Scale (£650 x 25 to £775 p.a.).

Grade III (£600 x 25 to £725 p.a.).

Grade II (£560 x 20 to £640 p.a.).

Grade I (£500 x 20 to £580 p.a.).

Starting grades will be appropriate to professional experience and qualifications. Appointments superannuable and subject to passing medical examination.

**HOUSING ACCOMMODATION AVAILABLE, IF NECESSARY, AT AN ECONOMIC RENT.**

Further particulars and application forms obtainable from me. Applicants must state grade for which they are applying. Completed application forms to be received by 11th June. J. NELSON MEREDITH, F.R.I.B.A., City Architect, Council House, College Green, Bristol, 1.

1108

**SHIPLEY URBAN DISTRICT COUNCIL.  
ARCHITECTURAL ASSISTANT** required within Special Scale (£650-£775), commencing according to experience and qualifications. Position superannuable and subject to the provisions of the National Scheme of Conditions of Service.

Applications giving age, details of training, qualifications and experience, together with the names and addresses of two referees, to the Engineer and Surveyor, Town Hall, Shipley, Yorks., by 10 a.m. on Monday, 13th June, 1955.

**HOUSING ACCOMMODATION** will be provided if required.

ERNEST PEARS,  
Clerk and Solicitor.

Town Hall,  
Shipley.  
17th May, 1955. 1111

**DERBYSHIRE COUNTY COUNCIL.  
COUNTY ARCHITECT'S DEPARTMENT.**

Vacancies for ARCHITECTS exist on the under-mentioned scales:—

(a) £675 x £30 to £825 per annum.

(b) £650 x £25 to £775 per annum.

(c) £560 x £20 to £640 per annum.

(d) £500 x £20 to £580 per annum.

Applicants for (a) and (b) must be fully qualified architects and those for (c) and (d) must have passed the intermediate examination and have had some office experience.

National Joint Council Conditions of service. Pensionable post. Canvassing disqualifies. Further details and application forms from The County Architect, County Offices, St. Mary's Gate, Derby—returnable by 6th June, 1955. 1040

**BOROUGH OF POOLE.  
ENGINEERING AND ARCHITECTURAL  
STAFF.**

Applications are invited for the following appointments in the Borough Engineer's Department.

(a) ASSISTANT ENGINEER, Grade II (£560-£640).

(b) ASSISTANT ARCHITECT, Grade II (£560-£640).

(c) JUNIOR ASSISTANT (ENGINEERING) (TEMPORARY), salary £450 p.a.

(d) JUNIOR ASSISTANT (ARCHITECTURAL), Higher General Division (£170-£475, commencing salary according to age).

Applicants for appointments (a) and (b) should have passed the intermediate examination of an appropriate professional body.

Applicants for appointment (c) should have experience in surveying and levelling and be neat and expeditious draughtsmen. The appointment will probably have a duration of 18 months to 2 years.

Applicants for appointment (d) should hold an appropriate educational qualification.

Application forms may be obtained from the Borough Engineer and Surveyor, Municipal Buildings, Poole, Dorset. Completed forms must be returned to the undersigned not later than mid-day on Monday, 6th June.

WILSON KENYON,  
Town Clerk.

Poole, Dorset.  
May, 1955. 1106

**BOROUGH OF RICHMOND, YORKSHIRE.  
APPOINTMENT OF ARCHITECTURAL  
ASSISTANT.**

Applications are invited for the above appointment at a salary within Grade A.P.T. III (£600-£725).

Candidates should have completed professional training, and have passed the Intermediate Examination of the Royal Institute of British Architects or equivalent.

A house will be made available for the successful applicant if required.

Applications, on forms to be obtained from the Borough Engineer, Corporation Offices, Richmond, Yorkshire, should reach me not later than 12 o'clock noon on Monday the 6th June, 1955.

Canvassing will be a disqualification.

DAVID BROOKS,  
Town Clerk.

Corporation Offices,  
Richmond,  
Yorkshire.  
18th May, 1955. 1110

**CITY OF PETERBOROUGH.  
CITY ENGINEER & SURVEYOR'S  
DEPARTMENT.**

Applications are invited for the appointment of a SENIOR ARCHITECTURAL ASSISTANT on the staff of the City Engineer & Surveyor, at a salary within Grade III A.P.T. (£625 per annum rising by annual increments to £725).

Applicants must be qualified architects, experienced in school building and capable of carrying out sketch designs, working and detail drawings and site control, with the minimum of supervision.

In a suitable case, the Council will, if desired, provide housing accommodation.

Applications, stating age, qualifications and experience, and giving the names of two persons to whom reference may be made, must be delivered to the City Engineer, Town Hall, Peterborough, not later than 9th June, 1955.

Applicants must disclose whether they are related to any senior official or member of the Authority.

C. PETER CLARKE,  
Town Clerk.

Town Hall,  
Peterborough.  
May, 1955. 1059

**APPOINTMENT**

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# CITY OF CARDIFF. APPOINTMENT OF ARCHITECTURAL ASSISTANT (GENERAL).

Applications are invited for the following appointment in the City Surveyor's Department:—

**ARCHITECTURAL ASSISTANT (GENERAL)** A.P.T. Grade II (£560—£640 per annum).

The appointment is in connection with the design and erection of the Wales Empire Pool to be built in Cardiff.

Candidates should possess the minimum qualifications and experience prescribed by the National Joint Council for Local Authorities' Administrative, Professional, Technical and Clerical Services for posts in the above mentioned Grade.

General Conditions of Appointment may be obtained from the undersigned.

The Council will assist in providing housing accommodation for a period for the successful applicant.

Applications, accompanied by the names and addresses of three referees and endorsed "Architectural Assistant (General), A.P.T. Grade II" must be delivered to me not later than the 11th June, 1955.

S. TAMPFER-JONES,  
Town Clerk.

City Hall, Cardiff, May, 1955. 1134

## NATIONAL COAL BOARD—WEST MIDLANDS DIVISION.

Applications are invited for the post of Architect Grade II (salary range £600 to £900) at Fenton, Stoke-on-Trent, subject to satisfactory experience, the starting point on the scale will not be below £740 per annum.

Applicants should be A.R.I.B.A.

The office is engaged on a large programme of varied and interesting work of an industrial nature and offers scope for applicant with a progressive outlook. Flat accommodation can be rented.

Applications to the Divisional Establishment Officer, National Coal Board, Himley Hall, Dudley, Worcs. 1112

## HUDDESFIELD TECHNICAL COLLEGE.

Principal: Dr. W. E. Scott, M.B.E.

### SCHOOL OF ART.

Vacancy in September for a Grade "B" ASSISTANT (male) in ARCHITECTURE. Degree or Diploma in Architecture and/or A.R.I.B.A. qualification.

Barnham Scale, viz., £525 x £25—£820 plus graduate and training allowances.

Forms and further particulars obtainable from the Principal, Technical College, Queen Street South, Huddersfield, to whom applications should be returned as soon as possible.

H. GRAY,

Chief Education Officer. 1103

## Architectural Appointments Vacant

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

The engagement of persons answering these advertisements must be made through a Local Office of the Ministry of Labour or a Scheduled Employment Agency if the applicant is a man aged 18-64 inclusive or a woman aged 18-59 inclusive unless he or she or the employment is excepted from the provisions of the Notification of Vacancies Order, 1952.

**ARCHITECTURAL ASSISTANT:** Intermediate approaching final. Commercial and industrial work; large-scale contracts. Watson, Johnson, Stokes, Victoria Square, Birmingham 4895

### THE NUFFIELD FOUNDATION.

VACANCIES occur for ARCHITECTURAL ASSISTANTS of both Final and Intermediate standard in the Nuffield Foundation's Division for Architectural Studies, working on hospitals, research laboratories and farm buildings. All those interested should write in to the Director. Salary by agreement. Box 9755.

**ARCHITECT, OR EXPERIENCED ASSISTANT, REQUIRED BY "THE ARCHITECTS' JOURNAL."** Ability to write fluently and well, and a sound knowledge of construction and contemporary building techniques essential. Will be expected to write reports on buildings, supervise the production of technical architectural drawings, commission and sub-edit technical articles and assist production. Please reply to The Editor, "The Architects' Journal," 9, Queen Anne's Gate, S.W.1. 902

**OPENING FOR QUALIFIED ARCHITECTS** as Assistant Designers with an expanding firm of new traditional builders. Must have good general practical knowledge and a keen interest in new building methods. A prospect exists for working overseas. Starting salaries range between £650 and £750 according to experience, with an increase after six months' satisfactory service. Messrs. Reema Construction, Ltd., Milford Manor, Salisbury, Wilts. 9235

**ARCHITECTURAL ASSISTANT** required by a Major Oil Company undergoing expansion for its Sheffield office. Applicants should be of intermediate standard, and must be capable of carrying out work on the design and re-modelling of service stations. Social Club, Pension and Life Assurance scheme, generous sickness benefits. Write, giving full details of experience, age and salary requirements, to Box 9262, quoting Ref. A.A. 588.

**£500—£700** per annum salary offered for ASSISTANT to take part in large-scale development and remodeling of petrol filling stations, service stations, garages and workshops, etc. Must be capable of working independently. Should be of intermediate standard. Work will involve original design, site visits and a high standard of presentation. Five-day week, good pension and life assurance scheme, sickness benefits and free luncheon vouchers. Social Club. Write, giving full details, stating age, experience and salary required to Box 9325, quoting Ref. Y 593.

**ARCHITECTURAL STAFF,** all grades, wanted, interesting and varied work of contemporary character; light and airy offices. Apply J. Seymour Harris & Partners, 4, Greenfield Crescent, Edgbaston, Birmingham, 15. 8786

**ARCHITECT'S ASSISTANTS** required (1 Senior and 2 Juniors) for West End Office. Write, stating full particulars and salary required, to Box 8725.

**WESTWOOD, SONS & HARRISON,** F./R.I.B.A., require SENIOR and JUNIOR ARCHITECTURAL ASSISTANTS, with office experience. Apply in writing to 46, Baker Street, W.1. 9626

**ARCHITECTURAL ASSISTANT** required in small private office. Intermediate to Final standard. Write, stating experience and salary required, to: A. F. Bennett, 35, Queen's Gate Mews, London, S.W.7. 9266

**ARCHITECTURAL ASSISTANTS** required in West End office. Qualified or Intermediate standard. Varied and interesting work. 5-day week. Salary range £600—£850. 9614

**JUNIOR AND INTERMEDIATE ARCHITECTURAL ASSISTANTS** required urgently in London Office with widely varied practice. Good salaries, 5-day week. Lewis Solomon, Son & Joseph, HOL 5108 or 7082. 8481

### GEORGE WIMPEY & CO. LIMITED.

THE Architect's Department seek ARCHITECTURAL STAFF enthusiastic to apply their knowledge to new construction techniques covering Houses, Multi-Storey Flats, Offices, Schools and Industrial Buildings for contracts in the U.K. and Overseas.

Appointments range from ARCHITECTS to DRAUGHTSMEN with special interest to those of ability, recognising the value of the designer and technician as an integral part of the production team.

Appointments are on a permanent basis, 5 days a week at Head Office, Hammersmith.

For applicants interested in work in the Midlands, appointments are available in Birmingham Regional Office, carrying similar conditions with the exception that the working week is 5½ days.

Salaries will be according to qualifications and experience, and, subject to satisfactory service, there is a Pension Scheme for those wishing to make a career with the firm.

Applicants should write giving brief particulars to E. V. Collins, A.R.I.B.A. Chief Architect, GEORGE WIMPEY & CO. LIMITED, 27, Hammersmith Grove, London, W.6. 5375

**DONALD WARD & PARTNERS** require several capable ARCHITECTURAL ASSISTANTS with contemporary outlook and willing to use own initiative. Salary range £400 to £800. Interesting and varied work, home and abroad. Congenial working conditions. Apply 29, Chesham Place, S.W.1. Telephone Belgrave 3361. 7023

### CO-OPERATIVE WHOLESALE SOCIETY LTD.

ARCHITECTS' DEPARTMENT, LONDON.

APPLICATIONS are invited from the following:—

(a) ASSISTANT ARCHITECTS of Inter. R.I.B.A. standard.

(b) SURVEYOR, capable of making Architectural surveys and plotting.

The salary range offered for the above appointments is up to £745 per annum, according to age and experience, with prospects of up-grading.

Applications stating age, experience, qualifications and salary required to W. J. Reed, F.R.I.B.A., Chief Architect, Co-operative Wholesale Society Ltd., 99, Leman Street, London, E.1. 9811

**RAMSEY, MURRAY & WHITE** have vacancies for:—

(a) QUALIFIED ARCHITECT, with several years' office experience, especially on industrial buildings.

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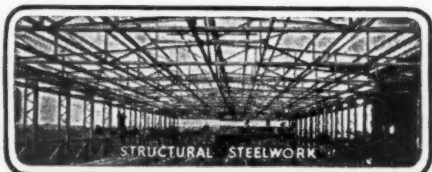
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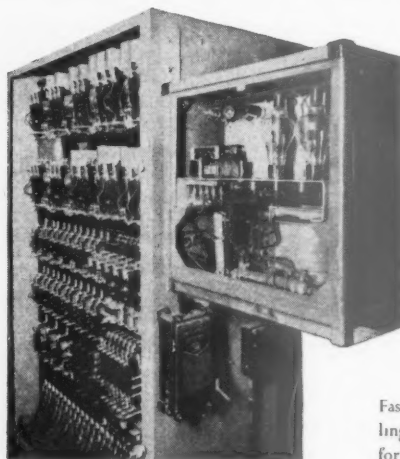
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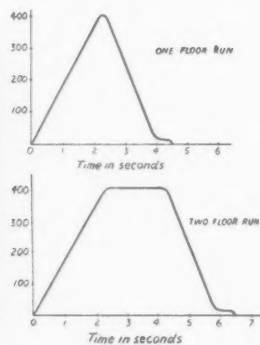
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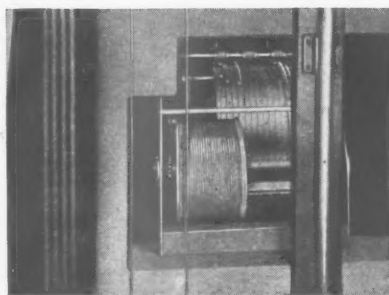
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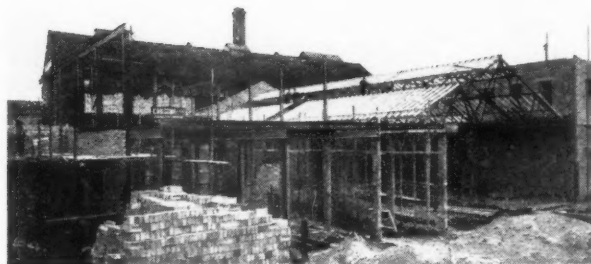
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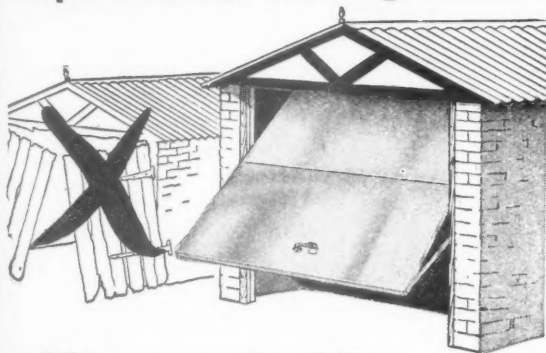
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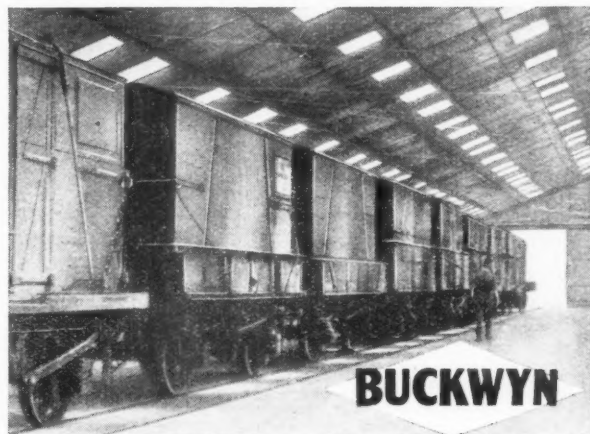
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