

# THE ARCHITECTS' JOURNAL



## Standard contents

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

## NEWS and COMMENT

### Magical's Notes and Topics

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## TECHNICAL SECTION

Information Sheets  
Information Centre  
Recent Technique  
Working Details  
Questions and Answers

es  
Industry

## CURRENT BUILDING

Major Buildings described:  
Details of Planning, Construction,  
Fishes and Costs  
Buildings in the News  
Building Costs Analysed

Architectural Appointments  
Filled and Vacant

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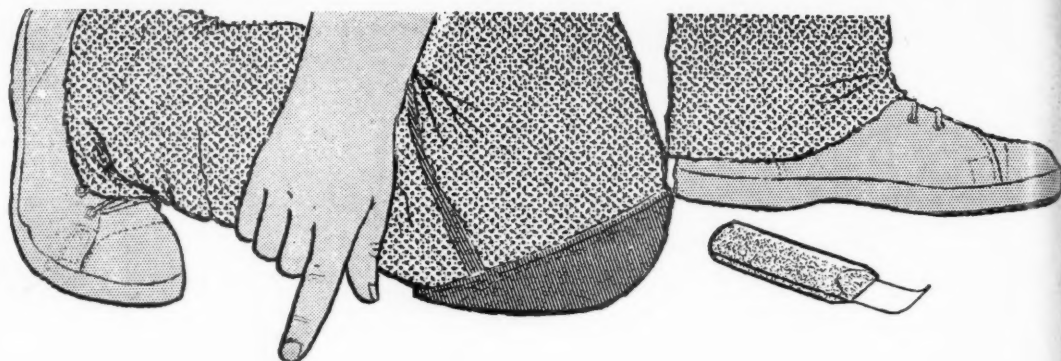
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★ A glossary of abbreviations of Government Departments and Societies and Committees of all kinds, together with their full address and telephone numbers. The glossary is published in two parts—A to Ig one week, Ih to Z the next. In all cases where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

ILA	Institute of Landscape Architects. 2, Guildford Place, W.C.1.	Holborn 0281
I of Arb	Institute of Arbitrators. Hastings House, 10, Norfolk Street, Strand, W.C.2.	Temple Bar 4071
IOB	Institute of Builders. 48, Bedford Square, W.C.1.	Museum 7179
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
JFRO	Joint Fire Research Organisation (DSIR & Fire Offices' Committee). Fire Research Station, Boreham Wood, Herts.	Elstree 1341/1797
LDA	Lead Development Association. 18, Adam Street, W.C.2.	Whitehall 4175
LMBA	London Master Builders' Association. 47, Bedford Square, W.C.1.	Museum 3891
LSPC	Lead Sheet and Pipe Council. Eagle House, Jermyn Street, S.W.1.	Whitehall 7264/4175
MAFF	Ministry of Agriculture, Fisheries and Food. Whitehall Place, S.W.1.	Trafalgar 7711
MOE	Ministry of Education. Curzon Street House, Curzon Street, W.1.	Mayfair 9400
MOH	Ministry of Health. 23, Savile Row, W.1.	Regent 8411
MOHLG	Ministry of Housing and Local Government. Whitehall, S.W.1.	Whitehall 4300
MOLNS	Ministry of Labour and National Service, 8, St. James's Square, S.W.1.	Whitehall 6200
MOS	Ministry of Supply. Shell Mex House, W.C.2.	Gerrard 6933
MOT	Ministry of Transport, Berkeley Square House, Berkeley Square, W.1.	Mayfair 9494
MOW	Ministry of Works. Lambeth Bridge House, S.E.1.	Reliance 7611
NAMMC	Natural 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. 58, Portland Place, W.1.	Langham 0064/5
NPL	National Physical Laboratory. Head Office, Teddington.	Molesey 1380
NRDB	Natural Rubber Development Board. Market Buildings, Mark Lane, E.C.3.	Mansion House 9383
NSAS	National Smoke Abatement Society. Palace Chambers, Bridge Street, S.W.1.	Trafalgar 6838
NT	National Trust for Places of Historic Interest or Natural Beauty. 42, Queen Anne's Gate, S.W.1.	Whitehall 0211
PEP	Political and Economic Planning. 16, Queen Anne's Gate, S.W.1.	Whitehall 7245
RCA	Reinforced Concrete Association. 94, Petty France, S.W.1.	Abbey 4504
RIAS	Royal Incorporation of Architects in Scotland. 15, Rutland Square, Edinburgh.	Fountainbridge 7631
RIBA	Royal Institute of British Architects. 66, Portland Place, W.1.	Langham 5533
RICS	Royal Institution of Chartered Surveyors. 12, Great George Street, S.W.1.	Whitehall 5322/9245
RFAC	Royal Fine Art Commission. 5, Old Palace Yard, S.W.1.	Whitehall 3932
RS	Royal Society. Burlington House, Piccadilly, W.1.	Regent 3335
RSA	Royal Society of Arts. 6, John Adam Street, W.C.2.	Trafalgar 2366
RSH	Royal Society of Health. 90, Buckingham Palace Road, S.W.1.	Sloane 5134
RIB	Rural Industries Bureau. 35, Camp Road, Wimbledon, S.W.19.	Wimbledon 5101
SBPM	Society of British Paint Manufacturers. Grosvenor Gardens House, Grosvenor Gardens, S.W.1.	Victoria 2186
SE	Society of Engineers. 17, Victoria Street, Westminster, S.W.1.	Abbey 7244
SFMA	School Furniture Manufacturers' Association. 30, Cornhill, E.C.3.	Mansion House 3921
SIA	Society of Industrial Artists. 7, Woburn Square, W.C.1.	Langham 1984/5
SIA	Structural Insulation Association. 32, Queen Anne Street, W.1.	Langham 7616
SNHTPC	Scottish National Housing. Town Planning Council. Hon. Sec., Robert Pollock, Town Clerk, Rutherglen	
SPAB	Society for the Protection of Ancient Buildings. 55, Great Ormond Street, W.C.1.	Holborn 2646
TCPA	Town and Country Planning Association. 28, King Street, Covent Garden, W.C.2.	Temple Bar 5006
TDA	Timber Development Association. 21, College Hill, E.C.4.	City 4771
TPI	Town Planning Institute. 18, Ashley Place, S.W.1.	Victoria 8815
TTF	Timber Trades Federation. 75, Cannon Street, E.C.4.	City 5040
WDC	War Damage Commission. 6, Carlton House Terrace, S.W.1.	Whitehall 4341
ZDA	Zinc Development Association. 34, Berkeley Square, W.1.	Grosvenor 6636



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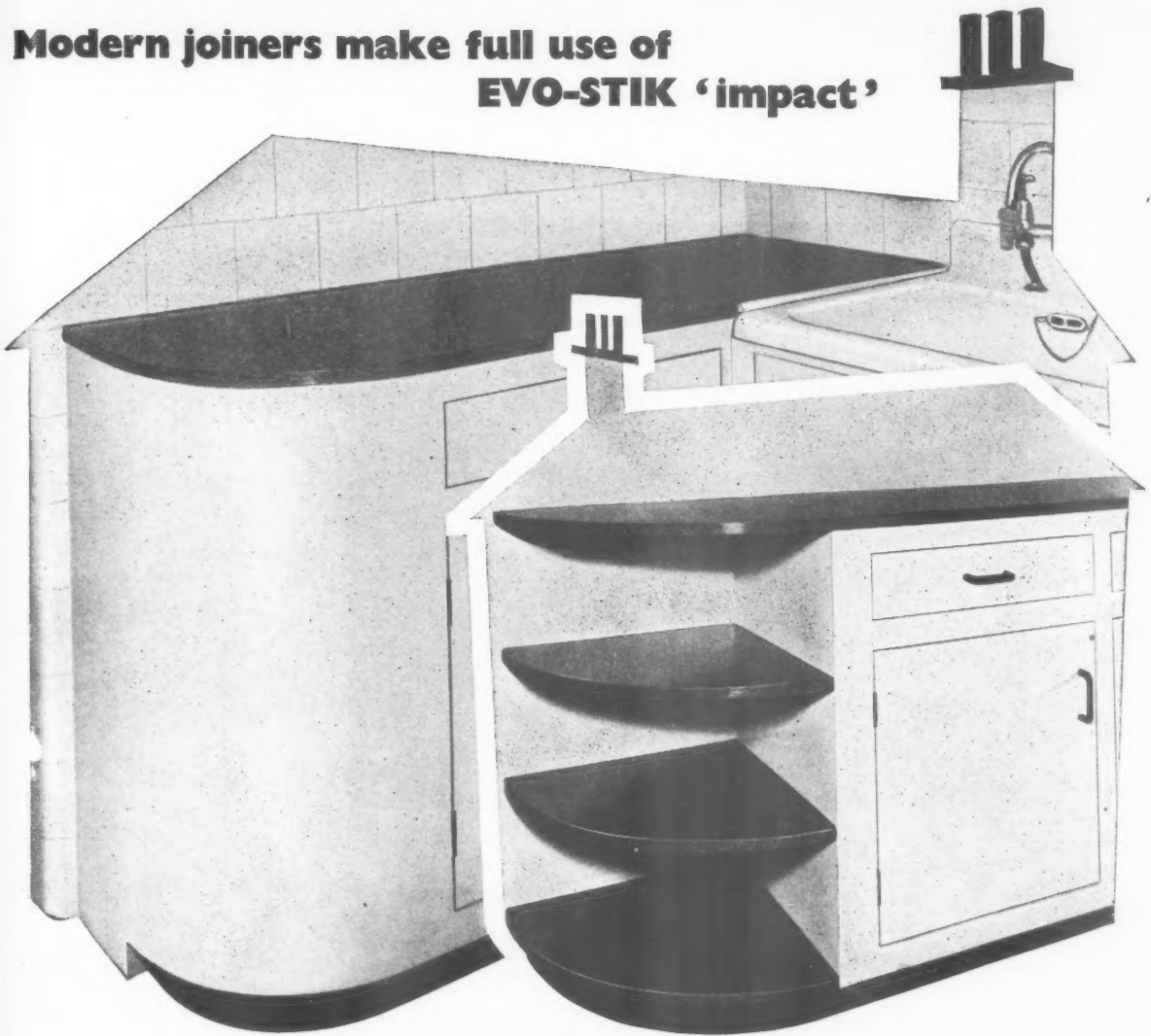
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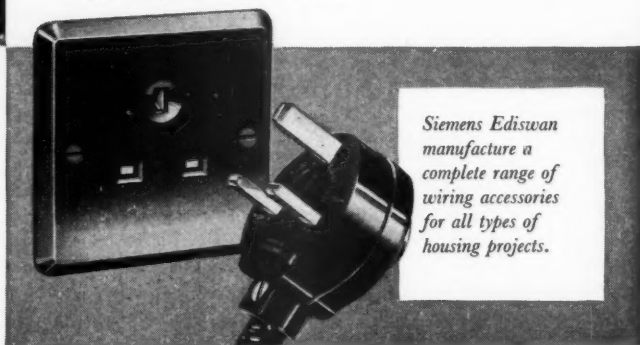
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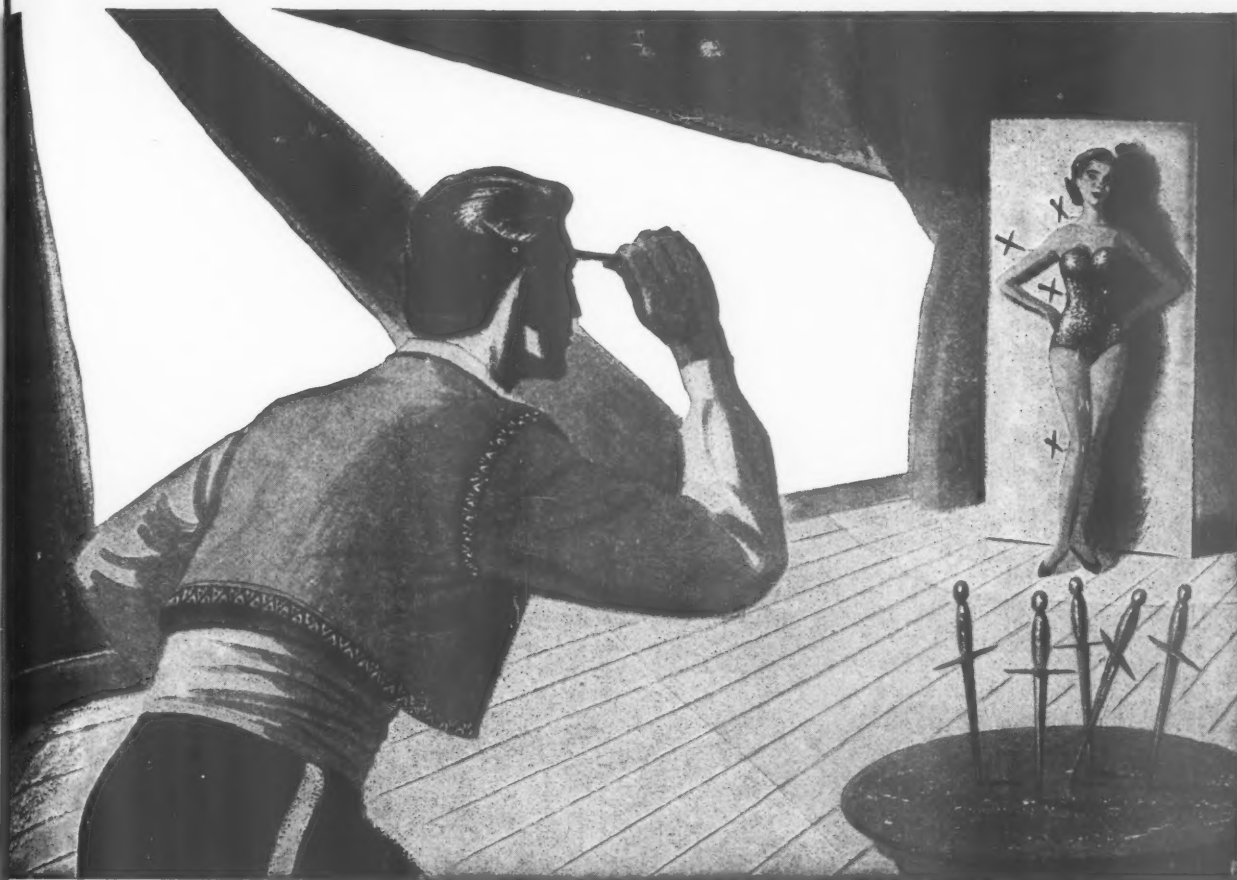


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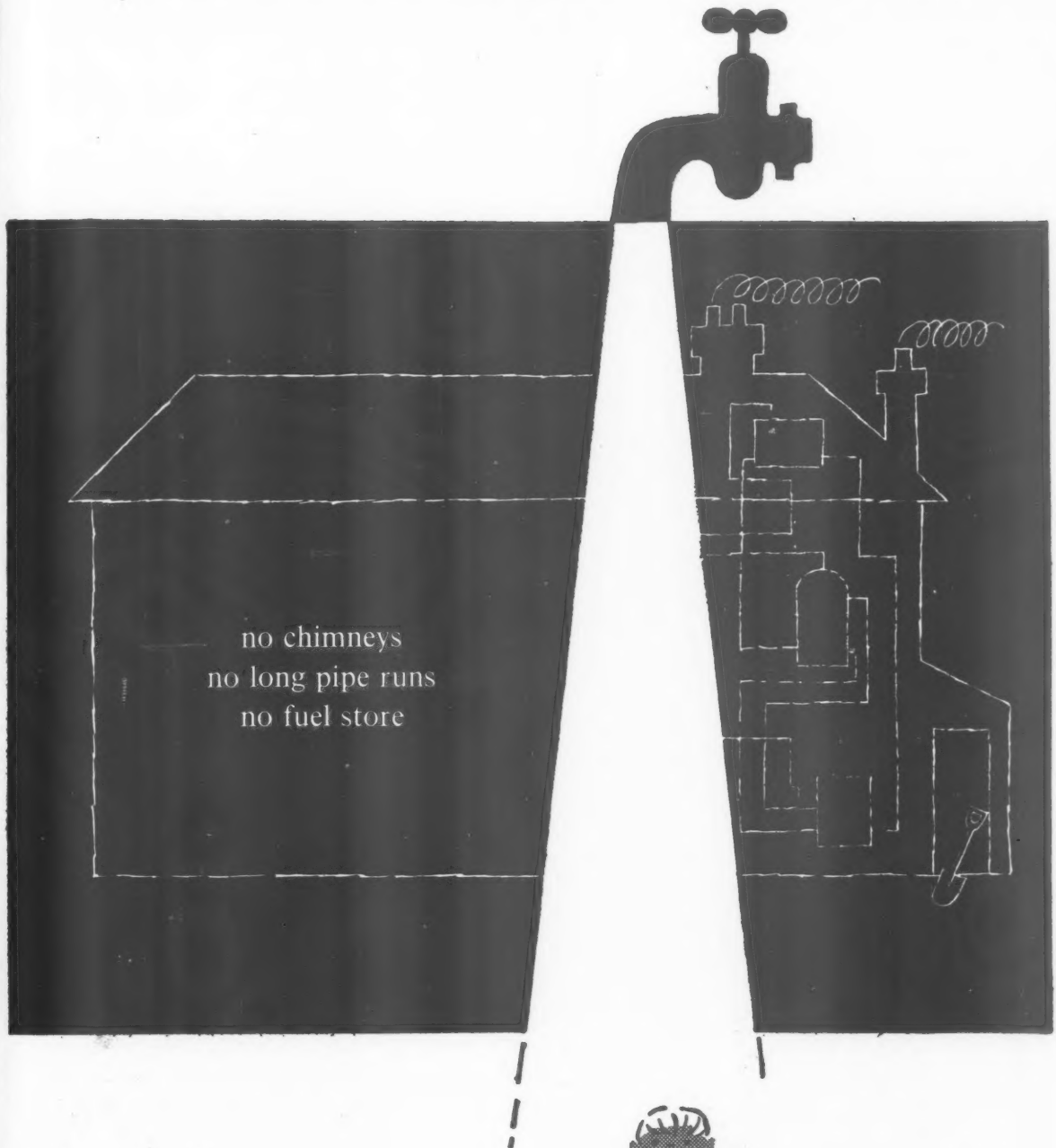
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Consulting Engineer: Felix J. Samuely, B.Sc.(Eng.), M.I.C.E., M.I.Struct.E.  
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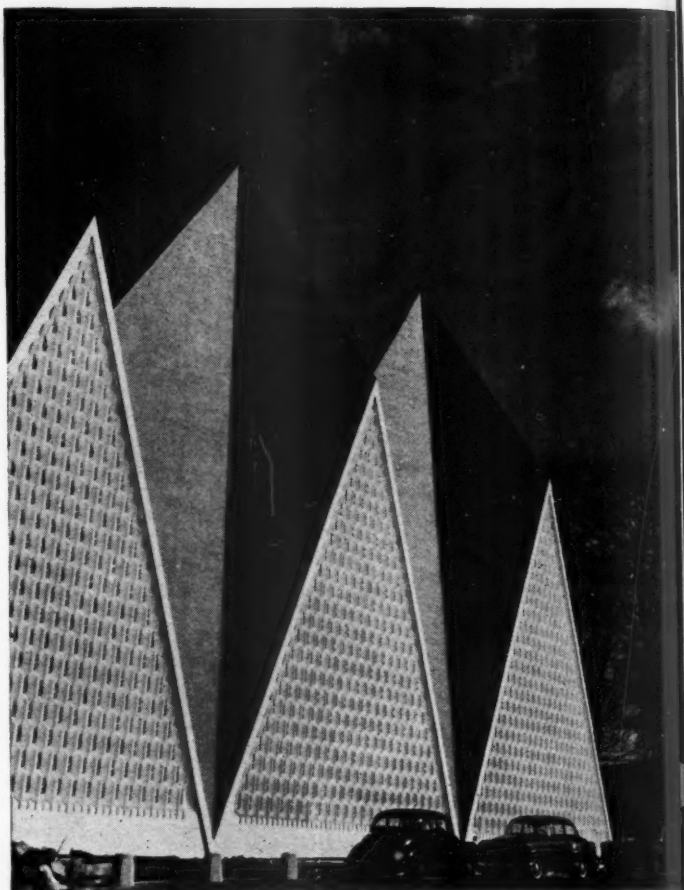
*Architects: Edward D. Mills & Partners, Chartered Architects.  
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### Britannia Inn

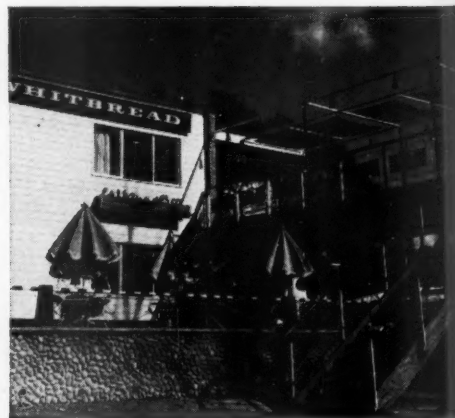
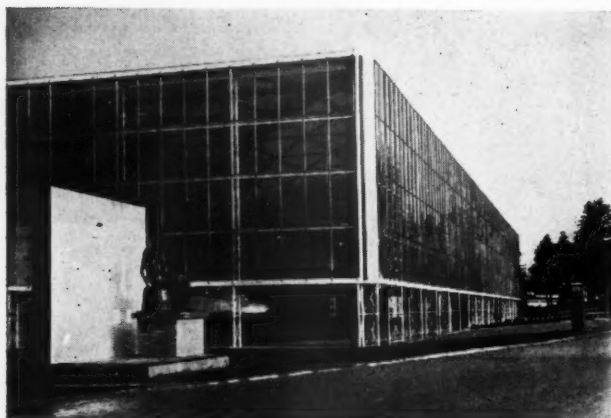
Two bridges, both of two flights, lead on to the first-floor balcony at the front and deck at the side. Rainham produced both bridges, measuring 4 ft. wide, in laminated timber, as well as the laminated beams to support the balcony and decking.

*Architects: Edward D. Mills & Partners, Chartered Architects.  
Consulting Engineer: Felix J. Samuely, B.Sc.(Eng.), M.I.C.E., M.I.Struct.E.  
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"Boots, Robert?"

"Yes, miss, they're the people who're building over there, miss. Look—you can see their name on that board, miss. Actually, miss, they're building that new housing estate at the edge of the town, too, miss. I expect you've noticed how quickly they're getting on with it. It's the same with

everything they build—aerodromes, railways, roads, bridges, reservoirs. They get them finished in absolutely no time at all, miss. My father says it's a pity there aren't more people like Boots, miss, then we shouldn't be in such a mess. Are we in a mess, miss?"

"With your permission, Robert, we'll ignore that red herring and return to our five-finger exercise."

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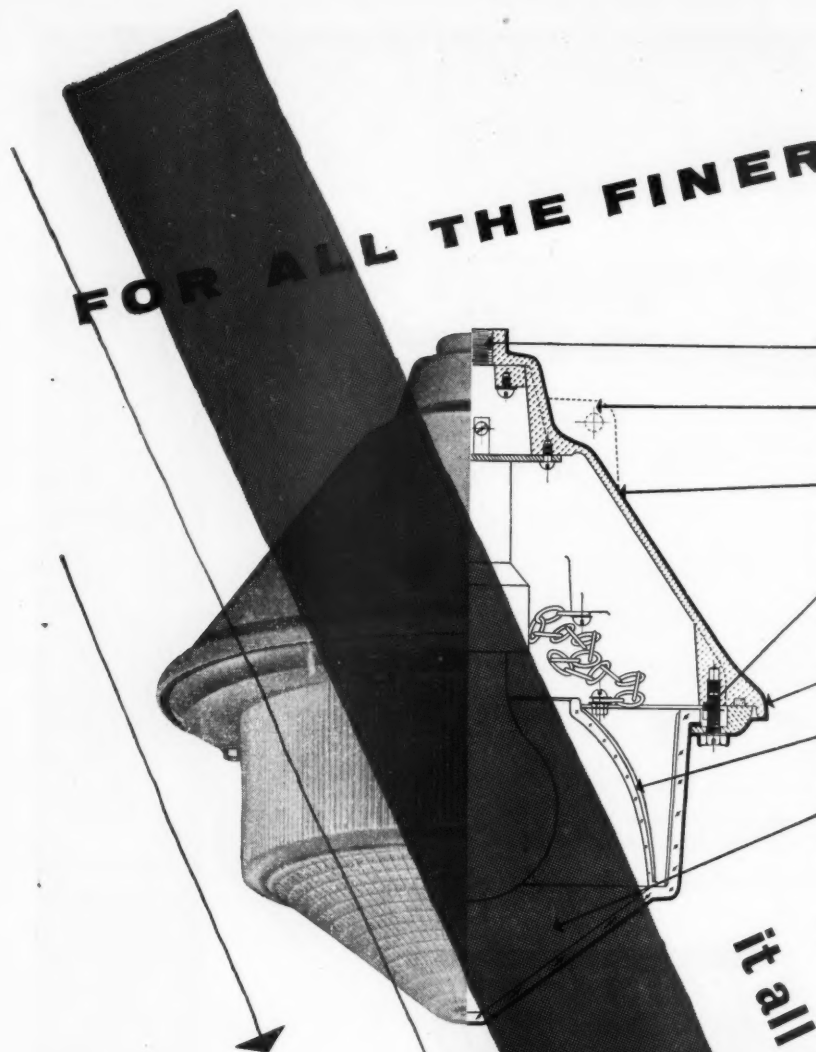
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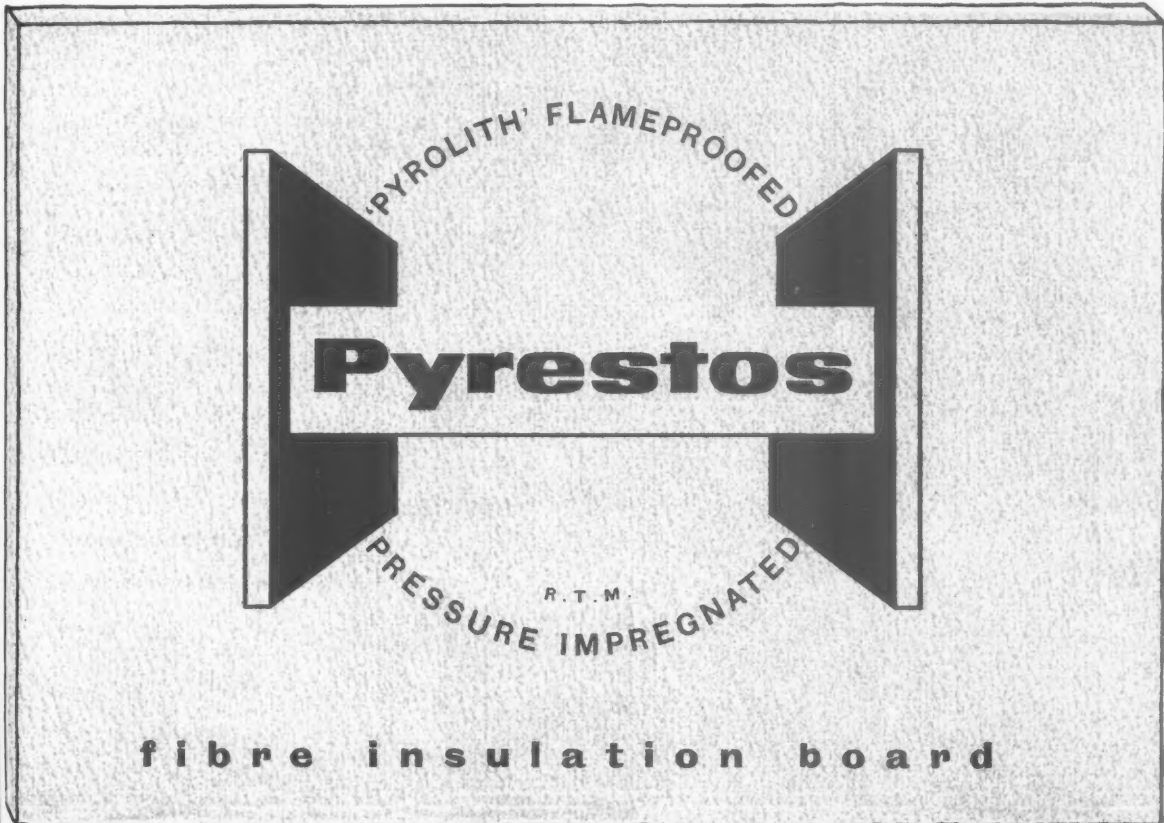
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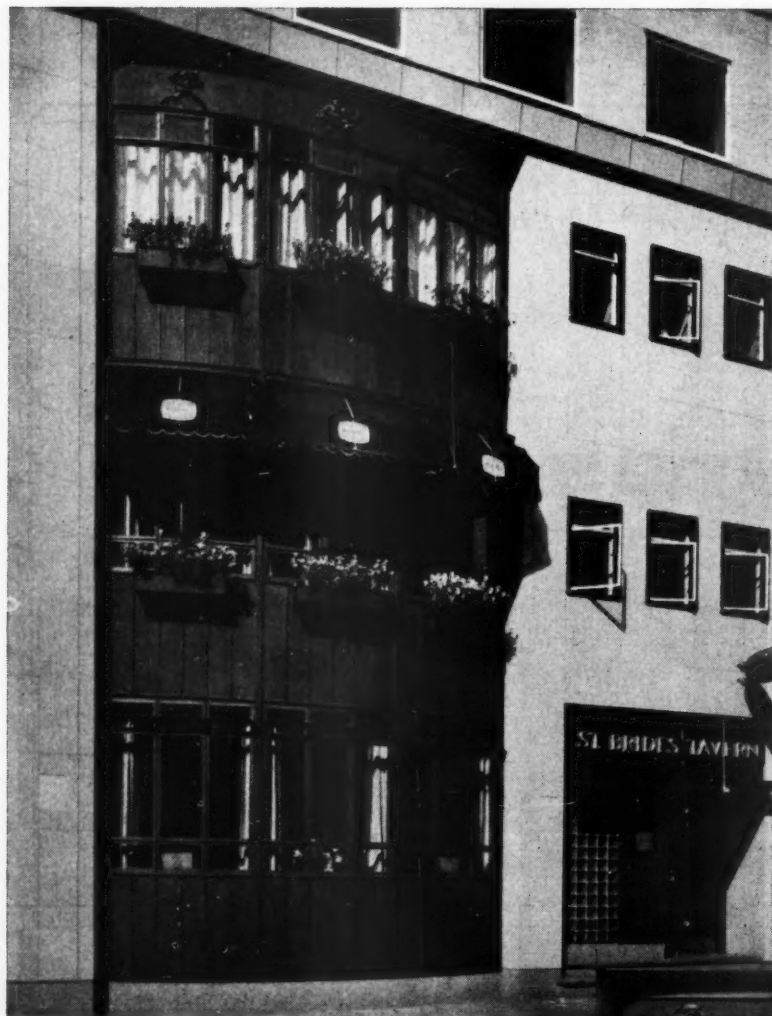
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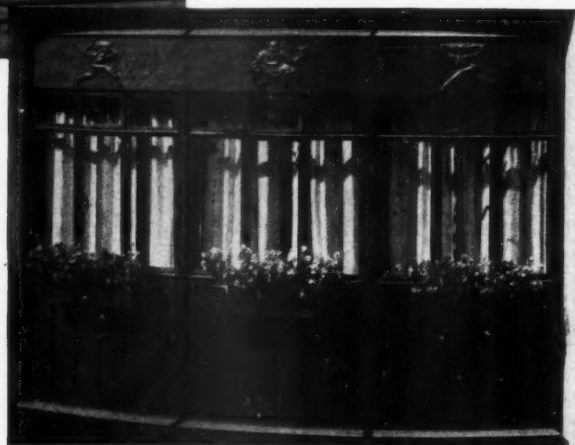


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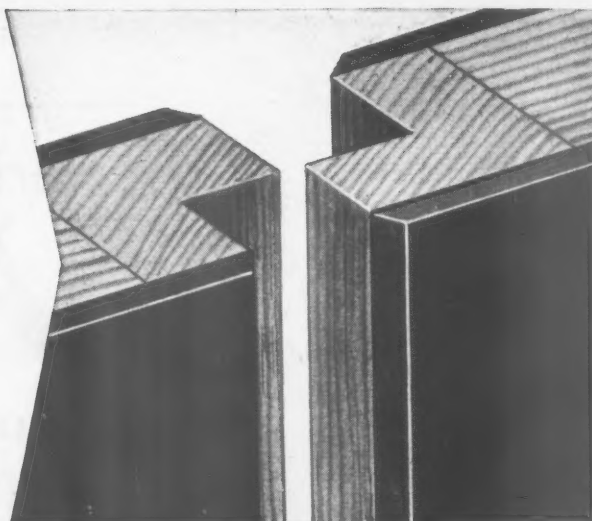
*A bow fronted facade with bronze clad steel mullion framing, curved panels and extruded window sashes, with bronze facings to flower boxes and sunblind hoods. Applied embellishments along the top are in low relief cast bronze.*

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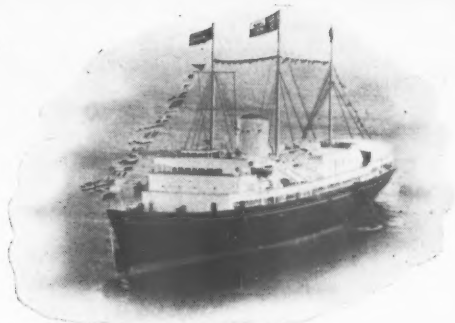
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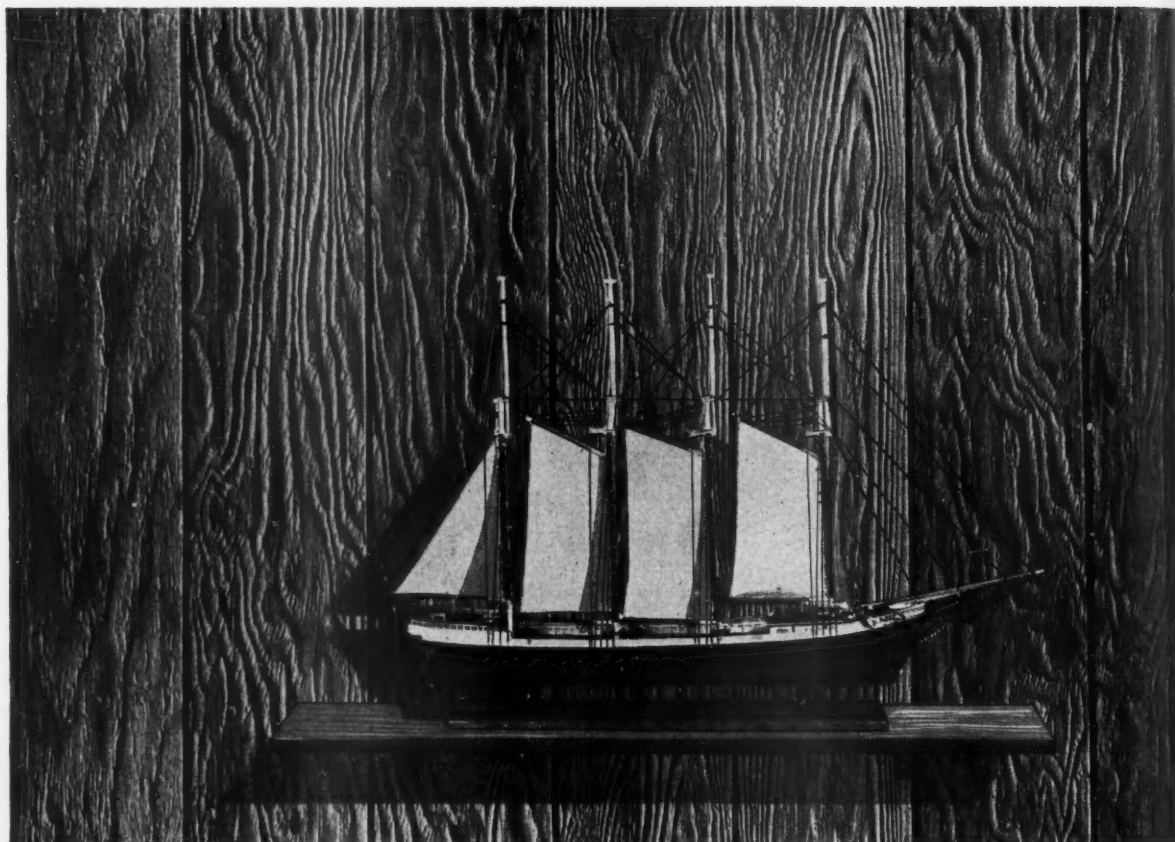
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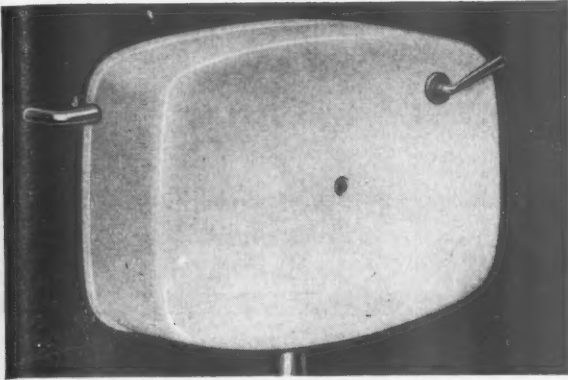
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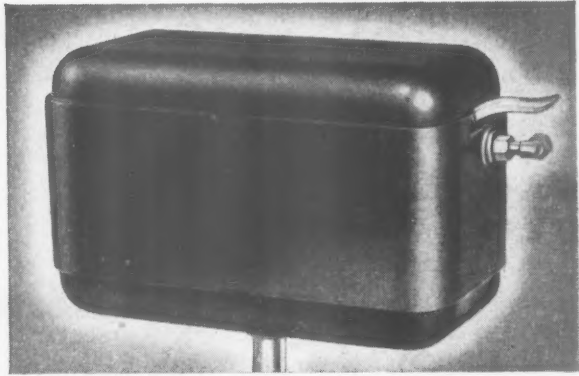
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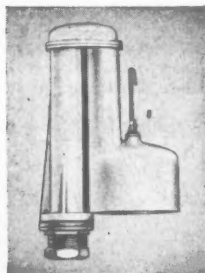
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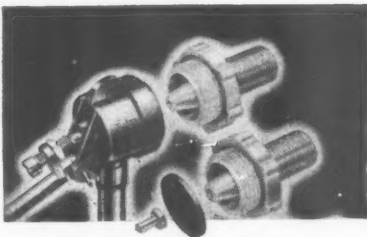
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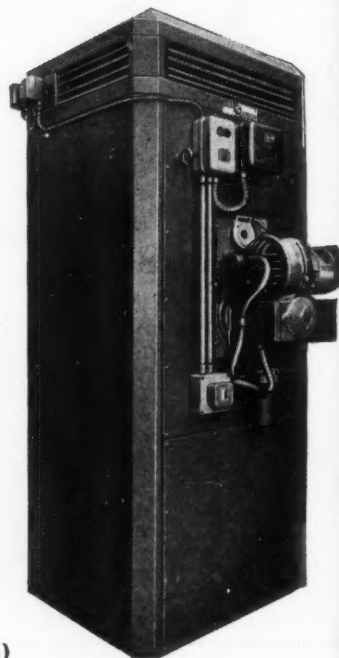
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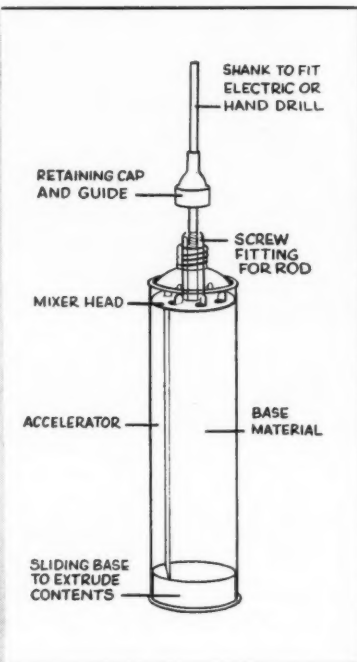
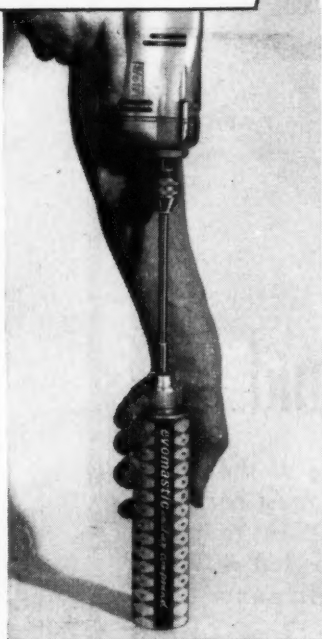
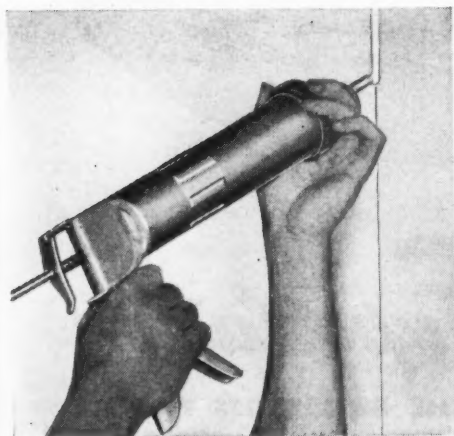
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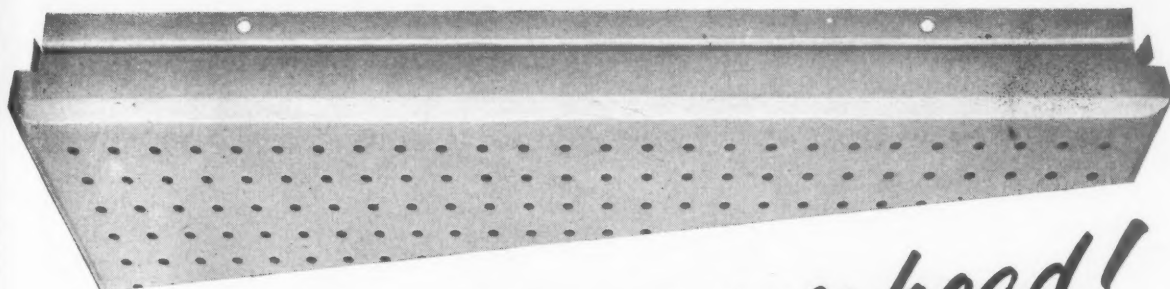
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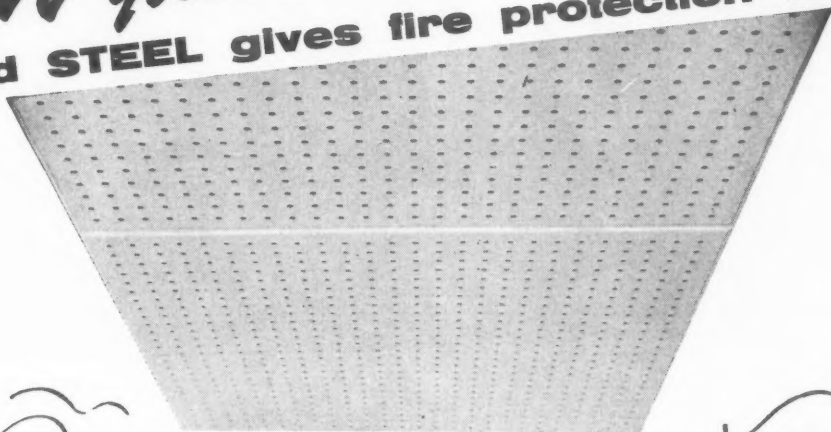
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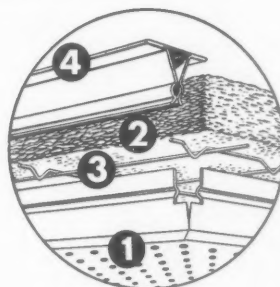
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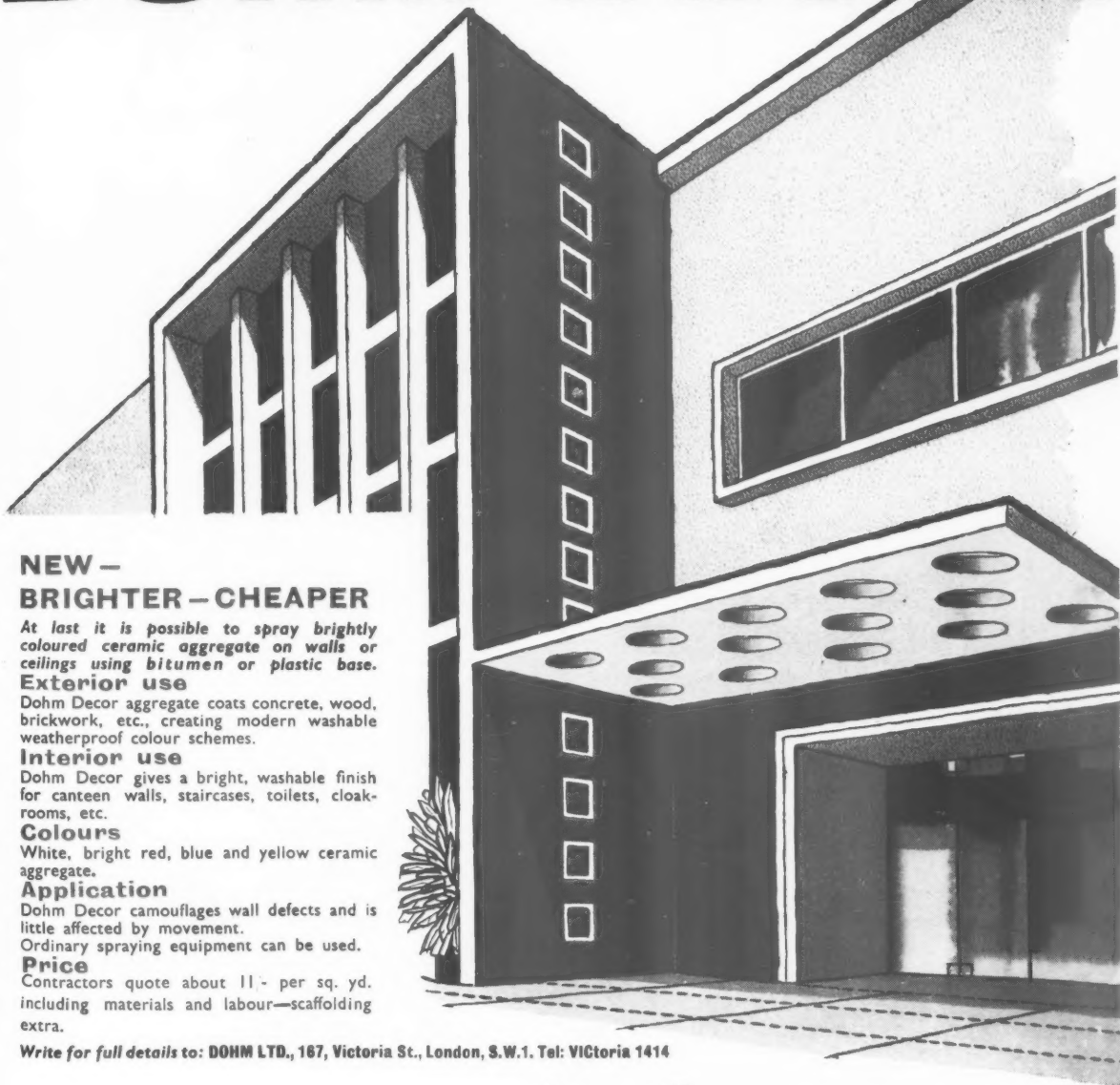


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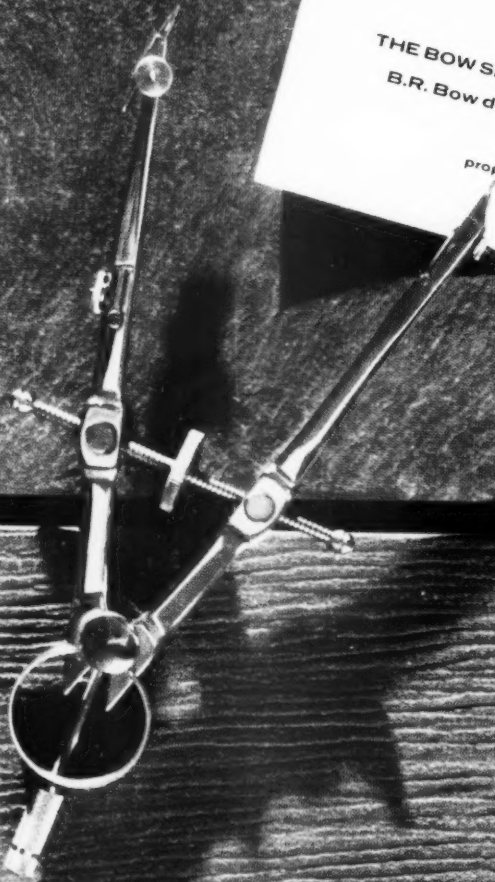
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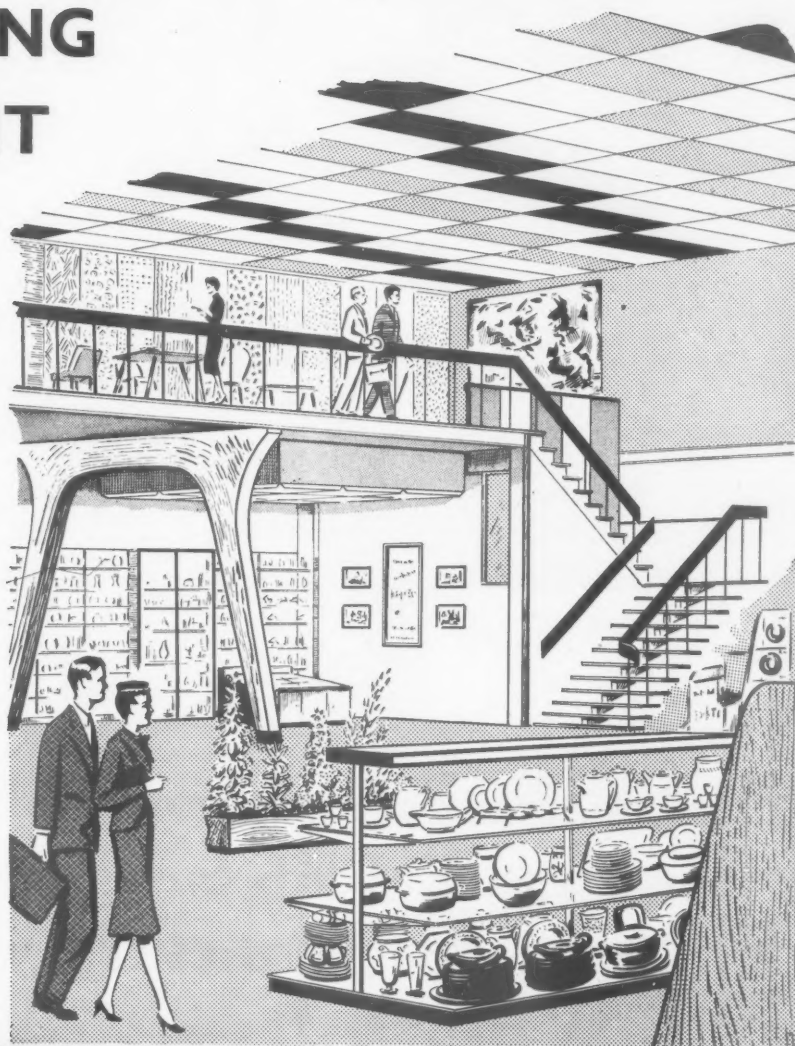


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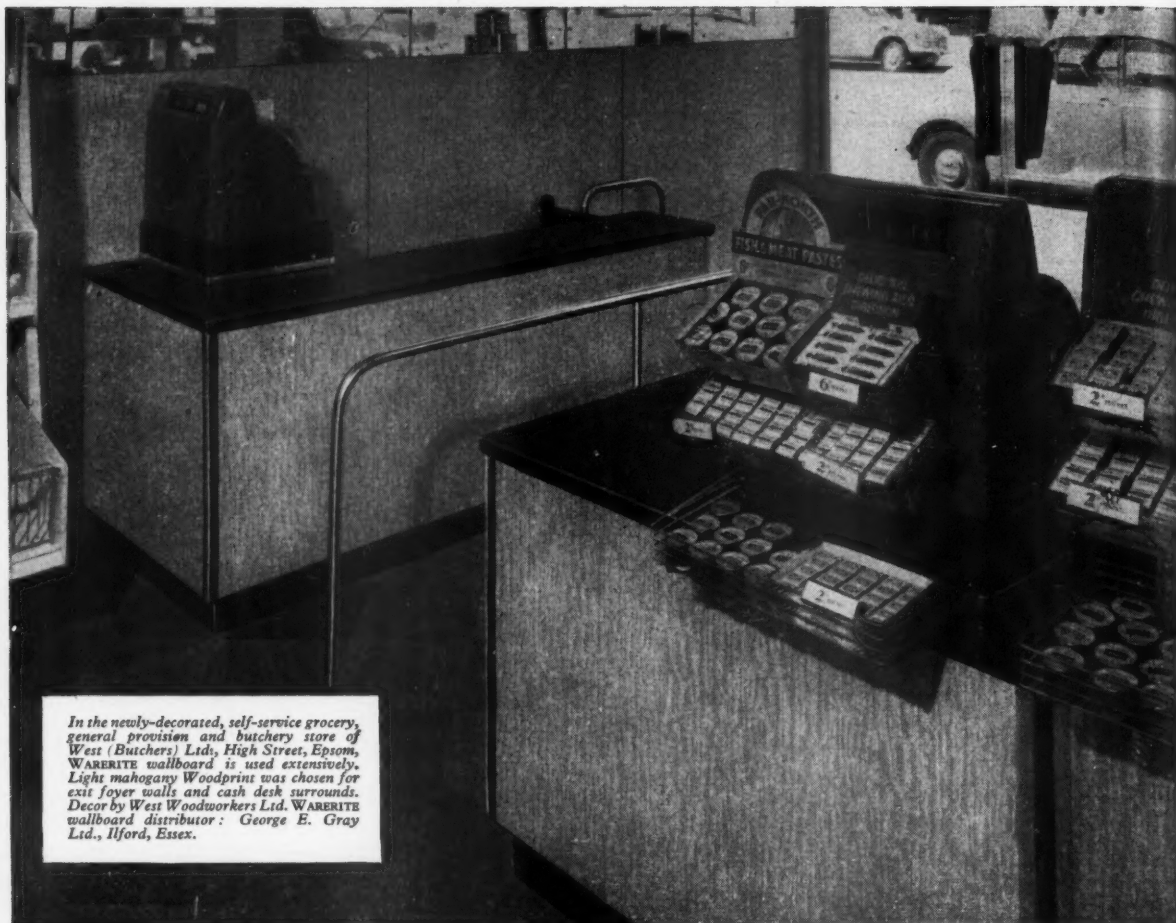
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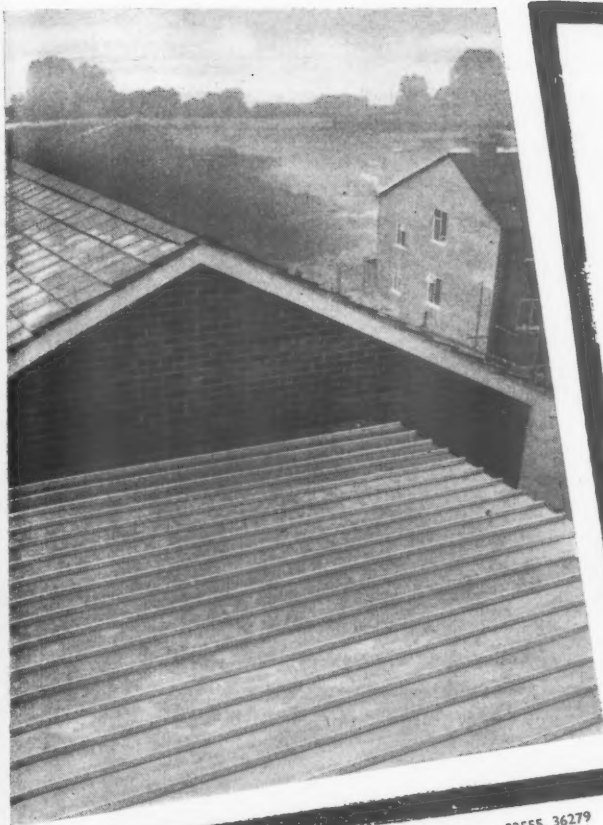
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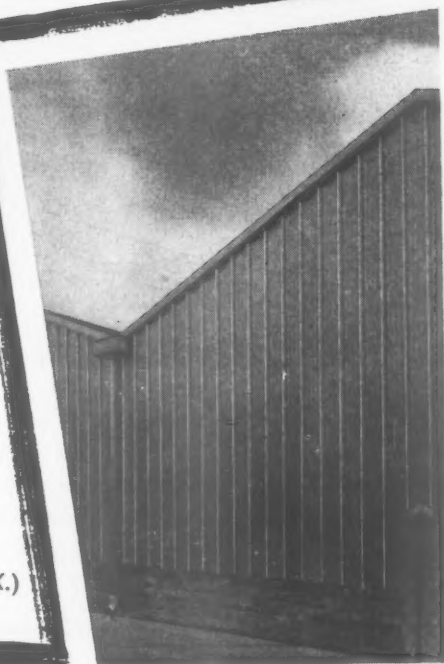
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HEIGHT: 65 ft. at apex.  
LENGTH: 350 ft.  
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CONSTRUCTION: Three pinned arches made up of glued timber laminates, supporting standard timber purlins.

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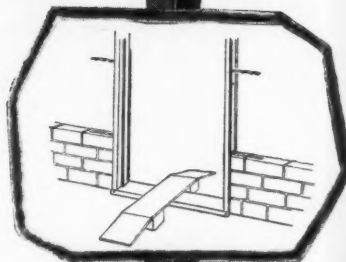
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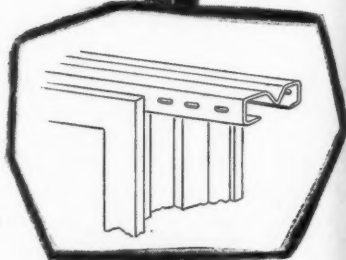
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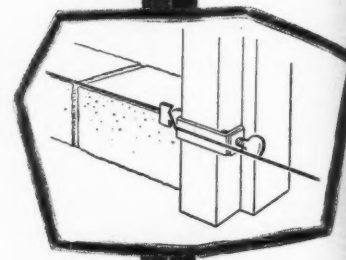
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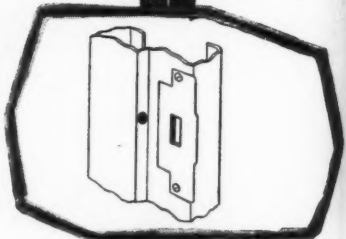
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Line guides are supplied to enable the bricklayer to quickly line his work through, between door-frames.



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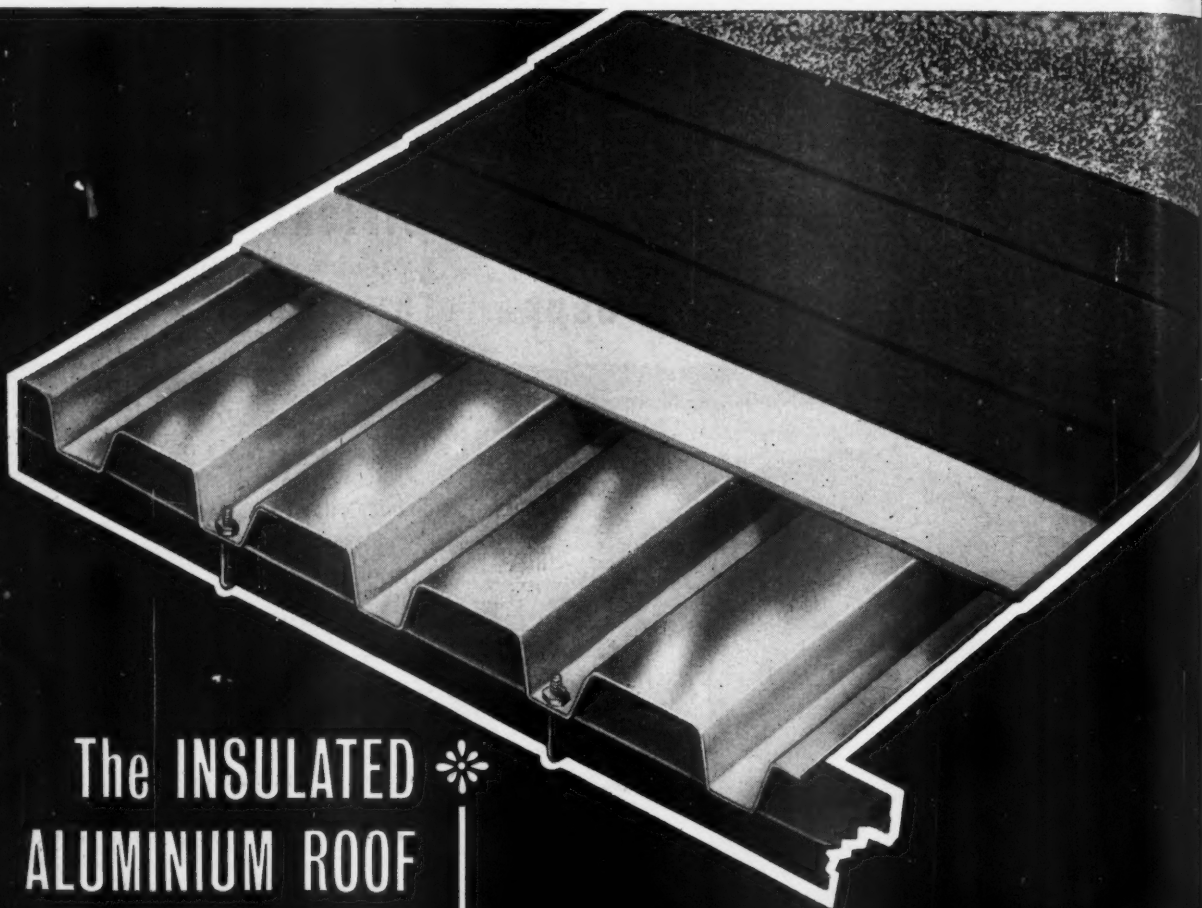
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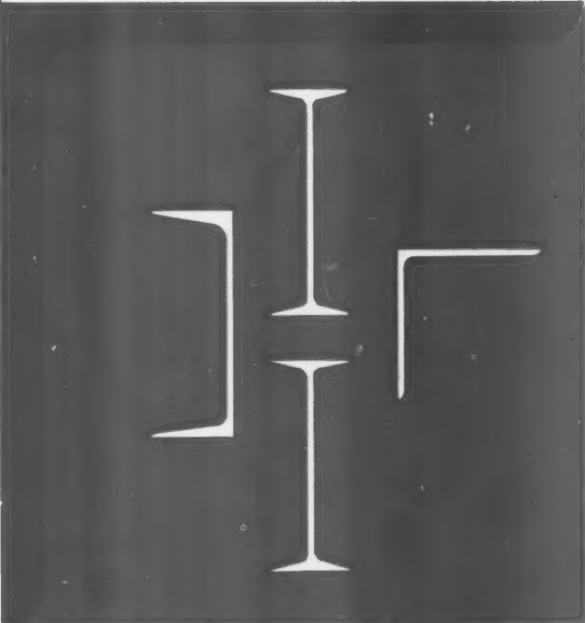
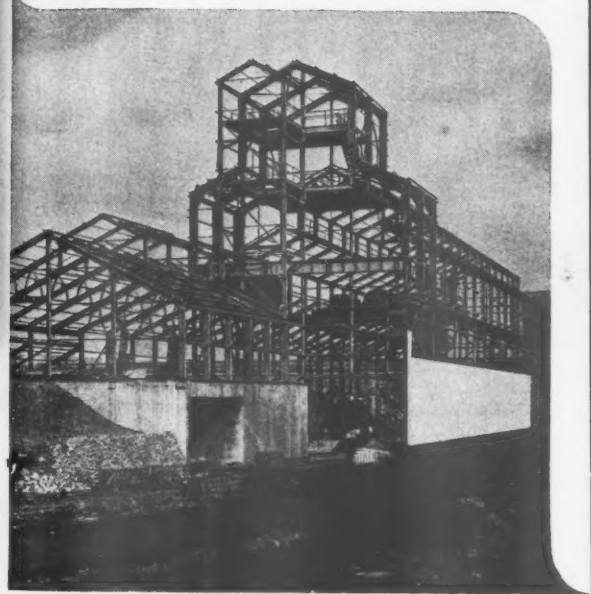
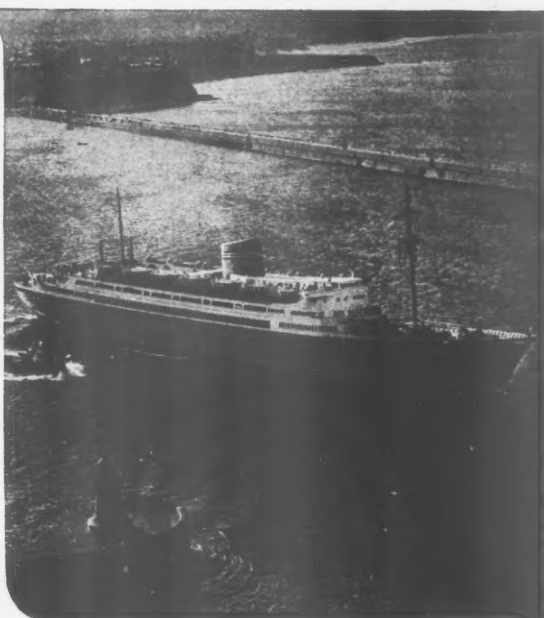
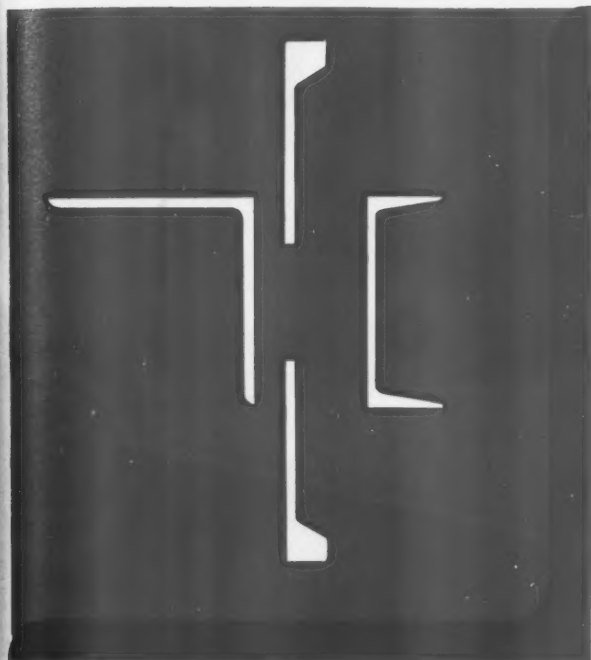
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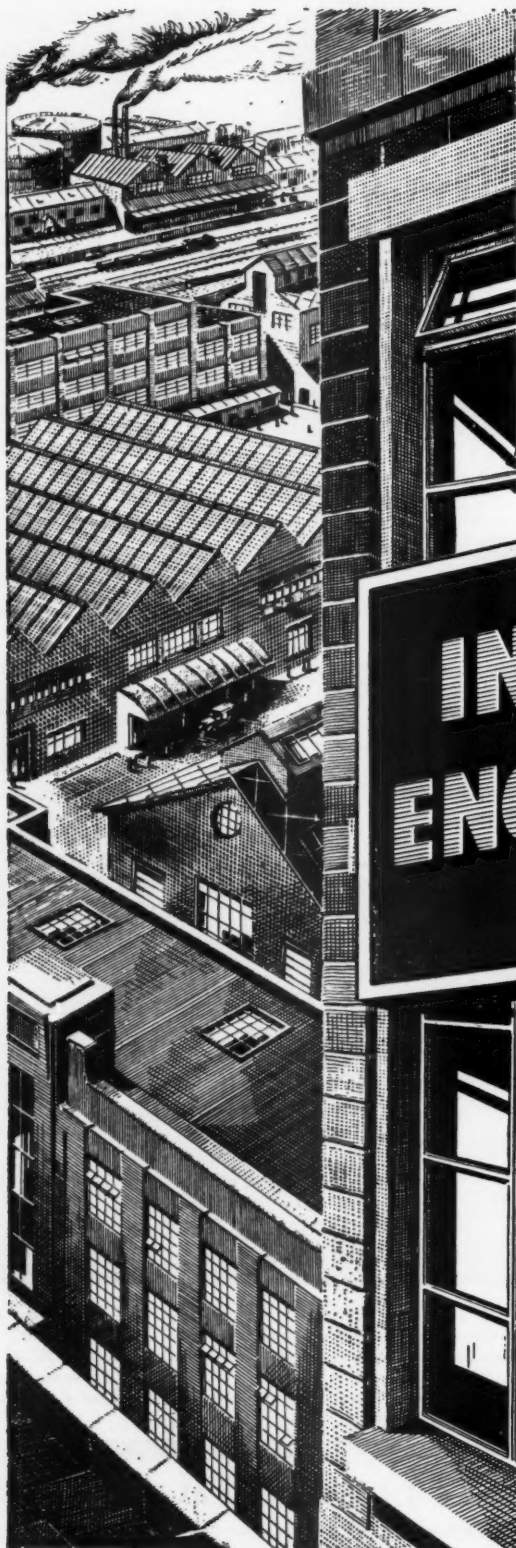
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## CHAPEL IN CONCRETE

By Diana Rowntree

**The Chapel at Ronchamp.** By le Corbusier. Architectural Press. Pp. 120. 25s.

"Never in my life have I 'explained' a painting. The painting will go out and will be loved or hated, understood or not." So says le Corbusier in his preface. Happily he does not apply the prohibition to buildings. People who have been inside the Ronchamp chapel always feel the wonder the architect strove for. Others, even lifelong Corbusier addicts, have felt disquiet. This book, written and designed by le Corbusier himself, shows with beautiful economy the long, silent process, the struggle, and the moments of certainty that produce a work of art, that between 1950 and 1955 produced this building.

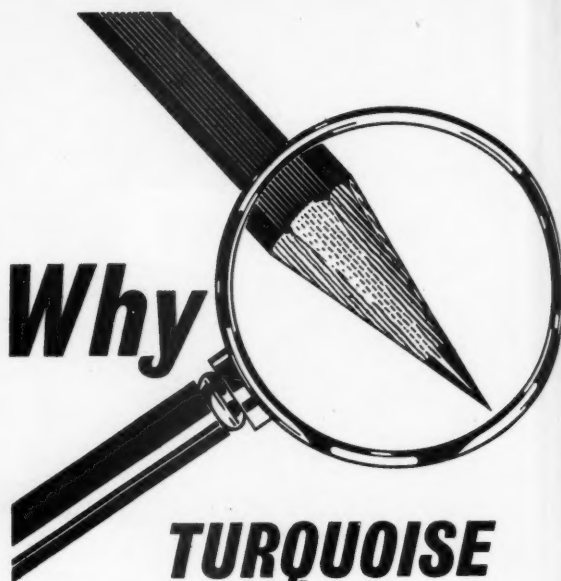
First the finished building is shown by photographs of the kind that need no captions. We see black nuns praying against a light-pierced wall, the distant rolling landscape, and on the opposite page the immediacy of the simple concrete. Later, 'interspersed among sketches, calculations, photographs of models, and some very fine architectural drawings, "Corb" lists the workmen's names, tells with inimitable brevity how a crab shell lying on his drawing board gave the idea for the concrete shell of the roof: how the massive walls were compiled from ruined stones; how when the foremen picked up the cross and carried it up the nave the workmen began to crack jokes so as not to weep.

This is a most moving book for architects, children, poets, copywriters, and all who have eyes to see.

THE MANCHESTER GUARDIAN

*— A / readers —  
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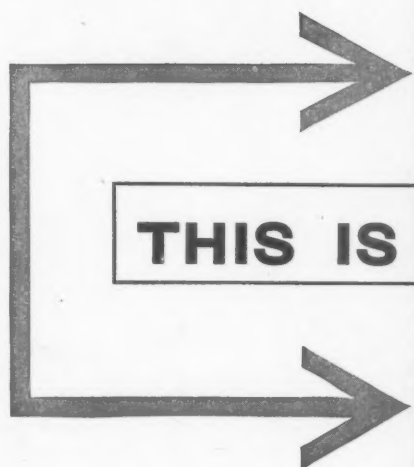
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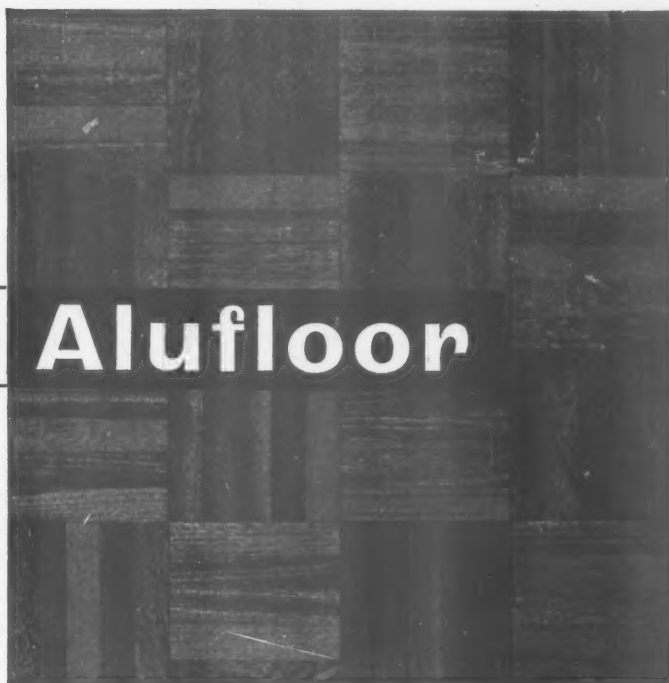
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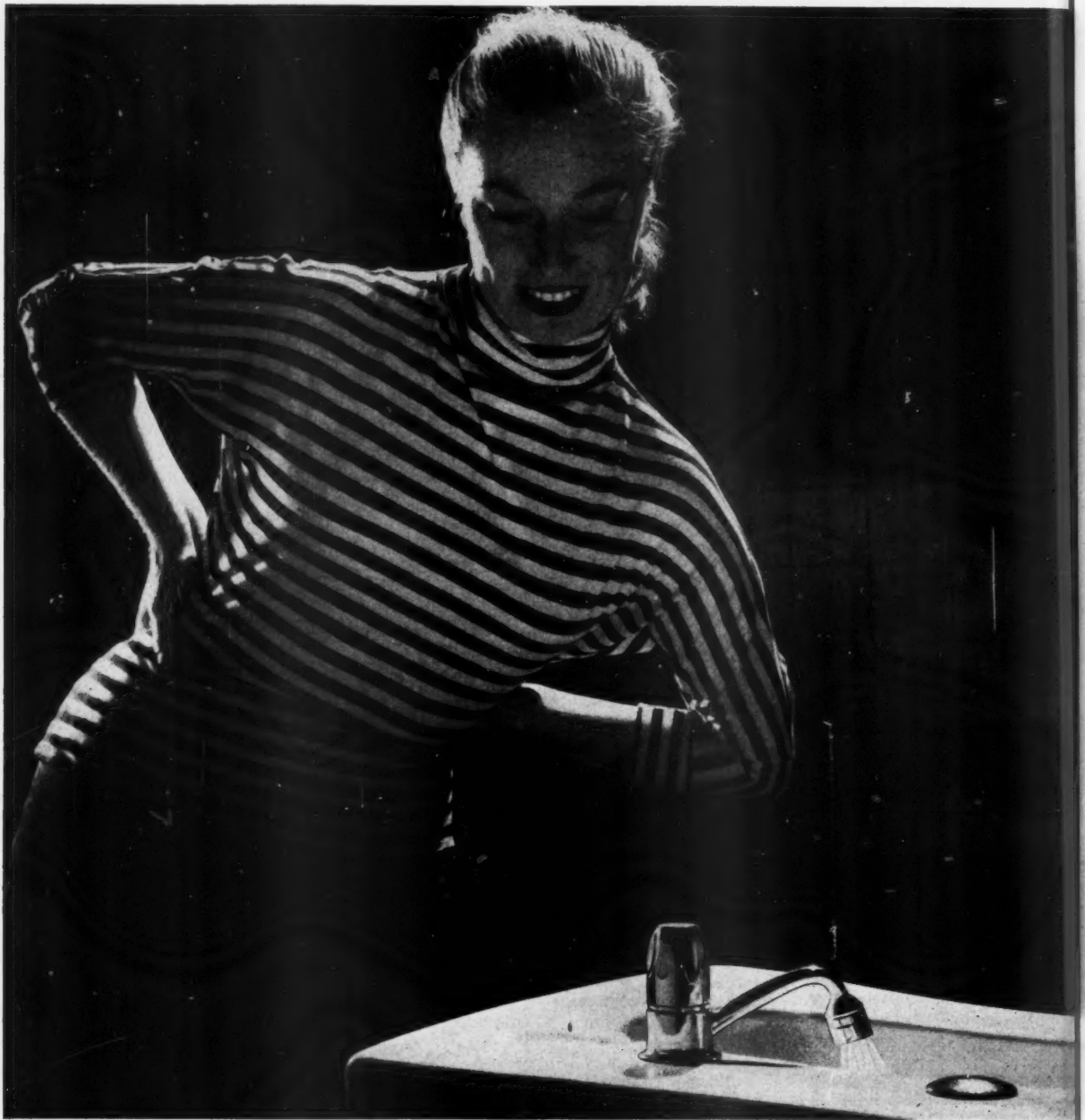
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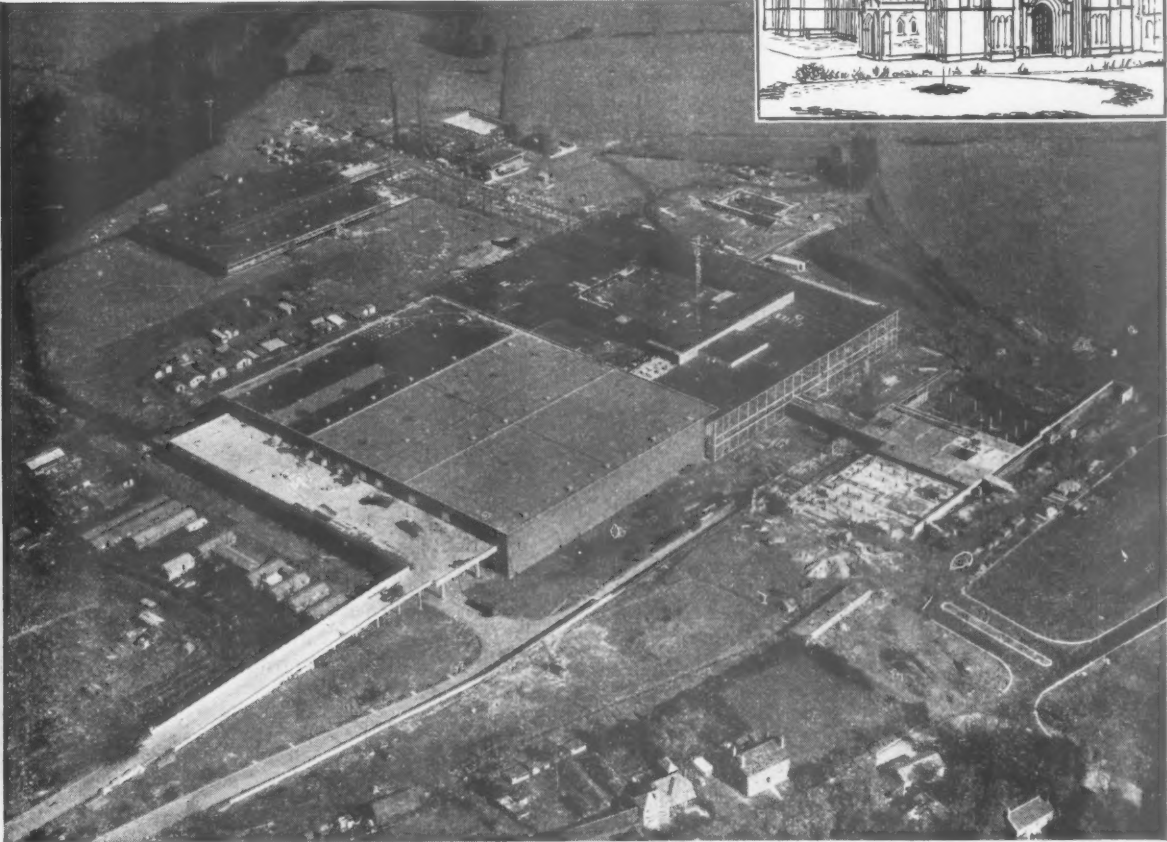
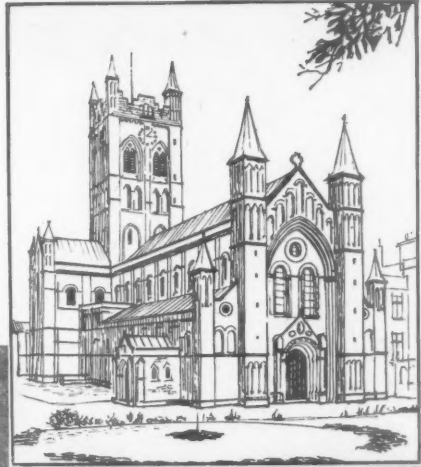
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Architect: J. Douglass Mathews & Partners

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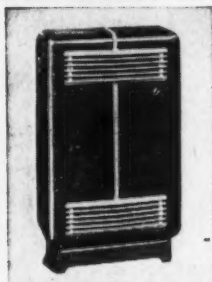
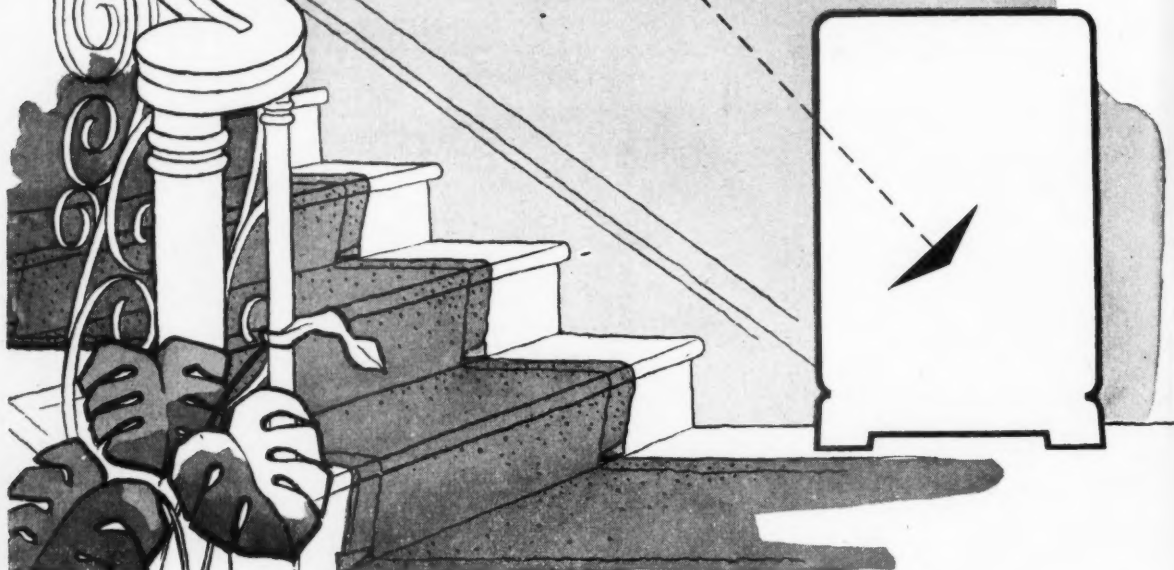
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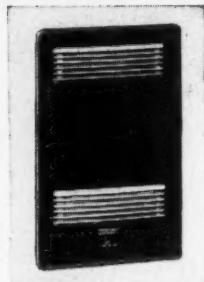
*Finish*—Base and body heat resisting coinage bronze paint. Baffle vitreous enamelled. Louvres cream vitreous enamelled.  
*Burner*—Cast iron with luminous gray jets.  $\frac{1}{2}$  in. gas inlet, can be fitted for R.H. or L.H. feed.  
*Governor*—Constant pressure. Gas consumption—18 cu. ft. per hour at 2 $\frac{1}{2}$  in. W.G.  
Maximum output per hour: 8,100 B.Th.U. at 500 c.v.  
*Dimensions*: Height 29 $\frac{1}{2}$  in. Width 17 $\frac{1}{2}$  in. Depth 7 in. Weight 42 lb.



Model No. 3160

*Finish*—Heat resisting coinage bronze. The top louvre and the door (which has concealed hinges) are cream vitreous enamelled. Gas consumption: 2 cu. ft. per hour.

*Dimensions*: Height 25 in. Width 16 $\frac{1}{2}$  in. Depth 6 $\frac{1}{2}$  in. Weight: 31 lb.



Model No. 300

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*Finish*—Front panel, heat resisting coinage bronze paint. Baffle, vitreous enamelled. Louvres, vitreous enamelled.

*Burner*—Cast iron with luminous gray jets.  $\frac{1}{2}$  in. gas inlet.

*Governor*—Constant pressure.

Gas consumption—18 cu. ft. per hour at 2 $\frac{1}{2}$  in. W.G.

Maximum output per hour—8,100 B.Th.U. at 500 c.v.

*Dimensions*—(a) Panel: Height 27 $\frac{1}{2}$  in.; Width 17 in. (b) Overall dimensions required for recess. Height 24 in.; Width 12 $\frac{1}{2}$  in.; Depth 3 $\frac{1}{2}$  in. to 4 $\frac{1}{2}$  in. Series of three nautilus flue blocks, type S.1.

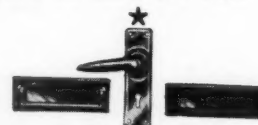
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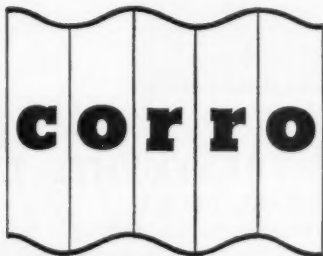
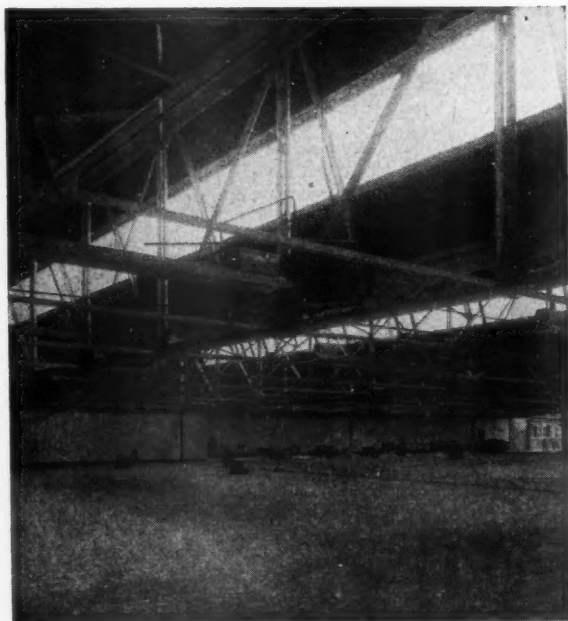


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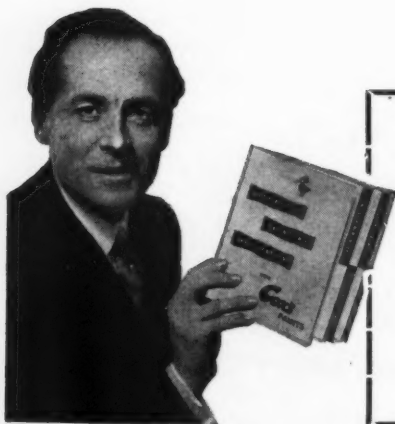


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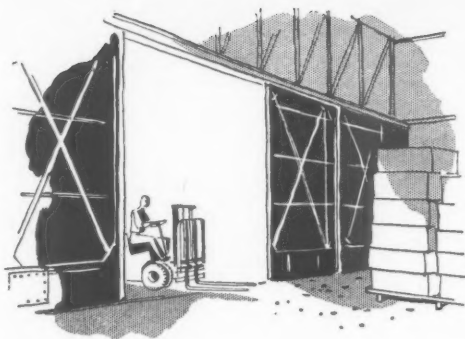
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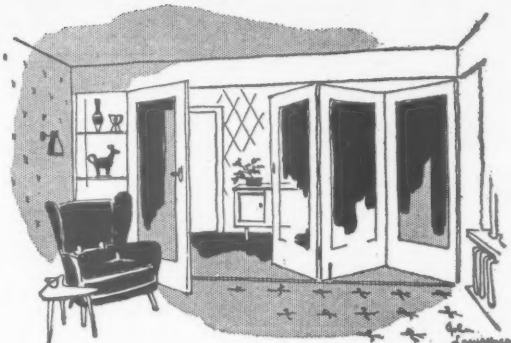
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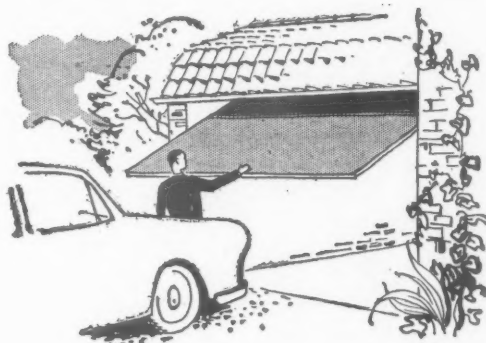
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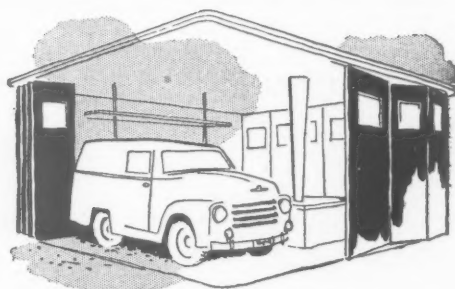
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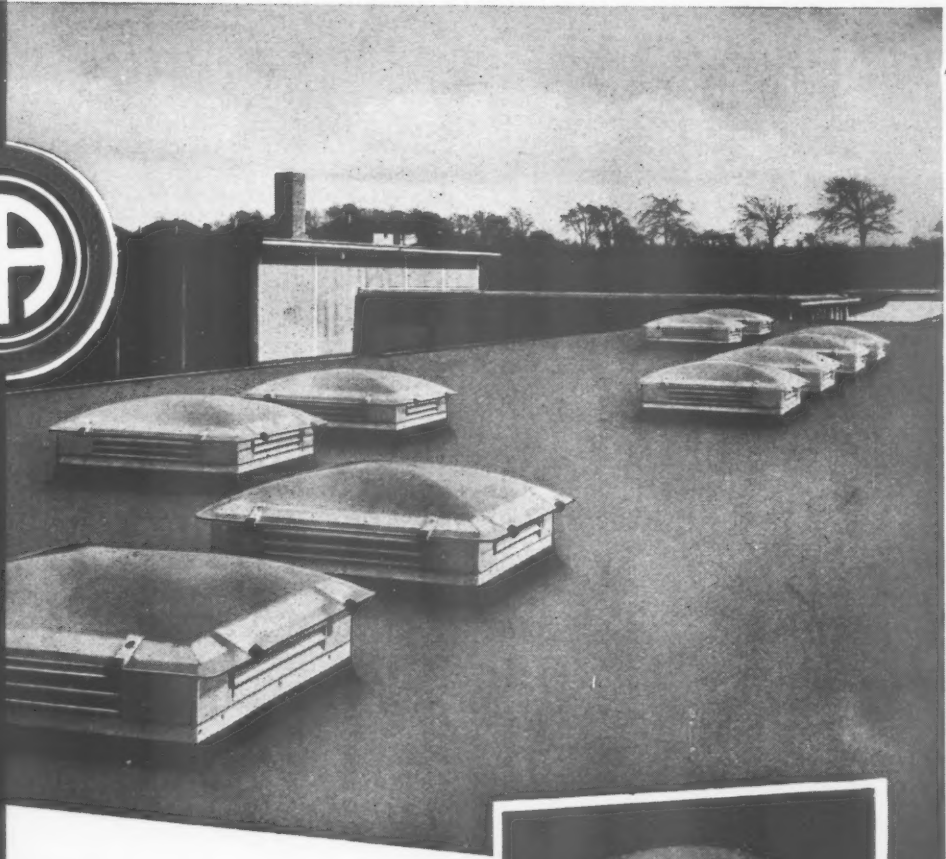
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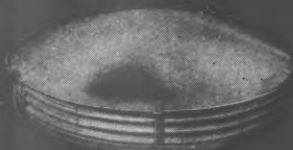
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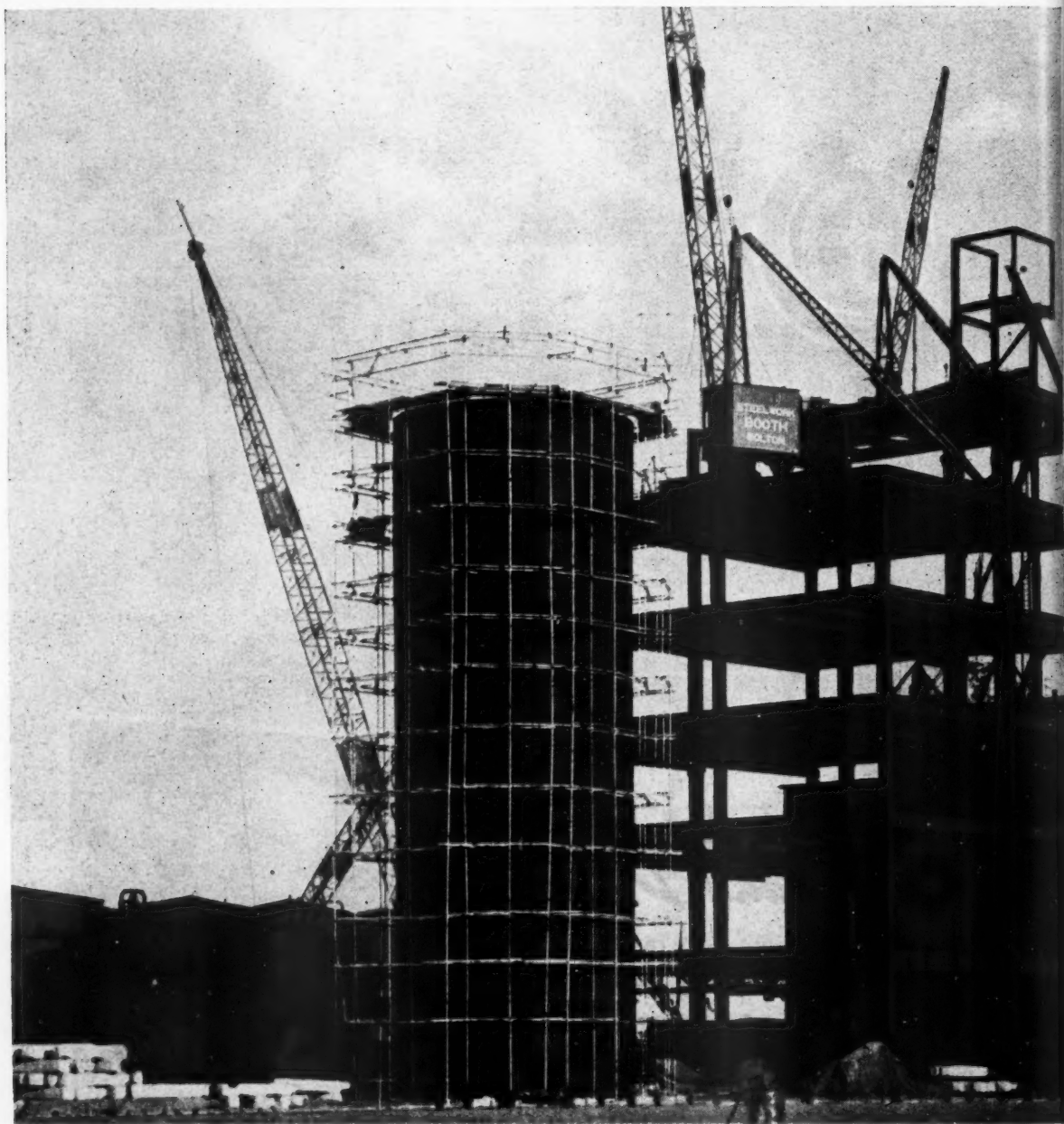
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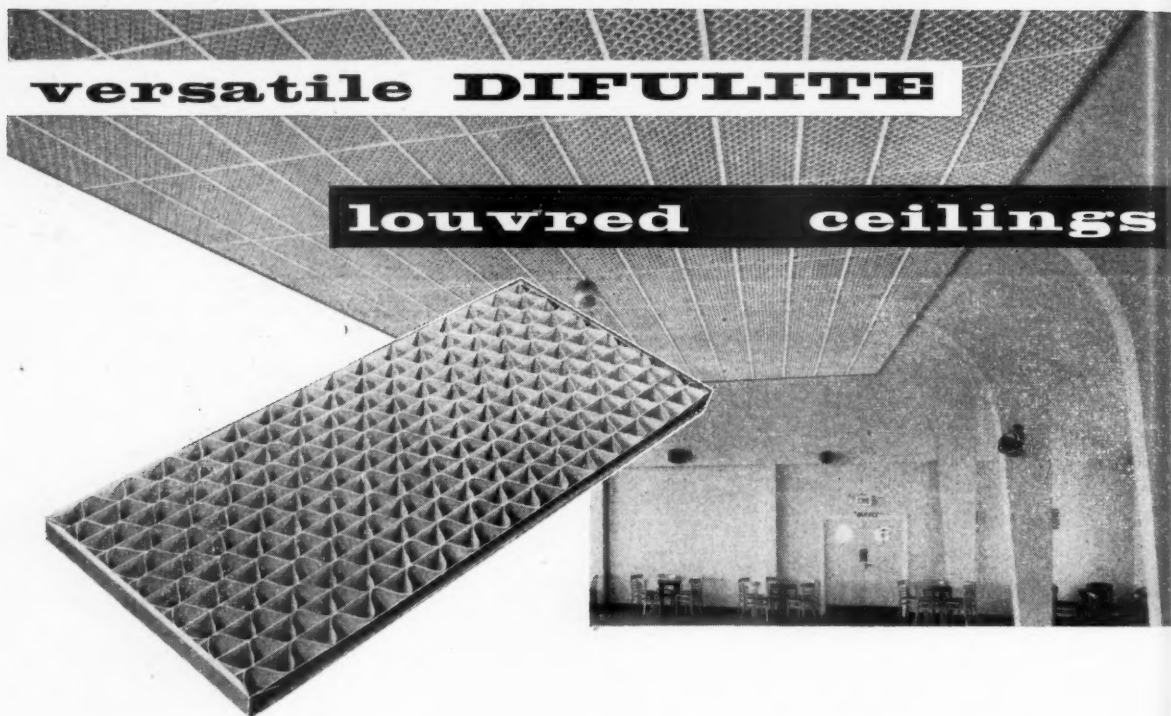
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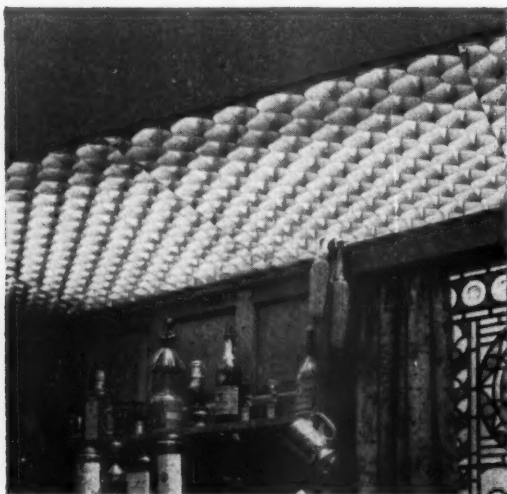
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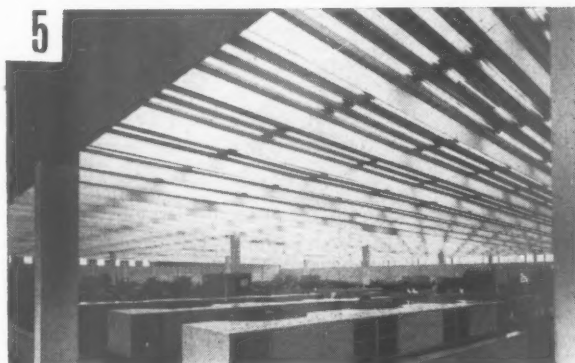
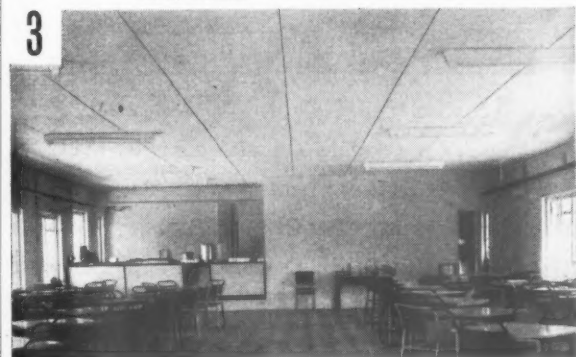
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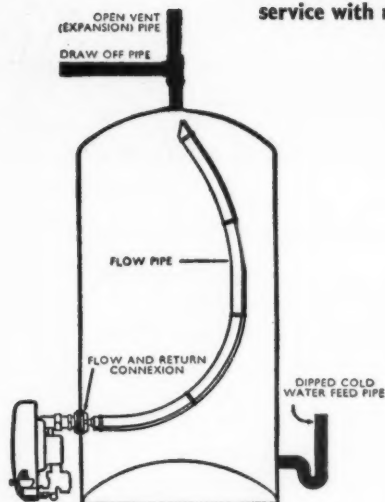
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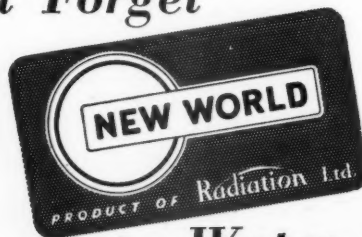
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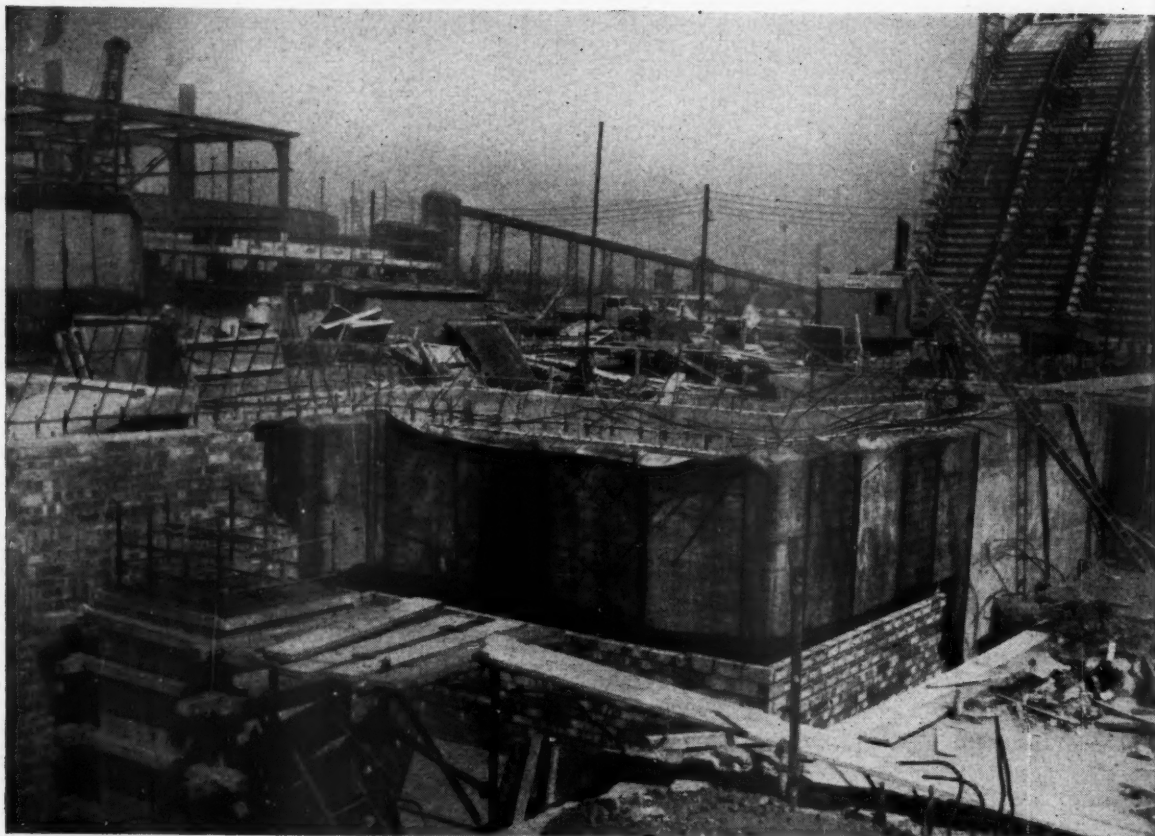
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NOT QUITE ARCHITECTURE

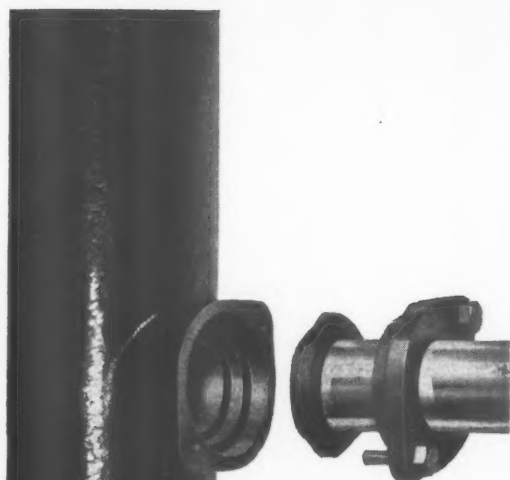
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Against justifiable accusations of flattered vanity I set, in mitigation, a genuine desire to help—"We could use you, Banham. We're running out of Boffin-types for ads. People get tired of seeing the same old faces in white coats assuring them that the product does this or that."

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I got it wrong, of course. The business-like voice rang up again to enquire "About your wardrobe for Friday's session . . ." Not a white coat job, after all, but a grey flannel suit one. I suggested some nifty variations on my regular rig, to no avail. "The agency want you to be the popular type of a top advertising executive." I was directed to report to Moss Bros. for a Man of Distinction set. "Miss Props will be waiting for you in the Hire Department."

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*is quicker, neater  
and cheaper*

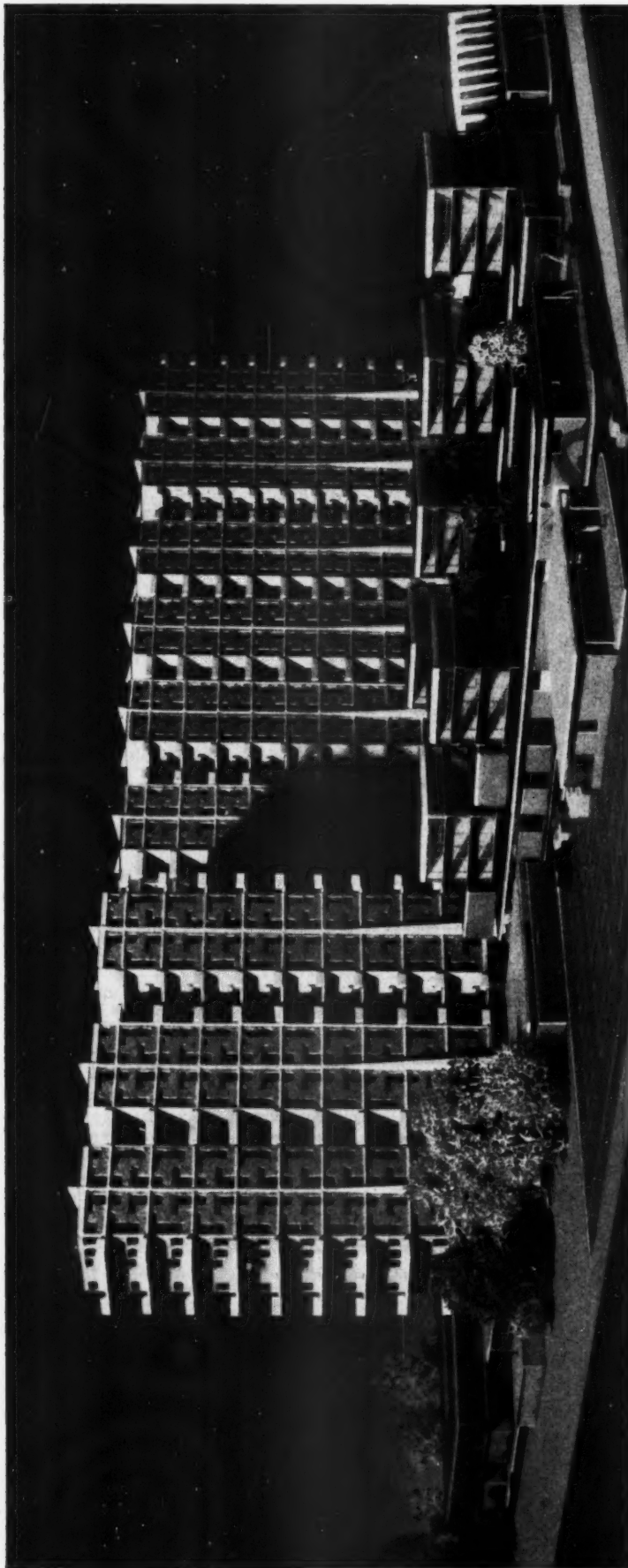
Literature is available showing its many applications in all types of plumbing layouts for multi-storey flats and two-storey houses including the Single Stack System.

for all BRANCH JOINTS in PLUMBING SYSTEMS

## The **FF** Joint

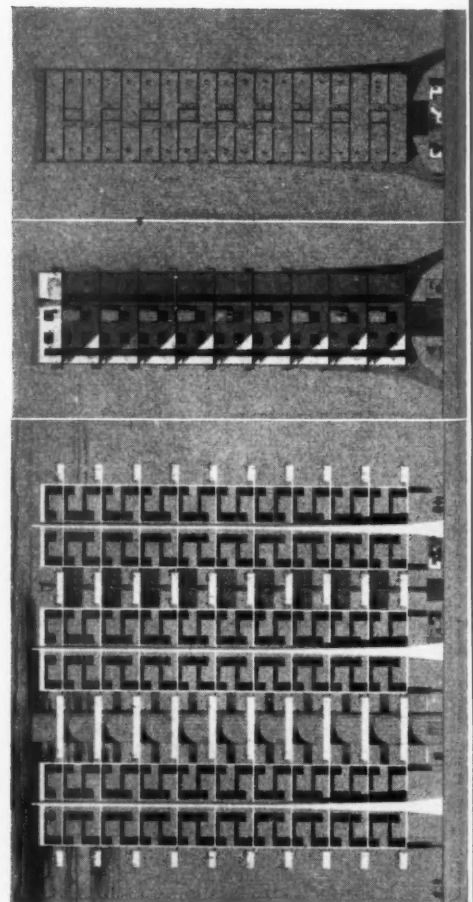
Supplied through the normal trade channels by the Federated Foundries Companies listed below:—

Thomas Allan & Sons Ltd., Thornaby-on-Tees  
 Grange-Camelon Iron Co. Ltd., Falkirk  
 Cameron & Robertson Ltd., Kirkintilloch, Glasgow  
 David King & Sons Ltd., Skipton, Yorkshire  
 Walter Macfarlane & Co. Ltd., Glasgow, N.2  
 Southern Foundries Ltd., Waddon, Croydon



## *The Hanging Gardens of the Gorbals*

For far too long the Gorbals district of Glasgow has been synonymous with all that is foul in tenement living, and until now Scottish re-housing schemes have not been particularly noted for making any striking contribution towards solving the problems of high density living. This design, above and left, for a twenty-storey block of maisonettes in the centre of the Gorbals is an interesting attempt by Basil Spence to develop further Le Corbusier's giant maisonette blocks. The large private balcony has been abandoned in favour of an even larger gallery "garden" measuring 9 ft. by 22 ft., arranged in groups of four. Basil Spence sees these platforms as a perpetuation of the "green"—a space for some tubs of flowers, and to hang out washing, to give the baby an airing and to provide a garden fence to gossip over. The height between garden floor and ceiling is 18 ft., the height of the maisonette. Whether this will provide sufficient sun and rain, and exclude sufficient wind, to provide the conditions in which these pursuits will flourish will depend on the ingenuity and resourcefulness of the architect. We hope he succeeds in his enterprising attempt to civilize the tenement. Another illustration appears on page 333.



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ing a vast Italian shopping basket full of miscellaneous tat, including the current *New Statesman*. "Ah," I said, feeling every inch the popular idea of a top egg-head, "You'll know my name from another context." She looked at the *Statesman* doubtfully. "Oh, do you write for it?"

The foolproof Moss Bros. filing system produced the right suit in the right size first go, but there is something that Moss Bros. apparently neither hire nor lend. I made an urgent phone call to Cavendish Visuals. "Miss Props says will you check and see if there are any men's braces in the cupboard?"

When it came to the point, I wore my own slacks, and emerged, a Man of Distinction at the top only, to take my place by a beat-up Old Times Furnishing Co. boardroom table in a blacked out, even more beat-up, Victorian Rococo drawing room somewhere in W.1. Although the company included two Men of vastly greater Distinction than me, a couple of model-girls (using the term loosely), a fine existentialist beard-and-bow-tie who had been hired to make like an artist, the photographer, his nark, a man from the agency and a gaggle of electronic tech-men for the lights, the room was dominated by about four-hundred quids' worth of Hasselblad, diminutive on top of its tripod, but looking every millimetre the most desirable camera in the world.

We had just got posed for the fourth or fifth time when Miss Props appeared with an armful of pairs of braces. Otherwise, the work was mostly tedium, interrupted by short bursts of improvised rhubarb to enliven the actual takes and remedial exercises to get the kinks out of limbs that had seized solid from holding natural action poses for unnaturally long periods of inaction.

One of the Men of Distinction was rumoured to be a Queen's Messenger in real life—I asked the beard, who had sounded very convincing during the rhubarb, if he were on Cavendish's staff. "Oh, no," he replied, "I'm an architect—been doing this since I was a student."

We signed for our fees in the middle of one sheet of paper, and on the bottom of another just long enough to project below the top one. Suspicious, I checked to see what the hidden document was about, and found, to my disappointment, that I had signed away my chances of a profitable libel action. The money is not bad for the work and time involved, but nothing compared with the boost to morale. No longer greeting the day with water, lather, Gillette, and "Wake up, Podgy," I now beam back at the shaving mirror image of the popular idea of a top advertising executive.

REYNER BANHAM

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\* To preserve freedom of criticism these editors, as leaders in their respective fields, remain anonymous.

## The Editors

### JAM TOMORROW

THERE is a note of justifiable satisfaction in the report of their first five years' activity which has just been published by the Modular Society. The report takes the form of a manifesto which establishes in bold print (and using a typography reminiscent of the 'twenties) the five Essentials of Modular Co-ordination, following these by Three Rules for Modular Assembly and adding Four Riders. This slightly outlandish presentation underlines the fact that this is an example of something unusual and valuable in English life, namely of a concerted attack on theory well in advance of practice. It is very rare that English people attack problems this way round, which is, of course, the right way round. For this reason it seems probable that the Society has made a deeper impression on international and intellectual opinion than it has on the British building industry. For though no efforts have been spared by the promoters to make their ideas incarnate in the practical business of building, it must be admitted that the ideas themselves are abstract in their nature and far reaching in their scope and application; and it was not to be expected that they should transform overnight people so busy and so conservative as the British builder and the British manufacturer.

The considerations which tell against Modular Co-ordination are those which tell against any industrialization of the building process. Manufacturers have not bothered, or in some cases are not able, to make their components competitive in price with the traditional building materials they are designed to replace. Again—and here we can instance the findings of the recent BRS Survey of Housebuilding—the cost of making good where factory-made components have been inserted into a building of traditional construction may more than offset any savings which might otherwise have been expected. The architect is bound to take notice of snags like these: but if he is wise he will see that they do not invalidate either the principles of industrialization or the code which the Modular Society is evolving for its practice. The Society considers "that theoretical study of modular co-ordination has been carried as far as its nature allows; that the result of such study is a viable system . . . which should now be perfected by the widest possible practical application." Few will quarrel with this general statement of the position. By their vision, and their single-mindedness the members of



the Modular Society have already put us all greatly in their debt. It is to be hoped that architects at least will lose no reasonable opportunities of testing the system proposed.



#### SUR LE TELLY

Last week I mentioned the advertisement for Southern Television, which showed a picture of an architect (a *real* one—it gave his name and qualifications) catching a train. This man, we were told, was a member of the new captive audience in the south of England, where ITV would shortly make it début. The advertisement appeared in an advertising magazine and was aimed at would-be television advertisers. This seemed rather odd. Could it be that the architect was considered a particularly likely customer for the jingling offerings of detergents, nutty confectionery and beauty aids? Not a very flattering assumption, though all architects in the southern region will have been mollified by the first programme to go out in their area; it had a good quota of sophisticated jokes, including one in French.

\*

Perhaps that telly-watching architect turned up only because professional men are being used more and more to give respectability to advertising. One of my favourite recent ads tries to sell "the loveliest of toilet soaps" with a pin-up girl and a bewigged barrister.

As the barrister is completely irrelevant he will probably be replaced in time by a bishop or even, with luck, an architect. Incidentally, our profession got a mention in one of the programmes in the BBC television series *Does Class Matter?* "Even if you're an architect," said a tradesman who was being interviewed, "you are thought to be better than other people, like butchers."

#### MORE THAN A BUTCHER'S HOOK

We may or may not be a top profession, but until the other day ASTRAGAL suspected that we were civilized. He had his doubts after trying to look up some references to C. R. Cockerell in the RIBA library. A lot of material about him has been ripped out of some irreplaceable 19th-century copies of the *Builder*. And an *Architectural Review* (1902) volume has disappeared, presumably because it contained articles on Cockerell which would have attracted attention if they had been wrenched out on the spot. Apparently this vandalism is not new: spicy design cribs are always being removed, and it seems that Gordon Cullen drawings and excerpts from *Interiors* are particularly popular. Better than butchers, forsooth!

#### HOW MANY "F"'S IN INSTITUTE?

Talking of professional prestige, one architect's office in London is still quaking with mirth about a little internal accident. The senior partner, who had just become a Fellow, instructed a rather green assistant to substitute "F" for "A" on future drawings. The assistant listened attentively to an explanation of the importance of the operation, and then got to work conscientiously. The first results were about to go out to a client when somebody noticed that his boss had been described rather engagingly as an "ARIBF."

#### WHAT'S WHERE IN LONDON?

Would you say that Gateway House is "a dignified office building"? And would you agree that Agriculture House is "a handsome building"? If so, would you then cast about you for

a comparative description of 66, Portland Place, and come down in favour of "a fine building"? And if you had said all this, and had also described the Royal Festival Hall as "the most successful example of modern architecture in London," would you be satisfied to say that Churchill Gardens, Pimlico, was "a large housing estate in a modern style"? All these descriptions come from —F. R. Banks, the author of *The Penguin Guide to London* (501 pages: 6s.).

\*

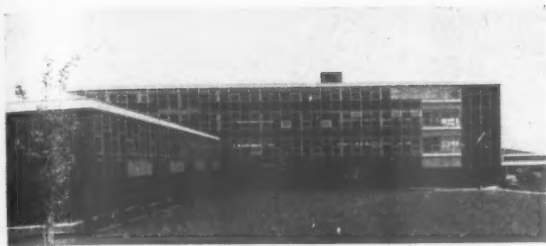
Mr. Banks, who has "explored the whole area on foot and visited every building where the stranger may be expected to gain admittance," puts pre-war modern architecture into proper perspective. Highpoint flats are "a vertical garden city," and Peter Jones is "one of the most striking department stores in London." You won't find more than a line or so about each modern building, but at least the author is careful to give the architects' names. If you want this sort of guide to who designed what, and you have a mind that likes to know when Bow Street police court was built, this is your book.

#### NEW MILAN

If you want to see how good a guide to new architecture can be, get hold of a copy of *Milan Today*, which is distributed by Tiranti (18s. 6d.), has a foreword by Gio Ponti, a lot of quotations from R. Furneaux Jordan, and a set of itineraries in diagrammatic form. This book, which consists mostly of photographs of buildings, is sufficiently lavish and attractive to sell briskly as a souvenir publication for visitors to Milan. It can, therefore, be published as a year book and kept up to date—a vital consideration where a place like Milan is concerned.

#### SCOTCHING GOOD ARCHITECTURE

A photographer passing through Perth saw an agglomeration of educational building which he thought worth recording for me. As you can see (opposite) two schools within 60 ft. of one another on a single site present an example of fearful splitmindedness by the education authority. One is what the Scots call a junior secondary. It is concrete framed and curtain walled, and was designed by Alison & Hutchison, who won the



*Take a conglomeration of building elements, in the form of a primary school, above, and site it alongside a neatly handled junior secondary, above left. If there is any discordancy, it may be relieved by a large water-tower — see left, ASTRAGAL's comment below.*

Paisley Technical College competition. The other—a primary school—was the work of the county architect's department. It is a curious compound of facing brick walls (complete with 1 in. projection of basecourse in the same brick to encourage rain and frost action), steel channel stanchions encased in concrete and finished with a metal cover mullion, and an odd mixture of standard domestic and purpose-made metal windows, crowned by aluminium pitched roofs in a riot of gables and valleys. These buildings are linked by a boiler house and a tank tower, which is ornamented with five domestic scale windows down one end. A solitary 13½-in. brick pier runs down the face of the boiler house to continue the line of the tower. The near side of this object is already decorated with two magnificent overflow stains.

\*

How on earth did the local authority which built this school and tank tower commission prize-winning architects to design an adjacent school that would show up its own work?

#### TV ONLY SEEMS SHALLOW

For some time we have heard about the slim TV sets of the future—sets which will have no projecting “gun” and will hang like pictures on the wall. The other day an American magazine advertisement showed that the new “brief-case” television sets, which still have a gun of sorts, are only about

eight inches thick. (The thin sets invented by Gabor will be under four inches.) But nothing comparable to this can be seen at the Earl's Court Radio and Television Show, though it's amusing to see that a lot of manufacturers are using optical illusions to make their sets look smaller. One of them has a wide thin cabinet to distract your attention from the fact that the tube face is stuck out nearly four inches in front of it in a separate frame. Others make use of deep, dark-toned returns on the outside of the screen frame. And there is an increasingly common trick of housing the back in a deep pyramid of perforated fibre board, so that the actual “cabinet” is only about six inches deep. Let's hope that somebody will push one of these flat against the wall under the impression that it is only six inches deep.

\*

It is obvious that this show will not provide much work for hawk-eyed visitors from the CoID's selection committees. As usual, the best new designs are for portable sets where there just isn't room for a stylist to enjoy himself.

#### TOP-FLIGHT DESIGNING

Incidentally, a colleague who went on a Press trip on the Comet IV tells me there were several CoID representatives on board, all feeling rather pleased because the new BOAC livery—on show for the first time—had been designed by Gaby Schreiber, one of the people

recommended by the Council's Record of Designers. My colleague has promised to send me a report about this new livery which I hope to pass on.

\*

Before coming down to earth, let me say how much you would enjoy yourself at the Farnborough air show if you

*As a result of a Russian competition, the model below shows the all too earth-bound design selected to commemorate the world's first man-made satellite, it was designed by architects M. I. Barshch, A. N. Kolchin and sculptor A. P. Faizish-Krandievsky.*



are the sort of man who has never quite liked the motor-car or the aeroplane since they got past their early pioneering stages. You will be intrigued by the Fairey Rotodyne, the only tip-jet powered helicopter airliner in the world. It makes as much noise as an express train at the bottom of the garden, and it staggers about in an endearingly clumsy way, looking as if it only gets along by continually trying to fall flat on its squat face. This is one example of function not resulting in pleasant form. It looks very much like a machine that is prepared to do the impossible.

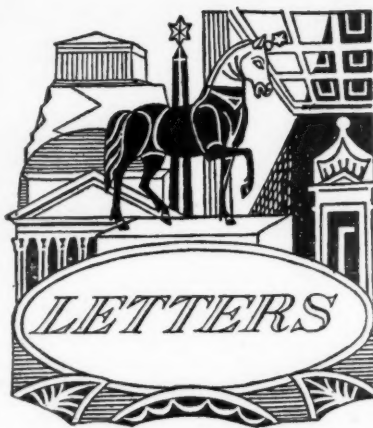
#### CULTIVATE YOUR GARDEN

One man's meat is, notoriously, another man's poison. To cultivate one's garden may be the best way to get away from it all, but not for everybody. Wolverhampton borough council's housing committee is to be asked to serve eviction notices on 371 of its tenants to whom cultivating their gardens, far from being a soothing relief from everyday worries, is as irksome as forced labour. It seems that out of 15,308 tenants with gardens, 1,751 have failed to cultivate them at all, and the 371 singled out for eviction are the "idle, lazy, indifferent, without a spot of civic pride," according to Alderman Lane, the chairman of the Housing Committee.

\*

ASTRAGAL, although a keen gardener himself, cannot refrain from observing that this is what comes of forcing tenants to take gardens they do not want. As a result of years of TCPA propaganda far too many houses have gardens, and there are not nearly enough flats in places like Wolverhampton for the people who regard gardening as a sheer waste of time. Years of observation from railway carriage and motor-car windows have persuaded ASTRAGAL that probably only about one tenant in three is enthusiastic about gardening, while another third may like a garden but not the work attached to it. Gardens, however, are a great economy for the local authority, which is able to shift the cost of maintaining the ground on to the shoulders of the tenants. The remedy for weedy and unkempt gardens is not to evict tenants wholesale. It is to provide more flats, and to build to higher densities.

ASTRAGAL



Z. Woloszczuk, B.Sc. (Eng.)

E. D. Kinnish, Manager ABS

J. B. Hilling

T. A. O'Brien,  
Public Relations Officer GPO

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

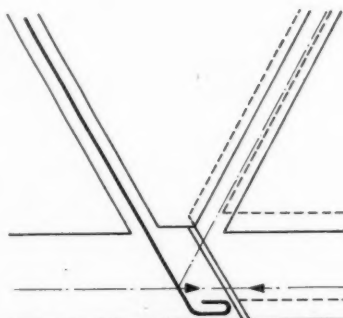
### Standard Factory Competition

SIR.—In a letter published in your issue of August 14, A. J. Harris criticized the structural design of the roof beams incorporated in the first prize-winning design in the Reinforced Concrete Factory competition.

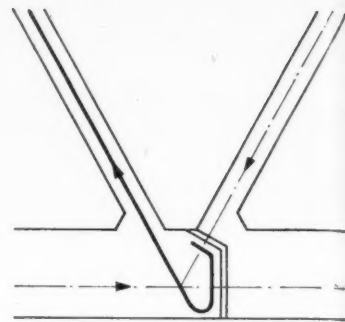
Whilst approving the application of the triangulated prestressed concrete trusses in principle, Mr. Harris questioned—on the basis of the scheme drawings submitted—the soundness of the design of the tension boom joints. The operative word being "scheme," the drawings were not meant to be complete and it was the authors' least intention that they should be emulated without their previous knowledge.

The problem raised is indeed one of great importance as the proper function and the safety of the structure depend on it. Accordingly, provision was made during the design to cope with it, although this detail, in common with other mild steel reinforcement, was omitted.

Assuming, however, that there was a case for concern it is hard to see how the solution offered by Mr. Harris could overcome this delicate problem. His joint, shown in sketch A, would fail immediately



Sketch A



Sketch B

the prestress was applied to the tension boom, owing to the high shear stress in the plane of the mortar joint as no forces other than the comparatively light self-weight of the beam and the prestress would be acting at this stage. This stress would, incidentally, be three times as high as the maximum shear stress in the "straight" joint criticized. Although such failure could be less dangerous than the collapse of the beam under excess load, nevertheless, it would still be rather annoying.

Reverting to the winning design, the intention was to transmit the shear force in the joint by means of a number of steel sleeves which would also be used for ducting the wires across the joint. This method was unobtrusive and functional; but during subsequent development, mainly due to cost, it was replaced by the solution shown in sketch B. This satisfies conditions both at the time of stressing and also when the beam is subject to loads.

One would still hope, however, that before any emulation takes place the authors are consulted for, as this correspondence amply proves, it is safer that way!

Thanks are expressed to Mr. Harris for his welcome criticism and to you, Sir, for the opportunity of answering his letter.

London.

Z. WOLOSZCZUK.

### Professional Negligence

SIR.—I am writing with regard to the paragraph "Who Sues" in a recent issue of the ARCHITECTS' JOURNAL and have had the opportunity of discussing the points raised with our friends at Lloyds. I think that the comments which they have put on paper will be in interest to you. These observations are as follows:—

"In our experience there has been a considerable increase in recent years, both in successful claims and also claims which have been proved to be without foundation. It would certainly appear that more errors are being made now as compared with before the war, but of course there has been a tremendous increase in the amount of building taking place and it may be that the percentage of errors against work carried out is still approximately the same. Also in view of the vast building programme which has been completed in recent years, architects have been kept extremely busy and it may be that as the pressure of work lessens the number of errors will reduce also.

"There is no doubt that the public are very much more claims conscious than before the war, and together with the very high increase in the cost of building this has had quite a bearing on the size of settled claims. Whereas previously through the fault of the architect for some reason or another the final cost exceeded the contract figure, very often the



client would agree to pay the difference without ado.

"Now, however, building construction is a very costly business and if an error is made it usually proves quite expensive to put right, and the client refuses to pay the extras. We note the heading of the article in the ARCHITECTS' JOURNAL is "Who Sues," and we do not consider this very appropriate as wherever possible we settle claims without recourse to litigation which is obviously against the interest of the architect. Occasionally a case arises where there is doubt as to the architect's responsibilities, and then the matter is referred to litigation for settlement, but the number dealt with in this way are very few compared with the total of settled claims."

E. D. KINNISH.

London.

## Need National Parks And Development Conflict?

SIR.—ASTRAGAL'S objection to the decision to go ahead with the proposed atomic power station at Trawsfynydd (AJ, August 14) may be all very well for Englishmen who want to leave the once quiet English countryside for the peace of the mountains. But as a Welshman his views have a bitter tang.

Though I agree that the power station should not be built in Snowdonia it is for entirely opposed reasons—that of employment. A National Park is supposed to be a place of beauty and should be kept that way as far as possible—but where there is a conflict between preserving the scenery and providing work for the local people to eat and live, then surely work is the more important.

A National Park will not necessarily provide more work and neither will a power station. Although it was claimed at the public inquiry that there would be more work, it cannot be guaranteed that the work will be permanent. In this district unemployment is as high as anywhere in Great Britain and for four or five years this may be swallowed up when the station is being built. Men may also leave their farming and quarrying work for easier and more remunerative jobs. Then one day the building will be completed and two or three thousand men will be thrown out of work almost at once and only a handful required to maintain the station. Where will work be found for these men? Will they have to wait another 15 or 25 years before a new power station is built alongside the old? Will any of their old jobs still be available?—almost certainly not.

By all means have a National Park, but don't let this prevent work from coming into the area as a result. But there must be some permanent work and not a major industry on which everybody depends for a few years and then—nothing.

J. B. HILLING.

London.

## Household Letter Plates

SIR.—May I refer to your issue of the 7th August in which ASTRAGAL tilts amusingly at the Royal Institute, the Ministry of Works, and Ministry of Supply for participating in the drafting of BS2911 which calls for an opening 8 in.  $\times$  1½ in. in letter plates for doors. I should also like to allude to Brian Grant's article on letter plates in your issue of the 14th August.

I am writing to you because the Post Office has a very great interest in this subject and, in fact, was also privileged to take part in the drafting of this new standard.

The new standard width of 8 in. replaces the earlier standard of 5 in. It is, therefore, a notable advance on the kind of letter plate found on most household doors; and if, with the enormous help architects generally can give, we get these larger plates fitted to doors in all new houses we shall be doing very well. But it is the vast numbers of inadequate letter plates on existing household doors that trouble us most and which we should like to see replaced. We do not believe we could hope to see any response from existing householders that would be worth while to the Post Office or bring adequate reward to the manufacturers if a wider slot than 8 in. had been stipulated in the standard. Even the 25s. mentioned by Brian Grant is a sizeable sum for an existing householder to pay: we doubt if they would pay still more for a still larger plate. More important perhaps is the doubt whether a plate exceeding the new standard would "look right" in the average household door even if it would stand being weakened to provide a larger slot.

The new standard is a minimum, not a maximum; and fortunately for us the sensible manufacturers of catalogues ASTRAGAL mentions are matched for the greater part by sensible business and commercial people who see to it that the latter plates fitted to their offices, factories and shops are big enough to give easy passage to the bulkier mail they receive. On this point of bulkier mail, I might mention that taking the letter and packet mails as a whole, not more than 2 per cent. come in sizes that cannot easily pass through a slot of 8 in. Of this 2 per cent we are sure that the great proportion goes through business and commercial letter boxes rather than the letter boxes in ordinary household doors. So in practice the difference of half an inch in BS1311 for catalogues and BS2911 for letter plates should not lead to embarrassment.

The Ministry of Works' latest idea for Government buildings where an 8 in.  $\times$  1½ in. slot will not do is to install a plate with a slot of 10 in.  $\times$  1½ in. or even 12 in.  $\times$  2 in.

T. A. O'BRIEN.

London.

## ASTRAGAL Corrected

SIR.—FOR ASTRAGAL'S information I give below a list of Architect Commonwealth Fund Fellows:—

"General Fellows" (since 1925).

F. N. Astbury	1926
A. C. Light	1928
	(Auckland)
P. G. Freeman	1930
R. Bradbury	1931
D. Winston	1932
R. J. Gardner-Medwin	1933
F. A. Littler	1935
G. Stephenson	1936
M. L. Bryer	1937
	(Johannesburg)
D. P. Reay	1937
A. B. Drought	1946
S. C. Woolner	1951
D. R. H. Phillips	1952
D. E. Crinion	1954
N. Shipira	1954
	(Israel)

P. Haupt	1954
	(Karlsruhe)
R. Brunskill	1956
P. Snow	1958

"Civil Servant Fellows" (since 1956).

A. A. Bellamy	1956
	M. of H. & L.G.
D. Medd	1958

As from 1959, the Fellowship will be awarded under the title: The Harkness Fellowship of the Commonwealth Fund.

A. A. BELLAMY.

East Molesey.



## RIBA

### Future Exhibitions

The following exhibitions are being organized by the RIBA:

#### Arne Jacobsen Exhibition

On the invitation of the RIBA, Professor Arne Jacobsen has agreed to prepare an exhibition of his work for showing at 66, Portland Place during February and March of next year. The exhibition will contain not only photographs and models of his architectural work but also furniture and fabrics.

#### Chinese Architectural Exhibition

The Association of Chinese Architects have promised to provide an exhibition for showing in the late Spring of 1959. It is understood that this will illustrate fully the great classical tradition of Chinese architecture and town planning from earliest times and the contribution of the Chinese garden and its relation to architecture. There will also be sections showing present developments with particular reference to the work in Peking.

#### Swiss Architectural Exhibition

An exhibition of Swiss architecture and engineering will be shown during October, 1959. This will be one of a series of exhibitions which are being presented by the Swiss Government who are organizing a Swiss Fortnight in this country.

## COMPETITIONS

### Designs for a Door Handle

A. G. Roberts (Exports) Ltd. have organized a competition for the design of a door handle, together with roses, finger plates, etc., and are offering a first prize of £100, two prizes of £50, and five of £10. The organizers, noting that architects have shown an increasing interest in ironmongery imported from Europe, which have stimulated fresh designs from home manufacturers, feel that there are many ideas that have not yet been explored. As a first step to discovering new ideas they invite architects, designers and students to submit designs for a lever handle door set that is suitable for use in public buildings. It is hoped to put one of the prize-winning designs into production. The design should be presented as a full-size model, made of wood, plaster or other material, and finished in an N7 grey paint. The assessors are: Anthony Cox and Peter Chamberlin, architects, and Richard Planck. Date for submission: November 28. Entry forms are obtainable from A. G. Roberts (Exports) Ltd., 182, Upper Thames Street,



E.C.4. The prize-winning entries will be exhibited at the Building Centre in January, 1959.

### International Furniture

The regulations for the third Furnishing Biennale at Cantù have recently been issued in Italy. The Biennale combines a highly selective exhibition of recent furniture design, and an international competition (in which British designers have achieved some success in the past) for which entries will be received up to December 31 of this year. Designs are invited for sets of furniture grouped according to the type of room for which they are intended (e.g., table, chairs, sideboard, etc., for dining-room; bed, wardrobe, side-table, chairs, for single bedroom, and so forth) and the prize money goes up to 500,000 lire in most groups.

Regulations and further information may be had from the offices of the Mostra del Mobile, via Cavour, 9, Cantù, Italy.

### Photographs of Irish 18th Century Architecture

The Irish Tourist Board, with the Photographic Dealers' Association, are sponsoring a competition for photographs of Irish 18th century architecture. Prizes are offered of £50, £20, and £10, in the black-and-white section; and of £25, £10, £5 in the colour transparency class. Entries must be submitted by October 1. Entry forms (price: 5s.) and full particulars can be obtained from: PDA House, 46, Bloomsbury Street, London, W.C.1; or, Hon. Sec., PDA (Irish Branch), 48, Clontarf Road, Dublin.

### College of Further Education

F. R. S. Yorke is assessing a competition for the design of a new Langside College of Further Education. Premiums: first, £3,000; second, £2,000; third, £1,000. Last day for questions: September 30. Day of submission of designs: December 8. Conditions obtainable from August 25 to September 9 from: The Town Clerk, Architectural Competition, Langside College, City Chambers, Glasgow, C.2.

### Photographs of Asbestos Cement

A competition is being sponsored jointly by the Swiss photographic magazine *Camera* and *International Asbestos-Cement Review*. Architects and photographers are asked to submit photographs of high quality of recent buildings in the construction of which asbestos-cement products were used.

The jury consists of three photographers with an international reputation: Karel Blazer of Amsterdam, Hans Finster of Zürich, Franz Hubmann of Vienna, and three well-known architects: Vittorio Gregotti of Milan, F. M. Cadbury-Brown of London and Günther Wilhelm of Stuttgart. Also amongst the adjudicators is Monsieur Ro Martinez, Paris, editor of *Camera* and organizer of the Venice photographic biennale. The first prize is a Swissair ticket Zürich-New York return, the prize money amounts to Fr. Swiss 13,000 (about £1,100).

A prospectus for this competition, which opened at the beginning of August and terminates end of March next year, can be obtained, free of charge, by writing to *Camera*, C. J. Bucher Publishers Ltd., Lucerne, Switzerland.

*As a country's educational standards improve, it becomes imperative to try and assess accurately future demands for educational buildings. The University of Minnesota recently published a book\* describing how it has attempted to estimate its building needs, which forms the subject of the following review.*

### UNIVERSITY BUILDING NEEDS

*Reviewed by Stanley Meyrick*

"It is easier to convince a citizen, or a legislator, of an Institution's need when one's assertions are backed up with sound logical organized facts, rather than supported by personal assurances and enrolment data alone."

Thus the author of this report puts at its lowest value of the immense labour of self-analysis undertaken by the University of Minnesota in 1955 to determine the course of its own future development. The University had certainly to convince the Commission, set up by the Minnesota State legislature to study the State's future building requirements, that its demands for land and building investment would in fact enable it to continue to provide sound educational facilities at a cost acceptable to the man in the Minneapolis street, who has to find the money. But in doing so it appears to have gone a long way towards solving that most intractable puzzle—how to plan for the future physical requirements of a human activity which is constantly developing its techniques and adding to both its range of subjects and its scale of operation.

The task set the University was to estimate its needs in land and buildings up to 1970. There is, of course, a "traditional" method. You start by assuming that there should be a given square footage per student; you arrive at a figure by dividing your present number of students into your present measured area, and you make an adjustment according to whether you think the space overcrowded or underused; you thus acquire a rough and ready yard-stick. At Minnesota they reckoned this might have been good enough in the days of simpler teaching methods, fewer students and more money, but its crudity made it unacceptable as a basis for this long-range projection of an organization already teaching nearly 30,000 students in some six hundred buildings on seven separate campuses and six detached research centres. Its post-world war II experience of phenomenal numbers had shown, for instance, that buildings can be made to work harder. Time-tabling can be improved, vacant lecture-room seats can be filled, even offices can be better utilized. The tool to be used for forecasting must be sharp enough to cut away the risk of projecting existing deficiencies into the future, and the danger of planning too generously. And it must take into account the fact that students do not necessarily do all their work in their "home" departments. Mere numbers of students and of square feet are not enough.

Instead, the Planning Staff of the University decided to make a complete survey of all its existing buildings and try to decide to what extent each of them could provide for additional students. From this gargantuan task they emerged equipped with what they have called "Optimal space-use goals" (on this side of the Atlantic they would doubtless be called "targets"—jargon seems inescapable in these matters). It was then

necessary to be able to assess the accuracy with which the space-use goals could be kicked, and this gave rise to the concept of "student station hours," a "student station" being a seat in a lecture room, a bench in a laboratory, or other appropriate working space, and an "hour" in this context being a standard teaching period. Student station hours reveal the number of periods of time each student spends at each of the kinds of instruction in each of the buildings in which he is taught, in both his own college or department and any others he must attend. The kind of instruction indicates the nature of the space required for each student station.

Here is self-knowledge of a high order—an inventory of buildings with accurate information showing to what extent they are under-used, i.e., how much more "load" can be put upon them before new building becomes necessary. The next task was to ascertain the likely future load. Naturally enough they turned to the population statistics and records, but here the imponderables loom large. Will the proportion of the population seeking University-level education remain approximately the same? Will it continue to look to the University for its further education, or will other establishments be set up to cater for particular kinds of training? What new fields of study are likely to develop, and how will established disciplines change in scope or method? It there likely to be an unprecedented increase in student numbers for reasons of State or national policy, or through improvements in lower education?

Being unable to answer these questions with any real confidence, the University compared its history since 1920 with the forecasts which were made in that year (the rate of increase was fairly accurately predicted, but the actual numbers of students registered exceeded the estimate by up to 50 per cent. from very early in the period) and observed that neither the depression of the thirties, nor the two wars, had changed the trend of growth in any permanent sense. The graph is jagged, but the upward trend continues, for "the flow of young people to the University . . . appears to be governed by deep-seated, inexorable pressures and drives, such as those of the population potential, the habits and aspirations of the people . . . and the somewhat slowly changing motivations and needs of those persons who are available, desirous, and able to proceed in higher education." It was reasonable to assume, therefore, that the future would, by and large, follow the general pattern of the past, and no attempt has been made to include among anticipated future needs the introduction of any entirely new fields of study, or even to allow for revolutions in the curricula of established subjects.

A comparison of the graph showing the upward trend of student-age population of the State with that for attendances at the

\* *How to Estimate the Building needs of a College or University*. A demonstration of Methods developed at the University of Minnesota. By W. T. Middlebrook. Published by Oxford University Press. Price £6 net.

university since 1920 suggests that by 1970 Minnesota may have to cater for student numbers approaching 50,000! On the basis of past experience of distribution of students over the various courses offered, and by applying the student-station hours required by each course, it is possible to translate expected attendance figures into the teaching "load" which will be the lot of each College and department on all the various campuses. When this "load" is compared with the space-use goals already assessed, it is a relatively simple matter to calculate how much of the increase in numbers can be absorbed without recourse to new building, and when, and what order

of, new building in student station hours—will be required. You must then turn your additional student station hours back into terms of net square feet, and make the appropriate allowances for circulation and ancillary space to arrive at the gross extra area of accommodation you are going to need. Thereafter, the other steps—the evaluation of present land usage, need for additional land, and the associated needs of residence, food service, car parking and the like, can be judged with much more nicety, though good judgment is still an essential ingredient in these complex exercises.

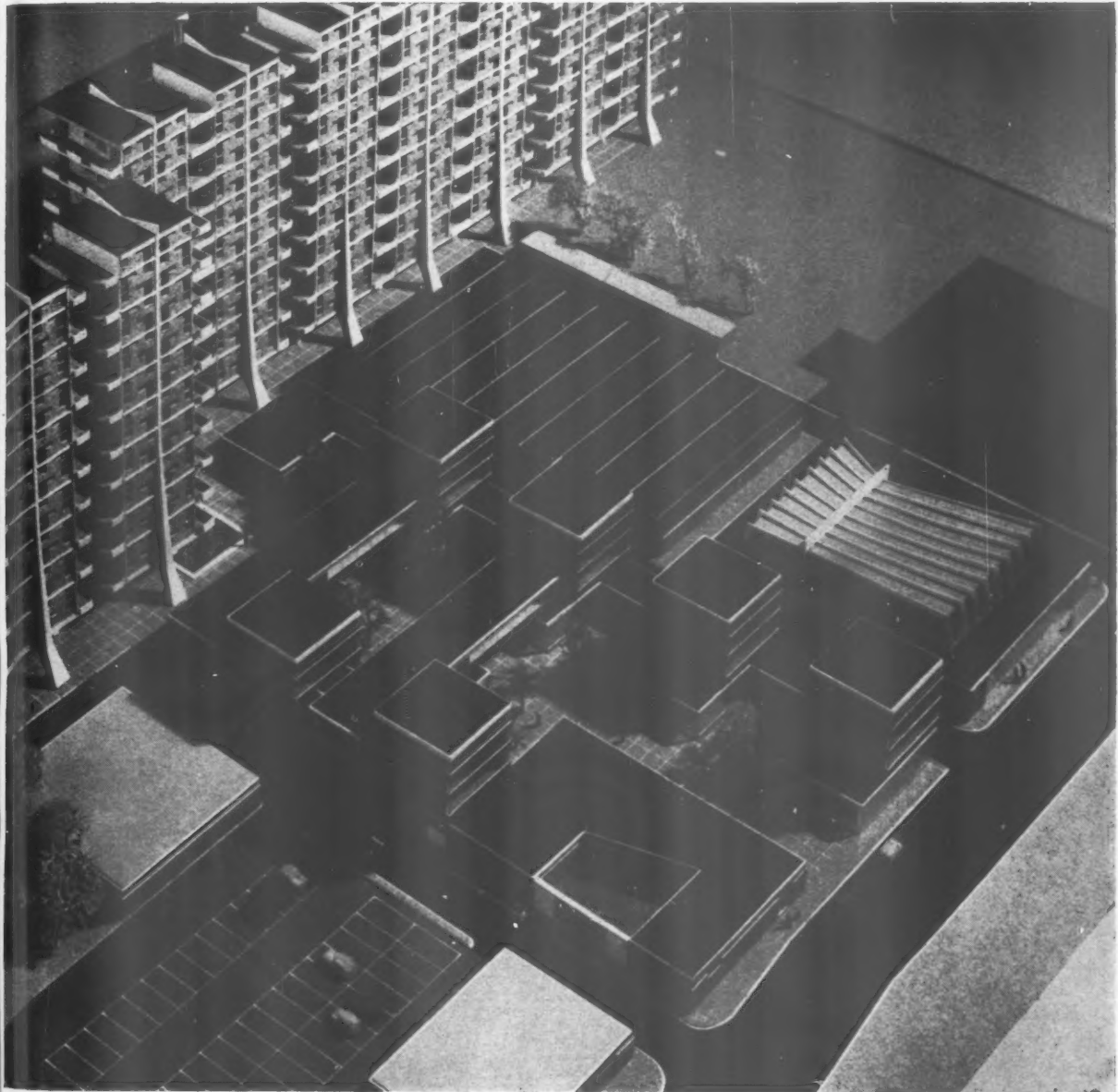
This book is not the "do-it-yourself"

guide that its title suggests. It is an account of how one very large organization has equipped itself to see a little less darkly into the future, and fashioned—with commendable public spirit—an instrument which should enable those who administer public funds to feel confident that in Minnesota at least, what is asked for will be a good deal closer to what is needed than is commonly the case.

It is a method which would well repay study by our own universities, as they face the unprecedented expansion programme of the next few years, though it is to be hoped that none will ever attain the mammoth proportions of Minnesota.

Basil Spence's proposals for the Hutchesontown-Gorbals area of Glasgow is more than just a housing estate. The photograph shows, in the background, a portion of the staggered, 20-storey block of 400 maisonettes (300 three-room, the remainder part four-room and part single-room) and in the foreground the shopping centre to serve the 1,280 inhabitants and the immediate neighbourhood. In the foreground is a pub, with a police station beyond and an electrical sub-station on the left. The six 4-storey blocks are offices, with shops linking them, and running beneath them, at ground floor level. Two restaurants span the centre pedestrian precinct at first-floor level. Beyond the shops is a block for light

industry and a cinema. A bank, a second pub, and a block of two-storey shops lies on the other side of the block of flats. Access to the flats is by three towers, each with two lifts, which are contained within the depth of the block. Eight chutes are provided, and incinerators on each floor, for refuse disposal. The maisonettes will be all electric, with under-floor heating. The maisonettes open off access corridors every two floors, and are of the cross-over type, with bedrooms to the north, and living-rooms and dining-kitchens to the south. Bathrooms and kitchens face on to the garden-galleries. See sections, and further view of model, in this week's frontispiece.



# "I WAS A SNEAK"

—*Master H. W. Pipe owns up*

I was always in hot water—or rather hot water was always in me—when I left the boiler-room. But then I wandered about the school, improperly dressed. I used to dissipate my heat in draughty corridors. By the time I reached the dorm' radiators, I was as tepid as school tea!

But now I'm the blue-eyed boy: From outlet to delivery, I'm clad in Fibreglass Rigid Sections. So delightfully light, so superbly trim—no bagging at the knees and no losing degrees! My behaviour as a saver of fuel and a deliverer of hot water is earning A-plus Reports from all. But I'm *not* expecting a prize for Good Conduct. Because my Fibreglass jacket is about the world's poorest Conductor—of heat anyway!

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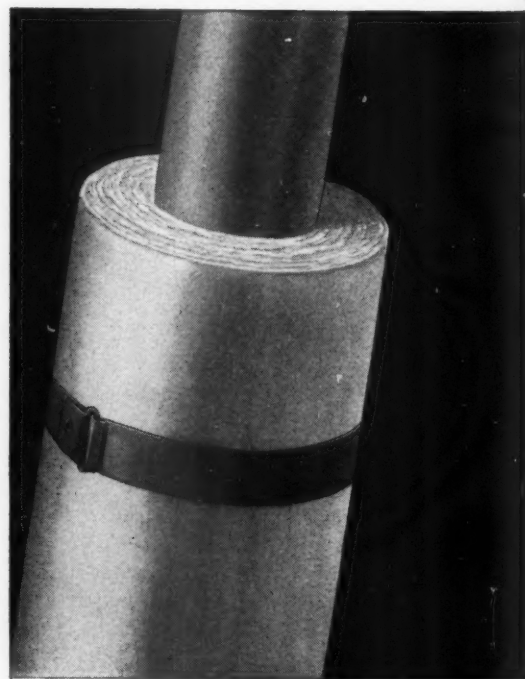
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*For the whole story, please write to:*

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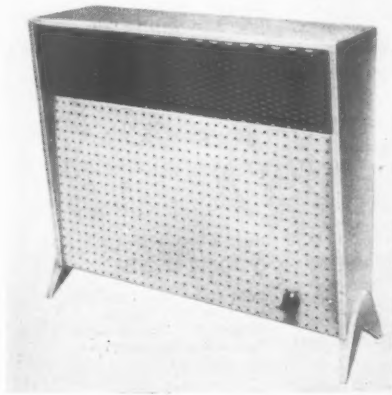


## THE INDUSTRY

Brian Grant describes a convection heater, nylon carpet, a solid-fuel boiler and folding doors.

## New convection heater

The illustration on the right shows the new Wardle Maxheat 2-kW convector, which is produced in 1- and 2-kW sizes and also as a 3-kW unit for industrial use. The inner casing is in heavy gauge steel and the outer casing is wood, either painted or veneered to match existing furniture. Prices start at about £12 for the 1-kW model, the 2-kW veneered type with regulator costing £15 6s. 3d., both figures including purchase tax. The 3-kW industrial model is £13. (The Wardle Engineering Co. Ltd., Old Trafford, Manchester.)



Above, the Maxheat 2-kW. convector heater. Above right, the Wallfold folding door. Right, the Agathermic cooker and water heater.



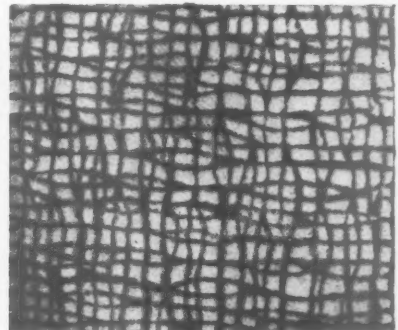
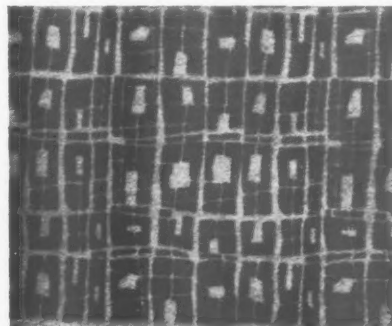
## Nylon carpet

Three printed carpet patterns by Ronald Grierson have just been added to the range of Sorbo rubber backed nylon pile carpet produced by Alfred Morris. Since the plain pattern was introduced earlier this year the price has been reduced to 69s. 6d. a yard retail, and the new printed designs will be about 81s. Various firms such as the Pullman Car Co. are trying out this carpet, so that it is being tested in places where it will be subject to the maximum amount of wear. It will also be interesting to have news of the trial section in the Cumberland Hotel, for I suspect that any material used by Joe Lyons is likely to be the most economical in the long run. (Alfred Morris Furnishings Ltd., 19/23, Wells Street, London, W.1.)

## Folding doors

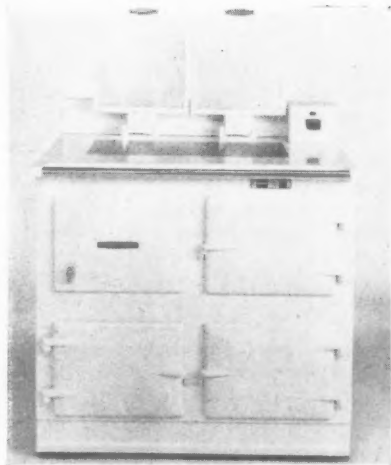
The photograph above right shows the Wallfold door, which consists of a series of steel strips hinged to connecting rods and covered with p.v.c. which can be easily cleaned or painted to match existing colours. The doors are hung from an overhead track and have a flexible rubber strip at the foot to exclude draughts and to take up any floor irregularities. (Home Fittings (Great Britain) Ltd., Victoria Works, Hill Top, West Bromwich, Staffs.)

Below, two examples of the new nylon carpet designed by Ronald Grierson for Alfred Morris Furnishings Ltd.; left, "Townscape," right, "Fishnet."



## New Aga cooker

There is now a new cooker and water heater called the Agathermic, designed for the smaller household, for which it will provide domestic hot water and up to three baths a day. There are ovens for roasting and simmering and a single oblong hot plate for fast cooking at the left hand side and slow boiling at the right, plus a pair of hinged insulating lids. There is the usual







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## technical section

## THE REPAIR AND PRESERVATION OF OLD BUILDINGS 2

### organizations which can help

In this country public interest in preserving old buildings is so many sided and is maintained by so many different organizations, that no account of preservation would be complete which did not attempt to give a concerted picture of them. In this second article,\* therefore, the author, Donald Insall, lists as many organizations as possible, explaining what they do and giving their address. He divides them, so far as is practicable, according to their chief functions, which are the providing of technical information (or archaeological data), the rousing of public opinion, and the finding of money. The second part of the article rehearses the present position concerning ecclesiastical property.

*Uncertain future, Gay Street, Kingsdown, Bristol, an area built on a south facing slope, which has been allowed to fall into neglect.*



Public bodies whose concern is with the care and preservation of old buildings fall from the architect's standpoint into three clearly defined classes. Firstly there are the official advisory bodies, maintained to advise on technical problems, and to whom reference may be made in time of difficulty or where a second opinion is needed. Then there are the private Societies, equally qualified and able to give specific technical advice, but who may also champion the cause of individual buildings and are active in maintaining a lively public opinion and awareness of old buildings from the public point of view. Thirdly, there are the charitable bodies, whose funds enable financial assistance to be given, or who in some cases are actually property-owners and can themselves take over and administer old buildings and help to preserve them.

### OFFICIAL ORGANIZATIONS

*The Ancient Monuments Inspectorate* of the Ministry of Works has since 1913 annually prepared lists of unoccupied buildings (other than churches) qualifying to be "scheduled" under the Ancient Monuments Act of that year. This is submitted to the *Ancient Monuments Board*, who in turn make recommendations to the Minister.

Once a building has been "scheduled" as an Ancient Monument by the Minister, a private owner must give at least 3 months' notice of any proposed alterations, and may at any time apply to the Ministry's Inspectorate for either architectural or historical advice about his property.

At his discretion, the Minister may purchase for the Nation any scheduled building which he considers it is desirable to maintain in public guardianship. Lists of all scheduled buildings are published periodically by the Stationery Office, including those in Crown ownership and for which the Minister is now guardian.

The official Government bodies whose function is to advise more generally on technical problems are the *Department of Scientific and Industrial Research*, and the *Rural Industries Bureau*.

The DSIR includes the *Building Research Station* at Garston and the *Forest Products Research Laboratory* at Princes Risborough.† Both are glad to advise on problems affecting old as well as new buildings and to carry out practical or laboratory tests, or where necessary to send technical observers. A valuable service of the BRS is, for example, the examination and analysis of stonework samples from buildings, and their comparison with available stone from currently worked quarries. The FPRL will examine infected timber samples and give a firm diagnosis of fungus types in cases of doubt.

Both bodies publish useful books and leaflets at intervals. It is unfortunate that some of the best are out of print; but most can be obtained at the professional libraries. A list of publications dealing with old buildings will be given in the bibliography.

*The Rural Industries Bureau*‡ was founded in 1921 and exists for the purpose of encouraging and aiding the rural craftsman and industry, including the thatcher and the smithy.

Assistance and advice are given regarding organization

\* The first was published last week.

† Princes Risborough, Nr. Aylesbury, Bucks.

‡ 35, Camp Road, S.W.19.

Note: Where addresses are not given they will be found on the JOURNAL cover.



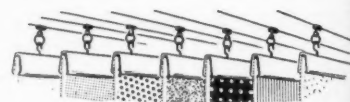
## Heal's Contracts throw new light on a subject

The subject in this case was the many-hued range of carpets in the new BMK London showrooms. The problem: to avoid the vagaries of natural daylight so that prospective buyers could select a carpet under the same kind of lighting the carpet would be seen in after it was bought. The raw material: two floors in a newly erected block (in its primary "shell" state).

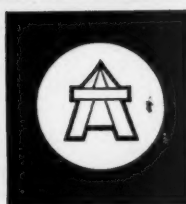
The solution: a careful arrangement of 151 Tungsten lamps and 200 fluorescent lights complete with individual transformer housings for easy maintenance.

In addition to the wholesale showroom (shown above) and reception (below,) Heal's Contracts also designed, built and furnished the equally large retail showroom, and the new BMK offices in an older adjoining building. Particular atten-

tion was paid to simplifying the methods of display and ingenious sliding carpet racks were specially made and fitted for this purpose.



Heal's Contracts, we are sure, can be of assistance to you. Why not have your secretary arrange for our senior representative to call.



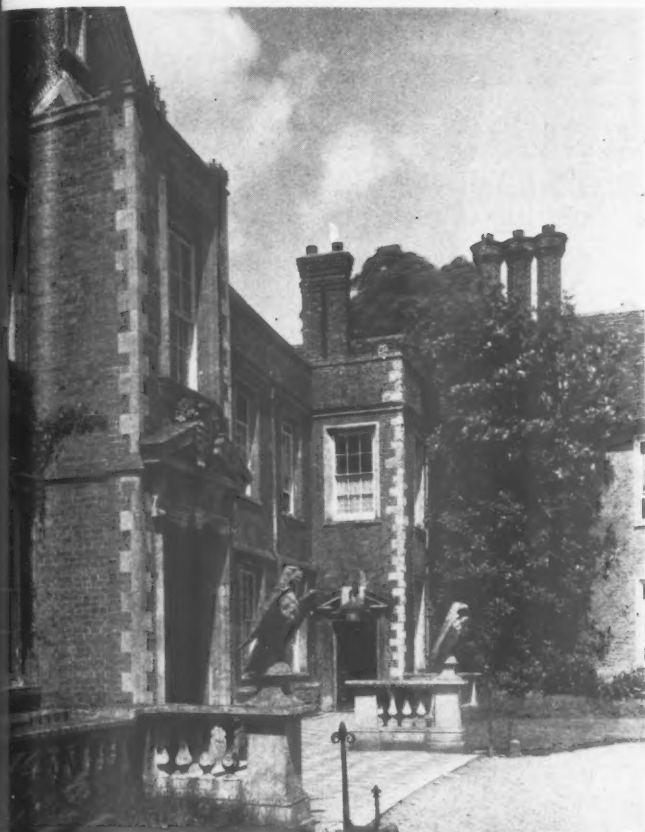
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## technical section



*Historic buildings are listed in three grades. Top to bottom: The Vyne, Hants., a grade 1 building recently bequeathed to the National Trust and the subject of a Historic Buildings Grant for Repair; East Adderbury House, Oxon. a grade 2 building; and a row of cottages in Fishpool Street, St. Albans, Herts., in grade 3.*

and book-keeping, apprenticeship and equipment. A detailed training course in thatching is at present being given to selected trainees at the Bureau's workshops. Technical leaflets are issued for guidance, and more detailed studies are in preparation.

The Bureau has recently been particularly interested in the repair of historic furniture, and for this purpose has also established training courses for selected craftsmen from all regions.

A register is being compiled of all known and recommended specialist craftsmen in rural areas, with particulars regarding their staff and facilities; and information is available on request.

The best source of all information regarding specific historic buildings is the *National Buildings Record*. The Record was founded in 1941, at first as a private venture, and has since already built up a remarkable collection of architectural photographs and drawings, now totalling almost 484,000 in number. A staff of three photographers and one draughtsman are employed in the recording of buildings—of necessity all too frequently with the emphasis on those about to be destroyed. Private collections of photographs and negatives are acquired by purchase and bequest. Even the smallest collection of old negatives may contain valuable pictures of buildings since destroyed or altered, and the Record is always glad to receive useful material.

Drawings are not retained but photographed, an average payment of one guinea being made for each sheet. Both in this country and abroad, reprints of photographs may be obtained at very reasonable rates. The NBR is now financed by annual Treasury grant, and has achieved a remarkable degree of success in the face of its very limited budget. The intention is that eventually every Grade I and Grade II building should be recorded by photographs or drawings; but a tremendous amount of ground remains to be covered before this aim can be achieved.

*The Royal Commission on Historic Monuments\** is a branch of the Civil Service, employing some 20 technical employees in its work of recording monuments, county by county. Volumes have so far been published dealing with the following: Buckinghamshire (2 vols.); Dorset (West); Essex (4 vols.); Herefordshire; Hertfordshire; London (5 vols.); Middlesex; Oxford City; Westmorland.

The S.E. Dorset volume will shortly be published; and survey work is currently in hand in Cambridge City, York City and Wiltshire (commencing with Salisbury). In the earlier stages of the work the Commission concentrated on counties not already covered (although in a slightly different way) by the Victoria County Histories produced by the Institute of Historical Research, University of London. More recently, the two surveys have co-operated extensively, the Royal Commission concentrating upon Monuments, and the Victoria County Histories upon local historical aspects of each county.

As each county survey is completed, copies of all the many photographs taken by investigators (only a few of which will have been published) are passed to the National Buildings Record. The Commission at present records monuments of all periods up to 1815.

\* 31, Chester Terrace, London, N.W.1.



# Good

## ON ALL GROUNDS

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## technical section

*Museums and Libraries.* The Prints Room of the British Museum, professional and private organizations such as the Society of Antiquaries, the RIBA and the Soane Museum, and local museums and libraries up and down the country, all have extremely valuable collections of information, often unpublished, including early prints and photographs, original drawings and manuscript notes of varying authenticity, accumulated over a long period. Many of the known archives are listed at the NBR, but many more can be located by patient searching. The local archivist, whether professional or amateur, will always be found glad to suggest likely sources of information. Care must be taken to establish the authority of references, especially where romantic imaginations have been at work, involving "observers" such as the poet Chatterton's entirely fictitious but convincing "Rowley."

## PRIVATE ORGANIZATIONS AND SOCIETIES

Whereas the official organizations are mostly precluded from sponsoring individual causes, the larger private organizations and societies often exist for the double purpose of giving technical advice and also the championing of individual "cases" in which their aid may be sought.

The *Society for the Protection of Ancient Buildings*, pioneer of all the private bodies and pre-eminent in giving technical advice, was founded in 1877 by William Morris. The Society relies for its work on the subscriptions of members, of whom there are some 2,000. Courses of public lectures are given annually in London, and the Society has pioneered the idea of annual short courses for architects in the care of old buildings.

The Society's greatest concern is to ensure the continuance of informed technical knowledge in traditional methods of construction and repair. The Lethaby Scholarship, and more recently also the Banister Fletcher Scholarship, enable selected applicants to receive six months' specialized training and experience of this type of work, and offer one of the best means of practical study available. The Society is particularly well qualified to give skilled advice on technical matters, and its Technical Panel meets fortnightly to deal with conservation and repair problems. A specialist visit and Report may also be provided for a moderate fee. From its initial foundation, the SPAB has been concerned that repairs and restoration should be no more expensive and elaborate than a building needs, and is a champion of the cause of "daily care and conservative repair." Much public relations and technical advice work is carried out, and a series of conferences is at present being held, county by county, to assist local Housing Authorities in restoring and modernizing sub-standard properties of architectural interest and importance.

A highly successful recent addition to the facilities for advertising the smaller historic buildings for which uses are sought is the quarterly list now published by the SPAB in *Country Life*. Enquiries from this source invariably run into three figures, and many threatened buildings have in this way been saved.

The *Ancient Monuments Society*\* has similar aims. Fellows are appointed in different parts of the country to act as observers, and to keep the Society informed of danger threatening antiquities of any period of cultural or artistic interest. In its sentinel capacity, the Society has appointed County Secretaries, assisted where need arises by Local Correspondents. Local Committees are sometimes formed to assist special projects; and small financial grants may be given. Arrangements are made for Reports by honorary architects and advisers, and measured draw-

ings are prepared as a permanent record of historic monuments.

The *Georgian Group* was formed in 1937 by the SPAB and now has its own organization and secretary. The Group deals with problems affecting buildings erected since 1714, and performs a similar function to its parent body, but with a greater emphasis on organized visits for its members to buildings of interest. The aims of the Georgian Group include the creation of interest in Georgian architecture, the giving of advice as to the preservation, repair and use today of Georgian buildings, and their protection from destruction and disfigurement.

The most recent of the preservation societies is the newly-formed *Victorian Group*.† This body is still at present in process of organization, but will no doubt usefully extend the bulwarks of society against unnecessary vandalism, in a sphere in which true values have yet to be defined.

Will there, one day yet to come, be a 20th Century Group?

The *York Institute of Architectural Study*‡, as its name implies, is concerned with the technical side of preservation and other problems from the professional standpoint, and does not undertake the championing of individual cases. The Institute has held annual series of residential courses on the protection and repair of historic buildings for architects, surveyors, clerks of works and builders since 1952. The series comprise a 10-day general course held each year, followed immediately by a six-day course covering one particular aspect of the subject in greater detail. A useful Bulletin is issued annually, with articles on specialist aspects of repair.

Since October last, under a grant from the Carnegie United Kingdom Trust, a *National Reference Centre*§ is also being established in York on the Protection and Care of Historic Buildings. This should be a facility of the greatest possible use and is planned to include bibliographies, technical drawings and photographs, leaflets and physical exhibits, to which reference may be made in York or by post. The businesslike attitude of the organizers promises that a great deal of useful reference material should be made available in this way.

The *Council for the Preservation of Rural England*§ is prominent among the "watchdog" societies in the public interest. The Council was founded in 1926 and has a large membership throughout the country: it consists of no less than 46 independent organizations, all devoted to guarding and mobilizing public opinion for the preservation of natural rural scenery. Litter, river pollution, badly sited advertisements, and other threats to the countryside are vigorously opposed, and the Council is now increasingly interested in the amenity aspects of rural housing as well as in actual landscape problems. A separate Council was formed for Wales in 1928.

The *Vernacular Architecture Group*|| has recently been founded for the survey of "the smaller domestic and vocational buildings of the British Isles, with special regard to local peculiarities and variations." Portfolios are circulated, and a bibliography of literature on the subject is being compiled. The Group holds annual meetings in regions of interest, at which study papers are given: there are at present 65 members.

\* Clifford's Inn, London, E.C.4.

† 55, Great Ormond Street, London, W.C.1.

‡ St. Anthony's Hall, York.

§ 4, Hobart Place, London, S.W.1.

|| 8, Water End, Clifden, York.



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## Societies interested in particular building types

The *National Association of Almshouses\** is a private organization founded in 1951 with the aim of raising money and preserving valuable old Almshouses. The Association does not itself own property, but can be of the greatest assistance in advising on such legal matters as the administration of charity funds.

The *Central Council for the Care of Churches* was constituted in 1924 as the co-ordinating body for the Diocesan Advisory Committees, linking them formally with the Church Assembly. Membership of the Council comprises delegates from each Committee, nominees of the Assembly, and co-opted representatives and authorities with particular knowledge of specialist problems. The Council's work includes the co-ordination of the DACs, for whom periodical study conferences are held. Research work is also undertaken, together with the publication of pamphlets on various aspects of church building and maintenance. A great deal of public relations work is carried on, and the Council acts as a clearing-house to and from the various Ministries and private Societies concerned in any way with church buildings. Registers of recommended craftsmen and designers are maintained, and assistance given over a wide range of inquiries. If a petitioner is dissatisfied with the technical advice given by a DAC, he may ask for the case to be passed to the Council for confirmation; but the legal aspects are always dealt with by the Consistory Courts.

A special *Cathedrals Committee* was also set up in 1949 to assist and advise the Deans and Chapters of Cathedrals. Appointments to the Committee are made by the Standing Committee of the Central Council for the Care of Churches, and consist of 12 members with wide powers of co-option. The Committee meets bi-monthly, and Conferences for Cathedral Architects are now held every three years, each time in a different cathedral, at which current works are inspected and problems of general concern discussed. At the most recent Conference, held in September last year, strong resolutions were passed urging the provision of increased facilities for the practical training of architects in old building work, the increased recruitment of apprentices and the co-operation of architects to ensure a steady progression of work in the specialist craft trades.

The *Windmill and Watermill Section* of the SPAB† concentrates on the promotion of public interest, the support of individual cases and on giving of technical advice regarding any problem in connection with the preservation of windmills and watermills.

## Local societies

In the field of public conscience, the local County, Civic, Archaeological and Preservation Societies are of the greatest value, as is the local Press, in bringing publicity to bear where it is needed. Being generally composed of non-technical people with a sprinkling of æsthetic, historical and artistic specialists, these societies often need careful and tactful guidance in maintaining a balanced opinion. As with all organizations of any kind, the success and energy of these bodies will depend upon one individual—the secretary—through whom a group of individuals either becomes an articulate unit or does not. But by the power of personal ties and friendships, local societies can achieve very much while the larger and more distinct organization would still be knocking at the door. A comprehensive directory of these local societies has recently been compiled by the Civic Trust.

The preservation societies would be the first to lament their own necessity, but they do constitute a most valuable organ of the public conscience. They would be more effective, however, if they were better co-ordinated.

## Societies administering Trust Funds

*Private Trusts.* There are said to be in this country over 110,000 private charitable trusts, varying widely in their resources and in the scope of their activities, and many of whom are interested in old buildings. Some of them are almost unknown: some prefer to remain anonymous and to invite applications in order to husband limited resources.

The best known of all the private organizations are, of course, the National Trust and the Pilgrim and the Dulverton Trusts, which are described by way of example. But very many smaller trusts are glad to assist local preservation projects, if only the contact can be made before it is too late.

If external sources fail, a Private Appeal Fund may be set up, as in the case of Croft Castle, which was recently handed over to the National Trust. Here the necessary endowment to enable the Trust to accept the property was raised by private and public subscription and by a private loan. The fund remains active, while the castle has meanwhile been formally taken over by the Nation.

All legal matters relating to trust property are dealt with by the *Charity Commission\** who also maintain records of known local charities by localities, from which information may be supplied on request. The only comprehensive public list of charities dates from the 1830s and 1840s in the form of the "Printed Parliamentary Reports of the Former Commissioners for Inquiry Concerning Charities." The Commission's chief function is to advise the Trustees regarding the administration of charities, and to exercise jurisdiction on the lease or sale of Trust property.

The *National Trust†* is a private body founded in 1894 and now having over 44,000 members. Its privileged position and responsibilities have been acknowledged by several Acts of Parliament—notably the National Trust Acts of 1907, 1937 and 1939.

The Trust is a property-owning body, whose aims are the permanent preservation for the Nation's benefit and enjoyment of land of special natural interest or beauty, and of buildings of national, architectural or artistic interest, or of furniture, pictures and chattels of historic or architectural interest.

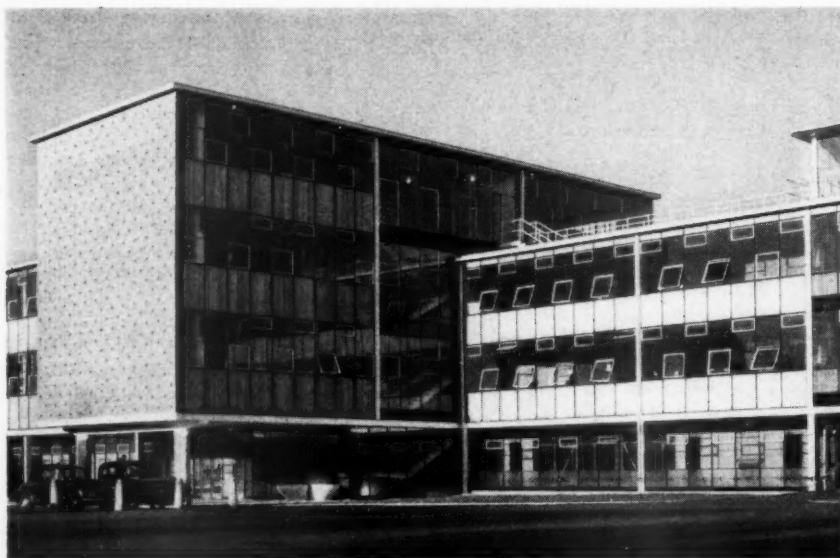
No propaganda work is undertaken, and in this connection the Trust works closely with such bodies as the CPRE, the SPAB and the Georgian Group. From an earlier preoccupation with protecting unspoilt national scenery, the National Trust has become more and more concerned with the preservation of important historic buildings, particularly of the larger country houses. A further impetus has been given to this side of the Trust's activities in recent years by the gradual transfer to public ownership of so many of the larger estates being broken up by death duties.

The Trust is not State subsidized, and property can only be accepted if it is sufficiently well-endowed to form a self-contained financial unit. Each case is considered on its merits, but arrangements can usually be made for the previous owners to remain as tenants of a house throughout their own lifetime; and under the National Trust Act of 1939 property "settled" under the Settled Lands Act of 1925 can also be accepted, the lease being re-vested in the statutory owner or tenant for life. Conditions are then made that the endowment must be

\* Billingbear Lodge, Wokingham, Berks.  
† 55, Great Ormond Street, London, W.C.1.

\* 79, Buckingham Palace Road, London, S.W.1.  
† 42, Queen Anne's Gate, London, S.W.1.





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devoted by the Trust entirely to the maintenance of the particular property, and that the tenant must preserve amenities, must admit the public, and may not use the property other than as a dwelling, nor sublet without consent.

Land given to the National Trust is exempted from death duties, and the requisite maintenance funds are also, subject to reasonable limits, exempted from estate duty. The principle of natural economic self-sufficiency, which must be applied to all estates, has helped to contribute the genuine and unforced quality which is such a happy characteristic of the National Trust's steadily growing list of properties.

*The Pilgrim Trust.\** In 1930 Mr. Edward Harkness, a private citizen of the USA, decided to make a gift to this country of £2,000,000. To administer this fund a trust was established with wide and generous terms of reference.

Although at first for a time, funds were devoted chiefly to social work, the new organization, which was named the Pilgrim Trust, rapidly began to assume its present character, under which assistance is chiefly given towards educational and artistic projects, and especially towards preservation work. By 1950 so many grants were being made towards the repair of parish churches in England that it was decided to suspend these from the scope of the Trust's assistance, and to promote the establishing of the obviously needed separate Trust for this purpose. Generous assistance has since been given towards the work of the Historic Churches Preservation Trust. Individual grants are still however made to cathedrals, to parish churches in Scotland, Wales and Northern Ireland, and towards the repair of "treasures" such as fine books and furniture, effigies and monuments.

Grant assistance is normally available only to a charity or educational institution, or a public or local authority. Applicants are expected to have contributed considerable personal effort before seeking charitable aid. The Trust is allowed to invest and to speculate, and under wise management its capital has been greatly increased. As a charitable institution the Trust receives favourable income-tax concessions. Grants are made from income, and currently average from £150,000 to £200,000 each year.

*The Dulverton Trust†* was established by Lord Dulverton on similar lines to the Pilgrim Trust. This trust is also self-sufficient, and makes grants from income comparable with those of its sister body.

The Trust can also make grants outside the United Kingdom, for example, towards establishing colonial universities, and for social work such as the encouragement of worthwhile clubs and settlements. No set of terms of reference are laid down, and the awards of any "family" trust frequently reflect strong personal opinions and sometimes local allegiances and traditions.

*The Mutual Households Association.‡* One of the most interesting recent schemes for the use of historic buildings by organizations has been the foundation of the Mutual Households Association, set up to provide accommodation for elderly people who have retired from public service. This organization arose largely from a correspondence in *Country Life* and is registered as a non-profit making co-operative venture, acting under the standard charitable rules of the National Federation of Housing Societies.

The Association's aims are twofold—firstly, the preservation of Britain's historic houses, by finding them a useful

purpose, and secondly, the assistance of people of 50 years and over, for whom individual housekeeping has become an insoluble burden. Realizing that when a group—say 30—of such people can combine, the problem becomes easier to solve, the Association aims to form a number of households, each with its own cleaning, cooking, gardening, etc., staff and managed by a house-committee appointed from among the residents. The first such household has already been set up at Danny's, Hurstpierpoint, and consists of 19 separate apartments varying from one to three rooms each, with common rooms, dining room, staff quarters, etc.

Residents must be shareholding members of the Association, thus becoming part-owners of the Association's property, and may be required to contribute a loan, repayable, less depreciation, at the discretion of the Committee when an apartment is given up.

Members must have retired from active life, and be able to show a background of "service to the country, neighbourhood or neighbours," as well as being considered likely to fit in easily with other members of the household. The Association stress that since many historic houses are remote, intending residents should be country lovers; and to assist in establishing homes in empty houses, they are asked to bring their own furniture.

*The Incorporated Church Building Society,\** founded in 1818, administers charitable funds from which grants may be made towards the construction, reseating, repair or enlargement of both ancient and modern Anglican churches in England and Wales.

The Society is interested in all churches, and not only those of special architectural or historic interest; so that it is useful to know that any sacred building, even of remarkable ugliness architecturally, is eligible for consideration: in this respect the Society is unique.

During the past five years (1953-57), 627 Grants have been made, totalling £36,200. The Society's resources are limited, but every effort is made to assist every worthy claim in some measure. Application should be made to the Secretary by an incumbent *before* any work is commenced, enclosing architects' drawings and detailed specifications, as well as any available photographs, postcards, etc.: the submission of a Report alone is not sufficient and will entail delays. Each case is studied by a Committee of Honorary Consulting Architects who meet monthly; and grants are conditional upon their expenditure under proper architectural supervision, and upon a contribution being sent annually to the Society. This financial support provides the means from which the grants can be made.

The Society publishes various booklets and pamphlets about the requirements of new and old Churches, a detailed list of which will be given in the Bibliography.

*The Friends of Friendless Churches†* are an organization founded in July 1957 with the object of securing the preservation of churches and chapels in the United Kingdom, of architectural or historic interest and irrespective of pastoral needs at a particular time.

The Society, which is a recognized charity, is empowered to make grants towards securing the preservation of any church, or towards monuments, fittings, stained glass or furniture; and may also acquire buildings and itself maintain them. Local county correspondents have now been appointed to keep the Society informed about threats of mutilation or demolition; and support can be given to threatened church buildings which are no longer required for worship.

\* Millbank House, 2, Great Peter Street, London, S.W.1.

† Millbank House, 2, Great Peter Street, London, S.W.1.

‡ 23, Haymarket, London, S.W.1.

\* 7, Queen Anne's Gate, London, S.W.1.

† 12, Edwards Square, London, W.8.



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### Other Societies

It is impossible to mention all the Professional, Craft and Learned Societies whose interest includes old buildings, but the following are some other useful addresses:

*Craftsmen:* The British Society of Master Glass Painters, 6, Queen Square, London, W.C.1; Church Crafts League, 5, Little Cloisters, Dean's Yard, London, S.W.1; Guild of Memorial Craftsmen, Royal Institute Galleries, 195, Piccadilly, London W.1; Art Workers Guild, 6, Queen Square, London, W.C.1.

*Professional, Learned and Record Societies:* British Archaeological Association, 11, Chandos Street, London, W.1; British Records Association, 1, Lancaster Place, Strand, London, W.C.2; Council for British Archaeology, 10, Bolton Gardens, London, S.W.1; Courtauld Institute, 20, Portman Square, London, W.1; International Institute for the Conservation of Museum Objects, The National Gallery, Trafalgar Square, London, W.C.2; Museums Association, Meteorological Buildings, Exhibition Road, London, S.W.7; Royal Archaeological Institute, Lancaster House, St. James's, London, S.W.1; Royal Society of Arts, 6-8, John Adam Street, Adelphi, London, W.C.2; Society of Antiquaries of London, Burlington House, Piccadilly, London, W.1; Standing Conference for Local History, National Council of Social Services, 26, Bedford Square, London, W.C.1.

*Organizations specially concerned with churches:* Ecclesiastical Insurance Office, 11, Norfolk Street, Strand, London, W.C.2; Ecclesiological Society, Walcot House, 139, Kennington Road, London, S.E.11; Monumental Brass Society, 85, Addiscombe Road, Croydon; National Association of Church Furnishers, 7, Tufton Street, London, S.W.1.

## CHURCH PROPERTIES AND THEIR ADMINISTRATION

### Church buildings

Whenever any addition or alteration to a church is contemplated, a "Faculty" must first be obtained from the Chancellor of the Diocese. The "Faculty" is in effect a licence, issued on behalf of the Consistory Court of the Diocese by the Chancellor as judge and as legal representative of the Bishop. This authority is required for all major repairs, all structural alterations and additions, and for the addition or substitution of new furniture, stained glass, ornaments, memorials and other fittings. A Faculty must also be obtained for new heating or lighting installations, repairs to bells, organ works, and services generally. For the erection of a gravestone in a churchyard, the parson's consent is normally sufficient; but in case of difficulty, a Faculty must again be applied for. Similarly by custom, the incumbent may on his own authority carry out day-to-day repairs and replacements to the building, such as the repair of gutters and fallen tiles, and to furnishings and services. A new church must be inspected by the archdeacon before it is consecrated, so as to ensure compliance with canonical requirements; and it is afterwards subject to faculty jurisdiction. Repairs or redecorations not involving any substantial alterations

may be carried out on the authority of an Archdeacon's Certificate. A fee of £6 5s. is payable for a major Faculty covering such works as complete reseating, or perhaps the refurnishing of a chancel, and of £3 3s. for a minor Faculty: the fee for a certificate is £1 1s.

Application is made by the Parish Church Council, whose resolution approving the work must therefore first have been obtained. In cases of difficulty, an informal application "in principle," lodged through the Diocesan Registrar as a petition to the Chancellor, may be a useful preliminary step.

The responsibility for authorizing the proposed works then falls upon the Consistory Court. In cases of dispute, or where serious ritual points are involved, there may be a formal hearing with Petitioners, Opponents and expert witnesses; and if the petitioners are not then satisfied, appeal may be made to the Provincial Court (at Canterbury or York) or further to the Privy Council.

In order to assist the Chancellors in considering applications, Diocesan Advisory Committees have been set up to advise regarding the artistic, architectural and archaeological aspects of proposed works. The Advisory Committees became a statutory part of the Church Assembly in 1938, and generally include local antiquaries with a knowledge of the churches and building characteristics, specialists on such matters as bells and church plate, and others known for their taste and artistic judgment. The names of all members may be found in the Official Year Book of the Church of England. Meetings are held monthly (occasionally bi-monthly), and a visit may also be paid to the church under consideration.

The first function of the DACs is to give advice to petitioners—preferably at an early stage, before the final form of works is decided upon. The second is to advise the Chancellor upon all petitions in which he seeks their help with regard to the issue of a Faculty, and a third is to authorize the granting of an Archdeacon's Certificate.

An application for a Faculty is made on a form obtained from the Registrar of the Diocese, and signed by the incumbent and churchwardens or others "having interest." It must be submitted with the approving resolution of the Parish Church Council, a copy of the recommendations of the DAC, and specifications and plans in duplicate. A "citation" is then published on the church door for a statutory period, during which any interested person may enter an objection. In the absence of objections, a Faculty will be issued on the return of the citation to the registry, together with a certificate to be returned within a given time, confirming the completion of work in the manner specified.

### Lay Rectors and private chapels

The early history of Church building may be summarized as one of local saints and missionaries who erected a sanctuary, then permitted local worshippers to build a shelter alongside. This division of property



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is still reflected in the separate ownership of chancel and nave in many churches. The mediaeval and later history of Church property is extremely complex, and is inextricably bound up with the confused history of the tithe. But on the suppression of the monasteries, the lay appropriators of their lands and rights acquired the ownership of many chancels which had previously been monastic property. Ecclesiastical legislation of the 19th century further brought many chancels into the hands of the Church Commissioners. In either case, the Lay Rector or the Commissioners may today be responsible for all or part of the cost of the upkeep of the chancel, while the rest of the church is maintained by the Parish.

It is also wise to remember that there are many tombs and even large chapels attached to churches which were erected by private families and in fact remain legally in private ownership. Usually perfectly good relations are maintained; but in one or two eccentric cases the odd situation may arise. Local difficulties are recorded in which a Lay Rector has not only maintained a chancel but even closed it to public worship. A private chapel in one church today is said to be infected by dry rot, which its owners are uninclined to remedy.

Sufficient has however perhaps been said to show that before undertaking any work to a church, the architect should satisfy himself (by reference to the Parish, the Diocese or if necessary to the Church Commissioners) of the legal ownership of the building and responsibility for its repair.

#### Parsonage houses

Special provisions are made with regard to the ownership and maintenance of Church property such as parsonage houses. While the ultimate ownership of all churches, houses and their attached lands vests in the Church Commissioners, the incumbent becomes temporarily the "owner" of a parsonage house for the duration of his term of office.

Under the provisions of Ecclesiastical Dilapidations Measures, each Diocese is responsible for setting up a Dilapidations Board, whose duty it is to ensure that parsonage houses are maintained in good repair. For this purpose a Diocesan Surveyor is appointed to survey each property every five years, and to report on the dilapidations and the estimated cost of their repair. The Dilapidations Board then decides how much an incumbent may be asked to find towards repairs, the agreed amount being subsequently deducted from his stipend. The Parish Church Council is usually asked to find the difference, the moneys being held and dispensed by the Church Commissioners, who in some circumstances may also supplement the allowance from central funds.

The Diocesan Surveyor is thus responsible to the Diocese only for the statutory care of parsonage houses. He has not necessarily any connection with the actual Churches, the quinquennial inspection of which is a separate responsibility.

In his capacity of temporary owner, the Incumbent may also employ any outside architect, whose name must be approved by the Dilapidations Board whenever funds are to be contributed by the Commissioners. If an application is made for a Historic Buildings Grant or Local Authority Improvement Grant, this will be lodged directly in the name of the incumbent, who also becomes the "Employer" under the contract, and is responsible for the relevant professional fees.

The Pluralities Act of 1838 (Section 38) lays down that the incumbent may dispose of the property only with the written consent of the Bishop, the Parish Council, the Dilapidations Board and the Patron; and under the Ecclesiastical Dilapidations Measure of 1923 (Section 48) the consent of the Board and Patron must also be obtained for any major alterations or additions to the building. In other respects, the incumbent is in the same position as any other owner, and must further satisfy the usual Local Authority and Planning regulations at present in force.

#### Free Church properties

Information regarding the ownership of Churches belonging to the various nonconformist organizations can be obtained from the General Secretary of the Free Church Council\*, or from the appropriate denominational headquarters.

Generally, the property of the nonconformist churches is administered either directly by the denominational headquarters as Managing Trustees, or else legally held by this body as Custodian Trustee and actually managed by the local body. The Baptists and Congregationalists encourage the incorporation of property in the local regional or County Union, and the Methodist Church generally prefers the system of local Personal Trustees. In each case, it is the local Church Meeting or its appointed representatives who will appoint the architect, and to whom he will be responsible.

There is in general among the Free Churches no set system of inspections nor of "faculty" procedure; and as the manse is usually held by the Body Corporate, for lease to its Minister, the incumbent has no responsibilities like those of the Anglican parsonage house.

#### Financial aid for churches

A Commission was appointed by the Church Assembly in June 1951 to consider "problems concerned with the repair of churches, and with proposals for securing their regular inspection."

Four recommendations were made by the Commission. Firstly, a sum of £4,000,000 was considered likely to be needed within the ensuing ten years to supplement the efforts of the parishes in putting church buildings into good repair: after this, an annual maintenance expenditure of £750,000 was estimated to be necessary. It was therefore suggested that a Historic Churches Preservation Trust, and local County Trusts associated with it, should be set up with the aim

\* 27, Tavistock Square, London, W.C.1.

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of raising funds. The Commission also recommended a quinquennial inspection by a qualified Architect, together with a system of Repair Grants for works to be carried out under suitable supervision.

The Historic Churches Preservation Trust was established in October 1952, with the aim of realizing half of this programme within 10 years. Since then, affiliated County Trusts have also been set up in Buckingham, Cheshire, Cornwall, Essex, Herefordshire, Hertfordshire, Kent, Lincolnshire, Northamptonshire,

Rutland, Staffordshire, Sussex and Wiltshire. In Nottinghamshire and Suffolk, similar organizations have been "deemed the equivalent" of County Trusts. The names and addresses of current Hon. Secretaries are given in the Annual Reports of the Historic Churches Preservation Trust.

During the first five years of the Trust, a total of £670,000 was raised or promised. County Trusts have in addition raised £35,000 towards their target of £50,000. Until 1956, the funds collected by the Trust were allocated to each diocese in approximate proportion to the number of historic churches which each contained. Since that date, a new procedure has been adopted of inviting all dioceses to submit the names of urgent cases within their area. When a church is recommended by the DAC as being worthy of a grant, an invitation is next sent to the parish to submit an application for assistance.

Applications must state the name of the church and its dedication, the diocese, archdeaconry and civil county, and must give a brief history of the fabric before stating the repairs thought necessary. An indication of the population of the parish is also required. The anticipated cost of repairs, including supervision and contingencies, and the name of the architect must be stated, as must the availability of other funds raised and promised, whether from donations of the patron or parishioners, the Diocesan Board of Finance or any other source. Recent photographs (at least one interior and one exterior view, and preferably additional details of the required repairs), and an architect's report and specification must in every case be included with the application.

At the discretion of the Trust, the report may be submitted to one of 11 advisory panels of specialist architects, according to geographical location, for comment as to its appropriateness and suitability for



*Above left: the Historic Churches Preservation Trust can make grants and loans for essential repairs to churches as they recently did for this one at Blackmore, Essex. This photograph, reproduced by permission of HMSO, is from the Report on central and S.W. Essex by the Royal Commission on Historical Monuments. Far left: an unattended leak, at first quite trivial, accumulated in relatively few years to bring about this spectacular collapse. Left: at York Minster, an eroded pinnacle held at the top only by the lightning conductor*

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an award. Taking into consideration the advice of the DACs, and the comments of the Advisory Panels, the Grants Committee may then recommend appropriate financial assistance, subject to suitable conditions.

The over-riding criterion as to whether a church building is eligible for grant aid is always its historical and architectural merit.

The normal Faculty procedure is applicable for work carried out under the grant, which is payable on the application of the parish either at completion or in a reasonably small number of instalments during the course of the work. Professional fees and expenses are allowable, and a reasonable contingencies allowance may be included in the application. Where the extent of work cannot reasonably be envisaged until scaffolding and stripping work have been carried out and proper access obtained, a separate grant may first be made for this preliminary work, if it is quite beyond the means of the parish.

Since the County Trusts are autonomous and self-contained, application for a grant may also be made to the local county body. In general, however, the availability of assistance from other sources will always be taken into consideration, and must be stated when application to either body is made. Nothing is gained or lost by the direct approach of a parish to the Trust, since the opinion of the Diocesan Advisory Committee will in any case be sought; but an application to the local county body is usually left to the initiative of the individual parish. It seems likely that a closer co-operation and identification between the central and local bodies is bound to grow, to the advantage and added strength of both. It has been found that in general the Cathedrals, although eligible for Grant assistance, are mostly well able to look after themselves. It is important to notice that though Anglican claims inevitably overshadow all others, *all* historic churches, including those of the Roman Catholic and Free Church traditions, are eligible for assistance.

Apart from the Trust and its affiliated bodies, funds are also available for repair work from Diocesan funds, and from many of the other Trusts and private bodies enumerated above.

### Quinquennial Inspections

The preservation of churches has been placed on an entirely new basis by the Inspection of Churches Measure, 1955. This requires that every church should be inspected by an architect once every five years. It does not, of course, require that his advice should be taken, but this insistence on inspection is already a beginning. To ensure some sort of uniformity in carrying out inspections the R.I.B.A. and the Central Council for the Care of Churches have agreed a standard "letter of invitation" for parish councils to send to their architects and a standard form for the architect's report. They have also agreed that the

architect would not be held responsible "for any omission to report on defects arising from matters which would not be discovered from a usual inspection by a competent person." They were not able to agree fees, but the R.I.B.A. Council have said that in their view 15 guineas, exclusive of travelling and out of pocket expenses would be reasonable for a first inspection of an average church. As evidently the form of the architect's report is a most useful document we finish this section by printing it in full:—

### Form of an Architect's Report on a Church

*As agreed between the Central Council for the Care of Churches and the Royal Institute of British Architects*

1. A short description of the building with brief notes on features of special interest or importance.
2. The limitations of the survey: A reference to all enclosed and inaccessible parts of the building, e.g. sealed roof spaces, boarded floors, high spires, etc., on which it was found impossible to report. Recommendations for the opening up of these spaces or examination of the fabric from scaffolding or special ladders if such measures are considered necessary.
3. A description of the materials and form of construction, and general condition of the fabric:—

(a) *Walls and Masonry*—dressings, settlements, pointing, external rendering and internal plastering.

(b) *Roofs and Gutters*—the condition of the roof coverings and of the fixings and linings, the condition of metal and asphalt flats and gutters and flashings, the state of the timbers and trusses below pitched and flat roofs including the presence of fungal rot and/or wood borers.

(c) *Rainwater Disposal System and Drainage*—gutters, fall pipes, surface water drains and outfall; dry areas, deleterious vegetation, soil drainage.

(d) *Internal Decoration*—including a note of any murals.

(e) *Floors and Galleries*.

(f) *Glazing*—ferramenta, ventilation and details of glass and glazing including all ancient clear and painted glass.

(g) *Fittings*—including monuments, brasses, etc., organ case.

(h) *Bells, Bell Frames and Clock*—a general note on condition of fittings and frame and the stability of the latter and its effect on the structure.

(j) *Boundary Walls and Gates*.

(k) *Installations*—the opinion of the architect as to whether reports from specialist engineers on heating, lighting and lightning-conductor installations are necessary.

### 4. Summary of Recommendations:—

(a) *Maintenance*—a brief description of essential periodic maintenance required.

(b) *Works of Repair in order of priority* and with approximate estimates of cost.

Signature of Architect.....

Date.....

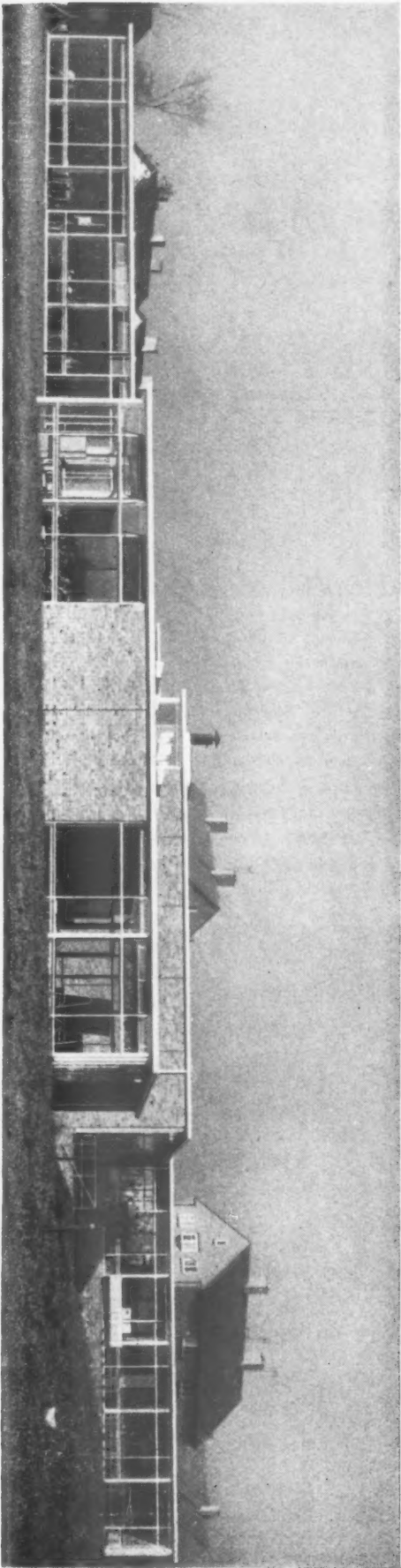
**building illustrated**

**INFANT SCHOOL**

in FULMORE CLOSE, BATFORD, HARPENDEN, HERTS; designed by ARCHITECTS' CO-PARTNERSHIP in collaboration with C. H. ASLIN, county architect; quantity surveyors GARDINER and THEOBALD

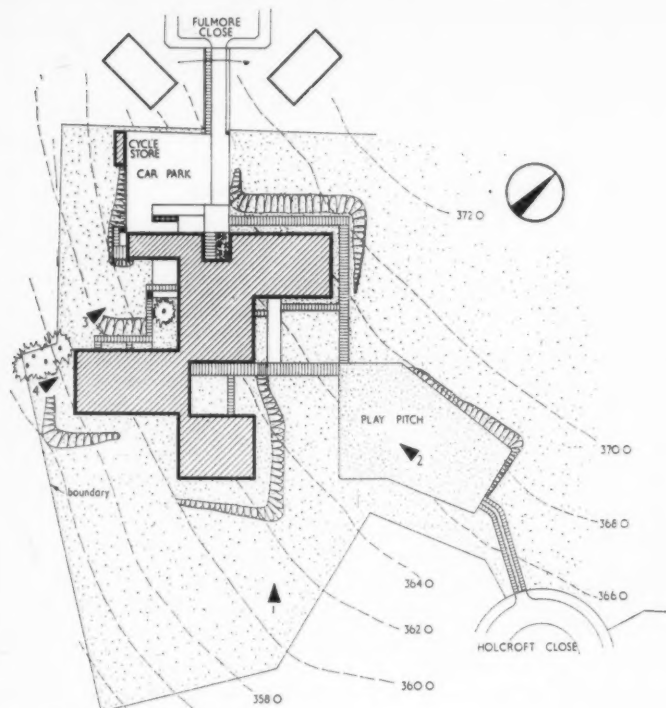
Batford infant school is a two-form entry school; one of the 1956-7 programme of schools for the Hertfordshire County Council and one of several given to firms of private architects to design. The school makes full use of the usual standard Hertfordshire components, but achieves an individual and very pleasing character in its external appearance by the use of London stock brick panels in preference to the standard precast cladding units; the strong contrast in tone between the white of fascia windows and the warm yellow brick gives a very crisp effect.

*Viewpoint 1: general view from the south-east.*



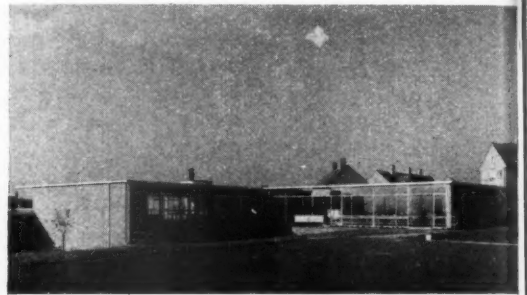


## building illustrated

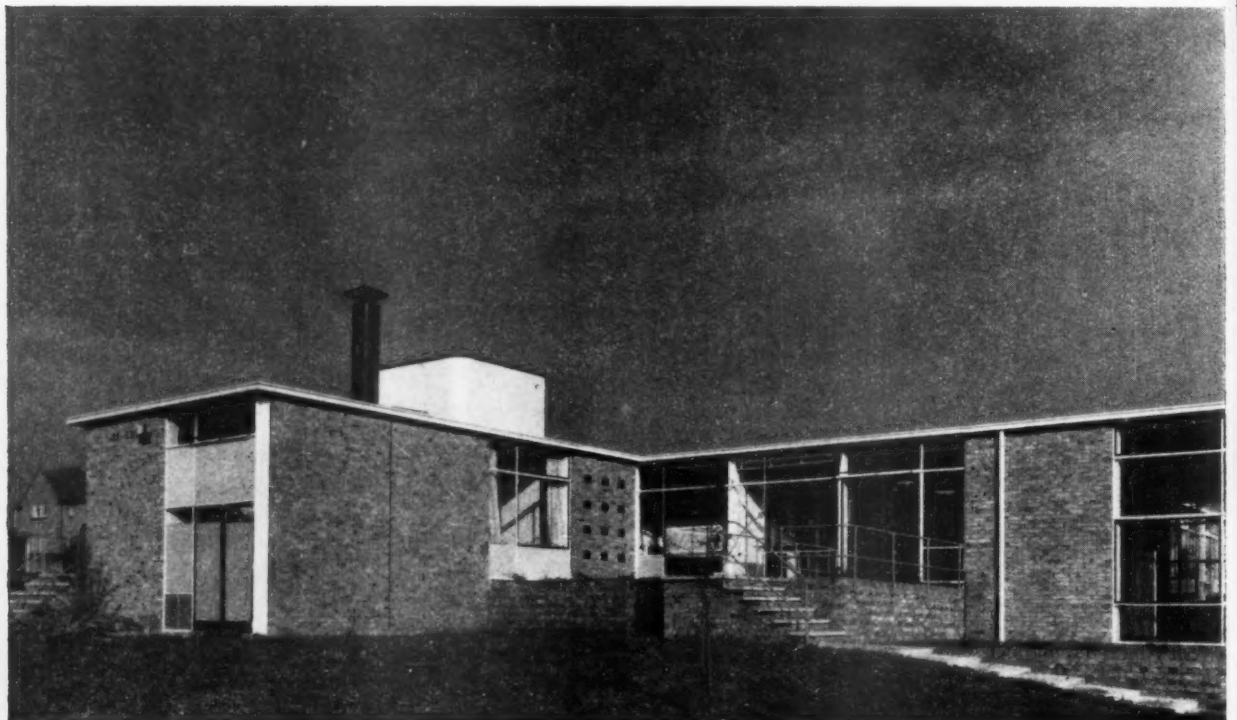


Site plan with photographic viewpoints

The site is a restricted one engulfed in typical suburban housing development and slopes considerably from north to south; good use has been made of the contours and the informal arrangement of blocks into partially enclosed courtyards and re-entrant angles gives a feeling of shelter and intimacy of scale very suited to small children. The building is not helped very much by existing planting, but the rather flat skyline and uninterrupted expanse of grass will be broken up and much improved when new trees and shrubs have had time to mature. It is to be hoped that the chain-link fencing will eventually be replaced by hedges.



Viewpoint 2 (above) is taken from the playpitch which has been kept a suitable distance from classrooms to avoid the noise of playing disturbing other classes perhaps still working. It is a pleasantly informal shape since infants do not require marked-out pitches for organized games. It is worth noting that the pitch has been sited to double as part of the approach pathway from the south-east. Viewpoint 3 (below) from the south shows the relationship of the boiler house and kitchen wing to the dining area and assembly hall. A judicious change of level has allowed the taller assembly hall roof to line through with the lower block above.



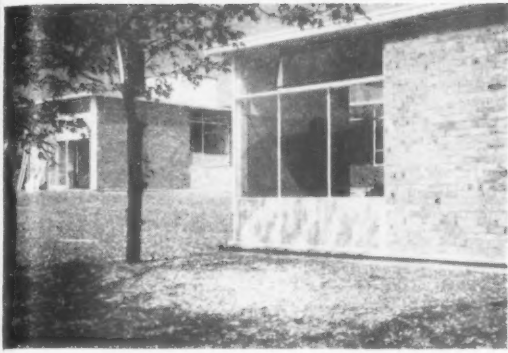
Viewpoint

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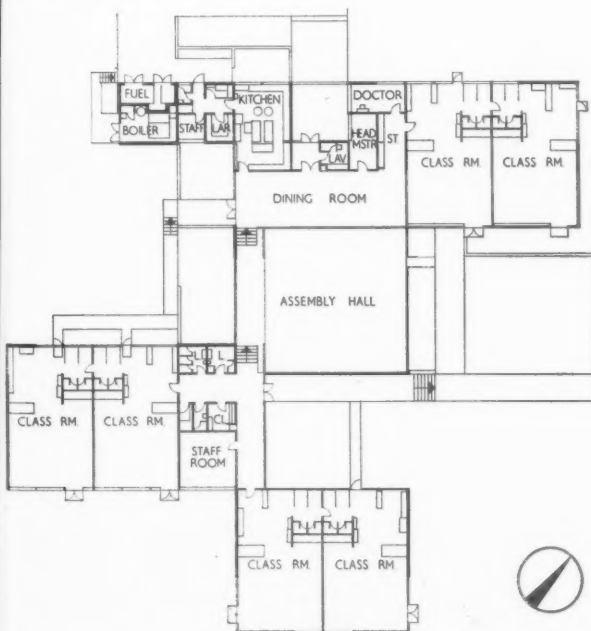
Ground

## analysis



Viewpoint 4 shows the south-west corner of the classroom block.

The most noticeable thing about the plan is the almost complete absence of corridor space, the design having been done at a time when drastic cuts were being made in the permissible cost per place. Rather than sacrifice useful classroom space, ways were found of concentrating cloak hanging space in classrooms, making circulation space double-up as part of teaching areas, and making dining and assembly areas serve for circulation as well as their normal function.

Ground floor plan [Scale:  $\frac{1}{4}$ " = 1' 0"]

## CLIENT'S REQUIREMENTS

A two-form entry infant school consisting of 6 classrooms, an assembly hall, kitchen and dining area. The site, on sloping and irregular ground, is adjacent to an existing primary school completed some years previously, which was originally built for juniors and infants, but became exclusively a junior school on the completion of the new building.

## PLANNING AIMS

Surrounded on three sides by housing and on the fourth by the playing field of the existing school, the site proved difficult. Road access had to be obtained through an existing cul-de-sac to the north west. This meant placing the main entrance, kitchen and boilerhouse on that side. The natural fall of the ground was from north to south and the building was stepped down this slope with two 3-ft. 4-in. changes of level, but as a result of placing the assembly hall in the centre only two roof levels were necessary. The classrooms, arranged in the conventional pairs each with its own lavatories and cloakroom, were placed so that the two pairs for the older children were to the south west and the remaining pair, designed for reception are in the opposite corner. A large dining-entrance hall acts as an open gallery to the assembly hall. Although built within the framework of the then current HCC standard system, the building departed from these standards in several respects. Brick infill panels to external walls were used throughout in place of the normal precast concrete cladding blocks. Steel angles were used at external corners in place of cladding blocks. In place of fibrous plaster casings, columns were faced internally with strips of hardboard stuck to the steel with a plastic compound and beams over internal partitions were cased in plywood.

## SUMMARY

Ground floor area: 11,625 sq. ft.  
 Total floor area: 11,625 sq. ft.  
 Type of contract: RIBA with quantities  
 Tender date: February 14, 1956.  
 Work began: March 27, 1956.  
 Work finished: May 6, 1957.  
 Tender price of foundations, superstructure, installations and finishes: £39,452 5s. od.  
 Tender price of external works and ancillary buildings: £6,026 15s. od.  
 Total: £45,479.

	cost per sq. ft.	s	d
Preliminaries and insurances		3	8½
Contingencies		1	7½

Work below ground floor level 7 0½

Mass concrete pad foundations to columns with 9-in. wide r.c. edge beam 2 ft.-4 ft. deep round perimeter. 5-in. unreinforced concrete site slab on min. 9-in. hardcore. The subsoil was chalky with solid chalk found at varying depths. During construction a large hole, 17 ft. long, 6 ft. high and 6 ft. wide was discovered beneath one of the internal column bases. This was opened up and backfilled with mechanically rammed chalk. The site slab over was thickened to 8 in. and reinforced.

building illustrated



Left: the assembly hall seen from the dining area has mahogany hardwood block flooring, the rear wall is faced with acoustic panels, the ceiling is lined with insulating softboard, the open latticework beams allow a lower ceiling without any oppressive sense, the balustrading is removable to allow for other activities.

Below: looking from the south classroom block through the assembly hall to the dining area; the circulation space is well defined by a change in floor finish but adds valuable additional space to the assembly hall. The grilles to the right of the upper flight of stairs conceal the warm air heater battery recessed under the dining area floor.



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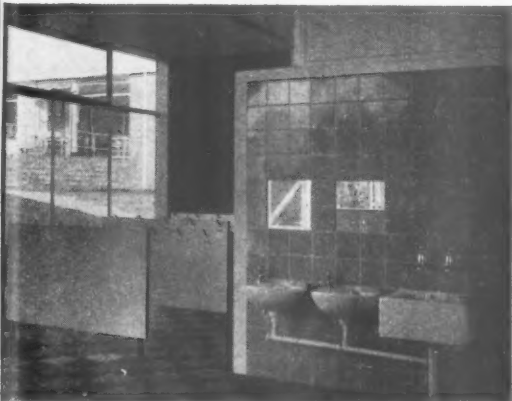
## analysis

s d



The head teacher's study. There is a pleasing use of wallpaper. The radiator is somewhat obtrusive and might have been better sited under the window sill.

The very compact and unobtrusive arrangement for coat hanging off the classrooms. Basins and sink are mounted on a coloured tile panel behind which are separate lavatories for each sex and the warm air heater battery.



## STRUCTURAL ELEMENTS

<b>Frame or load-bearing element</b>	7 3
Cold rolled steel beams and 4-angle columns on 8-ft. 3-in. grid, as for other HCC schools.	
<b>External walls</b>	2 9½
4½-in. brick external skin in secondhand stocks, 2-in. cavity and 2½-in. clinker block internal skin.	
Ratio: $\frac{\text{solid wall}}{\text{floor area}} = \frac{0.263}{1}$	
<b>Windows</b>	4 8½
Standard (HCC) galvanized steel windows and doors.	
Ratio: $\frac{\text{windows}}{\text{floor area}} = \frac{0.443}{1}$	
<b>External doors</b>	10½
Galvanized steel, standard range.	
Ratio: $\frac{\text{doors}}{\text{floor area}} = \frac{0.045}{1}$	
<b>Staircases</b>	5
Two short flights of steps only, adjacent to assembly hall, in concrete with granolithic risers and iroko treads.	
Width: 5 ft. 6 in. Total rise: 3 ft. 4 in.	
<b>Roof construction</b>	4 9½
Asbestos-cement corrugated roof decking spanning between beams.	
The decking, standard for all HCC schools, was supplied with battens fixed for taking ceiling panels.	
Area: 11,430 sq ft.	
<b>Roof lights</b>	1 5½
Opening lights of galvanized steel, 3 ft. 4 in. × 3 ft. 4 in.	
Fixed lights, standard narrow light in special decking units.	
Total area: 391 sq ft.	
<b>Glazing</b>	1 6½
32-oz. clear glass above sills. Panes below sills and in external and internal doors of ¼-in. Georgian wired polished plate.	
<b>Total of structural elements:</b>	<u>23s 11½d</u>

## PARTITIONING AND FITTINGS

<b>Internal partitions</b>	2 1½
3-in. clinker.	
<b>Screens</b>	4½
Painted softwood (transom and sill heights to match external windows).	
<b>Internal doors</b>	9
Ply-faced flush doors. 40 single, 1 pair double.	
<b>Ironmongery</b>	7½
Aluminium satin anodized lever handles and kicking plates.	



## analysis

## Fittings

Kitchen servery hatch: hardwood frame with vertically sliding doors, polished ply face. Pivoted door adjacent, faced painted softwood matching. Removable balustrading in hall in steel and iroko. Various cupboards, polished ply faced on softwood framing.

Total of partitions and fittings: 5s 11d

## FINISHES

## Floor finishes

Type of finish	Area in sq. ft.	Price per sq. yd.
Quarry tiles to kitchen and all lavatories	1,024	28s 6d
Hardwood block (muhuhu) in assembly hall	1,683	39s 6d
Thermoplastic tiles, laid in chequer pattern	7,659	12s 11d to 22s 5d

## Wall finishes

Plaster, painted. White glazed wall tiling in kitchen, coloured wall tiling panels behind sinks in each classroom. Acoustic panelling to one wall of assembly hall.

## Ceiling finishes

$\frac{3}{4}$ -in. softboard sheeting, painted. Asbestos cement sheeting in boiler house.

## Roof finishes

3 layers of bituminous felt finished with granite chippings.

## Decorations

Ceilings, white, except kitchen, which has a blue anti-condensation compound. Walls, white generally with pinning boards and cloakroom walls in colours. Doors polished. Floors, grey and colour chequer pattern in classrooms.

Total of finishes: 9s 5½d

## SERVICES

## External plumbing

Precast concrete eaves blocks form a gutter round the perimeter of the flat roof. There are ten aluminium r.w.p.s spaced round perimeter to carry storm water to g.s.w. drains connected to two soakaways on the south and east of the building.

## Hot and cold water installation

Local calorifiers in class lavatories, fed from heating system. Domestic hot water in kitchen from gas boiler. H.p.c.w. to kitchen and one tap per classroom from mains. 600-gallon storage tank on roof supplying l.p.c.w. to lavatories and basins.

## Sanitary fittings

Washbasins, sinks and w.c.s in white glazed fireclay. Overflows from w.w.p.s discharge over pans.

s d

2 0½

## Type of fitting

Type of fitting	Number of each type
Washbasins	21
Soap dispensers	4
Mirrors	20
Sinks	11
Urinals	3
W.c.s	20
Toilet roll holders	20
Glass shelves	3
Towel rails	4

## Heating and ventilation

Recirculated warm air through heat exchangers in classrooms, hall and dining room. Radiators in kitchen and staffrooms. Thermostats and pre-set clock controls.

## Gas installation

Points in kitchen and boilerhouse only.

## Electrical installation

Type of point	Number of each type
Light points	117
One-way switches	49
Two-way switches	2
13-amp. sockets	15
Loudspeaker sockets	7
Thermostats	10
Heater fans	22
Clocks	2

Total of services: 12s 1½d

1 5½

## Drainage

Soil: glazed stoneware connected to existing system. Surface water: glazed stoneware to 2 soakaways (chalk subsoil).

2 1½

## Other elements

Drainage work beyond the last connected manhole adjacent to the school. Two soakaways. Roads, paths and paving (brick and precast concrete slabs): screen and retaining walls, fencing. Connections to services. One fire hydrant pit and box. Gas meter cupboard outside kitchen. Timber screen outside kitchen. Brick cycle shed and garden store.

Total per sq. ft. of floor area:  
£39.452 5s (net cost excluding external works)

11,625 sq ft (measured inside external walls)  
For cost comments see page 358.

## CONTRACTORS

2 4½

General contractor: H. C. Janes Ltd. Sub-contractors: Felt roofing and tanking to boilerhouse: Permanite Ltd. Steel frame: Hills (West Bromwich) Ltd. Heating and hot water installation: Weatherfoil Heating Systems Ltd. Chain link fencing: Boulton & Paul Ltd. Aluminium sills and steel windows and doors: Gardiner, Sons & Co. Ltd. Electrical installation: Wilsons Electrical Contractors Ltd. Gas installation: Eastern Gas Board. Bituminous macadam paving: Constable Hart & Co. Ltd. Wood blocks and plastic tile flooring: Hollis Bros Ltd. Paint: Murray & Jones. Roof decking: Universal Asbestos Manuf. Co. Venetian blinds: London Blinds Ltd. Sign writing: S. Moore & Co. Sanitary fittings: Adamsez Ltd.

1 1½

s d

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3½

2 5½

3 0½

= 67 10½

building illustrated

## COUNTY PRIMARY SCHOOL

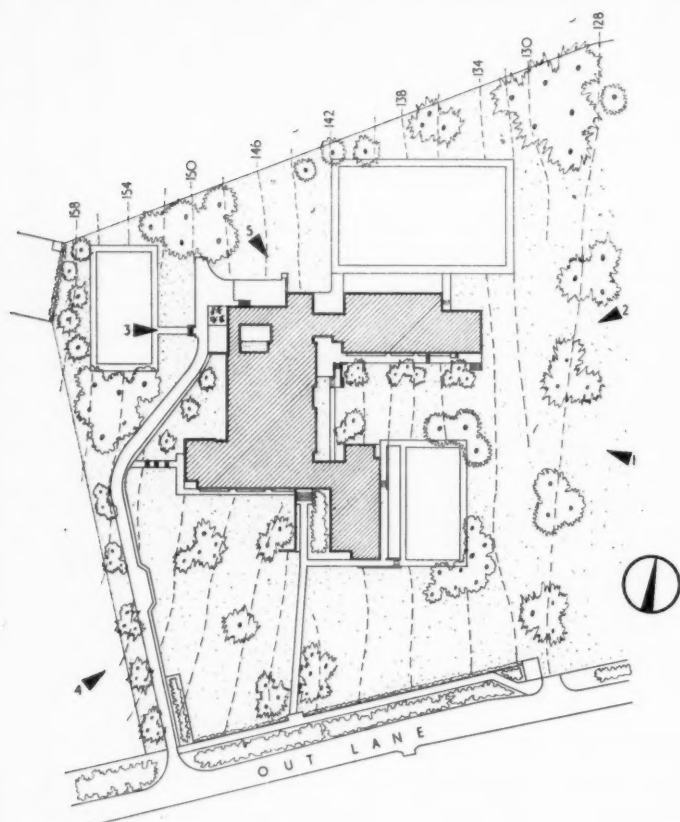
at OUTLANE, WOOLTON, LIVERPOOL; designed by BERNARD A. MILLER and DUNCAN M. STEWART in association with RONALD BRADBURY, city architect and director of housing assistant architect DAVID SKINNER; quantity surveyors TODD and LEDSON consultant (interior decoration) JANET E. MACGREGOR

Woolton County Primary School is in an expanding residential area on the outskirts of Liverpool and was designed by private architects as part of the city's school building programme. The architects have achieved a remarkably low cost by the use of cross-wall construction and despite the fact that labour costs are as high in Liverpool as in London.

Viewpoint 1: the school from the east.



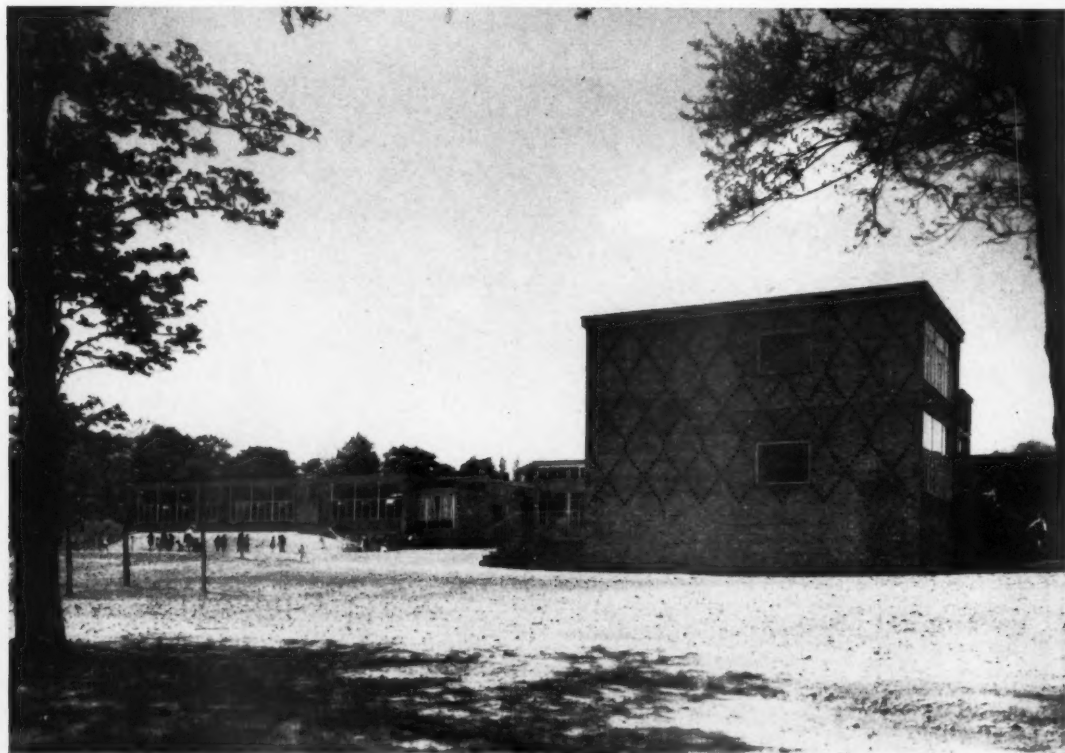
## building illustrated



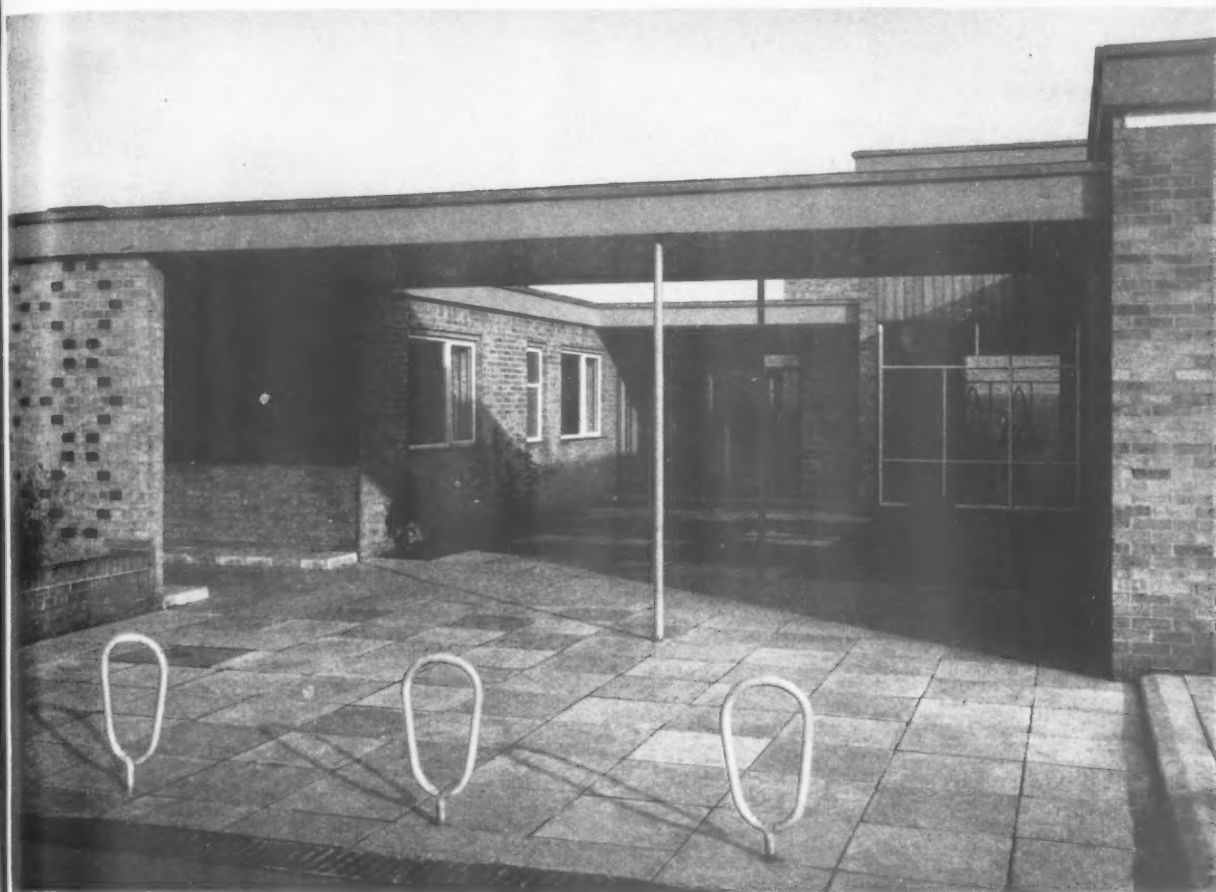
Site plan with photographic viewpoints

The site is open to the south and east, and the ground falls towards the east. The slope of the ground, with existing trees mainly on the site boundaries, can be seen in viewpoints 1 (p. 351) and 2 (below). Classrooms face south and east, and form wings which extend from the dining room/assembly hall core. The architects have imposed on their design the discipline of a constant roof line, which appears surprising in view of the site conditions: the strong line of the fascia tends to conflict with the nature of the site, as in viewpoint 1. The stepped terraces and retaining walks in front of the classrooms, together with the long junior school wing cutting into the contours like a wedge, give the classrooms an unfortunate remoteness from the ground level outside. The advantages of garden plots outside classrooms are mitigated by this treatment and the effect is of a lack of intimacy with the natural elements, at variance with the scale, and horizons, of small children. On the east side of the building (viewpoints 1 and 2) the ground falls away towards the site boundary without any articulation of the slope which might otherwise have given a sense of enclosure.

The materials used in the external treatment are mixed rustic grey facing bricks, western red cedar boarding, and timber window frames. An attempt to relieve the east gable of the junior school (viewpoint 2, below) has resulted in a confused expression. The self-conscious diaper pattern of black brick headers stops abruptly about 7 ft. above ground level and is punctured by two windows which bear no relation to it.



## building illustrated



However, the entrance to the junior school (viewpoint 3, above) shows a conscious attempt to create a feeling of enclosure which is in keeping with the function of the building. The fenestration on the south wall is mundane when seen in relation to the entrance doors and screen and the west window of the assembly hall, but the change in floor and wall materials, and the use of the covered way and planting create a positive character. The tubular loops, too slender visually to act in lieu of bollards, are badly sited in the pattern of paving slabs.

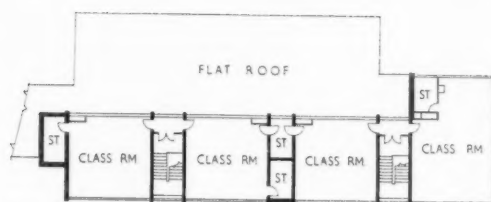


The infants' school entrance (viewpoint 4, above) has a different character. It is approached directly from Out Lane, and the high ground to the west of the entrance approach is contained by a brick retaining wall. The west wall of the projecting wing of the infants' school forms the east boundary to this approach, and the entrance is reached by a flight of steps. When the landscape treatment for this entrance is established, the effect should be pleasing. The infants' classrooms on the south side of the building are on the same level as the ground outside.

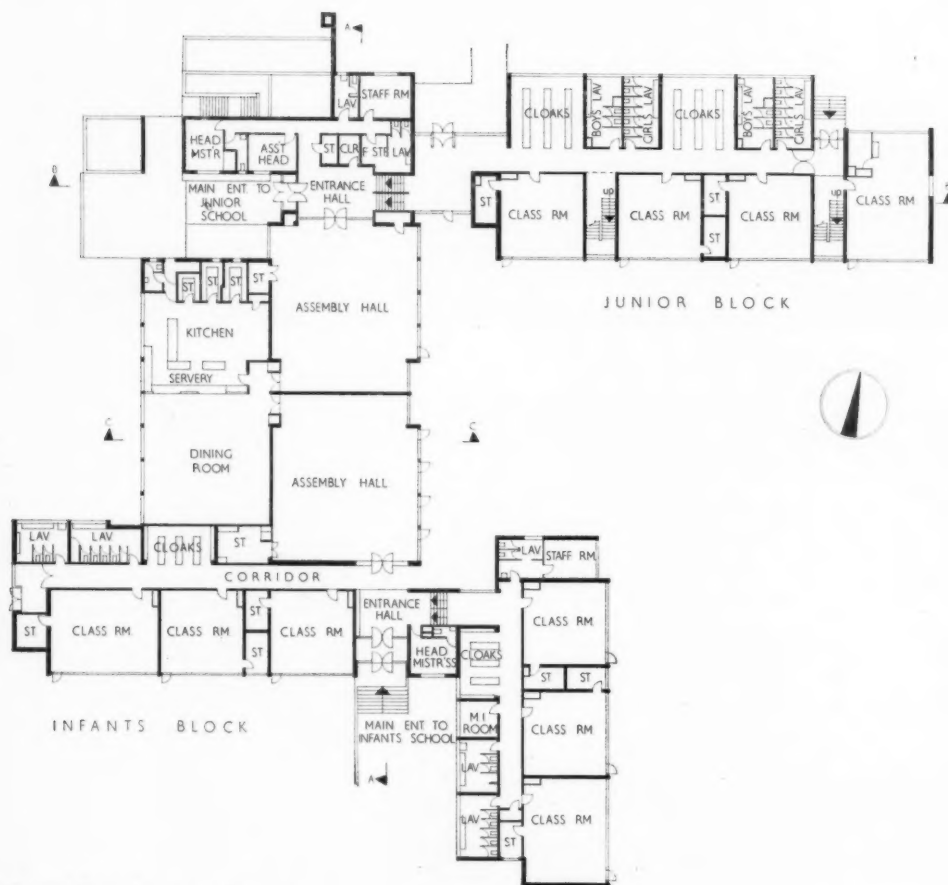




The north side of the building (viewpoint 5) is very confused; there are many different shapes and sizes of windows, a very strange detail at the junction of the roof of the two-storey junior school wing with the storage tank housing, an unnecessarily crude boiler house chimney and an unvaried fascia treatment, in spite of different levels and projections.



First floor plan



Ground floor plan [Scale:  $\frac{1}{4}$ " = 1' 0"]



Basement plan

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Section A-

Section B-

## analysis

## CLIENT'S REQUIREMENTS

An infant department of six classrooms and assembly hall and a junior department with eight classrooms and assembly hall, each with its own staff and administration rooms, cloaks and lavatories, but sharing a common dining room and kitchen. Provision to be made for future expansion of seven classrooms with related cloaks and lavatories. The area of classrooms and assembly halls was fixed.

## PLANNING AIMS

The main aims were to achieve an economical and compact building, taking advantage of the pleasant, open aspect to the south and east, and accommodated to the rather sharp fall of the ground from west to east, leaving a good proportion of the site for playgrounds, future extensions and planting.

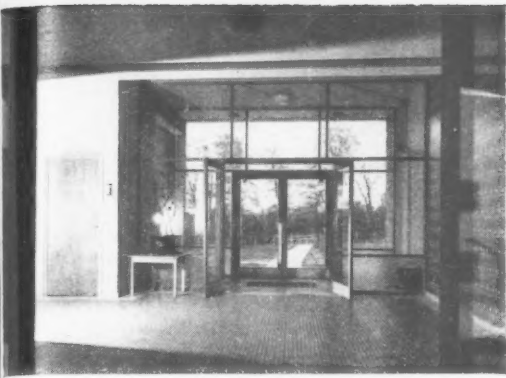
All ground floor classrooms open directly on to an outside terrace, and each has a small flower plot, and internally ample store room and fitted cupboards. The heating system allows automatic individual temperature control. Blind boxes are incorporated in the precast ceiling units and will eventually take venetian blinds (an early economy).

The school is designed at three levels because of the sloping ground, attention being given to alignment of roof lines to achieve a unified composition. Corridors open out at intervals to accommodate cloakroom racks.

A wide variety of colour has been used in classrooms and wallpaper is introduced to enrich assembly halls, dining room and entrances.

## SUMMARY

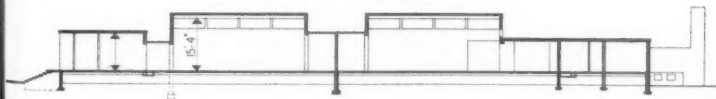
Ground floor area: 22,520 sq. ft.  
 Total floor area: 27,510 sq. ft.  
 Type of contract: Liverpool Corporation form of contract.  
 Tender date: February 12, 1955.  
 Work began: April, 1955.  
 Work finished: December, 1956 (take over except kitchen and external works). February, 1957 (take over of remainder).  
 Tender price of foundations, superstructure, installations and finishes (MOE net cost): £82,665.  
 Final contract price: £79,075.  
 Tender price of external works and ancillary buildings (MOE additional cost): £5,381.  
 Final contract price: £6,014.  
 Tender gross cost: £88,046 7s. 4d.  
 Final gross cost: £85,089 os. 0d.  
 Type of school: County Primary Infant and Junior.  
 Number of places: 570.  
 Floor area: 27,510 sq. ft.  
 Area per place: 48.26 sq. ft.  
 Net cost per place: £138 14s. 6½d.  
 Net cost per sq. ft.: £2 17s. 5½d.



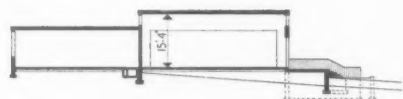
Inside the school, a pleasant spatial feeling has been created in the entrance halls, one of which is shown above. The ceiling is painted pale terra-cotta (BS. 1-022), walls pale green (BS. 4-070); the draught lobby is grey-green (BS. 5-059) throughout. Wallpaper has also been used to achieve interest in entrance halls, assembly halls and the dining room. The floor finish in entrance halls is studded rubber.



The classrooms floor design, in p.v.c. does not relate to anything and does not help to break up the overall effect of a plain surface. Classroom walls and ceilings are plastered; the one shown here has a white ceiling, grey-blue chalkboard wall (BS. 7-083), other walls pale bluish grey (BS. 7-081). The pin-up boards are bright yellow (BS. 0-001), chalkboard and trim are of various shades of neutral grey. There is a recessed blind-box to take a future venetian blind.



Section A-A [Scale: 1/4" = 1' 0"]



Section C-C

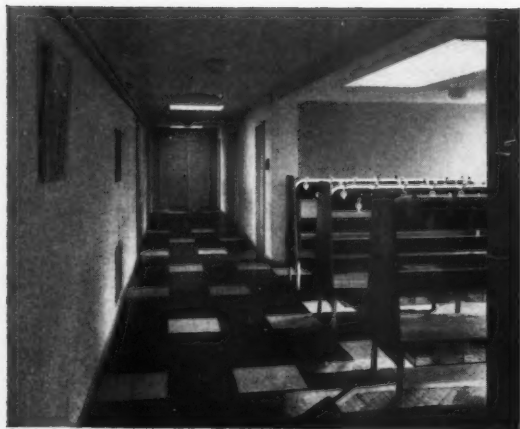


Section B-B

## building illustrated



The assembly halls (one of which is seen above) have wallpaper, with a protective finish, to enliven selected wall areas, and in these rooms the ceilings are insulation board and the floors gurjun strip. Colours are: ceiling, pale yellow (BS. 4-053); wall over stage, lime green (BS. 5-062).



Cloakroom space is provided off corridors and hat and coat racks have been specially designed by the architects in tubular steel and iroko, with coloured coat pegs. Warm air heating grilles are located in the corridor walls (this is the only part of the building where heating pipes are exposed).

## analysis

cost per sq. ft. s d

(The following cost analysis is based upon final contract price.)

## Preliminaries and insurances

## Work below ground floor level

Normal concrete strip foundations to load-bearing walls and panel walls, individual reinforced-concrete foundations to columns in assembly halls and dining room. 6-in. concrete sandwich floors with pitch d.p.c. on 6-in. hardcore, except in assembly halls, where mesh reinforcement is used on consolidated earth filling with 6-in. hardcore. 5,047 sq. ft. of prestressed concrete suspended floors with 1-in. glass fibre insulation. Basement boiler house of 13½-in. brick tanked with asphalt. Waterproof concrete ducts with precast covers. Rock cutting to basement.

## STRUCTURAL ELEMENTS

## Frame

*In-situ* r.c. columns and edge beams for assembly halls, dining room and kitchen.

## External walls

All external brickwork facings, English bond in 13½-in. gable with black brick diaper pattern, elsewhere 11-in. cavity brickwork.

First floor panel wall to north elevation of Junior block, two 3-in. skins of hollow clay block, 2-in. cavity, faced externally with ¾-in. western red cedar on battens. Sills generally slate.

$$\text{Ratio: } \frac{\text{solid wall}}{\text{floor area}} = \frac{0.372}{1}$$

## Windows

All purpose-made, prefabricated in redwood framing with iroko sills and glazing beads.

Solid panels with w.r. cedar externally, felt, 1-in. glass fibre insulation, lined internally with gaboon faced plywood.

P.v.c. faced window boards on hardwood supports. Each ground floor panel includes iroko door to terrace.

$$\text{Ratio: } \frac{\text{windows}}{\text{floor area}} = \frac{0.317}{1}$$

## External doors

Iroko double doors, fully glazed, including glazed side and top panels. (Cost of glass under glazing).

$$\text{Ratio: } \frac{\text{doors}}{\text{floor area}} = \frac{1.002}{1}$$

## Upper floors

7-in. deep prestressed precast beams with 12-in. wide clinker concrete block infilling.

Edge beam incorporates blind box.

Total area, 3,140 sq. ft.

## Staircases

Two, *in-situ* r.c., 4 ft. wide. Total rise, 11 ft. 6 in. in 2 flights with half landing. 2 iron balustrades per step with hardwood handrail.

One *in-situ* r.c. 10 ft. 3 in. wide, with 6-ft. rise. Centre handrail and balustrades.

One ditto, but 9 ft. 6 in. wide with 3-ft. rise.

One precast concrete, 4 ft. wide and 9-ft. rise.

## analysis

## Roof construction

Type of roof	Area of each type
Prestressed precast beams with clinker block infilling and 1-in. glass fibre	26,560 sq. ft.
10-in. prestressed precast beams at 3-ft. 4-in. centres with 2-in. channel reinforced wood wool slabs	5,820 sq. ft.
4-in. × 2-in. timber joists, 6-in. × 3-in. purlins, with 2-in. wood wool slabs	220 sq. ft.
Parana fascias. Softwood battens; aluminium drip; ¾-in. soffit board.	

## Roof lights

Standard metal roof lights, total area, 400 sq. ft. Bolted to concrete upstands lined ¾-in. plywood on grounds and each having 3-in. × 3-in. × 3-in. egg crate louvre of ¼-in. ply.

## Glazing

¼-in. clear polished plate is used in large fixed lights to classrooms and assembly halls. Opening lights are normal glazing. Roughcast in lavatories. Single panel doors generally, ¼-in. clear Georgian wired. Assembly halls doors, ¼-in. clear polished plate with incised motifs.

Total of structural element: 13s 8½d

## PARTITIONS AND FITTINGS

## Internal partitions

Load bearing brickwork cross walls with 4½-in. tying in walls in corridors, stores, etc. 3-in. hollow clay block. W.c. partitions of honeycomb cellular structure finished plastic.

## Screens

Hardwood framed glazed screens round double swing doors. (Cost includes doors, but not ironmongery or glazing.)

## Internal doors

68 single doors, gaboon faced, flush panelled, with vision panels or ventilation grills. 30 single w.c. doors, 1-in. blockboard with handhole cut outs. 2 pairs of double doors, gaboon faced with ventilation grilles.

## Ironmongery

Windows: anodized aluminium casement fasteners, stays and friction stays. Doors in window units: espagnolette bolts, brass cabin hooks and folding stays. Clerestories: centre hung pivots with fanlight catch or steel cam fasteners. Glazed doors in screens: floor springs, door selectors, plastic push pads on aluminium supports. Classrooms and lavatories: aluminium lever handles, mortice locks and overhead door springs. Ribbed aluminium kicking plates and finger plates.

s d

5 6½

## Fittings

Shelving, cupboards in class and staff rooms. Curtain tracks in staff rooms and assembly hall, and blue velour curtains for Junior assembly. Portable stage units and steps. Cloakroom fittings, tubular steel stands with iroko seats ends and rails. Kitchen aluminium roller shutters to serving counter, counter unit with formica top, timber shelving and blockboard doors. Draining boards. Flower boxes, notice board, lightning conductor and cat ladder to tank room.

Total of partitions and fittings: 7s 4½d

s d

2 11

6½

## FINISHES

## Floor finishes

4 7½

1 4

Type of finish	Area in sq. ft.	Cost per sq. yd.
Thermoplastic tiles	8,200 (4 qualities)	Average, £1 os. 2d.
pvc tiles	1,400	£1 8s. 9d.
pvc sheet	6,340	£1 7s. 0d.
Studded rubber tiles, 12-in. × 12-in.	580	£2 10s. 9½d.
Gurjun strip flooring	3,920	£2 19s. 0d.
¾-in. terrazzo surrounds	100	£1 18s. 0d.
Quarry tiles, 6-in. × 6-in. × ¾-in. on sand and screed	3,020	£1 4s. 7½d.
Grano 1½-in. thick	680	{ 6s. 8d.
Grano 2-in. thick		
		7s. 10d.

## Wall finishes

1 1½

2 3

Plaster. White glazed wall tiles in kitchen and splash backs to lavatories. Perforated hardboard on timber battens to transom beams in assembly halls.

## Ceiling finishes

9

4½

Plaster. Jointed ceiling panels 2-ft. × 2-ft. to assembly halls, dining room and kitchens. Plaster board and skim to kitchen stores.

## Roof finishes

2 6½

8½

¾-in. asphalt with white spar sand finish, on glass fibre generally, and screed on corridors, assembly halls, dining room and kitchen. (Cost includes asphalt skirtings and water checks.)

## Decorations

1 3½

1 1½

Plaster walls and ceilings, emulsion paint; fibreboard ceiling, oil bound water paint; wallpaper with protective coating; gaboon, varnished, hardwood, polished; window interiors, chalkboards, display board and facings, matt paint; other woodwork, gloss paint; external cedar board oiled; external hardwood 3 coats oil paint.

Total of finishes: 10s 4d

## SERVICES

## External plumbing

7½

All pipes are internal either in chases or exposed.



## analysis

**Hot and cold water installation**

(Cost of ducts included under work below ground floor level.)

Copper throughout. Underfloor ducts for all services used throughout.

Hot water from calorifiers off heating circuit, with electric immersion heaters for summer use.

Two 500-gallon cold water tanks. Local cold water tanks to calorifiers in lavatories.

**Sanitary fittings**

(Cost includes mirrors, toilet holders, toilet rails, copper wastes and w.c. vent pipes.)

Type of fitting	No. of each type
Low level w.c. suites	8
High level children's w.c. suites	30
Urinals	4
22-in. x 16-in. lavatory basins	10
Ranges of 5 and 6 children's lavatory basins	4 of each
Drip sinks	3
Belfast sinks	4
Drinking fountains	3

**Heating and ventilation**

Internal temperatures to MOE standards for school premises.

Warm air cabinets in all rooms except staff rooms and kitchen, where radiators are used.

2 coal-fired boilers, each 1,112,000 BThU/hr with automatic stokers and anticipatory controls. Zones controlled by thermostats with clock control.

Two electric accelerator pumps.

Natural ventilation.

**Electrical installation**

Type of fitting	No. of each type
Light points	240
Outlet sockets	62
Electric bells	6

**Total of services**

10s 6½d

**Drainage**

Combined system in salt glazed stoneware, to main sewer.

Grease gully and special chamber for potato peeler in kitchen.

**Other elements**

Site clearance and levelling (except building area), paving, terraces with brick retaining walls and concrete steps.

Cost per sq. ft.:

£79,075 (excluding external works)

27,510 sq. ft. (measured inside external walls)

**External services excluded from net cost**

Drains beyond manhole, land drains and soakaways. Roads and paths. Water and electric mains and trenches. Random rubble sandstone boundary wall to Out Lane.

Chain link fencing with concrete posts. Welded steel entrance gates, tubular steel barriers. Road drainage. Electricity sub-station, including contribution to cost of equipment.

## s d COST COMMENTS

10½

The analyses for these two schools are not directly comparable as the smaller infants' school has its own boiler room and fuel store, kitchen and dining room, main connections for services, etc., which at Woolton are shared by the junior and infants' schools. This extra expense incurred by single infants' schools is recognised by the MOE, who make a corresponding allowance in the cost target. The nature of the sites and the foundation costs per foot super of floor area are remarkably similar. Both have a steep fall across the site resulting in a school built on three levels. Main differences between the schools lie in the structural elements and the cloakroom planning.

10½

(1) The Batford school has a steel frame. Woolton Primary is mainly in load-bearing brick with a limited use of *in-situ* concrete frames. With these elements the choice lies between speed of erection and flexibility of planning, as opposed to the slower, less flexible but cheaper use of "wet trades." The use of brick instead of precast cladding blocks at Batford defeats one of the objects of a steel frame, i.e. speed of erection, and carried to its logical conclusion the external brickwork and internal partitions might have been made load-bearing and the steel frame dispensed with.

5 11½

(2) At Woolton the cloakrooms are "batteries" as against Batford's pairing off to individual classrooms. As a result Woolton is more economical on drainage (1s. 10½d. compared with 3s. 0½d.), and plumbing (10½d. compared with 2s. 4½d.). On the other hand it may be regarded as acceptable to pay a higher price for avoiding pockets of congested and unsupervised floor space, especially when this entails the use of long linking corridors. Both schools have achieved a good finish, Woolton with the emphasis on its floors and Batford on its decorations. Some of the "savings" made by Woolton on the structural elements have been used in the asphalt roof finish; Batford uses 3-ply felt.

2 2½

1 10½

5 10½

**CONTRACTORS**

*General Contractors:* Netherton Building & Construction Co. Ltd. *Sub-contractors—Prestressed precast concrete work:* Pierhead Ltd. *Heating and hot water:* Weatherfoil Heating Systems Ltd. *Electrical work:* Phoenix Construction Co. (Liverpool) Ltd. *Tiles:* Marley Tile Co. Ltd. *P.v.c. and studded rubber tiles:* Durastic Ltd. *Terrazzo work:* Carrara Marble Co. (Liverpool) Ltd. *Sanitary fittings:* Musgraves (Liverpool) Ltd. *Ironmongery and cloakroom fittings:* Quiggin Bros. Ltd. *W.c. partitions:* Shearwater Ltd. *Wrought iron work:* W. Flanagan & Son Ltd. *Roller shutters:* Sefton Lift & Shutter Co. Ltd. *Lightning conductor:* William Whitby & Sons Ltd. *Roof lights:* Henry Hope & Sons Ltd. *Curtain rails and stage curtain fittings:* Bon Marche (Liverpool) Ltd. *Curtains:* Ray & Miles Ltd. *Joinery manufacture:* J. & E. Aspinall Ltd. *Plasterers:* A. R. Balle & Co. Ltd. *Paintwork:* A. C. Moyden & Co. *Asphalt:* R. E. Cawthorne. *Plumbing:* A. Green. *Glass:* Hargreaves & Lewis Ltd.

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GLAZED STAIRCASE: PIT HEAD BATHS AT JACKSDALE, NOTTS

*Elie Mayorcas, architect, in collaboration with H. S. Barnett, Divisional Architect, N.C.B.*

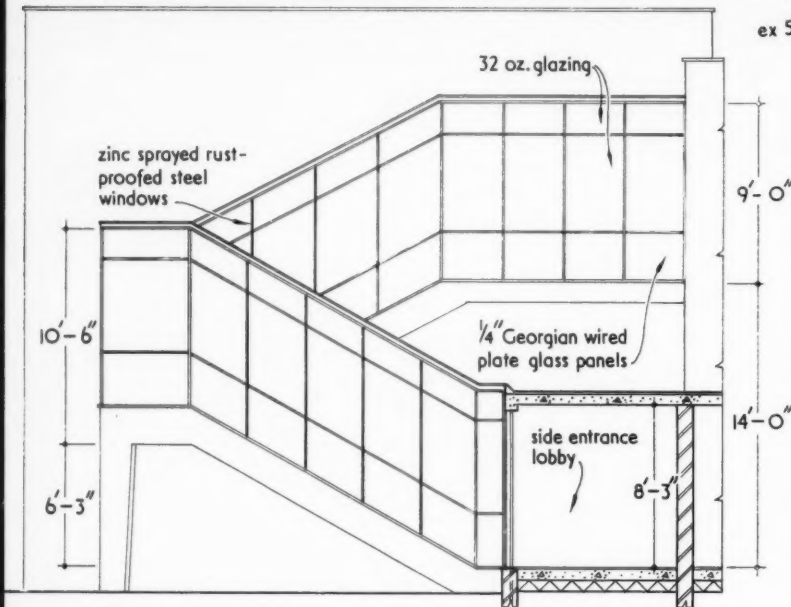


*One reason for the good architectural character of this difficult subject is the deliberate contrast between the deep reinforced concrete string and landing edge and the shallow fascia to the metal decking of the roof.*

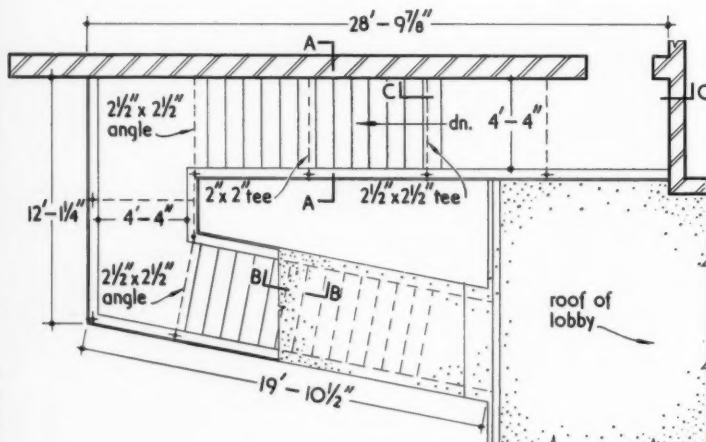


GLAZED STAIRCASE: PIT HEAD BATHS AT JACKSDALE, NOTTS

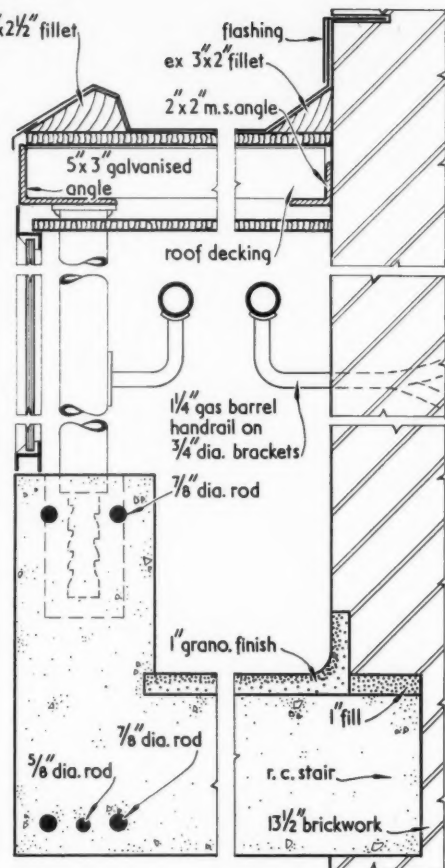
Elie Mayorcas, architect, in collaboration with H. S. Barnett, Divisional Architect, N.C.B.



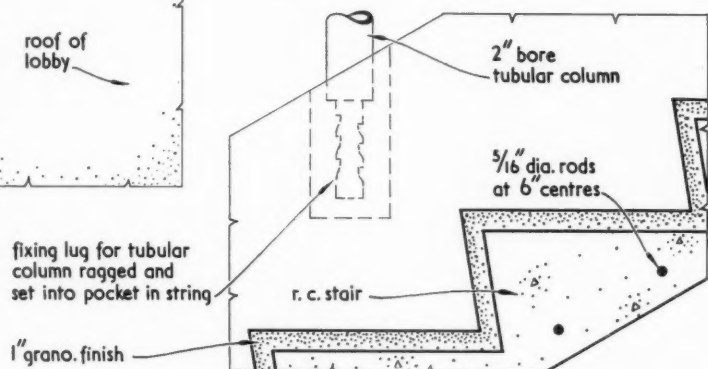
ELEVATION. scale  $\frac{1}{8}'' = 1' - 0''$



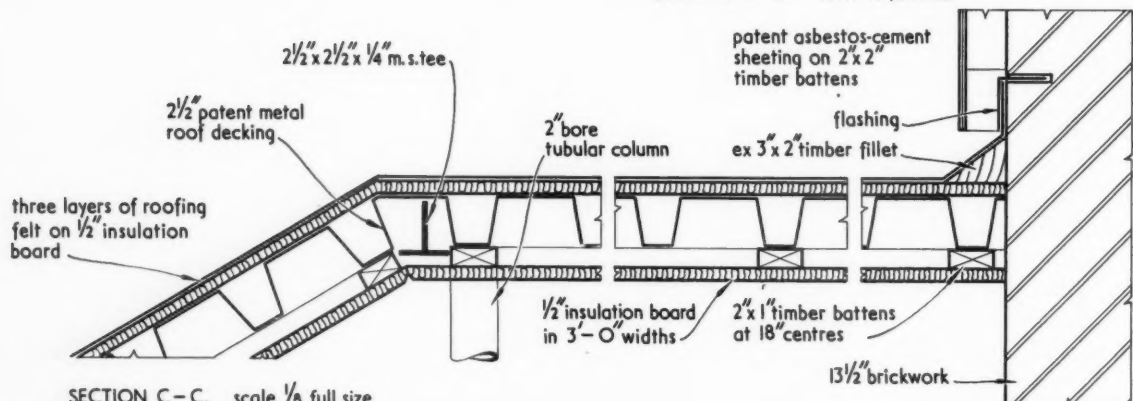
PLAN. scale  $\frac{1}{8}'' = 1' - 0''$



SECTION A-A. scale  $\frac{1}{8}$  full size

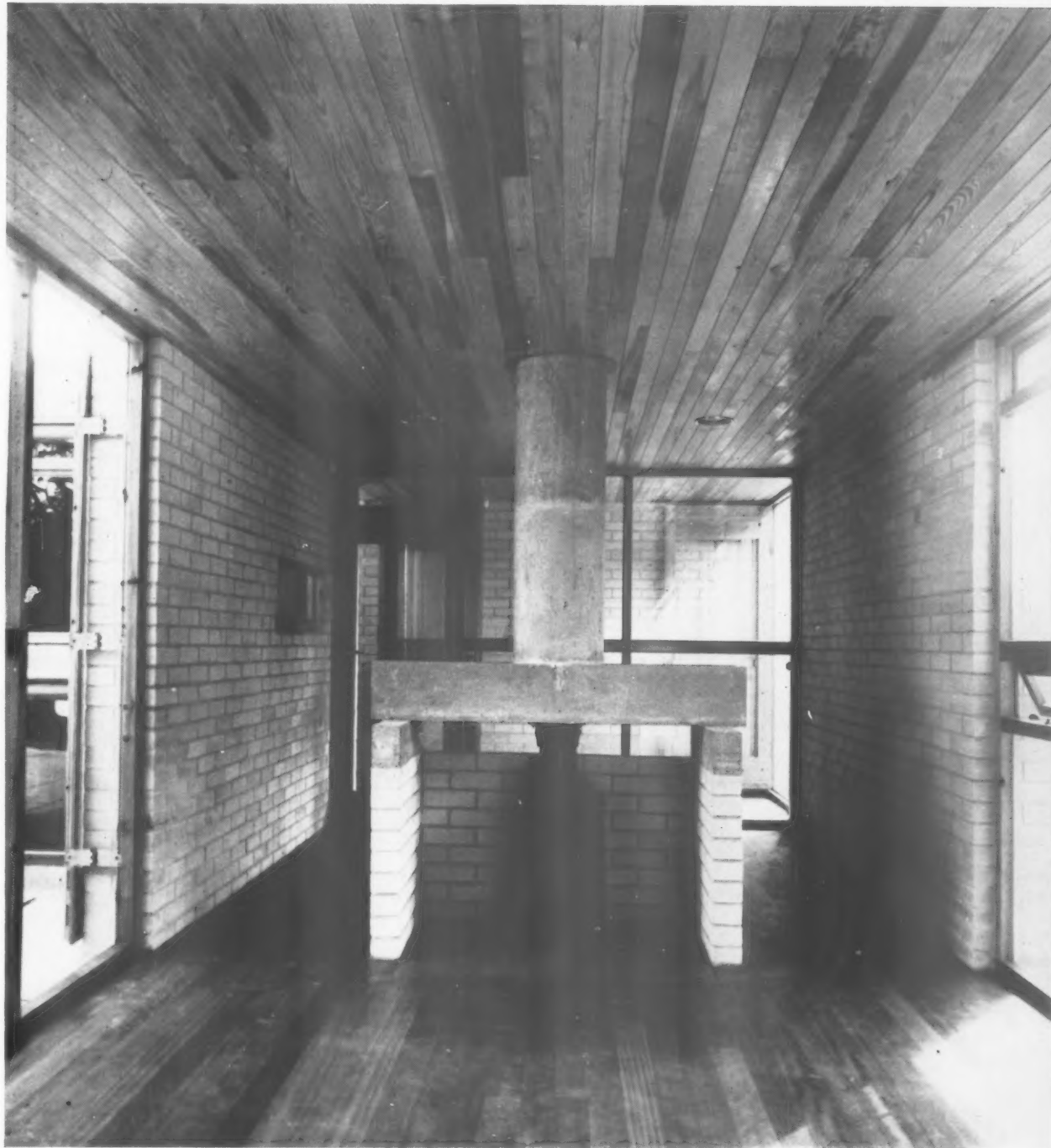


SECTION B-B. scale  $\frac{1}{8}$  full size



SECTION C-C. scale  $\frac{1}{8}$  full size

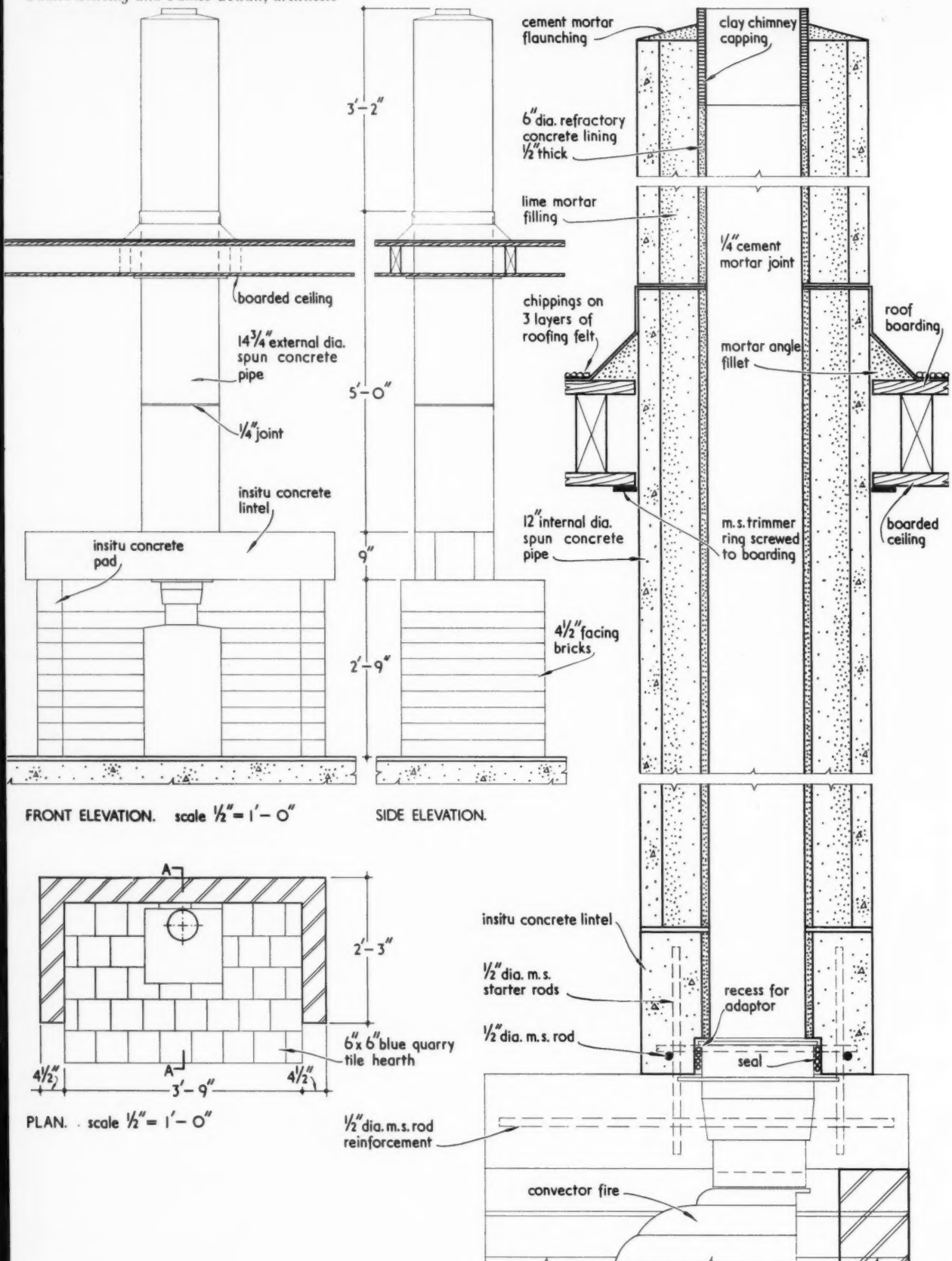
## FIREPLACE: HOUSE AT COWES, ISLE OF WIGHT

*James Stirling and James Gowan, architects*

The stack for a free-standing fireplace differs from the traditional stack in that it must depend on the fire surround for support. Here the stack is formed of two concentric concrete pipes with lime mortar filling between to serve as insulation. The whole rests on a pair of in-situ concrete lintels which have been joined together by two cross pieces (also of concrete) immediately beneath the stack to provide continuous support. The fire is a convector-type stove and the gaps behind and above encourage convection.

FIREPLACE: HOUSE AT COWES, ISLE OF WIGHT

James Stirling and James Gowan, architects



SECTION A-A. scale  $\frac{1}{8}''$  full size

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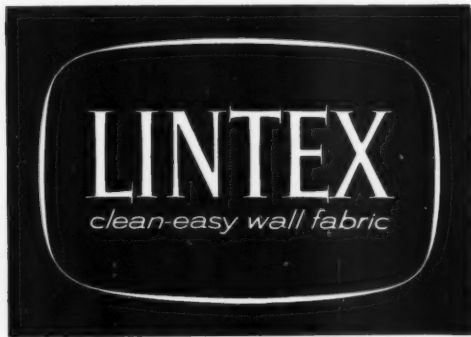
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cannot be stamped out

# LINOLEUM



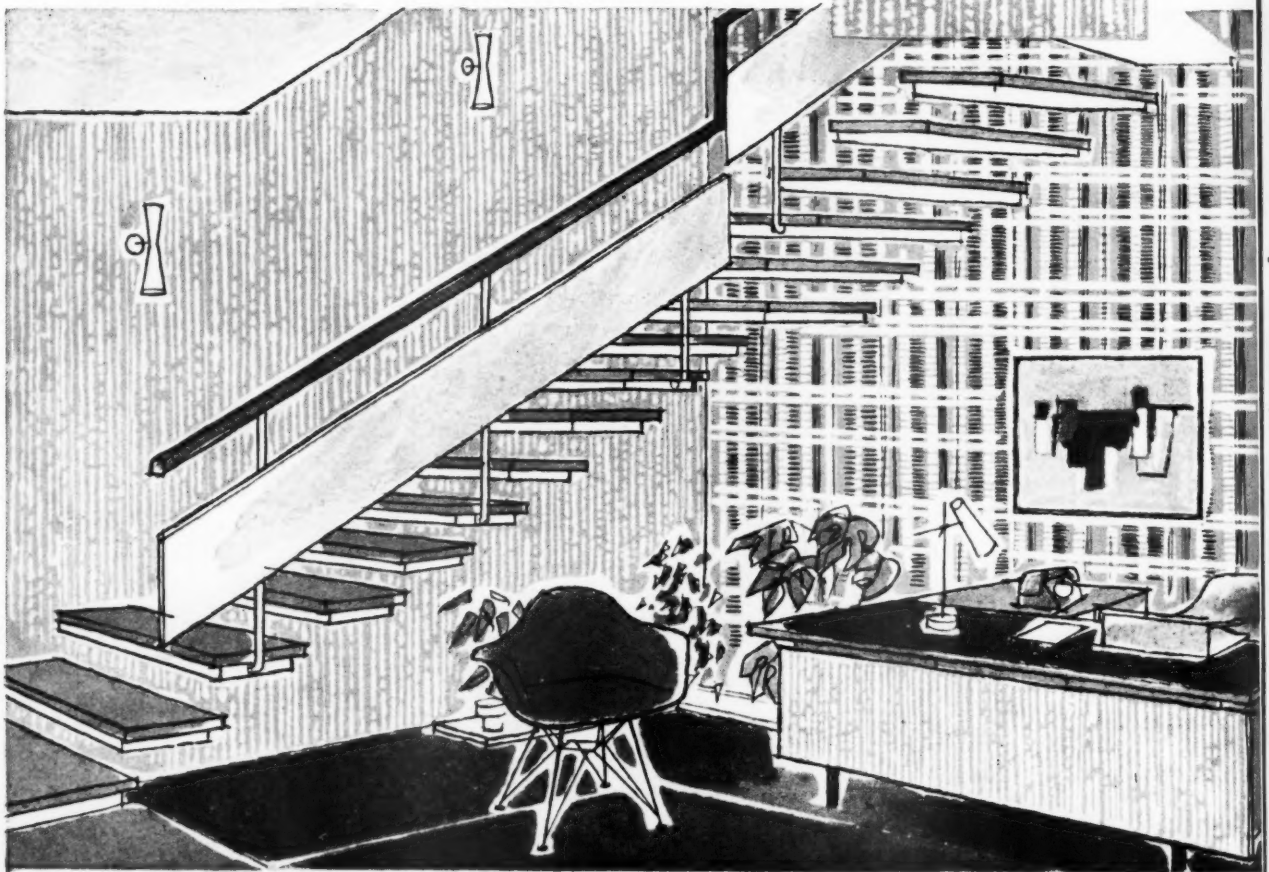
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For further information write to the Association or to any of the following members: Barry Ostlere & Shepherd Ltd., Kirkcaldy · Dundee Linoleum Co. Ltd., Dundee  
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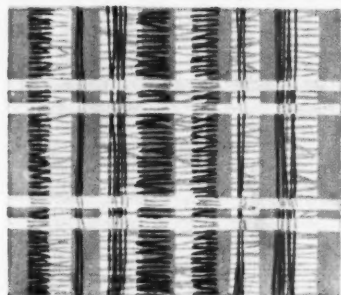
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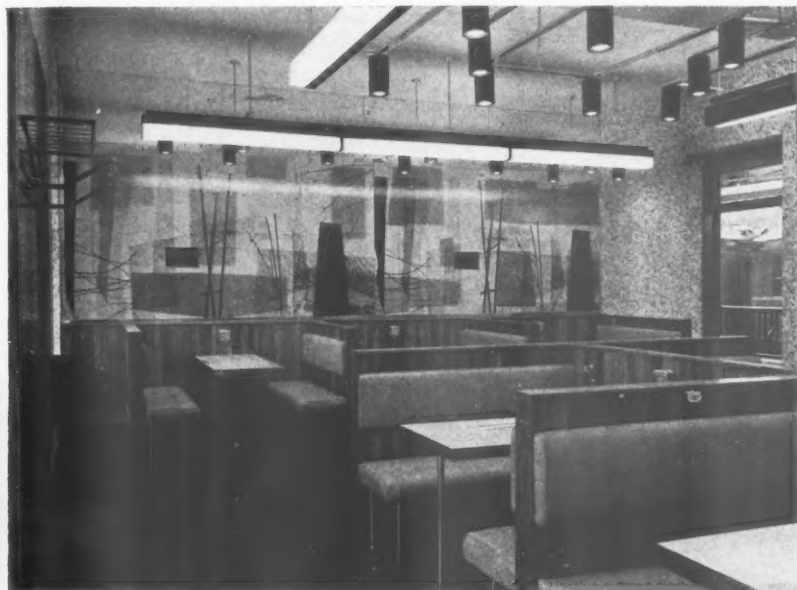
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*This is the last of three stages in the modernization of the waiting and refreshment rooms at Victoria Station, Sheffield, designed by the British Railways Eastern Region Architect, H. H. Powell. A 20-ft. mural, based on the enlargement of photographic textures with applied colours, by Phillip Pound, covers one wall (see below). Portions of this design are used for table tops and for the bar front. The wall linings are glass mosaic, hardwood*



*timber slatting, laminated plastic and glass mirrors. The colours and finishes are as follows: floors, black marbled thermoplastic tiles; mosaic, dark greens, neutral greys and white; timber, iroko; upholstery, lemon p.v.c. fabric; ceiling, white acoustic tiles, and dark green over bar.*

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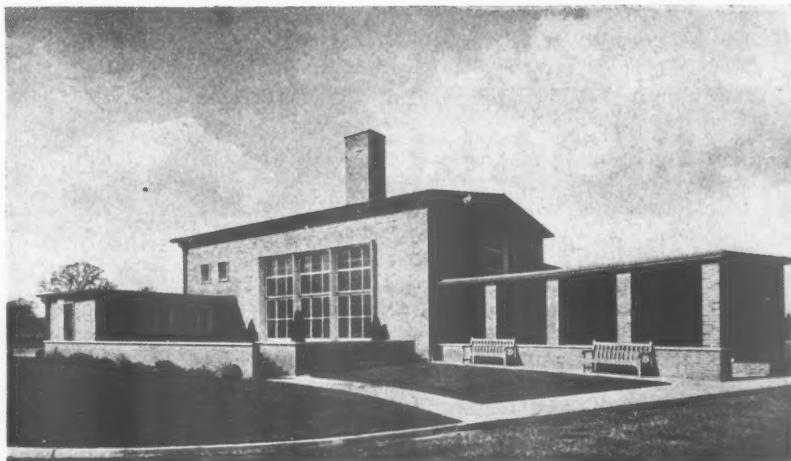
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Borough Architect: Thos. W. East, F.R.I.B.A.

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Contractors: Messrs. Ford & Weston Ltd.  
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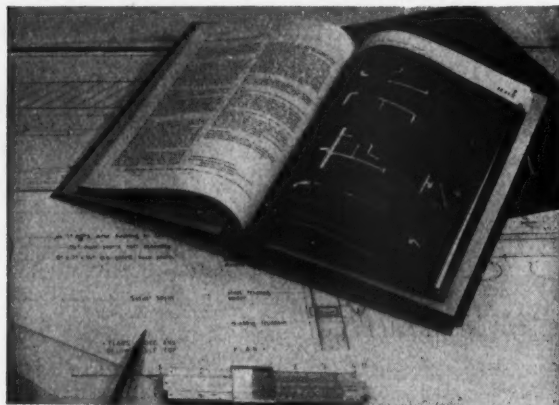
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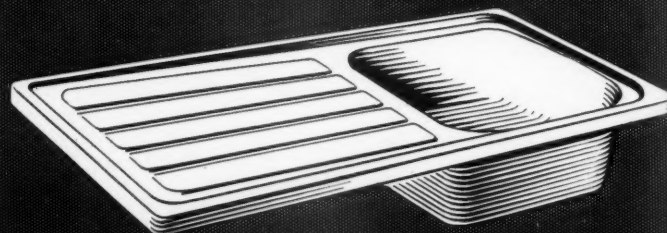
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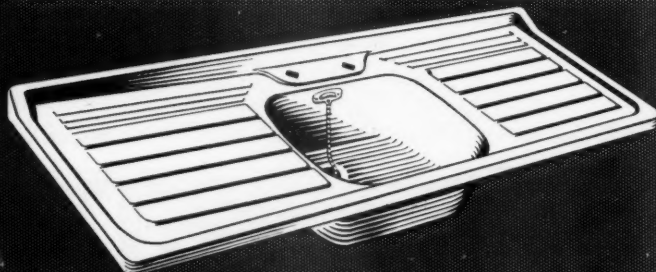


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## Announcements

**PROFESSIONAL**

W. H. Saunders & Sons announce that as from September 15, 1958, their Southampton office will be at 22, Brunswick Place, Southampton. Tel. 20302/3/4. The addresses of all the other offices of the firm remain unchanged.

**TRADE**

Contract for the construction of a 23-storey office block in Jameson Avenue, Salisbury, S. Rhodesia, has been awarded to Richard Costain (Africa).

With effect from August 11, 1958, the address of the Nottingham Branch of Crompton Parkinson Ltd. will be:—Crompton Parkinson Ltd., Crompton House, Maiden Lane, Woolpack Lane, Nottingham.

## Obituary

Panelec (Great Britain) Limited announce with regret the death of Walter N. Mann, A.M.I.H. & V.E., M.Amer. H. & V.E., M.R.S.H. Liveryman of the Worshipful Company of Plumbers and a former director of the company, who was one of the pioneers of low temperature radiant warming employing electricity as a heating medium. His experiments in this field culminated in the formation of Electric Panels Limited in 1944. He was the first general manager of this company and later when the name was changed to Panelec (Great Britain) Limited, he served on the board until his retirement in March this year. After retirement he was retained as heating consultant to the company, a position he held at the time of his death.



*The Crystalline Hall, Government Pavilion*



*The Kodak Pavilion*



## MARLEY at Brussels



*The Nuclear Power Stand, British Industries Pavilion*

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The smaller illustrations show two of a number of other instances where Marley Floor Tiles have been supplied to exhibitors at Brussels. Other exhibitors in this list include:

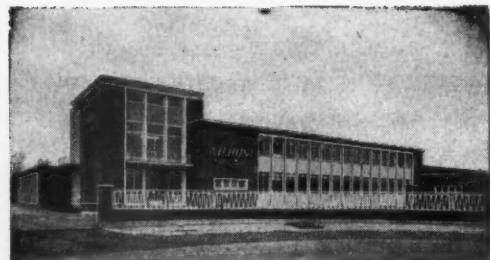
Clarke Chapman & Co. Ltd.  
Courtaulds Ltd.  
Gage Enterprises (Brussels) Ltd.  
Imperial Chemical Industries Ltd.

*Architects:* Howard V. Lobb, C.B.E., F.R.I.B.A., A.I. Struct. E.  
John Ratcliff, O.B.E., F.R.I.B.A., A.M.T.P.I.

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*George Bernard Shaw*

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Tower Court Flats, Hackney, is one of a number of schemes designed by different architects around the perimeter of Clapton Common for the Hackney Borough Council. Tower Court consists of 2 blocks of flats: a four-storey block containing 16 two and

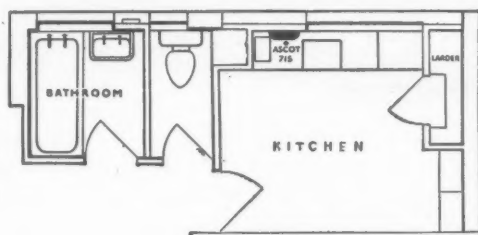
three-bedroom maisonettes, and a nine-storey block containing 51 flats of bed-sitting room, one-bedroom and two-bedroom design.

To provide an instantaneous hot water service throughout all the flats at Tower Court, Ascot 'balanced flue' multipoints were installed in the kitchens.

### RESPONSIBLE AUTHORITIES

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Architect: Harry Moncrieff, F.R.I.B.A., A.M.T.P.I.  
of Co-operative Planning Ltd.



PLAN OF KITCHEN AND BATHROOM IN A TYPICAL  
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General Contractors:  
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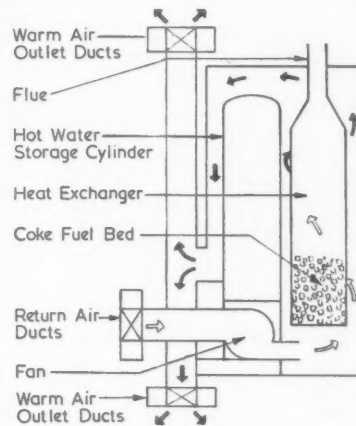
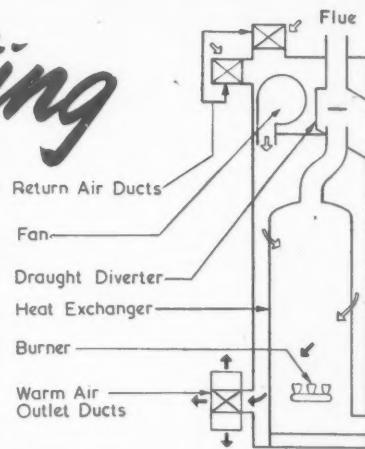
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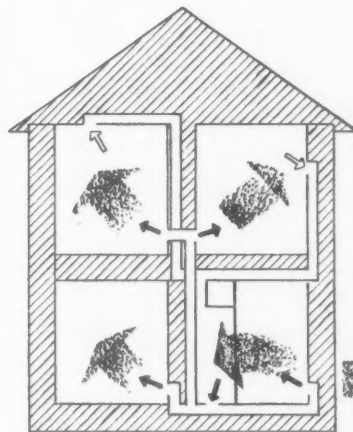
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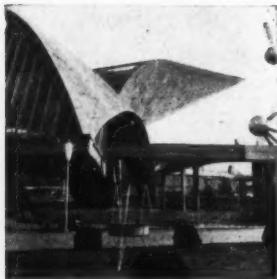
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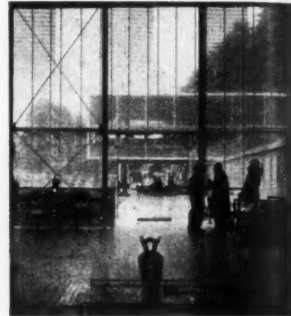
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## AUGUST Special Issue The Brussels Exhibition



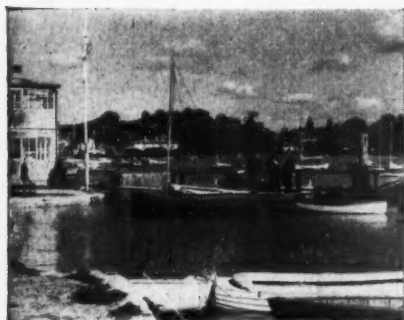
Japanese Garden; trees, water, sculptured objects and symbolic rocks in the traditional modern garden adjoining Mayekawa's Japanese pavilion.

Neotechnic dinosaur: the gigantic equilibrated structure designed by van Doosselaere and Paduart to celebrate the triumphs of civil engineering.



Turkish Delight; structure, space, light, air and traditional crafts combined in the pavilion by Izgi, Sensoy and Turegun.

## SEPTEMBER

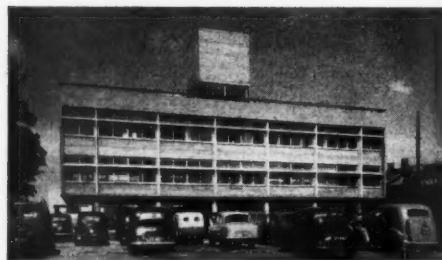


Above: National Water Park, Lynton harbour, one of the small multi-purpose boating centres serving the Solent, whose future is discussed as a matter of urgency by Geoffrey Robson.



Suspended Ceilings, the conference room of an office block in Rome by Aldo della Rocca, from Michael Brawne's article on the aesthetics of suspended ceilings. (See also A. R. July and September Skill articles.)

Below: Bold Front in Birmingham, a new prestige office block added to an existing factory, by Erno Goldfinger, one of the buildings illustrated and described in this issue.



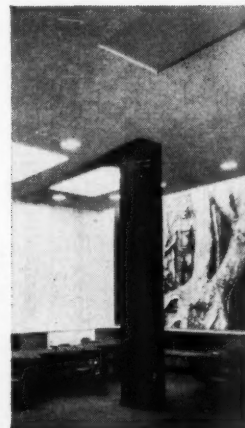
## OCTOBER

Cinema in the Pineta; designed by Eugenio M. Rossi, and sited near the Roman Coast, its design involved some ingenious thinking about late-night ventilation in a close, damp climate.



Brick and Concrete at Ham; a detail of wall, floor-slab, ventilator and gargoyle from a new flat development at Ham Common by James Stirling and James Gowan.

Air Line Office; a tall black column in the new booking offices of Air France in Bond Street; designed by Charlotte Perriand (in collaboration with Peter Braddock), the first work in England of a designer who assisted Le Corbusier on some of his most famous interior work



The Architectura Review's new standard binding, with alternate years bound in black and white, and alternate volumes initialled A and R, makes easier the identification of individual volumes, and their proper replacement on the

shelf. The binding is buckram, and the price of binding per volume is 25s. Copies to be bound should be addressed, with the appropriate index, direct to the Architectural Press warehouse, Abbey House, 8 Victoria Street, London, S.W.1.

The annual post free subscription rate payable in advance is £3.3.0 sterling; in U.S.A. and Canada \$10.50; elsewhere abroad £3.10.0.

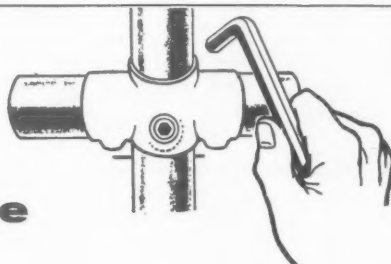
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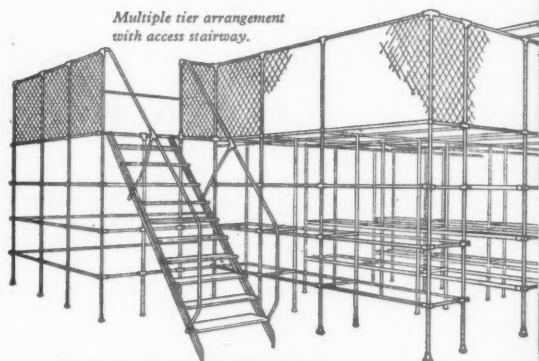
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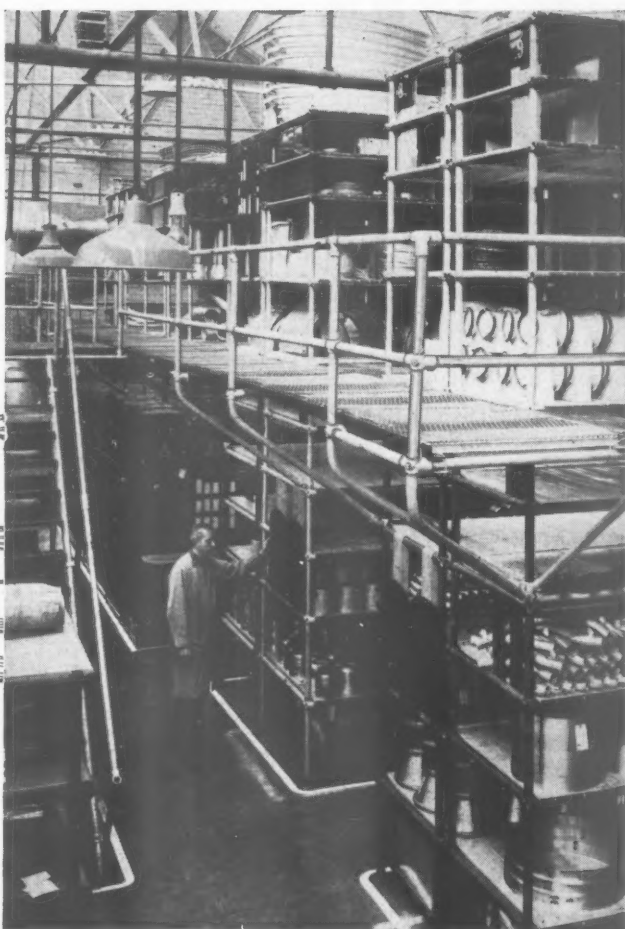
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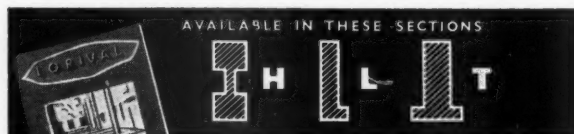
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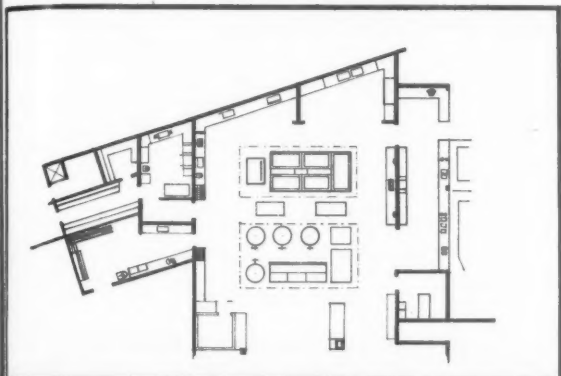


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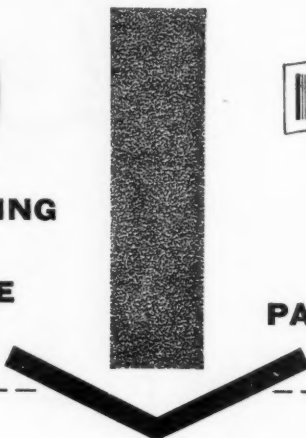
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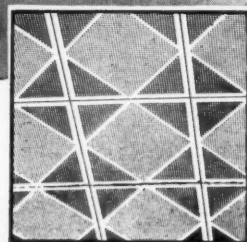
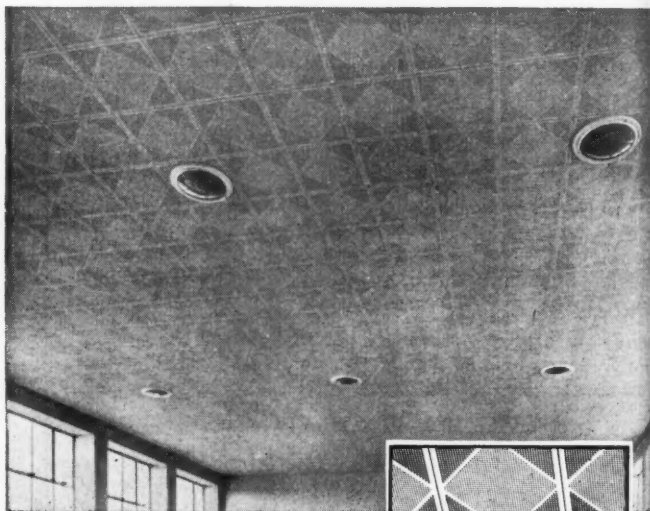
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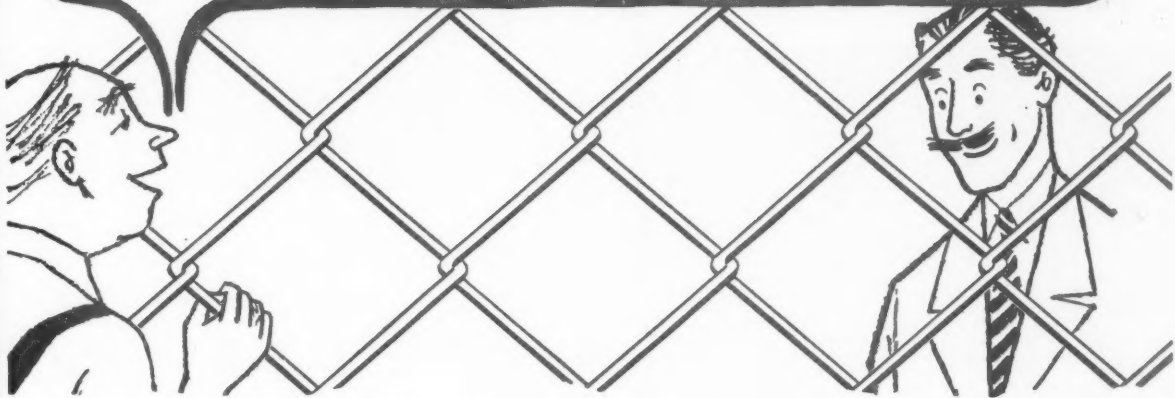
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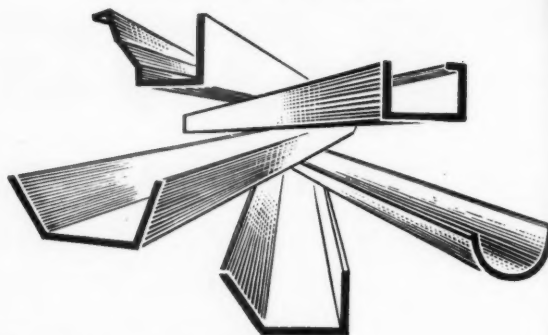
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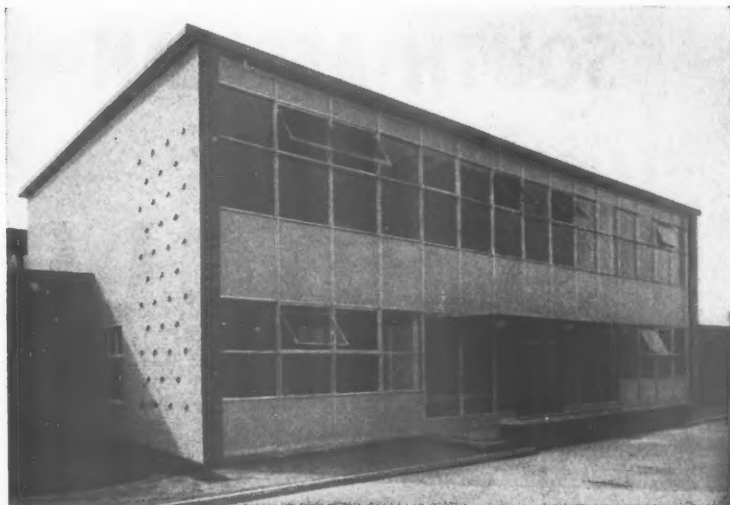
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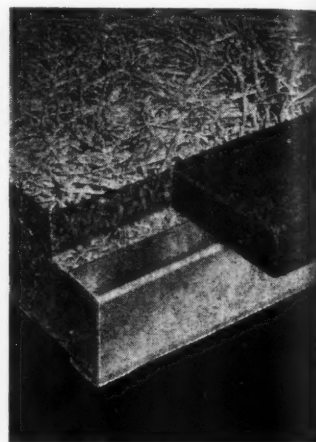
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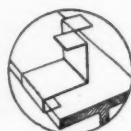
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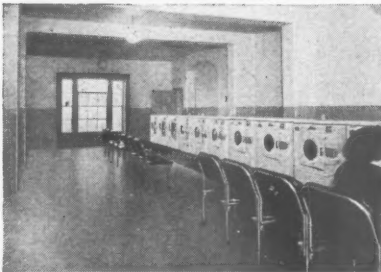
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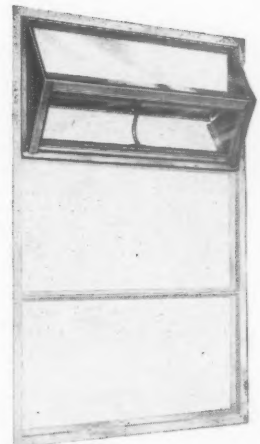
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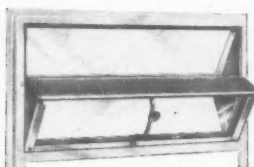
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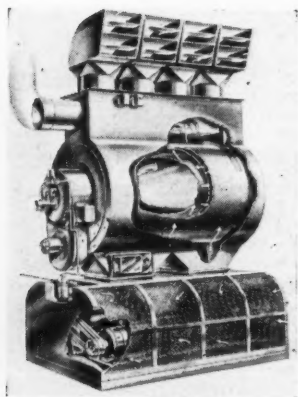
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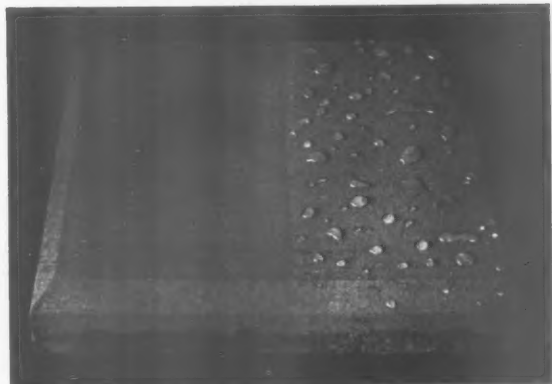
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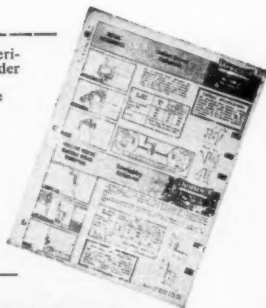
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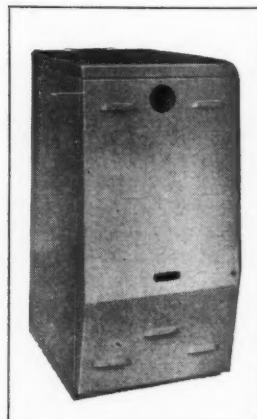
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LONDON COUNTY COUNCIL  
ARCHITECTS' DEPARTMENT

Vacancies for: 1. ARCHITECT/PLANNERS. Tasks include three-dimensional planning within London's eight major comprehensive development areas (including Stepney/Poplar, the South Bank and Elephant and Castle) and other redevelopment areas. The work includes the preparation of comprehensive layouts for all important areas of new development throughout the County including areas to be redeveloped in connection with road improvements.

2. TOWN PLANNING ASSISTANTS. Duties include investigation of development proposals, surveys, report writing, preparation of data for public inquiries.

Starting salaries in each case up to £960 according to experience and qualifications. Application forms and further particulars may be obtained from Hubert Bennett, F.R.I.B.A., Architect to the Council, The County Hall, London, S.E.1, quoting Ref. AR/EK/36/58. (1397) 1354

## LEEDS REGIONAL HOSPITAL BOARD

Applications are invited for the following appointments:

(a) SENIOR ASSISTANT ARCHITECT (Salary scale £1,010/£1,195 per annum).

(b) ASSISTANT ARCHITECT (3 Posts) (Salary scale £700/£1,015 per annum). Commencing salary dependent upon relevant practical experience; but the additional increments granted will not be more than the number of years by which the officer's age exceeds 25.

Applicants must be Associate Members of the R.I.B.A. Experience in Hospital planning an advantage.

Applications, giving age, experience and the names of two referees to the Secretary, Park Parade, Harrogate, by not later than 12th September, 1958. 1366

BOROUGH OF WILLESDEN  
BOROUGH ENGINEER & SURVEYOR'S  
DEPARTMENT

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

(a) ASSISTANT ARCHITECTS within Special Grade (£750 - £1,030 p.a.).

(b) ASSISTANT ARCHITECTS within Grade A.P.T. I (£575 - £725 p.a.).

London weighting, maximum £30 p.a., is payable in addition to the above salaries.

The Council is unable to assist with housing accommodation.

Forms of application and conditions of appointment may be obtained from the Borough Engineer & Surveyor, Town Hall, Dyne Road, Kilburn, N.W.6. Applications to be returned to the undersigned not later than 9 a.m. on Friday, 19th September, 1958.

When writing for application forms, candidates must state for which appointment they wish to apply.

R. S. FORSTER, Town Clerk. 1266

## QUANTITY SURVEYING ASSISTANTS required by AIR MINISTRY in LONDON and PROVINCES. Duties include abstracting and billing, site measurement and preparation of estimates. Commencing salary and grading according to age, qualifications and experience.

Salary ranges in London: (a) £545 at age 25 rising to £745 for candidates with minimum three years' good experience under Quantity Surveyor or Building Contractor; (b) £695 at age 26 rising to £870 for candidates with O.N.C. (Building) or (Builders Quantities) or equivalent and good experience under Quantity Surveyor or Building Contractor. Approved full time study will count towards period of experience. Salaries somewhat lower in Provinces. Promotion and pensionable prospects. Five-day week, three weeks' leave a year. Appointments carry liability for service anywhere U.K. or overseas. Applicants normally should be natural born British subjects. Write stating age, qualifications and previous appointments including type of work done, to Manager Professionals and Executive Register, Ministry of Labour and National Service, Atlantic House, Farringdon Street, E.C.4, quoting reference PE 105/745. No original testimonials should be sent. Only applicants selected for interview will be advised. 1102

BOROUGH OF FARNWORTH  
ARCHITECTURAL ASSISTANT

Applications are invited for the appointment of Architectural Assistant in the Borough Engineer's Department, at a salary within the Special Grade for Architectural Assistants (£750 x £40 - £1,030 per annum).

The appointment is permanent and subject to the provisions of the Local Government Superannuation Act, 1937, the National Joint Council Scheme of Conditions of Service, the passing of a medical examination and to one month's notice on either side.

Applications, on forms to be obtained from the undersigned, to be returned to me not later than 26th September, 1958.

THOMAS HITCHEN, Town Clerk. 1399

## Town Hall,

Farnworth, Lancs.

BOROUGH OF CHELMSFORD  
CAPITAL WORKS PROGRAMME

Applications are invited for the following new appointments in the Borough Surveyor's department consequent upon an expansion in the capital works programme:

(a) ASSISTANT ARCHITECT, Special scale (£750 - £1,030 p.a.).

(b) JUNIOR ARCHITECTURAL ASSISTANT, Grade A.P.T. I (£575 - £725 p.a.) or Grade A.P.T. II (£725 - £845 p.a.).

Housing accommodation available for post (a). Starting salary according to experience. Further particulars may be obtained from the Borough Surveyor, Municipal Offices, Chelmsford. Closing date 15th September, 1958.

B. A. FRANCIS, Town Clerk. 1356

CITY AND COUNTY OF KINGSTON UPON  
HULL

## CITY ARCHITECTS' DEPARTMENT

Applications are invited for ASSISTANT ARCHITECTS, Grade S.C.O. (£750 x £40 - £1,030). There is an interesting and varied programme of work in the Department. Housing accommodation may be provided for the successful married applicants if they are not already resident in the City. The point of entry to the scale will be determined by experience, and a suitable applicant may be offered a commencing salary of £950 per annum. Application forms may be obtained from Andrew Rankine, O.B.E., A.R.I.B.A., City Architect, Guildhall, Kingston upon Hull, and returned completed on or before 18th September, 1958. 1356

B. A. FRANCIS, Town Clerk. 1356

## COVENTRY

## SENIOR GROUP PLANNING OFFICER, N.J.C.

Grade "A" (£1,200 x £60 - £1,380). Salary within Grade if appropriate.

Responsible to the Principal Planning Officer for all development control in the City. Should be an enthusiast for creative planning as well as knowledgeable in town planning administration.

Housing accommodation may be available. Removal expenses loan.

Application forms, etc., from City Architect and Planning Officer, Bull Yard, Coventry, returnable within ten days of publication. 1367



**LANCASHIRE COUNTY COUNCIL**  
**COUNTY ARCHITECT'S DEPARTMENT**  
ARCHITECTS who are qualified are invited to apply for a post with a salary scale of £750 per annum rising to £1,030; the starting point in the scale will depend on experience. Interesting general programme of work with responsibilities according to ability.  
Application forms, obtainable from the County Architect, G. Noel Hill, F.R.I.B.A., M.T.P.I., P.O. Box 26, County Hall, Preston, to be returned by Monday, 15th September, 1958, quoting Ref. A/AJ. 1304

**ROYAL BURGH OF ARBROATH**  
**HOUSING ARCHITECT'S AND TOWN PLANNING DEPARTMENT**  
Applications are invited for the appointment of **TOWN PLANNING ASSISTANT** on salary scale Grade A. & P. V. (£770-£830 per annum) with placing according to qualifications and experience.  
Applicants should have had previous experience in the preparation of Planning Schemes under the Town and Country Planning Acts for Urban Areas.  
The successful applicant will be required to pass a medical examination and will be subject to the provisions of the Local Government Superannuation (Scotland) Acts.  
Should the successful applicant be married, housing accommodation will be made available by the Town Council.  
Applications, together with copies of two recent testimonials, should be lodged with W. T. Samson, A.R.I.B.A., Planning Officer, 32, Hill Street, Arbroath, Angus, not later than 13th September, 1958.

**WILLIAM D. SMITH,**  
Town Clerk. 1362

**CITY OF GLOUCESTER**  
**CITY ENGINEER AND SURVEYOR'S DEPARTMENT**  
The Corporation invite applications for the appointment in this Department of **PLANNING ASSISTANT**, Grades A.P.T. I (£575 × £30-£725) or A.P.T. II (£725 × £30-£875).  
Applicants should preferably have had three years' training and some additional experience in planning work with qualification of the Intermediate Examination of the Town Planning Institute.  
The appointment is subject to the Council's Superannuation Scheme and the successful candidate will be required to pass a medical examination.  
Applicants should have completed or be not liable to National Service.  
Applications stating age, qualifications and experience, accompanied by two recent testimonials or the names of two referees, and endorsed "Planning Assistant", should be delivered to the Town Clerk, Guildhall, Gloucester, not later than 10 a.m. on Friday, 12th September, 1958. 1320

**MANCHESTER REGIONAL HOSPITAL BOARD**  
Applications are invited for the following posts in the Regional Architect's Department:  
(a) 1 SENIOR ASSISTANT ARCHITECT, £1,010-£1,195.  
(b) 3 ASSISTANT ARCHITECTS, £700-£1,015.  
(c) 1 ARCHITECTURAL ASSISTANT, £525-£730.  
OR (d) DRAUGHTSMAN, £425-£635.  
(e) 1 ASSISTANT QUANTITY SURVEYOR, £700-£1,015.  
OR (f) QUANTITY SURVEYING ASSISTANT, £525-£730.  
(g) 1 ASSISTANT ESTATE SURVEYOR, £700-£1,015.  
(h) 1 ESTATE SURVEYING ASSISTANT, £525-£730.  
OR (i) DRAUGHTSMAN, £425-£635.  
Candidates must have full professional qualifications for posts (a), (b), (c) and (e), and intermediate qualifications for posts (d), (f), (g) and (h). For posts (d) and (i) three years' drawing office experience is essential.  
National Health Service conditions and superannuation apply.  
Application forms, obtainable from the Secretary of the Board, Cheetham Road, Manchester, 8, should be returned by 15th September, 1958. 1305

**COUNTY BOROUGH OF ROCHDALE**  
**BOROUGH SURVEYOR'S DEPARTMENT**  
(1) SENIOR ASSISTANT ARCHITECT on Grade A.P.T. IV (£1,025-£1,175 p.a.).  
(2) QUANTITY SURVEYOR on Special Classes Grade (£750-£1,030 p.a.).  
Applications, including names of two referees, to the Borough Surveyor, Town Hall, Rochdale, by 22nd September, 1958.  
Canvassing or non-disclosure of relationship to any member or senior official of the Council will disqualify. Appointments subject to medical examination. 1319

**DERBYSHIRE COUNTY COUNCIL**  
**COUNTY ARCHITECT'S DEPARTMENT**  
**ASSISTANT STRUCTURAL ENGINEER** required. The salary for a suitably qualified person will be in the range of £750 to £1,030 per annum. Candidates should possess a basic knowledge of the design and construction of all types of building structures and foundation works. The person appointed will be required to assist the Engineer responsible for all such work carried out by the department. He should also have a knowledge of the design of building in an area liable to mining subsidence. National Joint Council conditions of service. Pensionable post. Canvassing disqualifies. Application forms from the County Architect, County Offices, Matlock, to be returned by 29th September, 1958. 1331

**CITY OF BIRMINGHAM**  
**PARKS DEPARTMENT**  
**APPOINTMENT OF DRAUGHTSMAN**  
Applications are invited from suitably qualified persons for the above-mentioned appointment. The salary is in accordance with Miscellaneous Division Grade VI (£705-£765 per annum).  
Applicants should be able to work up drawings from sketch plans, prepare specifications, schedule of work and supervise small contracts.  
Applications with full particulars and the names of two referees must reach the undersigned not later than the 15th September, 1958.  
G. E. E. ROSS,  
General Manager.

Parks Department,  
Civic Centre,  
Birmingham, 1. 1361

**NORFOLK COUNTY COUNCIL**  
**APPOINTMENT OF DEPUTY COUNTY PLANNING OFFICER**  
Applications are invited from suitably qualified persons for the above post, on J.N.C. Scale "D" (£1,405-£1,625).  
The appointment is subject to the normal conditions of service applicable to posts on the J.N.C. Scale.  
Applications must be received by the undersigned by the 26th September, 1958.  
F. P. BOYCE,  
Clerk of the Council.

County Offices,  
Thorpe Road,  
Norwich. 1318

**NORTH WEST METROPOLITAN REGIONAL HOSPITAL BOARD**  
**ASSISTANT ARCHITECT** required—good experience of design and construction necessary, preferably in hospital work. Applicants must be Associate Members of the R.I.B.A. Salary scale £700 × £25 (3) × £30 (1) × £35 (6)—£1,015 plus £20-£50 London weighting. Ref. 669.

**ARCHITECTURAL ASSISTANTS** also required. Applicants must have served a recognised apprenticeship and have had the appropriate technical education. Experience in the design of industrial buildings will be an advantage.  
The salary scale will be A.P.IV (£700 × £20-£750) per annum.  
Applications, stating age, experience, qualifications, etc., should be lodged with the Subscriber not later than 14 days after publication of this notice.  
E. R. L. FITZPATRICK,  
General Manager.

46, Bath Street,  
Glasgow, C.2.  
August 27, 1958. 1360

**CANNOCK URBAN DISTRICT COUNCIL**  
**APPOINTMENT OF ARCHITECTURAL ASSISTANT**  
Applications are invited for this vacancy in the Architect's Department at a salary within Grade A.P.T. II (£725-£845) per annum, the commencing point to be fixed according to qualifications and experience. Housing accommodation available for married applicants. Further particulars and forms of application are available from the undersigned. Closing date, 20th September, 1958.  
H. C. ALLEN,  
Clerk of the Council.

Council House,  
Cannock, Staffs.  
27th August, 1958. 1357

**YORKSHIRE ELECTRICITY BOARD**  
**APPOINTMENT OF TEMPORARY CLERK OF WORKS**  
Applications are invited for the post of TEMPORARY CLERK OF WORKS in the Chief Engineer's Department to supervise Office and Workshop Buildings on a site in Leeds. The work is expected to commence in November 1958 and to last for three years.  
Applicants should have a thorough knowledge of building construction, and comprehensive experience of all classes of concrete work, including reinforced concrete framing.  
Preference will be given to candidates who are members of the Institute of Clerks of Works.  
Salary £350 per annum.  
Applications, giving full details of age, qualifications and experience, together with the names of two referees, should be forwarded to the Secretary, Yorkshire Electricity Board, Wetherby Road, Scarcroft, Nr. Leeds, not later than 12th September, 1958. 1303

**Tenders Invited**  
6 lines or under, 15s.; each additional line, 2s. 6d.  
**BRANDON AND BYSHOTTLES URBAN DISTRICT COUNCIL**  
**TENDERS**  
TENDERS are invited for the ERECTION OF 26 DWELLINGS AT NEW BRANCEPETH.

**DURHAM, comprising:—**  
1. ON-BEDROOM BUNGALOWS.  
2. BLOCKS OF FOUR-THREE-BEDROOM FLATS.  
3. BLOCKS OF FOUR-TWO-BEDROOM FLATS.  
Specification, Bills of Quantities, and Forms of Tender may be obtained from the Architect, F. Hedley, A.R.I.B.A., Council Offices, Langley Moor, Durham, against a deposit of Two Guineas, returnable on receipt of a bona fide tender (not subsequently withdrawn) and the return of all documents.  
Drawings of the works may also be inspected at the above-mentioned office.  
Tenders must be received by A. A. Luxmoore, Clerk of the Council, on or before 10 a.m. on Wednesday, 1st October next, and in accordance with directions issued. No guarantee is given that the lowest or any tender will be accepted.  
A. A. LUXMOORE,  
Clerk of the Council.

Brownie House,  
Brownie Colliery,  
Durham. 1354

**Architectural Appointments Vacant**  
4 lines or under, 1s. 6d.; each additional line, 2s. 6d. Row Number, including forwarding replies, 2s. 6d.  
**CO-OPERATIVE WHOLESALE SOCIETY LTD.**  
**ARCHITECT'S DEPARTMENT, MANCHESTER**  
APPLICATIONS are invited for the appointment of **ASSISTANT ARCHITECTS** with experience of work on commercial and industrial projects, capable of preparing working drawings from preliminary details. Five-day week in operation. Applications stating age, experience, qualifications and salary required to G. S. Hay, A.R.I.B.A., Chief Architect, Co-operative Wholesale Society, Ltd., 1, Balloon Street, Manchester, 4. 596

**RAMSEY, MURRAY, WHITE & WARD**  
require qualified ASSISTANTS for large-scale industrial programme. Good draughtsmanship essential. Salary according to age and experience. Reply Ref. 309, 32, Wigmore Street, W.1. 1199

**EXPERIENCED ASSISTANT** required by Staff Architect to Property Holding and Development Companies; Shop and Flat schemes, Estate layout and Housing, Offices, Flats, alterations, etc., should be able to deal with projects from sketches to final account, including all drawings, Local Authority and T.P. interviews. West End. Salary £800-£900, according to experience and qualifications. Box 1189.

**BUCKINGHAMSHIRE** firm of Architects within 30 miles of London with a varied practice, require an **ARCHITECTURAL ASSISTANT** at E. R. L. A. Standard. Five-day week. Salary according to age and experience. Please write giving full particulars to Box 1202.

**MORRISON AND PARTNERS** require staff at their Derby Office to work on a varied programme of an interesting and contemporary nature. Vacancies exist for:—A. ASSISTANT ARCHITECTS, preferably qualified and with some practical experience. B. ASSISTANTS of or near Intermediate standard preferably with some practical experience. Please apply to St. Alkmund House, 103, Belper Road, Derby. 1235

**SENIOR ASSISTANT** required, capable of taking full responsibility of contracts, dealing with Client and Contractor. Must belong to the Modern School of Design. State age, experience and salary required to John H. D. Madin, Dip. A.R.I.B.A., 83/85, Hagley Road, Birmingham, 16. 1235

**ARCHITECTURAL ASSISTANTS** required. Must be good draughtsmen and have not less than five years' office experience. Apply in writing to Llewellyn Smith & Waters, 103 Old Brompton Road, S.W.7. 1277

**KEEN** young ARCHITECT requiring professional practice experience in order to qualify will be welcomed in a Worcester Architect's office. Young enthusiastic staff, very pleasant offices, interesting work. Five-day week. Box 1234. 1234

**INTERMEDIATE ASSISTANT** required by Architects, Five Ways, Birmingham. Varied work in Midland and London areas. Seymour Harris & Partners, 3/4, Greenfield Crescent, Five Ways, Birmingham. 1260

**TREHEARNE & NORMAN, PRESTON**  
PARTNERS have a vacancy for a SENIOR ASSISTANT. Salary according to experience and qualifications. Apply: 83, Kingsway, W.C.2 (HOL 4071). 1288

**ASSOCIATE, R.I.B.A.**, about 40 years of age, required for senior position with firm of food manufacturers south of London. Salary £1,500 to £2,000 p.a. Box 1265.

**TWO INTERMEDIATE ASSISTANTS** required for varied and interesting contemporary projects. State age, experience and salary required to John H. D. Madin, Dip. A.R.I.B.A., 83/85, Hagley Road, Birmingham, 16. 1235

**W. J. SIMMS SONS & COOKE LTD.**, Pre-fabricators and Building Contractors, have a vacancy in their Architectural Dept. for an experienced SENIOR ASSISTANT. The work is interesting and varied in connection with traditional building for the home market and pre-fabrication for both home and overseas. Salary will be commensurate with experience and ability. Apply to the Staff Architect, W. J. Simms Sons & Cooke Ltd., Haydn Road, Sherwood, Nottingham. 1239

**ARCHITECTURAL DRAUGHTSMAN** up to Intermediate standard for wide variety of work on town redevelopment schemes. Permanent position. Box 1279.

**BRIGHTON AND HOVE. SENIOR AND JUNIOR ASSISTANTS** with some ability in preparing perspective sketches for small progressive office. Box 1284.

**APPLICATIONS** are invited for interesting posts from **ARCHITECTURAL ASSISTANTS** for leading design contractors' office in Manchester. Salary £750-£950 according to experience and qualifications. Canteen facilities, etc. Box 1237.

**QUALIFIED ASSISTANT** required for busy Birmingham architects' office. Suitable applicant required for immediate work at start of large City project. Box 1264.

**ARCHITECT'S ASSISTANT**, Intermediate standard, required for busy Hampshire office. Please reply to Box 1263.

**DESIGN RESEARCH UNIT** requires **ARCHITECTURAL ASSISTANT**. Good draughtsman, designer and detailer essential, with some office experience. Salary £700 to £800 p.a. Write 37, Duke Street, London, W.1. 1233

**C. B. PEARSON AND SON** require a **SENIOR ASSISTANT** in their Lancaster Office. Apply stating qualifications and salary required to 18, Dalton Square, Lancaster. 1326

**YOUNG Single ASSISTANT** of about Intermediate standard for Country Office near Norwich. Experience of Local Authority Housing and Surveying essential. Apply Box 1350.

**ARCHITECTURAL ASSISTANT** with general experience required in Architects' Office in Chelmsford, Essex. Write stating age, experience and salary required to Box 1349.

**ASSISTANT ARCHITECT** required for busy private office. Apply stating age, experience and salary required to Douglas Crawford & Ellis, F.R.I.B.A., 10, Market Place, Bishop Auckland, Co. Durham. 1346

**BOISSEVAIN & OSMOND** require a **SENIOR ASSISTANT** who has a genuine and creative interest in Architecture and a sound understanding of organisational problems. The practice is varied and new constructional techniques are being developed by a complete building team, but experience of prefabricated schools would be an advantage. **ASSISTANTS** of Intermediate Standard also required. Please reply in writing to 2, Field Court, Gray's Inn, London, W.C.1. 1368

**ASSISTANT** required (R.I.B.A. Intermediate-Final standard) in developing private practice. Full particulars of experience and capabilities to: Frank H. Saunders, 9, Palmer's Avenue, Grays, Essex. 1342

**SENIOR ASSISTANT** of Finals standard with at least four years' office experience required by busy office engaged mainly in industrial and commercial work.

**JUNIOR ASSISTANT** of approximately Intermediate standard with some office experience required.

Salaries by arrangement. Luncheon Vouchers. Five-day week. Apply Eric Firmin & Partners, Thavies Inn House, Holborn Circus, E.C.1. Telephone City 8811. 1345

**ARCHITECTURAL ASSISTANT** of Intermediate standard with industrial experience required for work on Atomic Power Stations. Excellent opportunities in an expanding London office. Apply stating age, experience, and salary range, to The Chief Architect, Nuclear Civil Constructors, 52/55, Carnaby Street, London, W.1. 1347

**ARCHITECTURAL ASSISTANTS**, Senior and Intermediate standard, required for Glasgow Office, experienced in schools and industrial work. Salaries £750-£1,000 for Seniors and £500-£700 for Intermediate with twice yearly bonus. Box 1353.

**JUNIOR ASSISTANT** with some office experience required by Practice in Manchester for work on various interesting projects, including contemporary designs. Able to take over from sketch designs, or to work under some supervision, as appropriate. Congenial office and good salary offered to suitable applicant. Please write in first instance to Box 1355.

**QUALIFIED ASSISTANT** required for varied work in small Victoria branch office of Northern Architects. Good salary according to age and experience. Box 1348.

**TAYLOR WOODROW Construction Ltd.** require **ARCHITECTURAL ASSISTANT** of Intermediate to Final standard and contemporary outlook. Good salary commensurate with experience. Pension scheme. Canteen facilities. Apply Personnel Manager, Ruislip Road, Southall, Middlesex. 1354

**SOUTHEAST-ON-SEA. ARCHITECTURAL ASSISTANT** required for school and general practice. Some experience necessary. R.I.B.A. Final standard. Age about 25-30. Apply giving details of experience and salary required to: Barles & Newton, A./R.I.B.A., 36-38, County Chambers, Weston Road, Southeast-on-Sea. 1340

**JUNIOR ARCHITECTURAL DRAUGHTSMAN** required to work under guidance and supervision in Architects' and Quantity Surveyors' Office in Croydon area. Write stating age, experience and salary required to Box 1327.

## DOWTY GROUP

requires

## ARCHITECTURAL ASSISTANT

**PREFERABLY** of at least Intermediate R.I.B.A. standard to survey and prepare record plans of existing premises throughout N. Gloucestershire and to assist with new development work.

## BUILDINGS INSPECTOR

whose principal duties will be the preparation of maintenance schedules for the Group factories and to supervise the work of Contractors.

Candidates possessing a current driving licence should write, giving complete details of qualifications, past experience, age and present salary to Personnel Manager, Dowty Equipment Ltd., Arle Court, Cheltenham Spa. 1332

**INTERESTING PROJECT.** Recently qualified **ASSISTANTS** required with office experience. Phone Welbeck 6543. 1351

**ARCHITECT'S** Office, Charing Cross, requires qualified and Intermediate **ASSISTANTS**. Varied type of work. Good salaries commensurate with experience. Five-day week. Write Box 1333.

**ARCHITECTS' Office**, Charing Cross, requires **JUNIOR ASSISTANTS** or beginners. Varied type of work. Good salaries commensurate with experience. Five-day week. Write Box 1334.

**SENIOR ARCHITECTURAL ASSISTANTS** required to take charge of contracts with minimum supervision. Medium sized office in Manchester, general practice. Pension scheme in operation. State age, qualifications, experience and salary required. Box 1335

**EXPERIENCED ARCHITECTURAL DRAUGHTSMAN**, Intermediate standard, required for Architects' Office in Manchester. State age, experience and salary required. Pension scheme in operation. Box 1336.

**EXPERIENCED ASSISTANT ARCHITECT** required. Must have design and constructional ability, initiative and drive. Fully qualified assistant preferred, but a suitable experienced Intermediate R.I.B.A. would receive due consideration. Numerous interesting projects throughout the country. Permanent post with scope for advancement. Superannuation scheme and canteen facilities. Salary to be arranged by appointment. Apply, giving age and experience, direct to D. Greenwood, B.Arch., A.R.I.B.A., Prices Tailors Ltd., Cardigan Crescent, Leeds, 4. 1310

**FULLY** Qualified **SENIOR ASSISTANT ARCHITECT** required to act as leader in a team of three assistants. Must be capable of designing, preparing working drawings and supervision of large building contracts. Pension scheme. Canteen facilities. Salary range approximately £1,000 p.a. Apply, giving age, experience, etc., to Prices Tailors Ltd. 1352

**SENIOR ARCHITECTURAL ASSISTANT** required by Southern Counties Developers, for work on Housing, Flats and Industrial Buildings. Experience in Estate Layouts, Roads, Drainage, etc., an advantage. Must be prepared to work on his own initiative with little supervision. Salary according to experience but over £600. Apply by letter, stating age, experience and salary required to Cooper Estates Ltd., Wilmington House, Wilmington, Dartford, Kent. 1323

**BREWERY Company** requires **ARCHITECTURAL ASSISTANT**, Intermediate standard. Experience in working drawings and preparation of specifications. Work consists of extensions and alterations to licensed premises. Pension scheme. Apply giving full details with salary required to: Secretary, Threlfall's Brewery Company, Limited, 21, Trueman Street, Liverpool, 3. 1355

**WANTED. ARCHITECTURAL ASSISTANT.** Intermediate standard or thereabouts, for progressive practice (see A.J. 21.3.58 Selected Details) in South Wales. We last advertised for a near genius but got one good willing bloke, former vacancy still open. Five-day week, bonus. Salary £500-£650. Apply H. M. R. Burgess and Partners, 51, The Parade, Cardiff, 30, Mill Street, Pontypridd. 1322

**ARCHITECTURAL ASSISTANTS** required. Starting salary £750. Box 1316.

**ARCHITECTURAL ASSISTANT** of R.I.B.A. Intermediate standard required for private office with varied and interesting work. Applicants must be capable draughtsmen, able to make surveys and produce working drawings, and details of modern buildings. Write details and salary required to W. J. Lewis & Sons, 68, Cranbrook Road, Ilford, Essex. 1314

**ARCHITECT**, preferably young, with several years' experience, required in the design department of the West End Division of Holloway Brothers. Applicants should be practical and adaptable and used to working on schemes of alterations and additions to buildings as well as new projects. Write stating qualifications, age and salary required in the first instance to the General Manager, Holloway Brothers (London) Limited, 43, South Audley Street, Grosvenor Square, W.1. 1313

**ARCHITECT'S ASSISTANT** required immediately. Intermediate standard, for General Practice, in central southern seaside district. Applicants should be able to prepare working drawings from sketch designs, have sound knowledge of construction and surveys, and some specification experience. Please reply stating age, salary required, and when available. Box 1312.

**ROBERT MATTHEW & JOHNSON-MARSHALL** have a few vacancies in their London office for qualified **ARCHITECTS** with 2-4 years' experience. Please apply in writing to 24 Park Square East, London, N.W.1. 1351

**ARCHITECTURAL ASSISTANT**, 30-35, required by well-known London firm as resident in West Africa. Experience tropical architecture preferred. Salary according to experience. Box 1308.

**LONG** established Richmond, Surrey general practice requires Intermediate-Final standard **ASSISTANTS** for school and industrial projects. The work will involve the preparation of working drawings and site supervision. Salary in accordance with experience and capabilities. Box 1306.

## Architectural Appointments Wanted

4 lines or under, 9s. 6d.; each additional line, 2s. 6d.

Box Number, including forwarding replies, 2s. extra

**A.R.I.B.A.**, age 36, seeks change. Present employed Chief Assistant, Architect's Dept., Brewery, etc., Engineering Company. Experience private practice, industrial, brewery, administrative. Desires similar appointment or with brewery or post with prospects in private practice. Own car and small capital available. South-West Country preferred. Box 1337.

**ARCHITECTURAL ASSISTANT**, five years' experience. Interested in perspective work. Salary by arrangement. Box 1328.

**FINAL** Standard **STUDENT**, awaiting professional practice examination and call-up, available until December for part-time or temporary work. Box 1329.

**ARCHITECT'S ASSISTANT**, with varied experience, requires position in London office. Box 1344.

**ASSISTANT** (passed Final R.I.B.A.) 17 years' varied experience, requires part-time employment (evenings and weekends) at home or office. Box 1364.

## Other Appointments Vacant

4 lines or under, 9s. 6d.; each additional line, 2s. 6d.

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**THE ARCHITECTS' JOURNAL** requires a first-class full-time **DRAUGHTSMAN**, with a keen interest in the compilation of technical data, for the preparation of Working Details and Information Sheets. Write to the Editor (Information Sheets), 9, Queen Anne's Gate, S.W.1, stating age, architectural training and experience. 919

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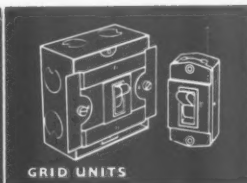
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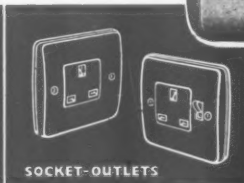
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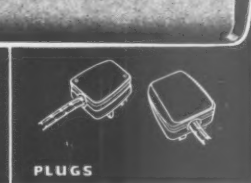
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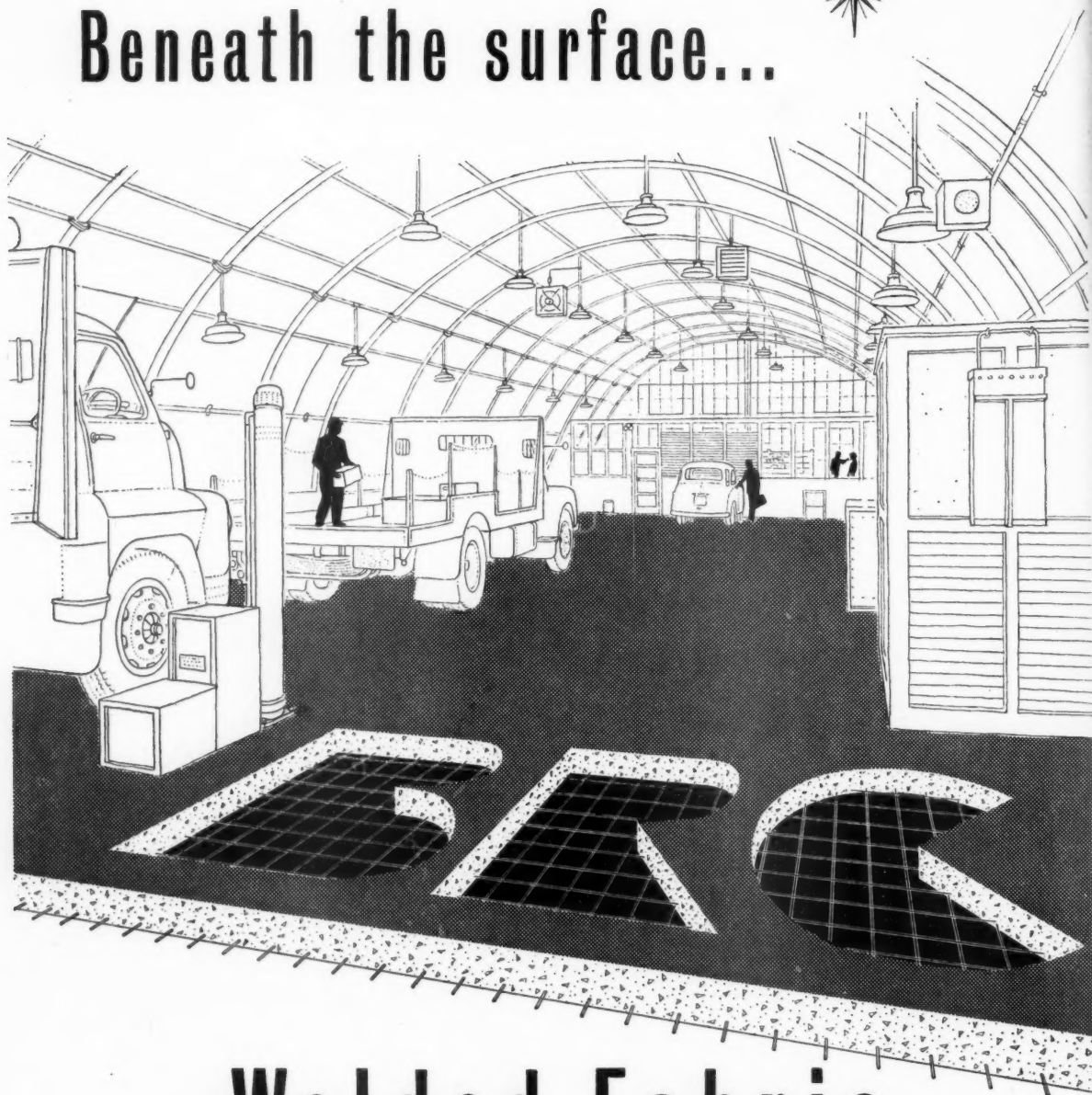
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