The Architects' JOURNAL for December 19, 1957

ARCHITE



standard

contents

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

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No. 32771 [Vol. 126

THE ARCHITECTURAL PRESS 9, 11 and 13, Queen Anne's Gate, Westminster, S.W. I. 'Phone: Whitehall 0611

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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.

Institution of Heating and Ventilating Engineers. 49, Cadogan Square.
Sloane 1601/3158 IHVE

HBDID Incorporated Institute of British Decorators and Interior Designers 100, Park Street, Grosvenor Square, W.1.
Institute of Landscape Architects, 2, Guilford Place, W.C.1.
Institute of Arbitrators. Hastings House, 10, Norfolk Street, Mayfair 7086 ILA Lof Arb Holborn 0281

Strand, W.C.2. Temple Bar 4071 Strand, W.C.2. Te Institute of Builders. 48, Bedford Square, W.C.1.
Institute of Quantity Surveyors. 98, Gloucester Place, W.1.
Institute of Refrigeration. Dalmeny House, Monument Street, E.C.3.
Institute of Registered Architects. 47, Victoria Street, S.W.1.
Institute of Structural Engineers. 11, Upper Belgrave Street, S.W.1.
Lead Development Association. 18, Adam Street, W.C.2
London Master Builders' Association. 47, Bedford Square, W.C.1.
Lead Sheet and Pipe Council. Eagle House, Jermyn Street, S.W.1.
White IOB Museum 7179 Welbeck 1859 IQS IR Avenue 6851 IRA Abbey 6172 Sloane 7128 ISE LDA

Whitehall 4175 LMBA Museum 3891 LSPC Whitehall 7264/4175

Ministry of Agriculture, Fisheries and Food. Whitehall Place, S.W.1.
Ministry of Education. Curzon Street House, Curzon Street, W.1.
Ministry of Health. 23, Savile Row, W.1. MAFF Trafalgar 7711 Mayfair 9400 MOE MOH Regent 8411 Ministry of Housing and Local Government. Whitehall, S.W.1. Whitehall 4300 MOHLG Ministry of Labour and National Service. 8, St. James' Square, S.W.1. Whitehall 4300 Ministry of Supply. Shell Mex House, W.C.2. Gerrard 6933 Ministry of Transport. Berkeley Square House, Berkeley Square, W.1. Mayfair 9494 Ministry of Works. Lambeth Bridge House, S.E.1. Reliance 7611 Natural Asphalte Mine Owners and Manufacturers Council. 94/98, Petty France, S.W.1. Abbey 1010 National Association of Shopfitters. 9 Violentia Street, S.W.1. Abbey 1010 MOLNS MOS MOT MOW

NAMMC National Association of Shopfitters. 9, Victoria Street, S.W.1. Abbey 4813
National Buildings Record. 31, Chester Terrace, Regent's Park, N.W.1. Welbeck 0619
National Council of Building Material Producers, 10, Storey's Gate, S.W.1. Abbey5111
National Employers Federation of the Mastic Asphalt Industry.
21, John Adam Street, Adelphi, W.C.2. Trafalgar 3927 NAS NBR

NCBMP NEFMAL

National Federation of Building Trades Employers. 82, New Cavendish Street, W.1. Langham 4041/National Federation of Building Trades Operatives. Federal House, NFBTE Langham 4041/4054 NFBTO

National Federation of Building Trades Operatives. Federal House,
Cedars Road, Clapham, S.W.4. Mac
National Federation of Housing Societies. 12, Suffolk St., S.W.1. Whi
National House Builders Registration Council. 58, Portland Place, W.1. Macaulay 4451 NFHS Whitehall 1693 NHBRC

Langham 0064/5 Molesey 1380 National Physical Laboratory. Head Office, Teddington. 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

National Trust for Places of Historic Interest or Natural Beauty.

42, Queen Anne's Gate, S.W.I.

Political and Economic Planning.
Reinforced Concrete Association.

94, Petty France, S.W.I. NT Whitehall 0211 PEP Whitehall 7245 Abbey 4504

RCA RIAS Royal Incorporation of Architects in Scotland. 15, Rutland Square, Edinburgh. Fountainbridge 7631 Royal Institute of British Architects. 66, Portland Place, W.1. Langh Royal Institution of Chartered Surveyors. 12, Great George Street, S.W.1. RIBA Langham 5721

Whitehall 5322/9242 RFAC Whitehall 3935 Regent 3335 RSA Trafalgar 2366

Royal Fine Art Commission. 5, Old Palace Yard, S.W.1.
Royal Society. Burlington House, Piccadilly, W.1.
Royal Society of Arts. 6, John Adam Street, W.C.2.
Royal Society of Health. 90, Buckingham Palace Road, S.W.1.
Rural Industries Bureau. 35, Camp Road, Wimbledon, S.W.19.
Society of British Paint Manufacturers. Grosvenor Gardens House, Sloane 5134 RSH Wimbledon 5101 RIB SBPM

Grosvenor Gardens, S.W.1. Victoria 2186 Society of Engineers. 17, Victoria Street, Westminster, S.W.1. Abbey 7244 School Furniture Manufacturers' Association. 30, Cornhill, London, E.C.3. SFMA Mansion House 3921

SIA Society of Industrial Artists. 7, Woburn Square, London, W.C.1. Langham 1984/5

Structural Insulation Association. 32, Queen Anne Street, W.1 SIA SNHTPC Langham 7616 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.

Town and Country Planning Association. 28, King Street, Covent Garden, W.C.2.
Temple Bar 5006 TCPA TDA Timber Development Association. 21, College Hill, E.C.4. City 4771

Town Planning Institute. 18, Ashley Place, S.W.1.
Timber Trades Federation. 75, Cannon Street, E.C.4.
War Damage Commission. 6, Carlton House Terrace, S.W.1. Victoria 8815 TPI TTF City 5040 Whitehall 4341 ZDA Zinc Development Association. 34, Berkeley Square, W.1. Grosvenor 6636



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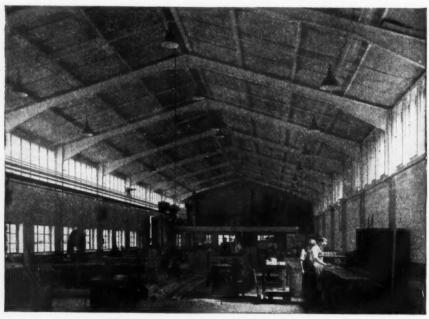


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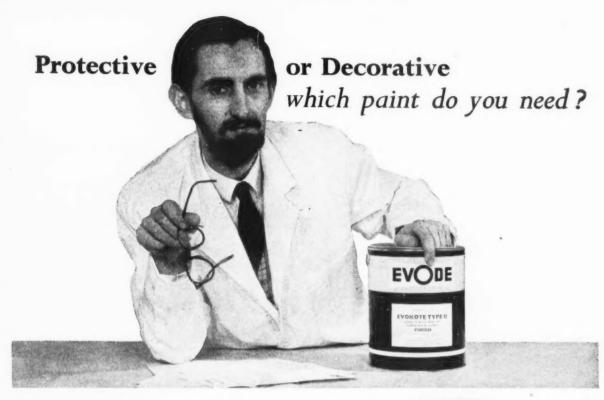


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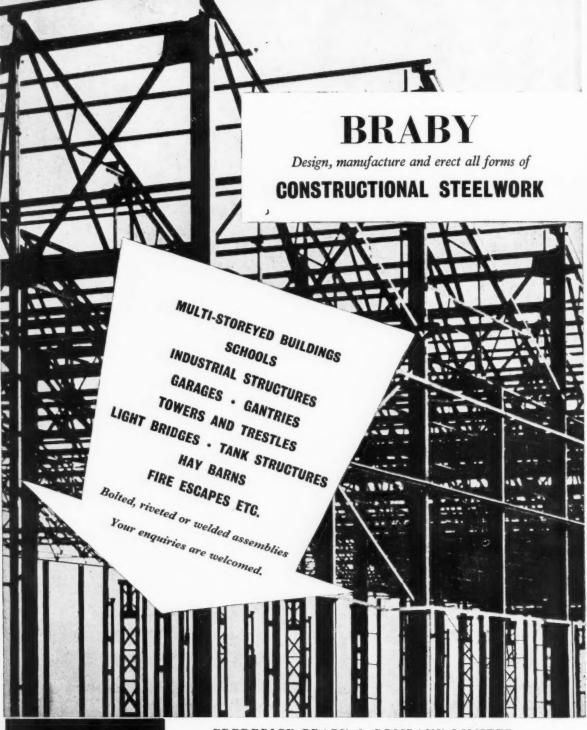
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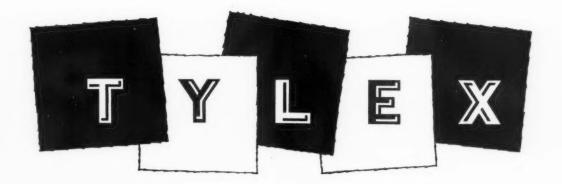
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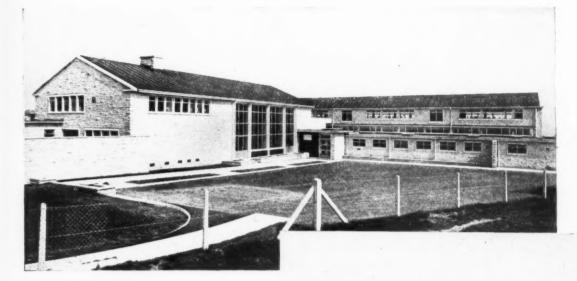
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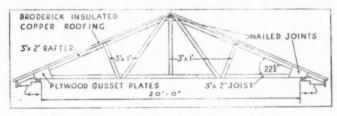
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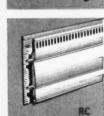
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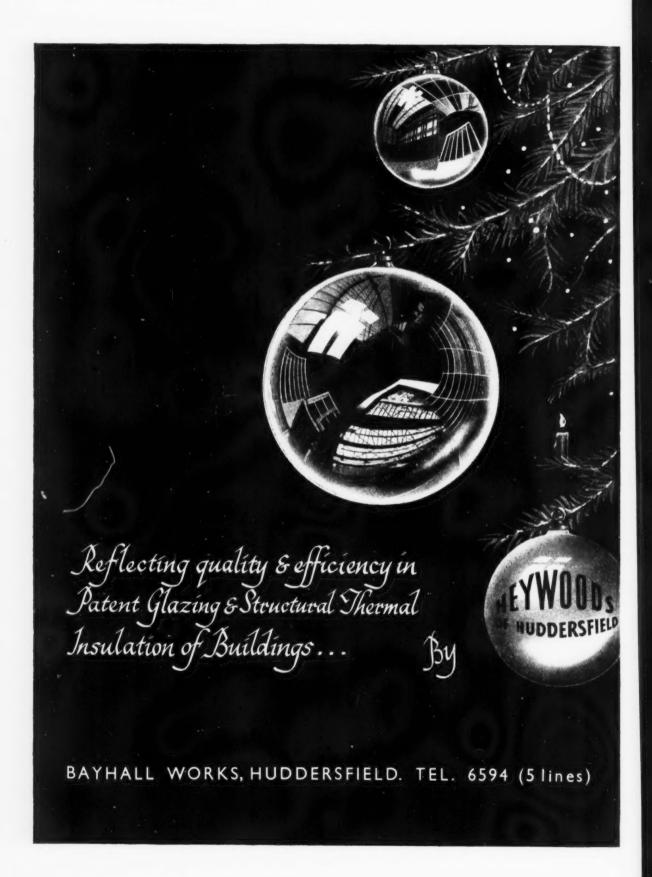
Corner of Wages Office: Hall-glazed Glinex partitions with polished timber framing and Compactom built-in cupboards.



View of Design and Drawing Office: Free standing half-glazed partitions with aluminium framing.

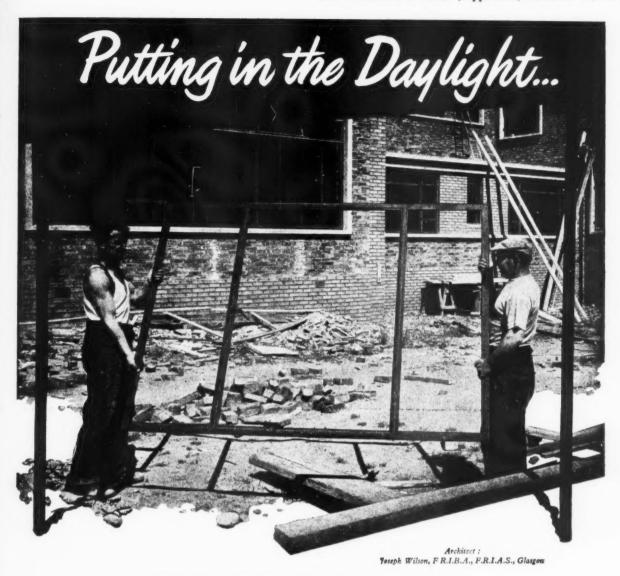


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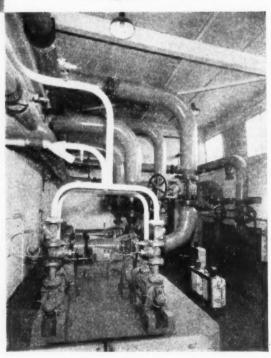
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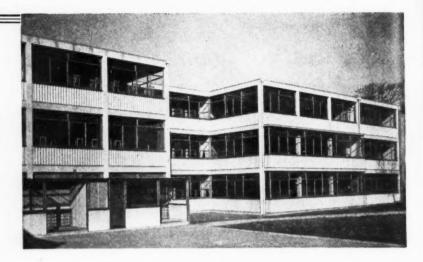
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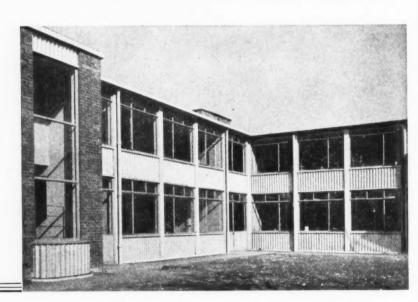
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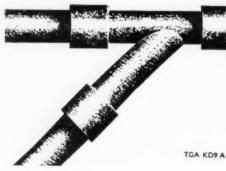
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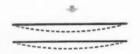
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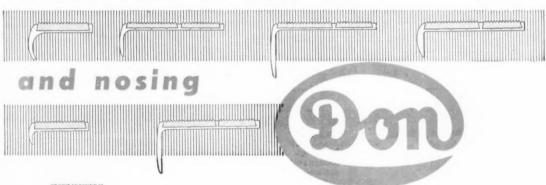


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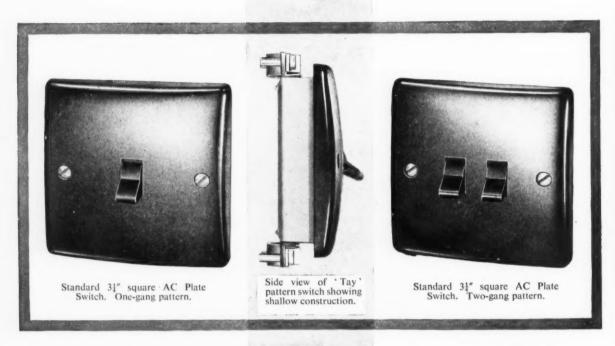
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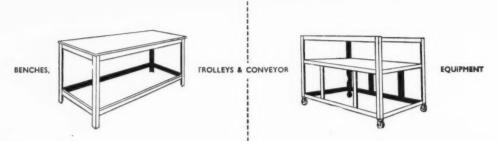
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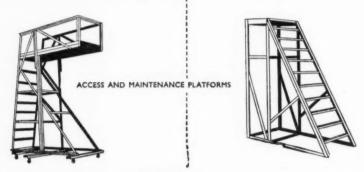


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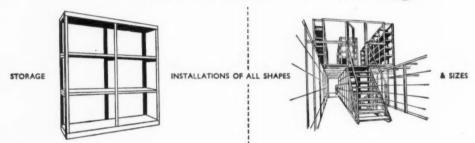
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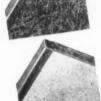
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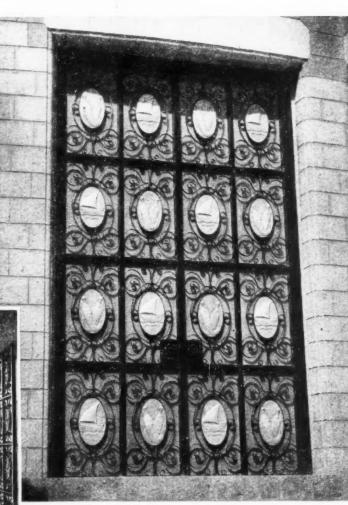
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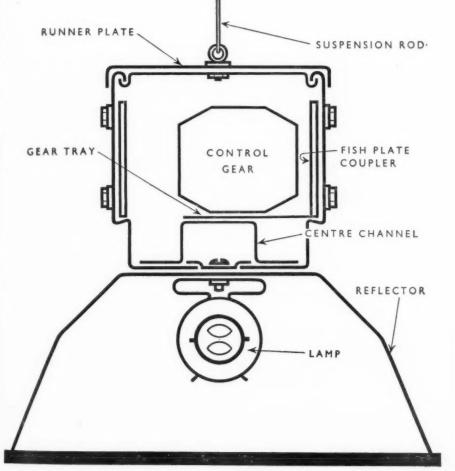


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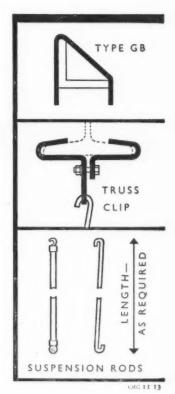


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Below: THE GEORGE HOTEL, CRAWLEY, SUSSEX.

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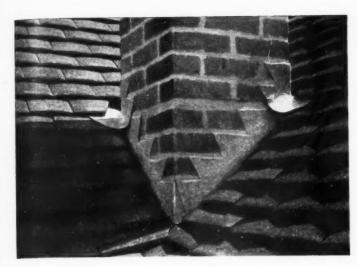
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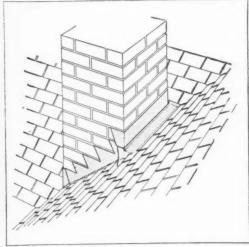
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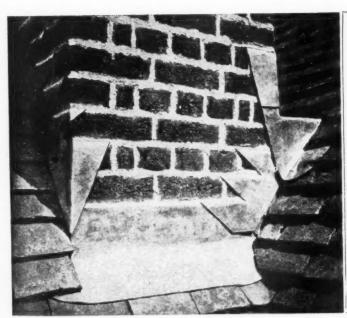
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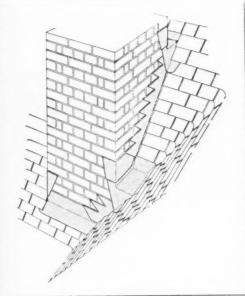
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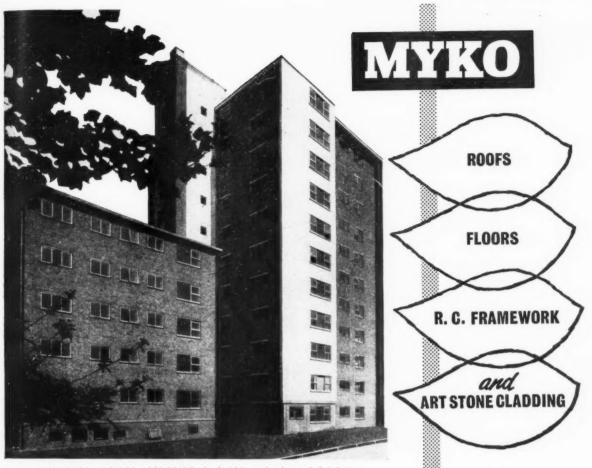
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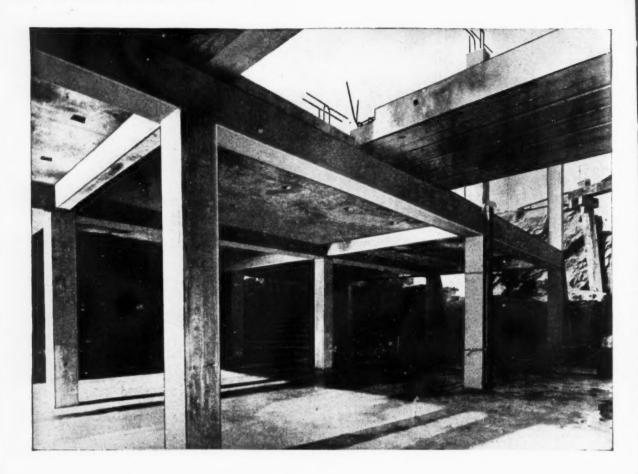
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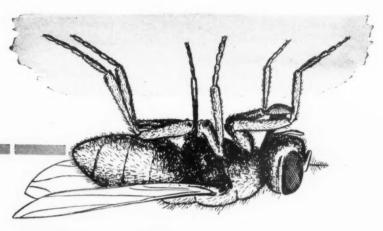
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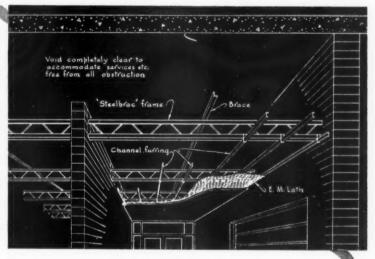
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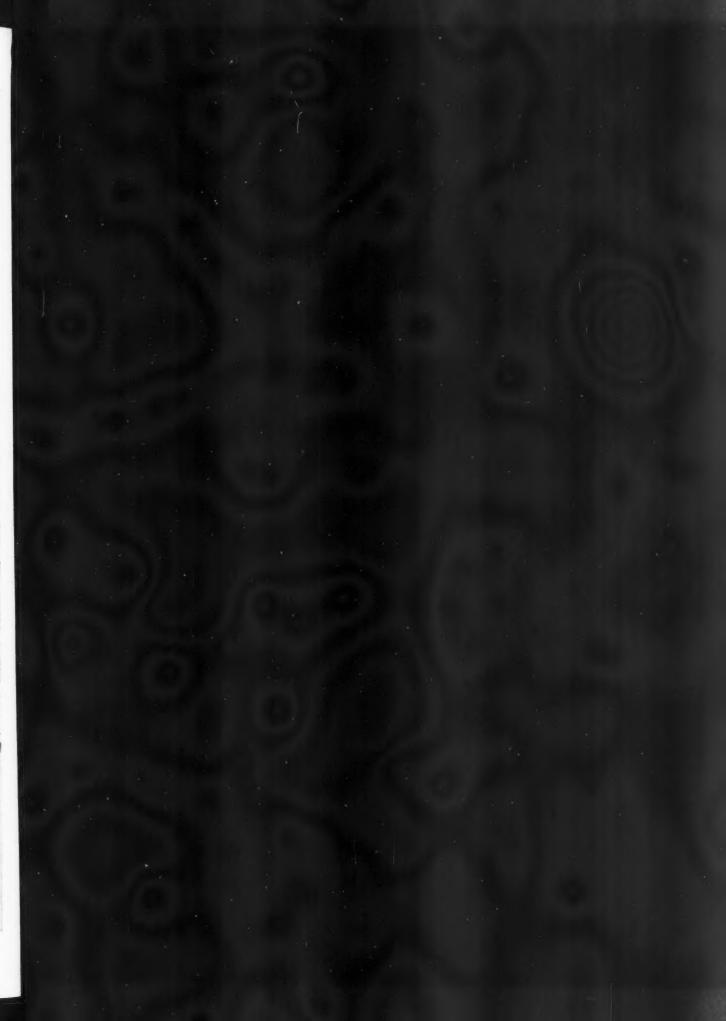
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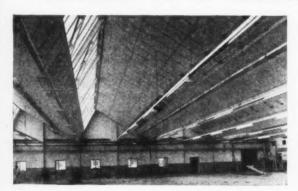


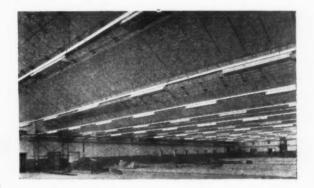


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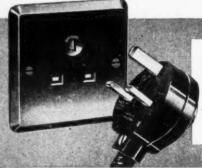
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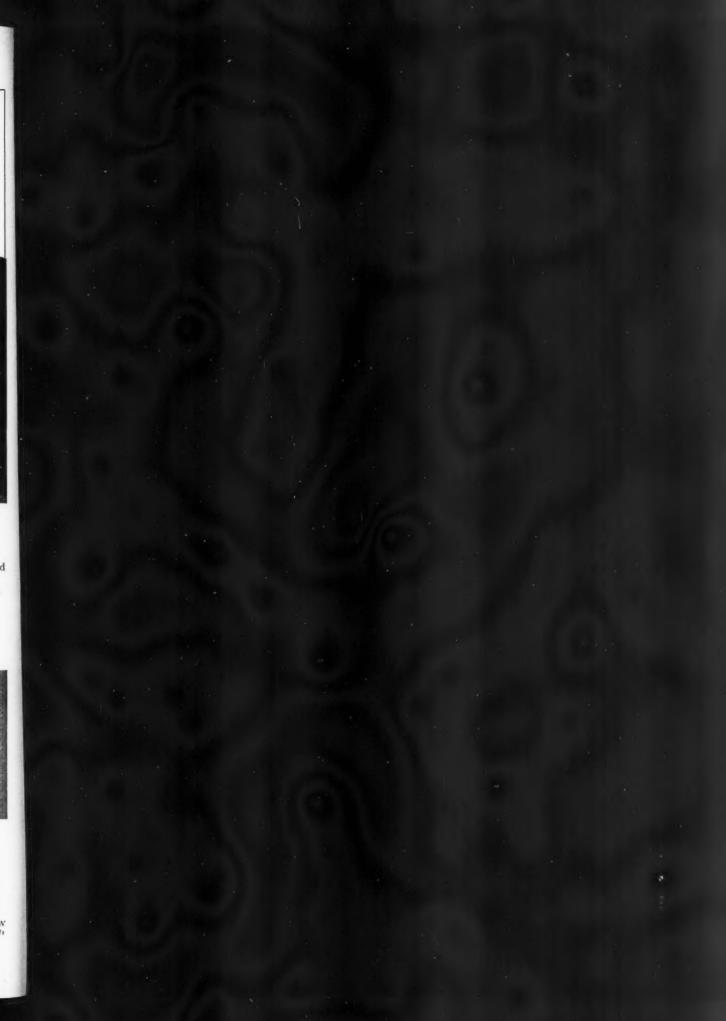
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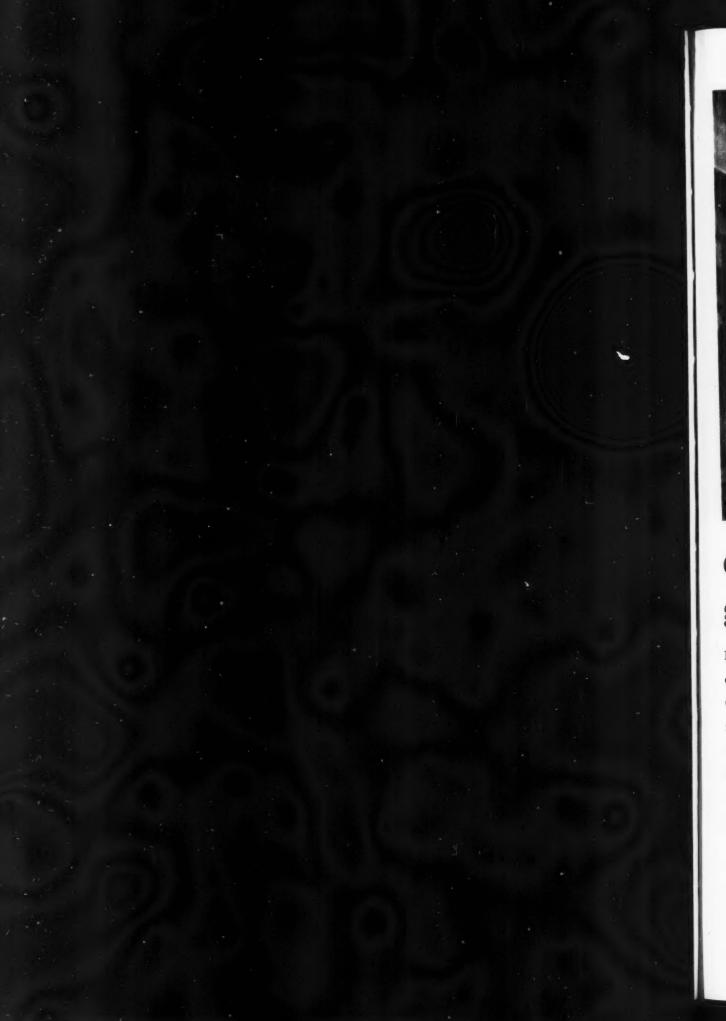


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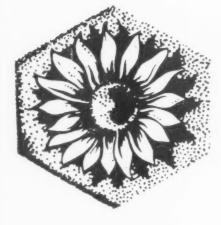
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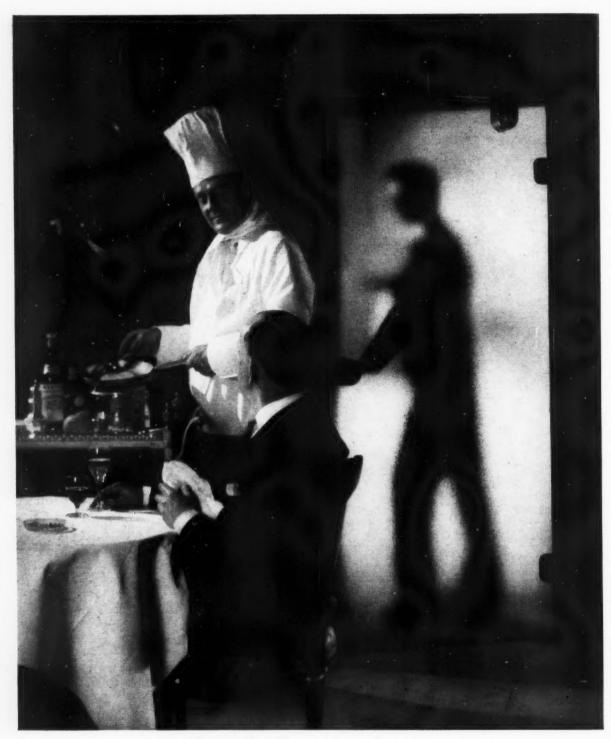
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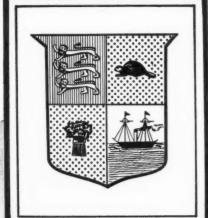
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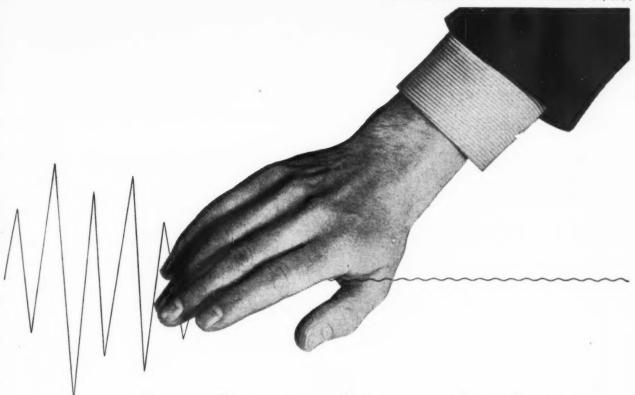


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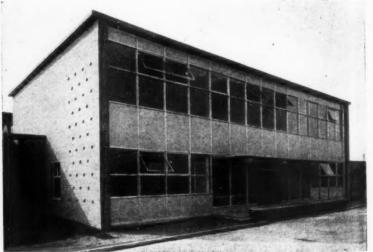
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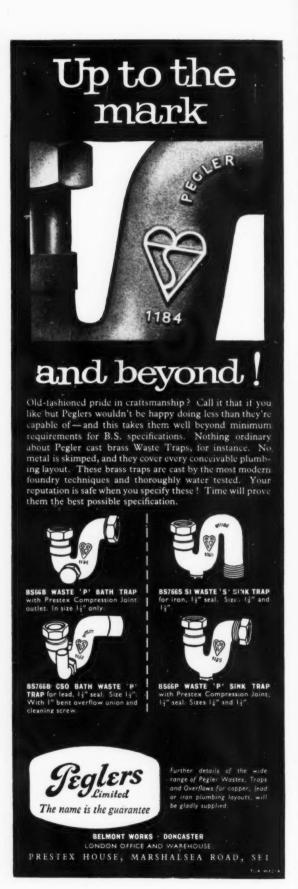
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a small part of the "saivo" vitreous mosaic fixed at the t.u.c. memorial building, london

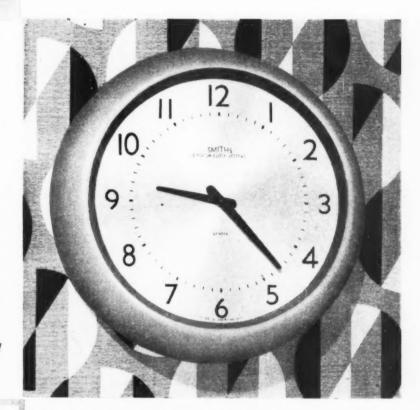
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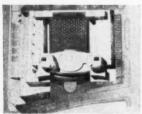
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TUC Brasilia Street Lighting

December Architectural Review

Design for public and administrative functions will form the subject of the two most important features in the Review for December. The TUC Memorial December. The TUC Memorial Building, designed by David Aberdeen, which is only the



Airview drawing of David Aberdeen's TUC Memorial Building.

second public building of consequence to go up in London since the War, will be described

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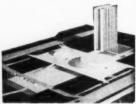
REVIEW

until

further

notice :

and illustrated for the first time in complete form, and a supporting article in Skill will examine in detail the finishes and mechanical equipment that make this one of the most lavish buildings-outside the commercial field-of recent years. The other major feature is concerned with Brasilia, the projected new capital city for Brazil, typically grandiose and Latin-American in conception, but more likely than most such schemes to achieve completion. Sir William



Oscar Niemeyer's design for the Congress Building at Brasilia.

Holford who was one of the jury who assessed the competition for the new capital's plan, introduces the project and its site, discusses the competition, and adds a few words by way of introduction to the brilliant and unconventional winning scheme, by Lucio Costa father of Brazil's modern movement, whose report is published in English for the first tir.e. Another father of his art, John Britton, founder of English topographical studies, will be the subject of an historical article by Peter Ferriday, and the bicentenary of the birth of the great neo-Classical sculptor Antonio Canova is celebrated by one of England's leading neo-Classical scholars, F. J. B. Watson, with a chronicle of English visitors and admirers at the sculptor's studio in Rome. Gordon Cullen will tackle one of the most vexed and debated problems of outdoor detailing, Street Lighting, in terms of distribution and siting, as well as the design of equipment, and interiors to be described include the IBM offices and the Garden Centre, both in new office blocks in Wigmore Street. Foreign reports will cover the Triennale di Milano, and the Berlin Interbau exhibition, and regular features like the Counter Attack Bureau and Robert Melville's provocative art-criticism will continue.

9-13 н Queen Anne's Ħ Gate, C H Westminster, H Ģ C S W.I. d 저 A H Whitehall 061 Ħ V 펀

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Preview

January Architectural Review

Each New Year, the Review devotes an entire special issue to a survey of what the leading architectural offices in Britain have in hand on the first day of the year.



Assembly Hall of a girls' comprehensive school at Southwark.
Architects, Chamberlin, Powell and Bon.

The view presented by Preview is an extremely varied one; the buildings it covers range from a pub to a synagogue, by way of schools, universities, colleges, hostels, hospitals, factories, office blocks, churches, airports, planning schemes, housing layouts, a market and a seaside pavilion; and the offices and architects responsible for these projects-inprogress read like a directory of the country's top talent (as indeed they are)-the L.C.C., the Ministry of Works, ACP, T. P. Bennett and Sons, Bridgewater and Shepheard, James Cubitt and Partners, Llewelyn Davies, Easton and Robertson, Frederick Gibberd, Erno Goldfinger, Gollins Melvin and Ward, Sir William Holford, Arthur Ling, Sir Leslie Martinand so on down the alphabet to Yorke, Rosenberg and Mardall.



Factory at Wokinghum. Architects, Yorke, Rosenberg and Mardall.

The reflection in Preview's mirror may prove flattering or alarming. but even where there appear to be grounds for satisfaction at the design of the buildings themselves, the environments into which they are being fitted still leave much to be desired, and though this is beyond the architect's control, it is not exempt from the watchful eye of the Counter Attack Bureau, whose month by month vigilance will be maintained even in this special issue.

Churches Adam & Berkeley Lettering

February Architectural Review The variety and scope of the buildings illustrated, and subjects discussed, in the February issue will be catholic, even for the Review. Three Churches around Coventry by Basil Spence will show what the imaginative use of a modicum of rationalisation can



Church at Bell Green, Coventry, by Basil

do even for a church building programme; the spectacular Teatro de los Insurgentes, designed by Aleiandre Prieto exhibits Latin-American design at its most exuberant and effective; while Erno Goldfinger's precise Officeblock in Albermarle Street is the kind of building our cities sorely need. Historical studies will re-examine aspects of eighteenth-



Offices Albemarle Street, W.1. by Erno Golbfinger.

century architecture: Bishop Berkeley's contributions architectural theory will be the subject of an article by Marcus Whiffen, while a sheaf of papers on Robert Adam by various hands will include some unknown Clérisseau drawings from Russia. Gordon Cullen will complete his set of townscape studies for Bristol University with an analysis of Trowbridge, and Jacqueline Tyrrwhitt will examine the planning of Fatehpur Sikri, the ideal city of Akbar the Great, somewhat in the manner of Sir Hugh Casson's memorable studies of Peking. In Skill, John Sharp will complete his survey of methods and materials in Architectural Lettering, Design Review will continue to note worthwhile new products and equipment, while the Interiors include new showrooms, by Design Research Unit, an officers' mess for the U.S. Air Force, and an ingenious conversion of a house near the docks in Hull.

91



Architects: Building Dept., B.B.C. Contractor: Higgs & Hill Limited



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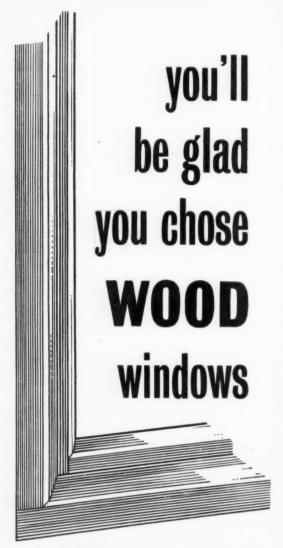
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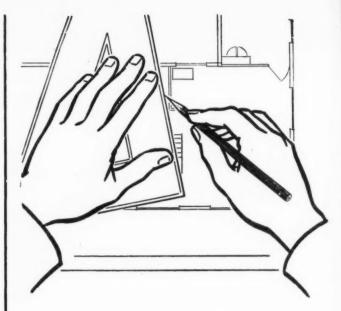
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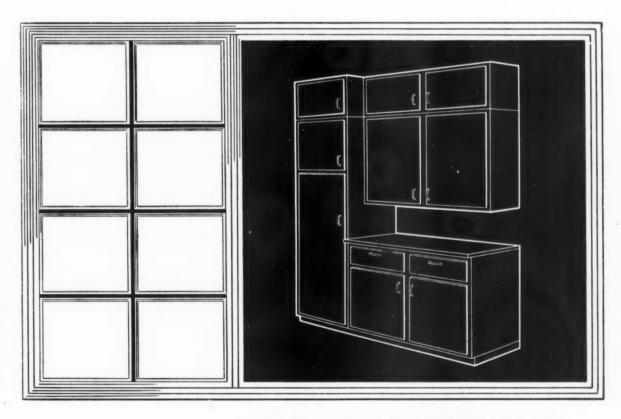
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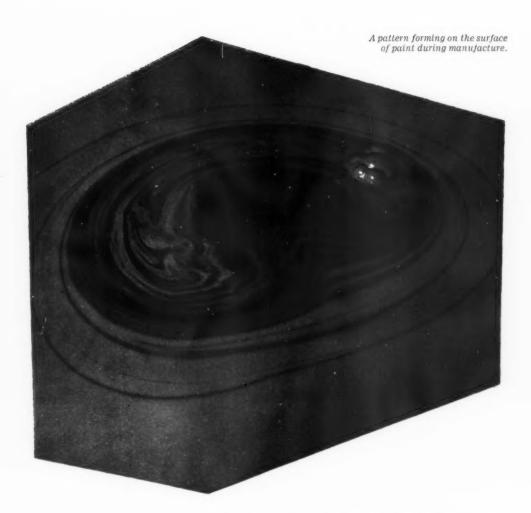
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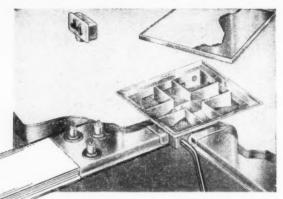
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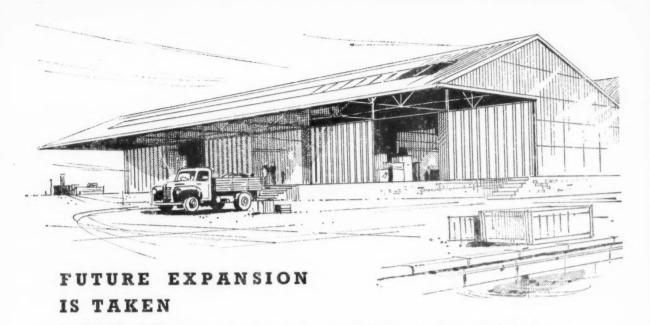
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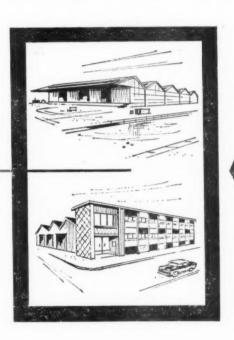


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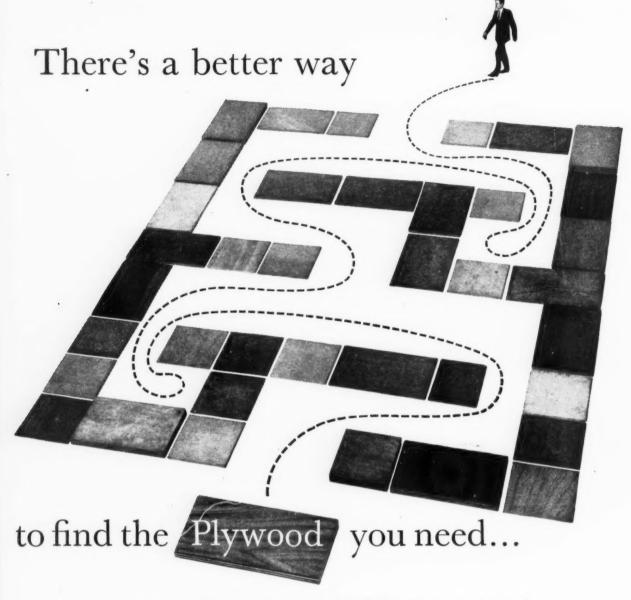


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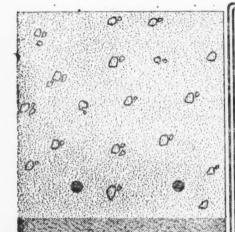
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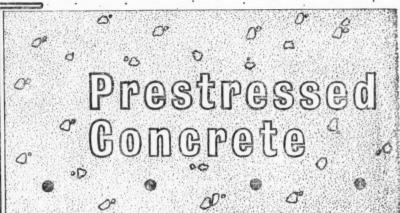
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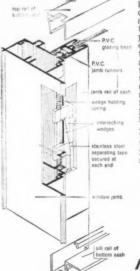
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THE ARCHITECTS' JOURNAL

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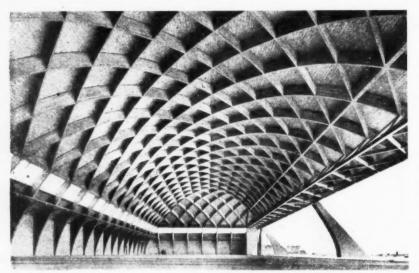
ANGEL PLAYING A CORNET

The publication of a book* on the works of one of the most eminent and talked-about engineers in the post-war world—Pier Luigi Nervi—calls for exceptional reviewing. Accordingly, we have asked A. J. Harris to comment at length on this engineer's work. Alan Harris is a young chartered civil engineer who is rapidly becoming known amongst architects for his considerable ability and his sympathy with the architect's viewpoint. He has designed airport buildings, bridges and harbour works in this country and in France; he worked for three years with Freyssinet and assisted in the develop-ment of "Intergrid," the prestressed concrete school-building system. The book, which is published by the Architectural Press, has an introduction by Ernesto N. Rogers, is very well illustrated and produced, and, as Alan Harris indicates, will for years be a source of stimulus and controversy.

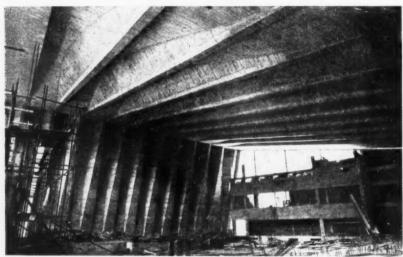
Nervi has succeeded Maillart and the Freyssinet of the 1920's as the engineer whom architects have noticed.

This book has sumptuously illustrated his claims to such notice; it has provoked the engineer reviewer to subject the pictures and the small print to a cool stare to see what Nervi has to teach us. Let us first define his field of action. The majority of the notable works illustrated are of a genre which one might call exhibition engineering-skating rinks, swimming pools, assembly halls of one sort and another. Industrial buildings there are, but of the simplest; his aircraft hangars and all but one of his factories seem innocent of provision for hoists, gantries, services, or any of those necessities which, painful to digest, if left undigested wreak havoc with the purity of structural form. Set pieces all of them, these works called for, and got, a

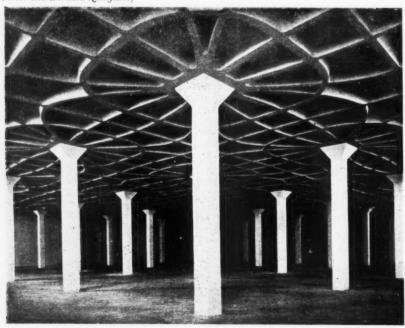
^{*}The works of Pier Luigi Nervi. The Architectural Press 56s. net.



Engineering. (Nervi's aircraf hangar at Orvieto, 1936.)



Engineering imitating itseif. (Unesco building, Paris, 1953-56. Designed by Marcel Breuer, Nervi and Bernard Zehrfuss.)



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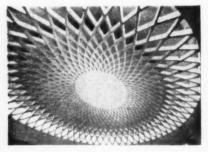
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If then, we call Nervi the master of the large-span decorative roof, and ask how he does it, two technical means are outstanding, precasting and the material he calls ferro-cemento. In precasting he has been a notable innovator; not that precasting had never been widely used before, but rather that he seems first to have exploited the fact that precasting is not only a useful erection expedient but can enormously enlarge the vocabulary of economically possible shapes. As soon as one can construct a structure in small pieces and assemble them on the site, structural sections and combinations become possible which the complications of timbering and casting on site would have prohibited. This use of precasting has latterly been associated by Nervi with elements made of ferro-cemento, and this association is more enigmatic.

He first used ferro-cemento, a mat of layers of light mesh laced with small bars and plastered on one or both sides with mortar, in the construction of sea-going ships during the recent war. Now an almost identical technique was used in the first world war for a similar purpose; indeed, in 1848 at the very origin of reinforced concrete, we find Lambot building boats and Monier, soon after, making his ornamental flower pots for the gardens at Versailles by the same means. So it is not novel: indeed, something very similar forms part of the tradition of plaster work.

Now ferro-cemento is a very effective method of making a resilient and strong thin shell of concrete; the reinforcement is, as it were, of the same scale as the thickness of the shell and trowelling is an admirable method of compacting concrete



Left, internal decoration, engineering style. (Gatti wool factory, Rome, 1953.) Above, internal decoration. (Hall, Termi di Chianciano, 1952.)

when the thickness is not too large. Questions of cover and corrosion remain unanswered either in this volume or in such works of Nervi as are available in English: it is clear that with thicknesses of the order of 1 in. and several layers of mesh. one is lucky to have any cover at all, and however well compacted the mortar, it is bound to be permeable. How does he get away with it? Is it the

climate? Or perhaps a coat of paint? But never mind; structures so built in Italy seem to stand up and we are not for the moment dealing with building surveyors. The roofs built from this material in the form of trough-shaped beams seem quite admirable; a sort of half-way house between corrugated sheeting and a barrel vault, they are light and stiff and give great flexibility in design. The Exhibition Hall at Turin, which owes much to Freyssinet's hangars at Orly, is an application of this technique on a large scale and is a masterpiece. Perplexity arises when one sees the photographs of these members being cast.

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Nervi himself has said elsewhere that a heavy density of steel is necessary to obtain the advantages of ferro-cemento; the corrugated members both in the main hall and in hall C at Turin look like very ordinary, very lightly reinforced concrete, their only peculiarity being the minute cover. Or does that vague shadow seen in some of the moulds represent a sort of mesh of mail? But what, then, are we to think of those more numerous structures, where this material is used as permanent formwork to reinforced concrete of substantial section? Can it be economic? Can it be sound to have minor reinforcement right in the external surface of the structure? More: a curious blind spot in Nervi's technical outlook is revealed. The simplest and soundest way of constructing the sort of triangulated or ribbed structure of which he is so fond is by the use of precasting and prestressing. Now prestressing has been common practice in Italy for the last 10 years, and colleagues of Nervi such as Morandi, Cestelli Guidi and Rinaldi have so executed many most startling structures during this period: Nervi himself has made one or two somewhat banal applications of prestressing. There is no moral obligation for Nervi to use this or any other technique, but when it is so obviously a means of simplifying the problems of a structural form which he has himself chosen, not to adopt it is odd. In the last of the many projects illustrated in this book, that of the exhibition hall at the Rond Point de la Défense in Paris, he seems at last to have understood: the tensioned members in his triangulated shell are prestressed, but here again the compression members, of a very ordinary section which could easily be reinforced and cast in the normal way, are labelled with the words "ferro-cemento." Curious. Is there such a thing?

Note that these uses of ferro-cemento (whatever it may be) could only have been developed by an engineer with one foot in the contracting camp. A desk-bound engineer might have had the idea and might, which is less likely, have had the experience and intuition to detail it without a practical test; open competitive tender would have killed it stone dead. All three engineers cited at the beginning of this review, after a formation in mathematical disciplines, became directors of their own contracting firms; all three profess to have (continued on page 908)

The Editors

PRODUCTIVITY, MANAGEMENT AND ARCHITECTS

HOW concerned are architects about productivity—that is, productivity as a measure of useful results in relation to resources, and not of how much effort is applied. Why, whenever there is an economic crisis, is building investment the first to suffer? Is this vulnerability related to low productivity? It may be, for during the last eight years, among the fifteen or so major industries, the productivity of the building industry has risen least by only 18 per cent., against an average rise of 24 per cent. and a maximum rise of 56 per cent. in the chemicals industry. From being the second-best paid in 1939, building has sunk to twelfth best. Thus in hard times when the government and the private client are looking for economies that will least affect their interests, they lay-off the least productive workers. That is, the building industry, which includes architects.

These, and other hard facts, opened the proceedings of the Management Appreciation Conference held at the British Institute of Management Centre at Sundridge Park last month. It had been arranged by the LMBA, in association with the RIBA and the RICS, to enable top-level members of the three institutes to discuss the responsibilities and techniques of management, and co-ordination within the industry. Of the eight members of each profession who were present, all from the LMBA were well-known names, and the RICS was represented with authority, but well-known architects were conspicuously absent. (Read again the first and third paragraphs above.) The architects who were present, however, were there because they were concerned about productivity, and for them, we understand, the experience was both depressing and stimulating. It was depressing because it showed as fact what had only been feared. It was stimulating because techniques of management were described at the conference that fully respect human needs and aspirations, that have proved themselves in progressive works and offices, and that have application throughout the building industry. There can be no doubt that if building is to rise from its position of hard-worked, poorly-paid passenger in the nation's economy, the sooner the techniques of management are adapted to its use the better.

In the context of the conference, a manager is one who directs or supervises others; the most lowly of architects is thus a manager in so far as he directs the work of the builder, and he should be aware of his responsibilities and the techniques available to him to get the best out of the relationship. Architects are already using some of the techniques to a small extent, e.g. cost control and programming, but there are others of greater significance to be worked out, and the use of them all to be perfected. Architects cannot afford to be professionally complacent, and the JOURNAL will spare no effort to put before readers the importance of developing the knowledge of management.

reacted against the mathematical approach to engineering problems. The conclusion would seem that to be an engineer one must learn analytical mathematics and then forget it; the popular theory that what is to be forgotten need never be learnt is, alas, less well supported.

A British engineer need not be too vociferous in his applause of these antimathematical manifestos; mathematics as a vice has never been popular in these islands. Provided it be remembered that mathematics is not a tool for the design of structures, but rather for the checking of structures already designed, it can offer the engineer powerful means of obtaining the desired degree of security without the waste which ignorance entails. Indeed, in this country the theory which needs refuting is that which would have it that designing "by eye" replaces mathematical analysis. There is no way of designing but by eye; security may be ensured by tests, either full scale or on models, or by analysis. Tests on full scale structures are expensive but can be highly revealing; tests on models are not cheap and are often inconclusive; it is rare that analysis is completely at a loss, even though it may be necessary to accept a fringe of inaccuracy and to increase security to cover it. Some of the works of Nervi lend point to these remarks, notably the war-time hangars. There is a variety in the form and location of the strengthening added to the precast members at critical points in the structure of these ostensibly identical hangars, such that one wonders whether the designer had a clear idea of what was going on. It seems likely that the model tests failed to give an unequivocal answer to the questions put; many engineers would not agree that this roof, of a form well known in this country under the name "Lamella," is not amenable to calculation.

Might this uncertainty explain a curiosity in the Hall C at Turin? Here we have a roof which is plainly a development of the later hangars, though precast ribs have been replaced by ferro-cemento slabs and ribs cast in situ between them. The dimensions are smaller and the horizontal roof around four sides would have facilitated the support of horizontal thrusts; despite which, this butterfly of a roof is borne on massive arches, whilst the hangars were completely free spanning.

Nervi is quoted as saying that where taste is lacking, economy can take its place in producing a fine structure. May one say that in the structures illustrated in this book it is not always clear which was operative? A progress can be postulated from the earlier works (the stadium, the hangars, the first hall at Turin, the salt store), where the job was doubtless awarded on price, to the later works where the designer was increasingly given a free hand. The earlier works have a lean look about them; in the later ones, taste keeps breaking in. The extreme case of the latter is the roof at Chianciano; this is a splendid false ceiling in the best traditions of Italian plaster work and has

nothing to do with engineering structure. The mushroom slab in the tobacco factory is play-acting on an engineering theme; the ribs follow the isostatics of a solid slab, but as soon as a slab is ribbed, forces follow the ribs anyhow and what happens in a solid slab is irrelevant. Great fun this floor, but it must have some huge hidden merit to make it cheaper than an ordinary mushroom slab over so small a span as

More of the same thing in the UNESCO building in Paris. The assembly hall: the span is 120 ft, and in consequence requires no gymnastic efforts to roof it. The folded slab structure which has been built is an interesting piece of structure; one sees immediately why he made it that shape. It is also extremely heavy and it is difficult to imagine how the shuttering was arranged and how the concrete was cast. No refining effect of economy here. The building itself is erected, as if de rigueur, on pilotis; the free space created by the pilotis is, at the present stage of construction, mostly walled in. The pilotis are continued upwards in columns from which the floor construction is cantilevered, leaving the outside surface free of primary structure. This surface has in fact been glazed, using heavy travertine mullions; these mullions are staggered to express their absence of structural rôle. Cart before horse?

But the search for economy, or minimum expenditure of human effort, is not the only replacement for taste. A more powerful refining agent is at work when the limits of and technique are approached; the agent is structural necessity. The new exhibition hall at the Rond Point de la Défense in Paris, will span majestically over a triangular area of 740 ft. side; this structure is now being erected. In the project model we witness a major engineer at grips with major problems which leave little room for decorative conceits. It is no spent force which is celebrated in this book.

Nervi has created the flambovant period of reinforced concrete; he should be studied by those modern Manichees for whom the principle of evil is not that which is material but that which is concrete, for he shows conclusively that materials are not noble or ignoble in themselves but only in how they are used. By the minimum definition of beauty, "that which being seen pleases," the better of these structures are beautiful: no one can see them without being uplifted. Are they works of great art? Is this that fusion between function, form and material for which we all strive? Doubts insinuate themselves; these bold and simple effects carry a slightly wicked flavour. Some, said Belloc, work in marble with a chisel, some in clay with their fingers, others, again, in butter with their toes. Is there not something too facile in the shape, too easily worked in the material, is not the technical discipline too lax for perfection? We are listening to an angel, but it is not that trump which we await; close attention reveals that the angel is playing a cornet.



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AD MEN SUPPORT BC

You may remember that a temporary Building Centre was set up in Bristol last year to test public (or professional and trade) reaction. The temporary affair was a success, and last week a permanent Centre was opened on the ground floor of a new office



Street façade designed by R. Towning Hill and Partners.

building (picture above). Exhibits, which will extend to another floor later on, are looked after by a staff of two, and are supervised by a committee of management, with three local architects as directors, representing a company limited by guarantee.

A large number of local firms is exhibiting in the 8,000 sq. ft. of floor area; and nearly half of the area is let to firms on a twelve-month contract. Other towns with hopes of a similar venture (I heard some murmurings in Norwich the other day) should note that capital was raised by the payment of exhibitors' rent in advance.

This Bristol venture, which is quite independent of London's Centre, unlike the Glasgow one, raises the question: how many such centres should and could be organized, and where? And should they all be independent of each other? ASTRAGAL, like the Journal's editors, is waiting for the inscrutable, indefatigable, Frank Yerbury and his BC Council to show their hand. Last month Yerbury's Centre received the honour of having the Duke of Edinburgh become its Patron. This shows that the Yerbury-Winser brain-child is adult and truly respectable. And, if no-one but ASTRAGAL is mean enough to listen for its breathing, many architects, noting this Bristol effort, and even accepting that the Store Street premises of the London Centre are being considerably enlarged, must wonder when it is going to become once again the example to the world of what a Building Centre should be.

BC TRAINING FOR AD MEN

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note

On page 910 there is a letter from the chairman of the Exhibitions Committee of the Craft Institutes of Great couraging reference, in our issue for November 14, to the crafts stand at the Building Exhibition. ASTRAGAL agrees with the JOURNAL'S Technical Editor, who replies on the same page. It is not that there is anything wrong with craftsmanship: what is wrong is the sort of exhibit that is invariably displayed on craft stands. And the stand at the Building Exhibition was no excpetion. What we saw there was a reminder of the curious time-lag in education-a reminder that we are always training the young for conditions which existed in our own

It is, of course, difficult to judge what will be the conditions of technique and work twenty years from now. But we do know enough about the technical revolution in the building industry to make a good guess. (After all, no one would dream of insisting that the basis of a motor mechanic's training should be the shoeing of horses. Even if we do damage because of mistaken prophecy, it could never equal the damage that is done every day by outmoded teaching.



Britain. He complains about a discouraging reference, in our issue for November 14, to the crafts stand at the Building Exhibition. ASTRAGAL agrees with the JOURNAL'S Technical Editor, who replies on the same page. It is not that there is anything wrong with craftsmanship: what is wrong is

MOLSON AND THE MICHAELANGELOS

Hugh Molson, the Minister of Works. has given a very odd reason for not holding a competition for the design of the new British Embassy near the Porta Pia in Rome. "I am doubtful about holding a competition" he told the Commons, "since it is not popular with architects, as was found in the case of the Nash Terraces." Since the projected competition for the Nash terraces was stillborn, no architects ever had a chance to say whether it would be popular or not. The Ministry of Works press department has since explained that the Minister formed this opinion after consulting "leading architects," by which are meant "men at the top of the profession, whose work could stand beside Michaelangelo's."

The Minister should not mistake the opinion of a few "leading architects" or modern Michaelangelos, who no doubt hope to be given the job if there is no competition, for the general view of the profession. The RIBA's general policy favours the holding of competitions wherever possible, and ASTRA-GAL hopes that "leading architects" are not privately expressing views to the Minister that run counter to RIBA policy. The RIBA itself was not officially consulted by the Minister before he made his statement. This does seem to be an eminently suitable case for a competition, and the Minister, who seems to be genuinely anxious to ascertain the view of the profession, should think again.

ASTRAGAL



Thomas Foster, Chairman of Exhibitions Committee of the Craft Institutes of Great Britain

John Schwordt, A.R.I.B.A.

H. H. Bayley, A.R.I.B.A.

7. W. Drake, L.R.I.B.A.

Isn't Craft Beautiful?

SIR.—In the review of the Building Exhibi-tion that appeared in your issue of November 14, you mention "eight stands on the second floor of the Empire Hall . . . which are not included in any section since they are of very limited interest to archi-

Among them was the largest stand in the Exhibit on—that of the Craft Competitions for Building Apprentices, held under the auspices of the National Joint Council for the Building Industry. Our own stand, that of the Craft Institutes of Great Britain, was by no means small, and contained some of the most beautiful work in the world. Both exhibits represented the craftsmen in the building industry-how they are trained in industry and the technical schools and how, in after life, when fully qualified craftsmen, they strive, through their craft Institutes, to uphold the tradition of fine craftsmanship that has always been associated with Britain.

Some of us in the building industry have gained the impression that architects care little for the craftsman or for the finer point of his skill. It is sad to find this confirmed in an architectural journal that, in the past, has had so much to say about building being teamwork and the necessity for each member of the team to learn more about his teammates .

THOMAS FOSTER.

Surrey.

The Technical Editor replies When we wrote that the stands on the second floor were "of very limited interest to architects..." we had in mind the kind to architects..." we had in mind the kind of exhibits which are usually on show on craft stands: chefs d'oeuvre in techniques most of which, for better or worse, now have little to do with modern building needs. Later we visited the stands and found that we were right. Why is this so? Certainly no architect in his senses would disparage out for the problem. disparage craftsmanship: it is an everlasting requirement in building and never more necessary than now. The trouble is that building educationalists seem not to measure their curricula by the actual needs of the industry, but to devote too much of the energies of their students to making superlatively well what most of them will never be called upon to make again. is granted, of course, that we will continue to want traditional techniques for the maintenance of our old buildings; but these must surely be regarded as specialised techniques, rightly respected as such, and must not be allowed to remain the basis of training in the industry. After all we still need blacksmiths; but this is no reason for making the shoeing of horses the basis for training motor mechanics. When the crafts training motor mechanics. When the crafts institutes begin to train their students to make the parts of good modern buildings will gladly direct architects to their

YouMight As Well Talk Chinese

SIR,—What is Mr. Daventry's £4,000 packet? (AJ: November 28.) On waose orders? For whose requirements? which locality? On what site?

No sir, architecture does not come with the morning paper. If I throw my cap over the moon and hawk my designs a am quite rightly hurled after my casp by the Regis-tration Council. And just how many butchers, bakers and off-duty bureaucrats care a damn for design in the true sense? I have bored people to tears (I fancy) for years talking about this sort of thing, and tried, too often in vain. to find a square inch of common intellectual or even emotional ground upon which to base the beginnings of mutual understanding and eight times out of 10 I might as well have talked Chinese, had I known it. Too frequently the inevitable flavour of

pro-bono-publico—however lightly it is administered—will upset a listener's delicate digestion possibly because this aroma is rarely sensed in the dishes of profit and loss. I cannot speak for London but Mr. Daventry can be certain that in the provinces there are many small firms of qualified architects who well ome one-offs and who would go almost light-headed with pleasure at the chance of a 12.0 ft. job. As it is, large firms get these jobs, usually, and the small man receives a lucky windfall just often enough to stop him sending in his emigration server. tion papers.

However, thank Heaven for the Daventry's of this world-it would appear that they at least don't think of us as bad risks, as do the building societies; as irritating interlopers, as do many municipal engineers, a arrogant pups (or hounds-according to age) as do the planners, or as expensive jokes, as do some builders.

If Mr. Daventry can think of a real and effective way of stimulating public interest in the towns and countryside and in things seen, used, worked-and-lived-in, well then he will have rendered a service to all of us and I imagine, to his country as well. JOHN SCHWORDT.

Lewes.

Three Up And Two Down

SIR,-It is all very well for Mr. Daventry to call on the young architects who can produce good cheap modern houses to do so-but we like to eat and so do our families! Since we are not allowed to advertise-except through a wide circle of acquaintances and social activities, which cost quite a lot to keep up—we must work cost quite a lot to keep up—we must work for an employer until we have accumulated sufficient "hump" to live on and provide "professional advertising" for a couple of years. Who will employ us? Look at the back page of the JOURNAL—medium and large private offices, some with out-of-date

principals dictating design and anyhow doing mainly industrial and commercial work because it pays best—and then Local Authorities. Very few cater for the £3-£4,000 house except the builder.

The RIBA will not allow us to dirty our hands by becoming master craftsmen and contractors, and yet remain architects, like the great architects of the past, so apart from a few of our number who become employees of the builder along with the plumber and the carpenter, small works are passing out of the architects hands. From my own experience in local government not more than 25 per cent, of the work requiring planning permission is signed by architects

There are of course a number of factors that make modern economical design in small houses an uneconomical proposition for the architect.

(1) Any departure from the standard spec or mosk Tudor exterior is very likely to be refused planning permission, at least at the first asking. This will entail at least a 3-month delay and considerably more work on the part of the architect even if the design is allowed on appeal. Many clients are not willing to face the delay and extra cost entailed.

(2) Any departure from traditional methods of construction may hold up or stop oye law approval and the official making the decision often has no proper architectural structural training, and his decision is final unless you like to institute legal pro-ceedings. I have myself had applications rejected because:—

(i) The external walls were not 81 in. thick of solid material.

(ii) A garage with a felted roof was sited nearer than twice the building height to a bungalow roofed with shingles.

(iii) The official did not think the roof con-struction looked strong enough (detailed calculations were submitted and ignored). (3) Often the capital to build must come

from a building society, and some building societies will lend money only on "Tradi-tional" houses. I have on one occasion been told by my client that the Building Society required the roof to be hipped, the recessed front porch to have a circular arch over it, and they would like a bay window!

Unless Mr. Daventry, and the butcher, and the baker, can help find some way round, over, under or through these obstacles put up by the on-duty bureaucrat he will for the most part have to put up with the same old dreary three up and two down that bake best like seeks best like. leaks heat like a coke brazier.

H. H. BAYLEY.

Too Small To Be Stockbroker's Tudor?

SIR,—I have read an article in your issue of November 21, entitled "A High Street Keeps in Keeping" in which a house of my design is criticized.

I would have thought that it would have been only courteous to have consulted me before publishing the article and to have obtained my views in addition to those of the chairman of the Council who applied the stupid description of "Stockbroker's Tudor" to what is obviously a very small country cottage.

I have Eved in Amersham for 40 years and share the Minister's admiration for the town and applaud his decision that the suggested flat-roofed edifice would be incongruous addition to the town.

I would like to say that I have never had a building rejected by a local authority on the question of appearance and if the choice lies between "Stockbroker's Tudor" and "Stockbroker's Tudor agive me "Stockbroker's Tudor" every time.

J. W. DRAKE.

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The Design of Offices

In a talk on office buildings to the Design and Industries Association last week Erno Goldfinger said that the topographical segregation of work and living meant, apart from the gigantic cost of transport, that roads and all other services were used for each sign out of the 24 hours which was roads and all other services were used for only eight out of the 24 hours, which was an incredible luxury. The modern road system should be able to work round the clock. The town planners would have to clock. The town planners would have to think again and segregate dwellings from work (especially where it concerned office work) three-dimensionally, thus using horizontal and vertical transport throughout the 24 hours and obviating, to a great extent, horizontal wheeled traffic.

Turning to the design offices Mr. Go'd-finger said that there were three components of modern architecture: the permanent

of modern architecture: the permanent structure, the much less permanent services, and an even more fleeting component, the

human requirements.

and an even more fleeting component, the human requirements.

"From this energies the new style of our epoch, of buildings whose structure is permanent, potentially more permanent than anything in the past, equ.pp., with a hierarchy of services of a more or less permanent nature, which are placed into ducts and channels so that they can be interchanged as and when required. These spaces are subdivided with membranes (no longer load-bearing walls, but light partitions sound-proof or not, transparent, translucent or opaque) which make it possible to reorganize the inside again and again as requirements change, creating ever new "enclosed spaces." Thus structure must give a permanent frame, or rather a three dimension, which represents the everchanging human requirements.

"And so this new concept of the permanent and fleeting, of the constant and changing, must be given shape. This shape is our new architecture."

MOH

new architecture.

The Hospital Building Programme

Derek Walker-Smith, the Minister of Health, made this statement list week on the hospital building programme:

It is proposed that £22 million shall be spent on capital development in the hospital service in England and Wales in 1959-60, compared with £18 million this financial year and £20 million proposed for next year.

As my predecessor explained to the House on July 1, 1955, the original programme, in order to encourage speedy action, included more projects than it would be possible to start in the years to which it was allocated. Projects already in the programme, but not started, and the second phase of some of those for which only the first phases have so far hern authorized. phase of some of those for which only the first phases have so far been authorized, are likely to make a considerable claim on the capital available for 1959-60. I am today inviting boards to bring to completion the planning of a number of additional major projects. I hope that all boards will endeavour to complete the planning early in 1959-60.

The projects selected include the first phases of new hospitals to be built at Liverpool and Boston, and the second phases of a number of large schemes already in the programme such as the new hospitals at Huddersfield, Swansea and

Swindon; the mental deficiency hospital at Llanfrechfa Grange near Newport; the development of The Downs Hospital,

Swindon, the mental deficiency hospital at Llanfrechfa Grange. near Newport: the development of The Downs Hospital, Sutton, as a medical nuclear physics centre; and the provision of a new X-ray department and theatres at Lewisham Hospital where the first stage of development is now nearing completion. There are new out-patient departments for the Dudley Road Hospital at Birmingham, the Chester Royal Infirmary and the North Staffordshire Royal Infirmary, Stoke-on-Trent; an out-patient department and admission unit to serve the Hollymoor and Rubery Hill Mental Hospitals; and an admission unit and convalescent vil as at the Garlands Mental Hospital, Carlisle.

A new regional neuro-surgical unit is included for the Newcastle General Hospital. Extensions are proposed at the Pontefract General Infirmary, Sharce Green Hospital at Preston, the Blackpool Victoria Infirmary, and Brongla'se Hospital, Aberystwyth; and works of modernization are included for St. James's Hospital, King's Lynn; the City Hospital, Bodmin: and Hone Hospital, Sulford. Among the projects are a new boiler house for the Manchester Royal Infirmary and some improvements at the City General Hospital, Sheffield. I am also asking for plans to be prenared for the first phase of some hospital development in Hull, and for add'tional beds at Ilford or Barking, but details of these two reheres have vet to be worked out with the boards concerned. boards concerned.

A COMPETITION . . .

. . . Not To Enter

Members and students have been warned by the RIBA not to take part in the architectural competition being promoted by a National Committee at Montevideo (Uruguay) for the design of a monument commemorating General Rivera.

The Sociedad de Arquitectos del Uruguay were not consulted by the Committee and the conditions for the competition do not conform to the IUA Regulations for International Competitions in Architecture and Town Planning approved by UNESCO.

AA

Greek Study For Rome Student

The Bernard Webb Studentship for the historical and critical study of architecture, which is open to members of the Architectural Association and tenable under the auspices of the British School at Rome, has been awarded to John D. Richards, for a study of the planning and organization of the Greek colonial cities.

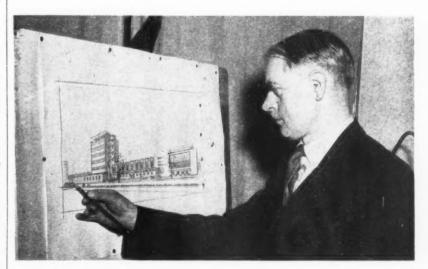
GG

Churches Saved

The interim report of the Georgian Group for 1957 records four instances in which alternative uses have been found for Georgian churches of outstanding merit, in Georgian churches of outstanding merit, in parts of London where there is no longer a resident population to sustain them. Holy Trinity, St. Marylebone, by Soanes, has been converted by Cecil Handisyde into offices for the Society for the Pronagation of Christian Knowledge, supplementing the retention of a smaller church, St. Georgein-the-East, Stepney, by Hawksmore, gutted by enemy action, is being adapted by Arthur Bailey, A small church will be retiined in the centre of the building, the former crypt will be used as a church hall, and four residential flats will be constructed at gallery level. Plans have been prepared and four residential flats will be constructed at gallery level. Plans have been prepared by Richard Davies to convert the interior of St. Peter's, Regent Square, St. Pancras, (also gutted) into a hall, with a branch of the Public Library in the gallery. A scheme has been put forward to turn another blitzed church, St. John's, Westminster, by Archer, into a concert hall. The architect is Louis Osman. This scheme is still in its early stages.

tect is Louis Osman. This scheme is still in its early stages.

The 1958 programme of visits to notable Georgian buildings will include White Lodge, Richmond Park, and Mount Clare, S.W.15, the Wellington Rooms and the Old Bluecoat School, Liverpool, and a week-end at Cambridge. There will also be a Ball to catabrage the Group's 21st birthday, which falls in June, if a suitable ballroom can be builded.



Eric G. Broughton with his first prizewinning design in Enfield Borough Council's Competition for a civic centre. Details of his design were published in last week's Journal. We regret that in the same issue we stated that the third prizewinner received £500. In fact he received

RICS

"Speed Up Slum Clearance"

A radical revision of the archaic procedure for slum clearance, to reduce the "fantastic administrative cost," was suggested by administrative cost," was suggested by J. P. Macey, the Birmingham Housing Manager, in a recent paper to the RICS. After describing the existing procedure for representation by the MOH, the making of clearance orders or compulsory purchase

orders, enquiry and confirmation by the Minister, Mr. Macey said:

There is no doubt that this procedure weighs heavily upon a local authority seeking to press on quickly with their slum clearance programme, as the average time taken to go through all these processes, from the time of representation to the date of entry. is about 20 months. This has been compared with the expedited procedure available under various enactments immediately after the war, and in Birmingham Corporation, in particular, comparisons have been drawn with the procedure under section 9 of the Town and Country Planning Act, 1944 (since repealed). Under this section, the city acquired some 30,000 houses, mostly, but not all, unfit, and various businesses, industrial and other interests on land covering in all about 1,000 acres and spread over five different redevelopment areas. The whole thing was dealt with as one operation; and although there were lengthy debates in Committees and in the Council Chamber, the total time spent was only a very small fraction of the time spent over the last three years in Committee and in Council over the acquisition of a mere 8,000 houses. Only one compulsory purchase order was made one compulsory purchase order was made and only one public inquiry took 'place, which lasted about eight or nine days. (The ownership of the land was vested by simply sealing a vesting declaration.) A further 25,000 unfit houses in Birming-him will be acquired following the slum clearance survey carried out in conformity

clearance survey carried out in conformity with the provisions of the Housing Repairs and Rents Act, 1954. Because of certain diffiand Rents Act, 1934. Because of certain diffi-culties over definitions, a separate clearance area procedure is necessary for each group of houses, and groups cannot be coupled together unless the boundaries actually touch at some point. Clearance areas may, therefore, comprise anything from houses unwards, and on the average based on actual experience of tackling the first 8,000 of the 25,000 houses, each area contains some 45 houses. Dividing this into the figure of 25,000, the completion of this programme will necessitate the declaration of some 560 separate clearance areas by resolution, the preparation of separate plans for each, separate submissions to the Minister, authority by 560 separate resolu-tions to make a compulsory purchase order, and the preparation (allowing for some grouping) of perhaps 400 orders.

present slum c'earance originates from the early Housing Acts of the last century and is now nearly 100 years old. While it is fair and suitable for authorities with only a few unfit houses in their areas, it is a totally unsuitable procedure for large industrial towns where large numbers of unfit houses are intermingled with industrial and commercial premises and where many properties may be on lease. Under this archic procedure, the surveys, preparation of plans, referencing of ownerships, service of notices, advertisements, correspondence, attendance at local inquiries and the conveyancing work mount up to a fantastic administrative cost—and to this must be added the delay and frustration arising from this out-of-date and inappropriate procedure.

Mr. Macey suggested that the procedure should be modified to enable local authori-ties to deal with unfit houses in much larger groups, and that authorities with very large programmes be given powers similar to section 9 of the 1944 Town and Country Planning Act.

CRITICISM

by J. M. Richards

TUC MEMORIAL BUILDING

designed by DAVID DU R. ABERDEEN

This is an important building for several reasons. First, it is one of the few in recent years that fully justify the use of the competition system, since it contains interesting ideas for the use of a difficult site which probably would not have been arrived at except by means of a competition, and the finished buildingwhich is even more unusual-differs only in minor ways from the winning competition design. Secondly, the use made of the site constitutes a first-rate demonstration to the public that architects are, before anything else, handlers of space in three dimensions, not simply the people who clothe structures. And thirdly, there is the high standard of craftsmanship and finish shown throughout the building-a quality too many modern English buildings lack.

It is not an easy building to apprehend, in spite of the interesting way in which the arrangement of the interior spaces is visible through the glazed outer walls. It has no clear three-dimensional shape that can be seen from the outside. All the public sees is one main street frontage—the façade to Great Russell Street*—an oblique view down Dyott Street, consisting of a rather incoherent pile-up of external features that can only be understood after reference to the plan. and such views into the interior as can be got from the street; views, I should add, that are unusually interesting because they afford a sight of a number of levels of the building simultaneously.

The visitor who penetrates just inside the building sees. in addition, a complex relationship of interior spaces which constitutes the building's most exciting quality -a quality that enables it to combine some of the interest of the interiors of the RIBA building and the Royal Festival Hall. The same use is made of staircases, for example, that afford views at different levels into the same two-storey spaces, and the same use of glass screens to unify a design that can be better understood in section than in plan. Several of the mannerisms to be found in the TUC building are, moreover, the equivalent of those that make the RIBA building so typical of the highly-stylized fashions of the nineteen-twenties, particularly inside the courtyard and on the east flank of the building. But I must return to these later.

^{*} See the large picture on page 920 of this issue. The TUC Memorial Building is fully illustrated on pages 915-924.

The site was an unusually difficult one, and the clever plan has given a surprising amount of shape and character to it. Nor did the programme make planning at all easy, because this is really several kinds of building in one: an office building, an assembly-hall (linked to a memorial-hall, which is placed above the basement foyer of the assembly-hall), a headquarters building for the TUC (with its council chamber, secretariat, library, etc.), and a training college for trade-union officials. Prominence also had to be given to the war memorial which is, as it were, the emotional justification of the scheme.

The architect's solution was first, as it were, to clear the ground by putting his largest unit, the assembly-hall, in the basement, and then to plan the other departments round three sides of a courtyard whose floor is the roof of the assembly-hall: offices across the front, training-college and more offices across the back and headquarters accommodation across the east side, linking the two. He was thus able to place the memorial against the west wall of the courtyard so that it would be seen from all the main windows that look inwards, and in particular so that it would become the focal point of the view from the windows of the council chamber and secretarial suite opposite it. Glimpses of it can even be had from the street.

The top-lit assembly-hall is reached (through its basement-level foyer) direct from a street-level foyer, which occupies the whole of the Great Russell Street front not taken up by the main entrance. Its basement foyer can also be reached, by a horseshoe-shaped staircase, from the memorial hall immediately above it, which is typical of the interlocking circulations that are an ingenious feature of the whole plan of the building. The architect had to furnish each of the users of the building with his own independent access and circulation, a problem he has handled brilliantly. Tenants of the lettable offices at the back have their own entrance in Bainbridge Street and the sub-basement garage is reached from Dyott Street-these two streets being little more than narrow lanes which isolate the site to the south and east respectively. Then a separate staircase leads direct from the garage to the main entrance hall (involving a tricky piece of planning because of the safety regulations controlling direct connections from garages), and there is, of course, a direct approach from the main entrance to the TUC headquarters suite upstairs.

The one criticism many people will make of the plan is that the courtyard can be seen but not entered, and it does give one a somewhat uncomfortable feeling to be circulating round inside the building, always made conscious, by the design of the architect, of this central space that is in fact inaccessible. I suppose it would be answered that were the space accessiblewere the courtyard to be designed as a garden-its porportions, as determined by the heights of the surrounding offices, would not make it a very attractive one; and furthermore, why should a building have a garden court if that was not one of the things the owners required? That is a perfectly valid argument, though I myself would still make the criticism that the architect has invited this uncomfortable feeling of a useable but forbidden central space, by making its floor level coincide with the general ground floor level of the building, so that there is an instinct to pass through the large windows on to the floor of the courtyard, and it is the frustration of this instinct that causes the trouble. Is there any reason why the roof of the assembly-hall should not have been a little higher, or should not have been shaped in some way, so as to look less like floors waiting to be walked on (see page 923)—especially at night, when its level surface, lighted from beneath, is even more than in the day-time the visual focus of the whole scheme?

A complex building like this cannot be fully analysed in the space I have at my disposal. All I can do is, having praised the conception as a whole and the three-dimensional planning in particular, mention whatever points of criticism occur to me and draw the reader's attention to those aspects of the design that I think warrant critical discussion.

First: the exterior. The main elevation to Great Russell Street (page 920) is, I think, excellent. It is detailed with unusual care and precision, and as a result is one of the most distinguished pieces of modern street architecture in London. It and the YWCA next door (by Lutyens) provide a classic example of the way two buildings, each utterly different in conception but good of its period, can act as a foil to each other and enhance each other's contribution to the total street picture.

I have only one criticism to make of the TUC facade. I simply cannot accept as appropriate the use of vitreous mosaic to clothe the projecting frame that surrounds the windows and wall panels. The infilling between the windows is polished granite—a delightful material, wholly suited to the London climate-but it is essentially a dense, muscular material, whereas mosaic, an altogether lighter and less substantial material, is by nature more suitable for infilling. To use the granite for infilling and frame it round with mosaic seems to me to be such a reversal of the logical rôles of the two materials, that I can only regard it as wilfully perverse-the sort of thing even Lutyens in his perverse moods would have hesitated to do. It would be interesting to know why Mr. Aberdeen did it.

This is the only criticism I can make of an exceptionally well organized elevation. Moving a little way along the street and looking down Dyott Street, however, we see the side elevation (page 921), and this is extraordinarily different: utterly lacking in organization, and comprising an assortment of unrelated elements that I can only describe as an anthology of contemporary clichés. The presence of each element -staircase, bay-window, set-back here and break forward there-can no doubt be justified by reference to the plan (except the tier of balconies just round the corner from the Great Russell Street front, which fulfil no function that I can discern), and no doubt there is a case for treating a deliberately picturesque effect by a complex series of changes of plane and angle, but the view down Dyott Street (part of which can be seen on page 920) does not give the impression of having been conceived in this way nor of the result of everything being seen at so oblique an angle having been visualized from the beginning.

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One can have no objection to clichés in the sense of well-tried solutions to familiar detailing problems, but some of the clichés to be noticed here—the grandpiano double curve, the glass-fronted cantilevered balcony and the rest—are so familiar a part of the conscientiously modern vocabulary of the nineteenthirties that it is a brave architect who reintroduces them whole twenty-five years later. I should add in fairness that these various elements, which I find arbitrarily used and incoherent in effect, are individually as carefully detailed and neatly finished as everything else in the building; also that a short walk down Dyott Street gives you some of the most interesting—indeed dramatic—of those simultaneous views into different levels of the interior that I mentioned

The core of the building, as I have explained, is the enclosed courtyard. Here the walls are surfaced in part with vitreous mosaic and in part with ceramic tile-materials that might have been more effective if the use of each had been more clearly differentiated, though this would not have been so necessary if they had not been so alike in colour and tone. The architect may say that he wanted a sameness of colour and tone, and no doubt he had good reason for choosing two facing materials, not one; if so, my point is not one that can be pressed. On the other hand, I feel inclined to press much harder two further criticisms of the central courtyard. These concern the treatment of the two walls at the eastern and western ends, which are seen, I should remind readers, from the main circulations within the building at every level.

The east wall (seen in part on page 923, top left) contains the broad windows of the memorial hall and (above this) of the main headquarters rooms—council chamber, secretary's office, etc. It therefore offered an opportunity for interesting fenestration, which the architect has taken; but he has introduced so many different elements—windows differing not only in shape but in scale and material—and has complicated them further by an unnecessary projecting balcony at the secretarial (fourth floor) level, that to my eye the effect is altogether too restless.

Through the lower windows one discerns still another element: a pair of white columns (page 922, left) circular in plan but tapering top and bottom instead of being cylindrical, as one would expect structural columns to be. Presumably the architect meant by this means to mark them as possessing more importance than mere structural supports. If it was sufficient to do so simply by giving them an arbitrary outline, my dislike of them must be that I personally find that outline graceless and insensitive.

Turning to the western wall of the courtyard we find ourselves facing what I have already called the emotional justification of the whole layout, focusing our attention on the Epstein memorial sculpture in the centre (not yet unveiled). Here the architect has made a virtue of a very awkward necessity: that one wall of his courtyard was a party-wall of the YWCA building, above and beyond which was a very dingy light-well lined with white glazed bricks. Some kind

of screen-wall was obviously required, and Mr. Aberdeen conceived the idea of shaping this to furnish a more dramatic background to the sculpture than a wall that was part of the structure of the building would normally provide. The sculpture, on its pedestal, is placed in front of a towering, tapering panel of green marble (page 923, right), and surrounding this—filling in the sides and running across the top of it—is a screen composed of solid glass rods set close together to give a translucent effect; that is, it prevents one seeing into the light-well behind, yet allows one to know that there is void there, not solid. Presumably, too, it avoids darkening the light-well itself.

The principle of this solid marble screen with its translucent surround is sound as well as clever, and the marble is a most beautiful material. But the emphatic triangular shape it has been given, stepped inwards at its base, combined with the glitter of the glass rods and the ugly angular apertures they have to fill, seem to take away nearly all the natural dignity of the wall of marble, and creates a somewhat flashy effect more appropriate to a Lyons Corner House than to a solemn memorial. Such effects are, however, a matter of taste, and I can only assess them according to my own taste. What seems to me a lapse into jazzmodern I am sure seems otherwise to the architect, or he would not have contrived it with such care. I can say no more if he simply answers that he prefers it his way.

ai

Having been rather outspoken about this and one or two other shortcomings in design that I see in the building, and having taken many of the building's virtues for granted, I would like to end by drawing attention again to one of them: the very high standard of finish displayed throughout. I recommend anyone who has the opportunity to tour the whole buildingnot only the show spaces, but the ordinary offices, committee-rooms, staircases, lift-halls, and so onand admire the well thought-out detailing and the beautiful veneered and other wall-surfaces, all admirable examples of craftsmanship. The important rooms, in which the furniture has been designed by the architect-especially the council-chamber (page 924)-are superb, displaying a standard of detailing and craftsmanship that we are accustomed to see and admire in, say, a Danish town hall but which in this country is far too rarely associated with modern buildings. It is, I suppose, to some extent a matter of cost. I do not imagine the TUC building was cheap (no figures are available as I write), but there is certainly a great deal more to it than having the money to spend on first-class materials. One necessity, I am sure, is collaboration between a careful and capable architect and conscientious craftsmen. Collaboration of this kind was a commonplace a generation ago (when most of the architecture was commonplace, too, for quite different reasons), but a really high standard of craftsmanship in the materials modern architects use is all too rare. If the beautiful finish of the TUC building inspires an application of craftsmanlike standards to contemporary buildings and leads architects to value them properly, it will be a landmark indeed.

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HEADQUARTERS (Offices, Conference Halls, etc.)

in GREAT RUSSELL STREET, LONDON, W.C.2: designed by DAVID DUR. ABERDEEN; partner-incharge PETER HATTON; associated partner J.S. HEATHCOTE; assistant architect J.M. MCINTOSH; consulting engineers (structural) OVE ARUP and PARTNERS; (heating and ventilation) J. ROGER PRESTON and PARTNERS; (electrical) G. H. BUCKLE and PARTNERS; quantity surveyors D. R. NOLANS and CO.

The architect for the TUC Memorial Building told us it was not possible to provide a cost analysis in the usual JOURNAL style. Nevertheless we considered it important enough to treat at the same length as buildings for which costs are available. The building contains offices, secretariat, council suite, training college, conference centre, libraries, dining hall, etc. It was completed in June this year. The architect's design won an open architectural competition in 1948, and detailed development of the scheme was begun immediately, although no building licence was granted until early in 1953. Part of the building was occupied in September 1956 and all the accommodation above the ground floor has been in use since March this year.

The conference hall see from the dais.

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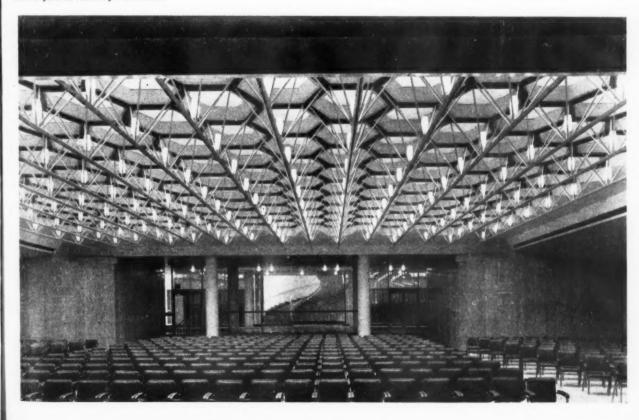
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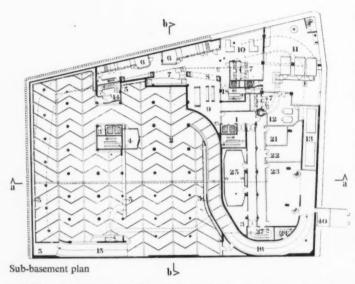
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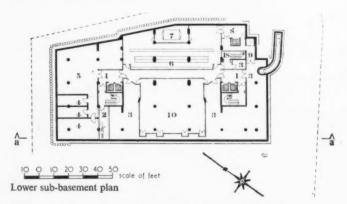
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1, lift hall. 2, conference half foyer. 3, store. 4, telephones. 5, male lavatory. 6, female lavatory. 7, cleaner. 8, male cloaks. 9, female cloaks. 10, conference half (seats reversible). 1, I, duct space, etc. 12, dais. 13, collapsible cinema screen. 15, car evit ramp. 16, car entrance ramb. 17, area. 18, service staircase. 19, garbage hoist. 20, goods lift. 21, switch room. 22, transformer chamber. 23, battery room. 25, telephone intake and apparatus. 26, emergency exit. 27, conference half retirn grooms staircase. 28, engineers' lavatory. 29, heating chamber roof-light. 30, check office. 31, vegetable store. 32, dry goods. 33, larder. 34, cold store. 35, kitchen, 36, wash-up. 37, service. 38, canteen. 39, petrol interceptors. 40, vault.



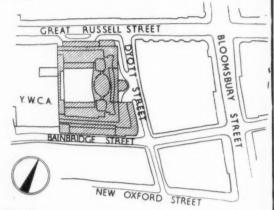
1, lift hall. 2, car park. 3, store. 4, attendants' room. 5, car park extract duct. 6, air-conditioning plant. 7, ventilation plant. 8; air intake over. 9, evaporator and condensers. 10, compressors. 11, heating chamber. 12, calorifiers. 13, oil tanks. 14, car park and portico staircase. 15, car exit ramp. 16, car entrance ramp. 18, service staircase. 21, engineer's office. 22, engineer's workshop. 23, tenant's storage. 24, car park fire-fighting staircase. 25, conference hall retiring rooms. 27, retiring rooms staircase. 40, vault.



1, lift hall. 2, ejector plant. 3, store. 4, strong room. 5, future strong rooms. 6, stationery store. 7, chilled water tank. 8, goods lift hall. 9, lift motors. 10, recreation room. 18, service staircase.

SITE

The site was very cramped—a rectangle about 180 ft. by 130 ft., surrounded by narrow streets on three sides and by Lutyens' YWCA building on the fourth. Only one of the streets—Great Russell Street—is moderately busy, and a scheme for one-way traffic is being considered at the moment.



Site plan

The building was restricted to a height limitation of 80 ft. Other restrictions which caused difficulties in planning were those concerned with building angles. (51 deg. from the back of the pavement on the opposite side of the surrounding streets, the same angle applying to all internal light wells: this latter was reduced to 45 deg. from sill level of the lowest windows in the courryard.)

The plan forms three sides of a central courtyard. The fourth side is closed by the YWCA building, and the party wall of the YWCA is used as the support for the memorial wall, which fills this side of the courtyard. This wall, of deep Genoa green marble, was designed as a backcloth for the sculpture (not yet unveiled) which Epstein has carved on site out of a 10-ton block of light Roman stone. At the flanks of the wall, and across the top, a screen of glass rods permits light to enter the courtyard from the wells of the YWCA building. The effect of reflection and diffusion changes with variations in daylight and the position of the sun. At the top of the wall a head beam with a clear span of 54 ft. is swung across the courtyard. It houses a cleaning sparge pipe from which the wall and surrounding glass rods can be sprayed, and a monorail by means of which a bosun's chair can be moved anywhere over the wall for cleaning, inspection and maintenance. The monorail passes through hatches at the ends through which the chair can be launched.

Opposite the wall is the memorial hall, from which the natural lighting effects mentioned above can be seen. The wall can also be seen in its entirety from the general secretary's balcony on the fourth floor, and in part from the glazed landings to the office staircases at the four corners of the courtyard.

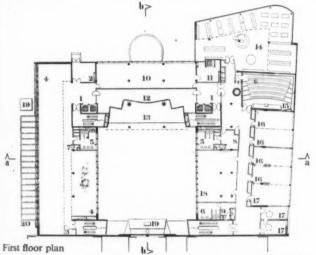
Around the courtyard the building is seven storeys high, with set-backs on the street sides and at sixth-floor level only on the north and south courtyard sides, introduced to fall within the building angle requirements. The building has not been brought up to the building lines: this has enabled the set-backs to be integrated sympathetically without the feeling of disruption which conspicuous terraced set-backs would have created along the street frontages.

The main entrance is under an open portico on the Great Russell Street side. The rest of this frontage is given up to the conference hall public foyer with its separate vehicular Gr

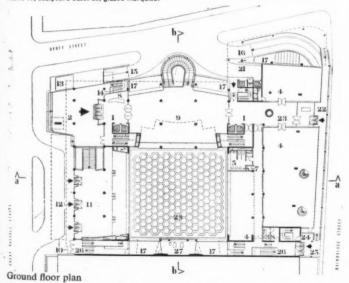
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Second floor plan

I, lift hall. 2, waiting. 3, store. 4, general office area. 6, female lavatory. 7, cleaner. 8, TUC filing. 9, memorial wall.



I, lift hall. 2, waiting. 3, store. 4, general office area. 5, male lavatory. 6, female lavatory. 7, cleaner. 8, male cloaks. 9, female cloaks. 10, despatch department. 11, goods lift hall. 12, viewing balcony. 13, memorial hall: upper part. 14, library. 15, lecture theatre. 16, seminar. 17, study. 18, common room. 19, sculpture base. 20, glazed marquise.



l, lift hall. 2, entrance portico, 3, store, 4, general office area, 5, male lavatory, 7, cleaner, 8, enquiries, 9, memorial hall. 10, outline of building over, 11, street foyer, 12, car draw-in, 13, plant box and ramp hood, 14, portico to car park staircase, 15, car exit ramp, 16, car entrance, 17, area, 21, loading dock, 22, high-level pavement, 23, tenant's entrance, 24, early fleffing staircase, 25, night entrance, 26, emergency exit, 27, projection room, 28, glazed roof of conference hall.

the portico. The main entrance links to the memorial hall, occupying the full width of the courtyard, and this in turn connects with the tenants' entrance on Bainbridge Street. Lift batteries are arranged at both entrances and staircases are housed behind the shafts. Spatially and visually the circulation area of entrances and halls extends from Great Russell Street to Bainbridge Street—some 180 ft. A bronze sculpture group by Bernard Meadows (now being cast and to be erected early in 1958) is to mark the Great Russell Street entrance. The group and its pedestal form an essential part of the composition of this street frontage and its relationship to the surrounding properties.

draw-in beneath a long marquise which gives continuity to

The memorial hall at ground-floor level rises through two storeys. A reference library on the third floor is for use by all departments. On the fourth floor is the secretariat. The general secretary's room and the council chamber on the fifth floor. The sixth floor, which was to have been a boardroom, is now a general office space. The north and south wings of the building, along Great Russell Street and Bainbridge Street respectively, accommodate general office areas and departmental suites. In the Great Russell Street wing, four storeys of offices (first-fourth floors, inclusive) are surmounted on the fifth floor by the committee suite which runs the whole length of the building. Four committee rooms are planned en suite and can be thrown together to form one room 110 ft. long. The committee rooms are part of the council suite and the rest of the floor is given up to members' rooms, lavatories, chairman, etc. The council suite rises through 11 floors, with a 15-ft. ceiling height.

In the Bainbridge Street wing, the whole of the office accommodation is let to one tenant (second-fifth floors, inclusive) with an independent entrance from the street. The sixth floor is occupied by the caretaker's flat, the saw-toothed arrangement of window walls giving the rooms a panoramic view of St. Paul's in the distance to the south-east. The training college accommodation on the first floor of the wing is an entirely self-contained unit for handling short courses of 50-70 students. The college is approached from the main entrance across the viewing balcony or by separate entry on the Bainbridge Street side at the YWCA end. The college comprises a lecture room to seat 70, with terraced seating; five seminars, each seating 12-15, and capable of being thrown together by means of folding screens; large library/reading room (Dyott Street-Bainbridge Street corner); joint staff and students' common room; administration offices and cloaks, etc. The college rises through 11/2 floors in the same manner as the council suite.

The conference hall, at basement level, is approached from the street foyer by a broad, straight staircase in an open well passing under the main entrance portico. The staircase links with a lower foyer repeating the memorial hall form above. This lower foyer can be fully opened up to the conference hall by sliding, fully glazed screens. The hall is seated beneath the courtyard floor and extends under the north and south side wings of the building, having a clear width of 95 ft. The memorial hall and lower foyer are connected by a fully-glazed horseshoe staircase on the memorial wall axis of the building. The conference hall, its foyers, circulation, cloaks, etc., are planned to function as an entirely self-contained unit so that it may be let to outside bodies without the user entering the TUC's private portion of the building above. The hall is fully licensed by the LCC. The roof of the conference hall is glazed overall with hexagonal coffers forming an integral part of the completely exposed welded structural steel space frames. The daylight factor in the hall is as high as anywhere else in the building under natural lighting conditions. Each of the 172 coffers has its own lighting point and the artificial light seen from above through the triple-glazed

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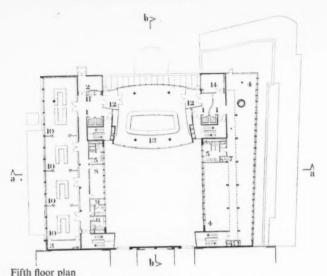
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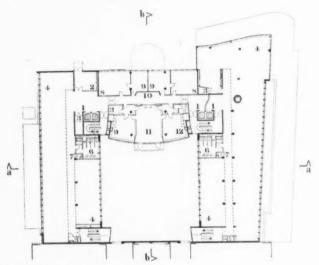
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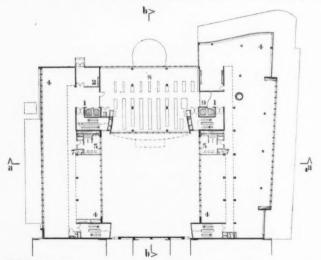


7, cleaner. 8, members' rooms. 9, bathroom. 10, committee room. 11, telephones. 12, ante-room. 13, council chamber. 14, spare office.



Fourth floor plan

1, lift hall. 2, waiting. 3, store. 4, general office area. 6, female lavatory. 7, cleaner. 8, assistant secretary. 9, private secretary and typist. 10, ante-room. 11, general secretary. 12, committee room.



Third floor plan

roof unit gives the courtyard floor a soft luminosity—a pavement of hexagonal flags. At night the light illumines the courtyard to the full height of the building with an even diffusion of light.

The rest of the basement, apart from the conference hall and its ancillary accommodation, is occupied by a dining hall, seating 250, with kitchen, etc., equipped to cook for banquets up to 700. The kitchen is designed for use in conjunction with the hall, if desired, when it is let for functions. Beneath the conference hall, at sub-basement level, is a car park for 50 cars approached by ramps from Dyott Street. The ceiling of the car park (floor to the conference hall) is a 24-in. thick reinforced-concrete civil defence slab requested by the Ministry of Works. At this level also is housed the main ventilation plant room and heating chamber with engineer's stores, workshops, etc. A lower sub-basement accommodates strong rooms, general storage, maintenance and cleaning staff rooms.

MAIN CONSTRUCTION

The structure is a monolithic r.c. frame with r.c. floors and roofs and hollow pot infilling in the superstructure generally. Beams are for the most part concealed in the slab thickness to give flat ceiling soffits-particularly in the general office areas-for flexibility and ease of sub-division with the standardized demountable partitioning employed. Low-pressure hot-water radiant heating panels are incorporated in the ceiling soffits or in suspended plaster ceilings. In the office areas, continuous radiant heating panels are provided beneath window sills (completely flush with the wall face) to augment the ceiling heating. Where it has been desired to keep the heating panels out of ceilings altogether they have been arranged beneath the floor finishes of hardwood block or marble. The structural members in the external walls are r.c. mullion ribs between windows taking the place, in general, of main stanchions in the outside walls. In the undulating walls, floors are carried from stanchions set back within the building.

The street facings are 2-in. Cornish granite slabs polished to a "wet sheen." The slabs are supported on cramps and non-ferrous metal corbels, built into pre-formed pockets in the structure. R.C. aprons form the infilling beneath sills between the slender mullion ribs (5 in. wide by 10 in. deep) and provide essential stiffening to the ribs and structural backing for the facings. A $\frac{1}{2}$ -in. cavity is left between the granite and the structure.

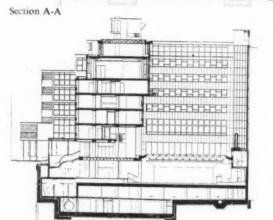
In the courtyard the facings are 13-in. precast vitreous mosaic-faced panels with haunches on the back which seat into preformed pockets in the structure. The panels are solid-bedded. The wall beams in the north and south courtyard walls are 5 ft. deep and span 54 ft. The mullion ribs were formed after the beams and provide vertical stabilizing tie members between the top of the beam (at sill level) and the floor slab at ceiling level (soffit of the beam above). In situ vitreous mosaic is used to columns and other limited faces on the street sides together with a certain amount of frostproof tiling, generally forming panels. All staircases are of r.c. monolithic with the structural carcase but shuttered up and formed subsequently. General office staircases are finished with precast terrazzo tread and riser units cast in one piece. Main staircases are finished with 2-in. Burma teak.

PARTITIONING AND FINISHINGS

In the office areas floors are of compressed cork tiles laid over 2½-in. screeds in which a complete under-floor fibre duct system is arranged for the running of all electrical and

^{1,} lift hall. 2, waiting. 3, store. 4, general office area. 5, male lavatory. 7, cleaner. 8, library. 9, void.

telephone services. Corridor ceilings are finished with acoustic sound-absorbing tiles. All partitions in the office areas have been designed to standardized details and modules to permit flexibility in arrangement. They are completely demountable, lightweight, and have numerous wiring chases housed in them for use with the flexible lighting and switching system for the office floors. In all the special areas and lift halls, floors are either hardwood strip or block, except for the main entrance hall, which is Sicilian pearl marble. All the major units of accommodation are lined with hardwoods and veneers and, in general, have suspended plaster ceilings.



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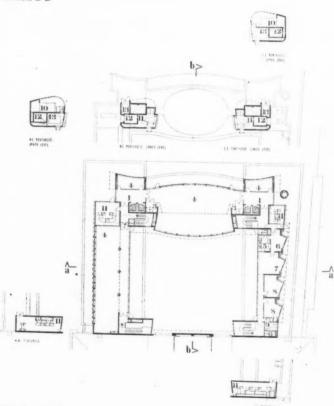
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Sixth floor plan

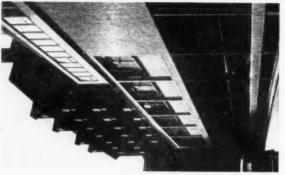
I, lift hall, 3, store, 4, general office area, 5, kitchen, 6, dining, 7, living, 8, bedroom, 9, bathroom, 10, lift motors, 11, ventilation plant, 12, cooling tower, 13, tanks,

CONTRACTORS

Clerk of works: W. H. Roberts. General contractors: Sir Robert McAlpine & Sons. Sub-contractors-Hardwood block and strip flooring: Acme Flooring & Paving Co. Vitreous mosaic, precast and in-situ cladding: Art Pavements & Decorations Ltd. Roofing, bi-metal lightweight roofs to special areas: Wm. Briggs & Sons. Cork flooring: Jos. F. Ebner (1953) Ltd. Strong room door: Hobbs, Hart & Co. Double-glazed teak sashes: Holcon Ltd. Copper work, wall cladding and special roofs: Holloway Metal Roofs Ltd. Metal windows: Henry Hope & Sons. Asphalt roofing, tanking, etc.: Limmer & Trinidad Lake Asphalt Co. Roof lights: Luxfer Ltd. Roller steel shutters: Mather & Platt Ltd. Steel lattice beams to special roof: Sommerfelds Ltd. Metal work, bronze and armour plate balconies, aluminium and Pyrex rod screens, bronze windows: J. Starkie Gardner Ltd. Lightweight demountable partitioning: Saro Laminated Wood Products Ltd. Suspended ceiling lathing: Universal Metal Furring & Lathing Co. Marble work to walls: J. Whitehead & Sons. Mechanical engineering services: heating and ventilation, hot and cold water services: Benham & Sons. Paint suppliers: Hadfields (Merton) Ltd. Joinery and metal work, bronze and armour plate screens and doors, doubleglazed teak sashes, timber coffers, etc.: H. H. Martyn & Co. Floor and wall tiling: Carter & Co. Roof monorails and travelling cantilever cradle: Chamberlain Industries Ltd. Lightweight partitioning and acoustic tiling: Firmin & Collins Ltd. Sprung floor: Horsley Smith & Co. (Hayes). Double-glazed units: Hollow Seal Glass Co. Sanitary fittings: Adamsez Ltd.; John Bolding & Sons. Fire fighting installation: The Pyrene Co. Double-glazed units (suppliers): Pilkington Brothers. Electrical incinerators: The Hygienette Mfg. Co. Oil firing: Clyde Oil Fuel Systems Ltd. Valves: Hattersley (Ormskirk) Ltd. Radiators: Crane Ltd. Rayrads: Ideal Boilers & Radiators Ltd. Unit heaters: Flexaire Ltd. Calorifiers: Hartley & Sugden Ltd. Circulating pumps: Holden & Brooke Ltd. Mixing valves: Rheostatic Co. Ventilating fans: Davidson & Co.; Woods of Colchester Ltd. Motors: English Electric Co. Air Heaters: F. H. Biddle Ltd. Incinerator: Heenan & Froude Ltd. Grilles: Air Conditioning & Engineering Ltd. Refrigeration: J. & E. Hall Ltd. Insulation: Versil Ltd. Kitchen equipment: Benham & Sons. Switchboard: English Electric Co. Underfloor duct system: Key Engineering Co. Fire alarm and clock systems: Gent & Co. MICC cables: Pyrotenax Ltd. VRI cables: Crompton Parkinson Ltd. Conduits and conduit fittings: Wallsall Conduits Ltd. Switches and socket outlets: Britmac Electrical Co. Lighting fittings and equipment: Siemens Bros. & Co.; Holophane Ltd.; Merchant Adventurers Ltd.; George Forrest & Son; Associated Electrical Industries Ltd.; Thorn Electrical Industries Ltd.; Simplex Electric Co.; Troughton & Young Ltd., and The General Electric Co. Dictograph installation: Dictograph Telephones Ltd. Paint to fair-faced concrete: Jos. Freeman, Sons & Co. Furniture: Council Chamber and private offices: Heal & Son. Lecture theatre: Cox & Co. (Watford) Ltd. Conference hall and dining room: Dare-Inglis Ltd.

building illustrated

Left, the north-east facade, facing Dyott Street and the north-west facade and main entrance from Great Russell Street. The main external wall finish is polished granite.

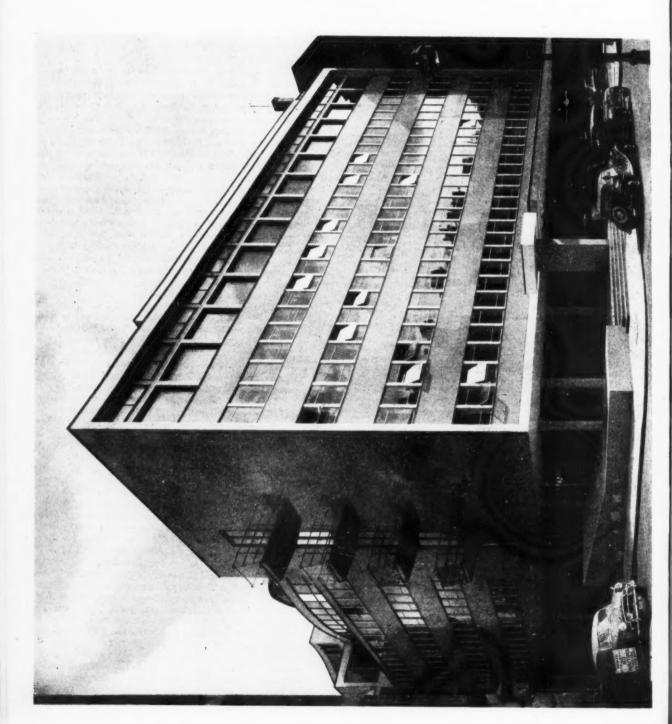


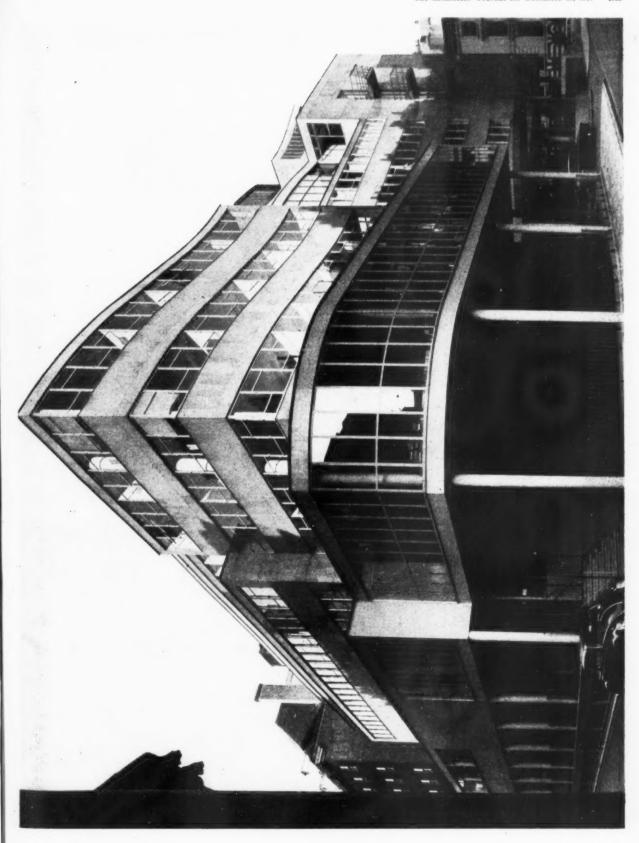
Above, part of the south-east facade seen from Bainbridge Street. In the background is the Y.W.C.A. headquarters, designed by Sir Edwin Lutyens.

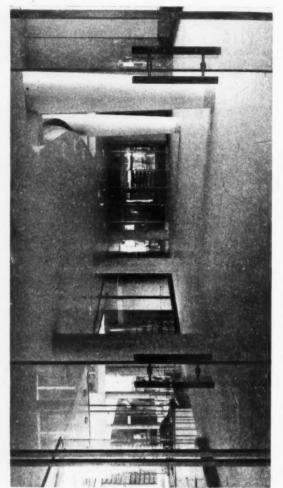
ground is the Y.W.C.A. headquarters, designed by Sir Edvein Lutyens.

Opposite page, the south-east and northeast facades seen from the junction of Bainbridge. Street and Dyott Street.

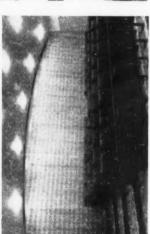
Behind the curved, fully-glazed wall on the first floor is the library, under which is the entrance to the ramp leading to the basement car park.



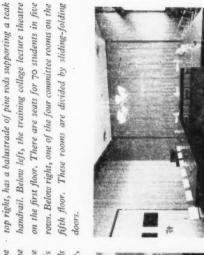




Above, the memorial hall on the ground floor, from the entrance doors leading to Great Russell Street. Beyond the glazed doors in the background is the tenants' entrance from Bainbridge Street. Left, the memorial hall, which is situated to the north-east of the courtyard, looking towards the Great Russell Street entrance. The viewing balcony,

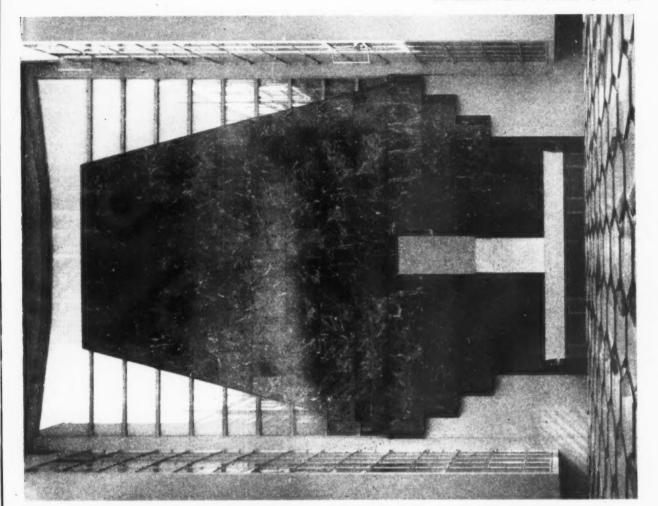


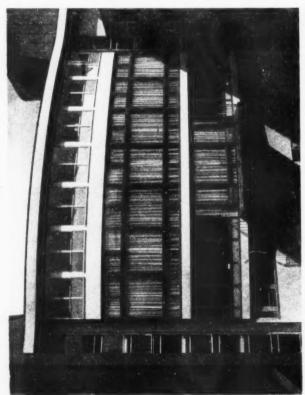
Opposite page, top left, the upper part of the curved

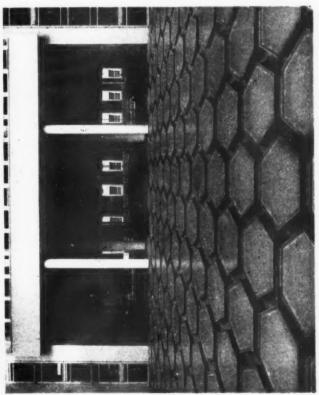


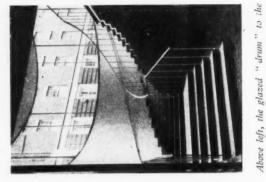
yard. These roof lights are also seen, below, in this view of the memorial wall on the south-west side of the courtyard. The central panel of green Genoa marble is flanked by toughened glass rods.

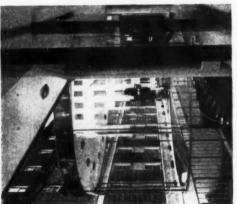
north-east wall to the courtyard. Bottom left, the lower part of the same wall seen across the hexagonal roof lights to the conference hall, which form the floor of the court-











Left, the council chamber on the fifth floor. The side walls and ceiling are finished with British Columbian pine.

the memorial hall to the conference hall foyer in the basement. Above right, the

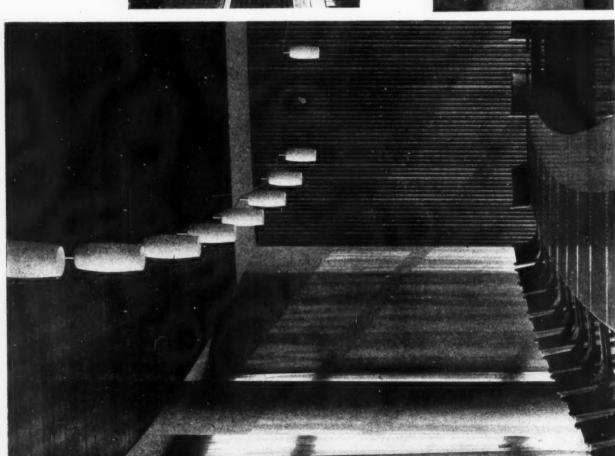
horseshoe-shaped staircase leading from

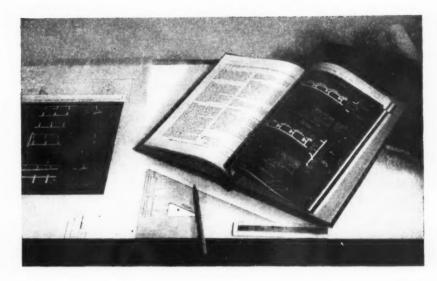
Treads, risers and landings are finished with Burma teak. Left, the staircase leading from the entrance loyer, on the Great Russell Street frontage, to the conference hall foyer, in the basement. The handrails are of polished bronze

horseshoe staircase from basement level.



supported by mild steel balusters.





THE LIBRARY OF INFORMATION SHEETS

This week part of the Technical Section is devoted to the customary annual review of the Library.

From time to time, and regularly each December, all Sheets are examined and checked, and where a manufacturer's products form the subject of a Sheet the manufacturer in question is asked to certify that the data are still current. Where a Sheet is found to require considerable modification, it is cancelled and readers should remove such Sheets from their collections. Where only small variations are involved, revision notes enable the Sheet to be corrected.

The Sheets 46.Z (A-FO) and (FR-P) published in the issue of 12.12.57 and the Sheet 46.Z (Q-Z) to be published in the issue of 26.12.57 give an up-to-date index cancelling all previous indexes.

On the following pages will be found a list of the revisions and cancellations which have become necessary during the year, and a statement of the contents of the Library with all Sheets current at this date in correct sequence. For the benefit of new subscribers, we also give information on the method of filing Sheets.

REPRINTS

To enable new subscribers to complete their Library all Sheets published since the inception of the new series in October, 1947 are reprinted. Readers requiring sets or individual Sheets should fill in the form printed in the adjoining column. Sets are available as follows:

£5 2s. 6d. (Postage 2s. 9d.) Oct., 1947-Dec. 26, 1957 inclusive

Specially designed binding cases to hold approximately 100 Sheets may be obtained at the price of 6s. od. (postage 1s. 1d.) each. Individual Sheets may be ordered at the price of 3d. each, and the publishers will quote for sets not detailed above.

ORDER FORM	A	R	FO	ER	RD	0
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(Block letters)

FILING INSTRUCTIONS

Every Information Sheet is perforated so that it may be readily removed from the JOURNAL and has a classification symbol printed in the top corner, for example, 32.C20. The key to the classification system is contained in Sheet 1.A1, reference to which should make filing a simple matter.

The first number of the symbol, 32, refers to one of the 46 main subjects into which the Library has been divided (in this case, water heating): the letter that follows refers to the section, C (in this case, units: gas), under subject 32: the final number indicates the position in which the Sheet is to be placed in the appropriate section.

Every December a check list of the contents of the Library is issued showing the correct sequence of all Sheets published to date. Throughout the year, any revisions to or cancellations of Sheets are noted in the JOURNAL and the Editor will always be pleased to assist if any difficulty is encountered in keeping the Library in order.

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CORRECT SEQUENCE OF COMPLETE LIBRARY AT DECEMBER 12, 1957

1.A1	1.A2	1.A3	1.B1	1.B2	1.B3	15.C4	15.C11	15.R1	15.86	15.S8	15.T6	29.A1	29.C1	29.C2	29.C3	29.C4	29.C10	
1.84	1.B5	1.B5a	1.B6	1.B7	1.B8	15.T8	15.T9	15.T10	15.U1	15.Z1	15.Z2	29.F1	29.G1	29.G2	29.H2	29.H5	29.J1	
1.B9	1.B10	1.B11	1.B12	1.B13	1.B14	16.B1	16.C1	16.J1	17.B1	17.B2	17.D1	29.J3	29.J4	29.J5	29.J6	29.J10	29.J11	
1.B15	1.B16	1.B18	1.B19	1.B20	1.B21	17.D2	17.H1	18.E1	18.F1	18.F2	18.G1	30.B1	30.B2	30.B3	30.B4	30.B5	30.C1	
1.B22	1.B23	1.B24	1.B25	1.B26	1.B27	18.H1	19.D1	19.F1	19.F2	19.F3	19.F11	30.C2	30.C3	30.C4	30.D1	30.D10	30.D11	
1.B28	1.B29	1.B30	1.B31	1.B32	1.B33	19.G1	19.G2	19.G3	19.G4	19.H1	19.Z1	30.D12	30.D21	30.E1	31.C2	31.C3	32.C3	
1.B34	1.B35	1.B36	1.B37	1.B38	1.B39	19.Z10	19.Z11	20,C3	20.C4	20.C10	20.C13	32.C4	32.C10	32.C11	32.C20	32.C21	32.C22	
1.B40	1.B41	1.B48	1.B49	1.B55	1.B56	20.D1	20.D2	20.E1	20.E2	20.E3	20.E4	32.C23	32.C24	32.C25	32.C26	32.C27	32.C28	
1.B57	2.A1	2.A2	2.A3	2.A4	2.A5	20.Z1	20.Z2	20.Z5	20.Z7	20.Z8	20.Z9	32.C29	32.C30	32.C31	32.C32	32.C33	32.C34	
2.B1	2.B2	2.B3	2.B4	2.B5	2.H1	21.E2	21.E3	21.G2	21.Z1	21.Z2	22.D1	33.B1	33.B2	33.B3	33.C1	33.C2	33.C3	
2.H2	4.A1	4.A10	4.A11	4.A12	4.A13	22.D2	22,D3	22.D4	22.D5	22.D6	22.D12	33.C4	33.C5	33.C6	33.C7	33.C8	33.C9	
4.A14	4.A20	4.E1	4.E2	4.L1	4.L2	22.D13	22.D16	22.F1	22.F2	22.F3	23.B1	33.C10	33.C11	33.C12	33.D1	33.E1	33.K1	
4.L3	4.L4	4.L5	4.L6	4.L7	4.L10	23.B2	23.C1	23.C2	23.C3	23.E1	23.H1	33.L1	33.P1	33.P2	33.Q1	33.Q2	33.Q3	
4.L11	4.N1	4.N2	5.B1	5.B2	6.A1	23.H2	23.Н3	23.H4	23.H5	23.H6	23.H7	33.Q6	33.T1	33.U1	33.U4	33.U5	34.B1	
6.A10	6.A11	6.A20	6.A21	6.B1	6.Z1	23.Z1	23.7.2	24.C1	24.D1	24.D2	24.D3	34.B2	34.B3	34.K1	34.Z1	35.B1	35.B2	
6.Z2	6.Z3	6.Z5	7.C1	7.C2	8.E1	24.D4	24.J1	24.J2	24.J3	24.L1	24.L2	36.A1	36.A2	36.B1	36.D2	37.C1	37.C2	
8.F1	9.C1	10.B1	10.B2	10.B3	10.B4	24.M2	24.M3	24.M4	24.N1	24.N2	24.N3	37.C4	37.D1	37.D2	37.D3	37.D4	37.D10	
10.B5	10.E1	10.F1	10.G1	10.G2	10.G3	24.N4	24.S1	24.52	24.Z1	24.Z2	24.Z3	37.H11	38.A1	38.B1	38.C1	38.C2	38.C3	
10.G4	10.G5	10.G6	10.G10	10.G11	10.G12	25.A1	25.A2	25.A3	25.A4	25.A5	25.A6	38.D1	38.D2	38.E1	40.B1	40.B2	40.C1	
10.G13	10.G14	10.G15	10.G20	10.G21	10.G22	26.A1	26.A2	26.A3	26.C1	26.C2	26.D1	41.B1	42.B2	42.C1	42.C2	42.C3	42.C4	
10.J1	10.J2	10.J3	10.J4	11.C1	12.F1	26.D2	26.D6	26.E1	26.F1	26.F2	26.F3	42.C5	42.C6	42.C7	42.D2	42.E1	42.K1	
12.F2	12.N1	13.C10	13.C11	13.C12	13.H1	26.F4	26.J3	26.J10	26.J20	26.K1	26.M1	42,K2	43.E1	43.E2	43.E12	43.E13	43.E14	
14.B1	14.B2	14.B3	14.B4	14.F1	14.K1	26.M2	26.M3	26.Z1	27.B9	27.B10	27.B12	43.E15	43.H1	43.Z2	43.Z3	43.Z4	44.D1	
14.L4	14.L12	14.L13	14.L14	14.L15	15.B1	27.B13	27.C1	27.F1	27.F2	27.Z1	27.7,2	44.E1	44.E2	44.J1	44.J2	46.Z		
15.B3	15.B4	15.B5	15.C1	15.C2	15.C3	28.A1	28.A2	28.A3	28.D1	28.E10	28.E20						Sheets)	

REVISIONS 1957

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10.F1, 10.G1-6, 10.G10-15, 10.G20-22, 26.A1, 33.C1-12-The organisation supplying the information for these Sheets is now known as the Lead Development Association.

10.G1-6, 10.G10-15, 10.G20-22, see 10.F1.

12.F1—Reverse of Sheet, heading "Preparation of Substructure and Surface," subheading "Keying," second paragraph, first sentence, delete "... for at least $\frac{1}{2}$ in. ..."

14.L4—The manufacturer's telephone number is now West Drayton 3751 (10 lines).

15.B1—Face, last column of section "Bowater perforated hardboard" headed "Standard sizes" add "5 ft. 0 in. long by 3 ft. 0 in. wide in 1-ft. square field design." Reverse, amend "Irish Wallboard Company Limited" to "Bowaters Irish Wallboard Mills Limited.

15.C11, 21.E2—The manufacturer's address is now Dovers Corner, New Road, Rainham, Essex. Telephone: Rainham

15.S6, 15.S8, 15.T6, 15.T8-10-The name and address of the manufacturer are now: Formica Limited, De La Rue House, 84-86 Regent Street, London, W.1.

15.T6, 15.T8-10, see 15.S6.

17.D1-2—The address of the manufacturer is now Castle Gate, Reigate, Surrey. Telephone: Reigate 4781-6.

18.F2—Heading "Sizes." $\frac{1}{4}$ -in. large grain tiles are now available and also $\frac{3}{16}$ -in. large grain tiles, the latter being supplied with square edges only.

21.E2, see 15.C11.

22.D1—Reverse, heading "Components," subheading "Main rails," amend to "... in lengths from 7 ft. 0 in. to 12 ft. 0 in. ..."; subheading "Cross rails," amend to "... in standard lengths of 1 ft. 103 in."

22.D2—Reverse, heading "Components," subheading "Main tees," amend to "... in lengths from 7 ft. 0 in. to 12 ft. 0 in.

22.D3—Reverse, heading "Components," subheading "Main tees," the second size, 16 gauge 2 in. by $1\frac{1}{2}$ in. tee, is now available in lengths from 9 ft. 0 in. to 12 ft. 0 in.

22.D4—Reverse, heading "Main Tees": the aluminium-alloy tee is now available in lengths from 8 ft. 0 in. to 15 ft. 0 in.

22.D5—Reverse, heading "Components," subheading "Main tees," No. 6 and No. 9 tees are now available in lengths from 7 ft. 0 in. to 12 ft. 0 in. and 8 ft. 0 in. to 12 ft. 0 in. respectively.

22.D16, 24.J2-3, 24.M3-4, 24.N3-4—The telephone number of the Associate Company in Eire is now Dublin 44237.

24.M3-Reverse, heading "Glazing Bar," subheading "Material," amend first sentence to "... into which are fitted continuous lead or aluminium glazing wings." Subheading "Sizes," amend entry in table "maximum length obtainable" for no. 2 section to 10 ft. 6 in., amend last entries of table to 3.72 lb., 3.79 lb. and 3.84 lb. respectively.

24.M3-4, heading "Glazing Bar," subheading "Centres," amend to "Bars should be spaced at 2 ft. $0\frac{9}{16}$ in. centres . . . "

24.M4, 24.N4, face and reverse, the holes in the purlins to take the fixing for the glazing bar are to be $\frac{1}{2}$ in., not $\frac{7}{16}$ in.

22.F2—Reverse, heading "Sizes and Calculations," Expamet Rib-Lath is now made in sheets 8 ft. 0 in. long by 2 ft. 3 in. wide only. Heading "Fixing," last paragraph should read "The sheets should be lapped 1-in. along the sides of adjoining sheets, and wired together at 6-in. intervals . . .

23.Z1—The name and address of the manufacturer have now been changed to Coburn Engineers Ltd., Coburn Works, Peasmarsh, Guildford, Surrey. Telephone: Guildford 3373.

24.J2-3, see 22.D16.

24.M3-4, see 22.D16.

24.N3-4, see 22.D16.

26.A1. see 10.F1.

26.A3—Reverse, heading "Laying," subheading "Horizontal Tanking," end of second paragraph, add "It is essential that until all loading coats have attained maximum strength, and also during asphalting operations, continuous pumping, if necessary, should be carried out to relieve water pressure.

32.C3—Reverse, heading "Components," subheading "Outlet spout," amend to "... spout, standard 9 in.; alternative lengths 12 in., 18 in. and 24 in." Subheading "Ball-valve cold water supply tank (type No. 15 only)" amend to "... or high (over 100 lb./sq. in.). The water pressure required"

33.C1-12, see 10.F1.

36.B1—Reverse, Pyrene Everyway Model O Hose-reel, heading, "Construction," subheading "Hose," amend to "Two-braid corrugated in lengths up to 100 ft. of 1-in. bore or up to 150 ft. of 3-in. bore " and add:

"The sizes A, B and C given on the drawing on the face of the Sheet indicate the overall depths of reel from rear face of support brackets to tips of dome nuts on front disc.

"A (91/4 in.) accommodates up to 75 ft. of 3-in. hose or up to 50 ft. of 1-in. hose.

"B ($10\frac{1}{4}$ in.) accommodates up to 100 ft. of $\frac{3}{4}$ -in. hose or up to 75 ft. of 1-in. hose.

"C (12 $\frac{1}{4}$ in.) accommodates up to 150 ft. of $\frac{3}{4}$ -in. hose or up to 100 ft. of 1-in. hose.'

43.E1—Reverse, heading "Construction," subheading "Doors," delete "or hardboard." Subheading "Work tops," second sentence should be amended to "They are manufactured in hardwood-faced 3-in. resin-bonded blockboard, lipped on three edges. The tops project approximately l in. over the cupboard face. Plastic-faced tops are also available." Subheading "Shelves" amend to "These are manufactured from §-in. solid softwood." Subheading "Plinths," this should read "These are incorporated with the unit and both flush sides are continuous over plinth framing. A 2-in. toe space is provided."

CANCELLATIONS

Sheets 5.B1, 13.C11, 13.C12, 14.F1, 15.R1, 15.T6, 20.D2, 32.C21, 32.C27, 32.C28, 32.C30, 33.B3, 36.B1, 38.B1 and 43.E15 were cancelled and republished this year. 14.B1-3 were cancelled and republished in the form of four Sheets numbered 14.B1-4. 15.Q1, 15.Q2, 22.E1, 22.E2, 26.E2, 32.D7, 32.D8, 36.A3 and 37.H10 are cancelled but are being revised and will be republished. 20.Z6, 26.J6, 28.B1, 28.E2, 28.J1, 29.H1, 29.H3, 29.H4, 37.H1-4 and S. 37.H1 have been cancelled and should be withdrawn from the Library

THE INDUSTRY

From the industry this week Brian Grant reviews two new sink units, a system of lighting trunking, builtin electric clocks, and a new airing cupboard heater.

Kitchen Fittings

Easiclene have just added two new types to their existing range of kitchen fittings. The double drainer model, shown on the right, has a vitreous-enamelled sink top on a wood cabinet, and measures 54 in. by 18 in. by 36 in. high. Cabinet doors are mounted on slip hinges and can be lifted off for cleaning, and the taps are placed at the side of the sink, well clear of the bowl. Sink tops and cabinets are fitted in white or cream, and three further colours are available for the doors. Price is £23 10s. 0d. without taps but including waste fittings. There is also a single drainer model which can be used with existing wall taps. The drainer can, of course, be either right- or left-handed, and overall dimensions are 42 in. by 18 in. by 36 in. high, and the price is £18 10s. 0d. The sink top is available separately at £6 10s. 0d. exclusive of waste fittings. (Easiclene Porcelain-Enamel (1938) Ltd., Lord Street. Wolverhampton, Staffs.)

Simplified Wiring

The photograph below right shows Cromp-Parkinson's "New-Line" lighting trunking, which is fixed to roof trusses or ceilings in long lengths, and from which any type of light fitting can be suspended at any point of the run. The trunking is produced in 6, 9 and 15 ft. lengths, with internal couplings for easy alignment, and the internal wiring is supported on insulating bridges. Light fittings can be secured to the trunking with a minimum of installation work, and a simple line tap allows fittings to be moved quite easily, while local control pull switches can be inserted with a clip-on plate and without disturbing the rest of the system. To fill the space between fittings, standard 5 ft. 6 in. lengths of plastic covering are cut to length and snapped over the bottom of the trunking. The life of the trunking should be quite considerable, as it is galvanized, and the smaller metal parts are cadmium plated, (Crompton Parkinson Ltd., Crompton House, Aldwych, London, W.C.2.)

Buying Electric Clocks

Those who do not associate the name of Smith with book-selling or potato crisps probably think of car and aircraft instru-

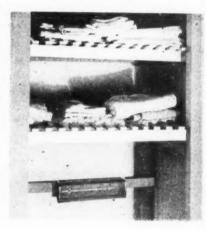
ments and navigational equipment of all kinds, and, by no means least, watches and clocks. Two different limbs of the organization produce clocks with synchronous electric motors and impulse electric clocks controlled from master pendulum machines. In order to sell to architects, the two firms have now inaugurated an Architects' Service Department which can supply either type of movement for anything from the smallest wall clocks to the largest turret types, as well as process timers and factory systems. The new department also states that if . . . "there is not a suitable clock for the particular requirements from the wide range available," they are prepared to produce what the architect wants. Since most architects regard standard clock designs as quite deplorable this seems to be asking for trouble, but at least designers will no longer be able to complain that nothing fit to be used is available. I must say, I admire the firm's courage. (Architects' Service Department, English Clock Systems. 179-185, Great Portland Street, London.

Airing Curboard Heater

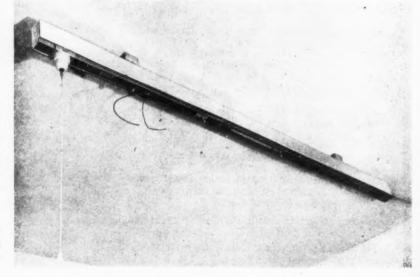
A useful little 100 watt airing cupboard heater has just been introduced by the GEC. It has an expanded metal guard and it should be screwed to the wall of the cupboard so that air circulation is not prevented by clothes. Price is only 27s, 6d., plus 12s. purchase tax. (The General Electric Co., Ltd., Magnet House, Kingsway, London, W.C.2.)







Top right: the Easiclene double-drainer kitchen fitting. Centre right: one of the new electric wall clocks designed in the Architects' Service Department of Smith's English Clock Systems. Right: the GEC airing cupboard heater. Below: a length of the Crompton Parkinson "New-Line" lighting trunking.



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INFORMATION CENTRE

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

18.191 construction: theory

STRUCTURAL STEELWORK DESIGN

The Plastic Methods of Structural Analysis. B. G. Neal (Chapman & Hall, 1956. 45s.). Text book on general plastic theory of interest to designers and advanced students. Dr. Neal is professor of Civil Engineering at Swansea. He has already made contributions to the various Institution and Engineering Journals, and those who have heard his pleasantly convincing expositions of the plastic theory will particularly appreciate this general review. The various chapters are followed by a series of questions with answers provided and Dr. Neal considers that the material in the first half of the book could well be included in an undergraduate course on Theory of Structures and the later half in a post-graduate course. Practising engineers will be interested in the whole work. Chapter 1 provides a general introduction which is particularly lucid, describing the behaviour of simply supported and fixed ended beams, the illogical nature of elastic design methods, the plastic design procedure and its scope, the evaluation of fully plastic moments and assumptions for other structural materials.

In chapter 2 simple cases of plastic design are analysed and the behaviour of the portal frame examined.

Chapter 3 gives the basic theorems and simple examples, and chapter 4 introduces numerous different methods of design.

Later chapters are devoted to the estimation of deflection and to factors affecting the fully plastic moment, minimum weight design and variable repeated loading.

Appendices give the plastic theory applied to trusses, plastic moduli of British Standard Beams, proofs of plastic collapse theorems and proof of the shake-down

There is an author index and a subject index. References to other works are given at the end of each chapter.

8 ESTIMATING

current wage rates, market prices and measured rates

Since the last issue of our Prices feature (September 26) there have been a few small changes. Stock bricks, buff quarries and white glazed tiles have gone up and so has joinery quality softwood, polished plate glass, steel windows and copper. Against these increases, there are reductions in asphalt, slate dampcourses, lead and zinc. The next issue of Prices, in March, may well reflect the earlier effects of the annual February wage award. This award is based on a sliding scale related to the cost of living index. The Prices feature is prepared by Davis, Belfield and Everest, chartered quantity surveyors.

Wage rates

Rates of wages rose on May 27, 1957, and are now

	Craft	smen	Labo	urers
London District Within 12 miles radius From 12 to 15 miles radius	s 4 4	d 7½ 7	s 4 4	d 1 01
Liverpool and District	4	71/2	4	1
Grade classifications A AI	4 4	6 5‡	3	111

Market prices

Prices are given for the major items in each trade, they are intended as average prices and include delivery in the outer London area. They do not include overhead charges and profit.

Measured rates

Measured rates

Prices are for work carried out in the Outer London area and include 10% to cover overhead charges and profit except in the case of work which would be carried out by specialists when 5% has been allowed.

The prices given in italic represent the total value of the materials included in the measured rates, including an allowance for waste and 10% for overhead charges and profit. The cost of labour included in the measured rates including its proportion of overhead charges and profit. (including its proportion of overhead charges and profit) can be ascertained by subtracting the prices in italics from the prices in heavier type.

Abbreviations

Abbreviations in Feet: ft. Yards: Y. Yards cube: YC. Yards super: YS. Feet cube: FC. Feet super: FS. Ton: T. Feet run: FR. Thousand: M. Square: Sq. Number: No. Hundredweight: C. Pound: Ib. Gallon: Gal.

Preliminaries

To all estimates based on prices for measured rates add for Preliminaries, water, insurances, etc., depending on the nature of the job, say 10%

Price changes

* Shows changes in market prices and measured rates since the last issue (September 26, 1957).



TRADES UNION CONGRESS MEMORIAL BUILDING, LONDON Architect: David du R. Aberdeen, B.A. (Arch.), F.R.I.B.A., A.M.T.P.I.

HOPE'S

HOT-DIP GALVANIZED STEEL & ALUMINIUM

WINDOWS

HENRY HOPE & SONS LTD

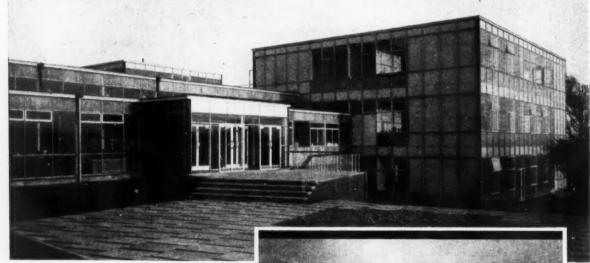
Smethwick, Birmingham and 17 Berners Street, London, W.1

MEMBER OF THE METAL ★ WINDOW ASSOCIATION

EXCAVATOR	s	d		3	d		8	ď
Market prices		-	spreading and levelling not			Suspended floors and roofs not over 41-in, thick YC	10	
Carting away, up to 8 miles			exceeding 200 yds. (using 6 yd. cube scraper) YC	2	71		17	
Hand loaded Machine loaded	8	0	Removing excavated material and depositing, not exceeding			Suspended floors over 41-in to 6-in. thick	17	1
Hardcore YC	10	0	200 yds. (using 3 yd. cube dumper)	2	0	Suspended floors over 6-in. to 12-in. thick	14	7
Ashes YC	10	6	Planking and strutting			Beds not over 41-in. thick YC	9	9
			Planking and strutting to sides of surface or			Beds 41-in. to 6-in. thick YC	7	4
Measured rates			basement excavation FS			Beds 6-in. to 12-in. thick YC	2	5
Hand excavation and disposal			Depth up to 5 ft. Depth up to 10 ft.		10	Hollow tile floor of clay tiles 4-in, thick at 15-in.		
NB: the following are applicable to excavation in heavy soil.			Depth up to 15 ft. Planking and strutting to sides of surface and basement trenches FS		114	centres laid on formwork (measured separately), nibs filled in with concrete (1 : 2 : 4) and finishing top of		
Excavating over site to remove top soil and veget-			Depth up to 5 ft. Depth up to 10 ft.		34	tiles with bed of concrete		
able matter, 6 in. deep YS As above, 12 in. deep YS	1 2	2½ 5	Depth up to 15 ft.		4	I½-in. thick including tamping around reinforcement (measured separately) YS	17	4
Excavating over site to			Hardcore, etc.			sured separately)	10	
reduce levels and getting out YC	9	9	Hardcore filled-in in layers, each layer well rammed YC	20 13		Ditto, but tiles 8-in. thick YS		0
Excavating for basement and getting out YC			Bed of ditto, 4-in. thick YS	3		Sundries		
Depth up to 5 ft.	11	0	Ash filled-in in layers,	1	61	Finishing concrete with trowelled face to receive		
Depth between 5 & 10 ft. Depth between 10 & 15 ft.		9	each layer well rammed YC		11 5	linoleum YS	1	21
Excavating surface trenches and ditto YC			CONCRETOR	17	3	Applying horizontal damp- proof membrane of Synthaprufe in three coats		
Depth up to 5 ft.			Market prices			to surface of concrete and blinding with sand to form		
Depth between 5 & 10 ft. Depth between 10 & 15 ft.	18 23		Portland cement, 6 tons and over	113	6	key YS	5	9
Excavating basement trenches and ditto YC			Rapid hardening, 6 tons and	124		Supplying floor clips (p.c. 6d. each) and fixing No.	1	14
Commencing 5 ft. below			3-in. down, washed, crushed	124	0	Formwork		. 2
existing ground level Commencing 10 ft. below			and graded shingle YC	18	1	Formwork including strutting		
existing ground level Commencing 15 ft. below		2	I 1-in. ditto	17	2	easing and striking:		
existing ground level	28	0	Sharp sand YC	22	1	Vertical faces of foundation		
Wheeling surplus excavated material not exceeding 100 yards and depositing YC	4	101	§-in. diam. mild steel rods to BS 785 delivered station T	836	6	YS	9	
Add to last for:	,	.02	i-in. ditto	929	0	Vertical faces of wall YS	18	7
Roughly spreading and levelling YC		51				Soffite of floors not over 12-ft.		
Spreading, levelling and consolidating to make up		-2	Measured rates			high YS	18	
levels YC	3	2	Portland cement mass concrete in foundations etc.			Sloping soffite of stairs YS	22	
Returning, filling-in and well ramming excavated			YC 1: 12, 11-in. " all-in "			Cide of column 50	9	
material around foundations YC	4	31	aggregate	40	4	Sides of columns FS	2	101
Loading surplus material into			1:3:6, 14-in. aggregate	68 48		Sides and soffites of lintols	_	_
lorries and carting to tip, not exceeding 8 miles YC	15	10	1:2:4, 4-in. aggregate	76 56		and beams FS	1	
Excavating from spoil heaps selected top soil, wheeling			I : I½ : 3, ½-in. aggregate	77 57		Add to the above for wrot formwork including rubbing down concrete YS	•	
not exceeding 100 yards, and spreading, levelling and			Add for: Working around rod or mesh		101	Reinforcement	2	5
consolidating, not exceeding 6 in. to receive turf YS	2	2	reinforcement YC		101	in. diameter mild steel		
Mechanical excavation and disp	osal		Walls not over 6-in, thick YC Walls 6-in, to 12-in, thick YC Walls over 12-in, thick YC	17 12	1	rods, hooked, bent and tied and fixing C	66	7
Excavating for shallow surface excavation and loading into			Columns not over 72 sq.				50	9
lorries or dumpers (using yd. cube excavator) YC	3	0	inches YC Columns 72 to 144 sq. inches	46	4	<u>†</u> -in. C	73 54	
• ,			YC Columns over 144 sq. inches	36	7	}-in. C	80	0
Excavating for surface							56	

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Concretor continued		s	d	s d		\$	d
∤-in.	C	93		Lingfields in cement mortar YS	2½-in.	10	5
		00	"	Flettons 32 11	3-in.	12	4
Steel wire mesh fabric weighing 4-32 lb. per yd				Second stocks *52 7 37 2	4-in.	15	7
super and laying in conc	YS	4	1	Lingfield Grade B 50 6	3/0	8	1
		3	5	Thermante- I tong ditto	YS 2½-in.	12	6
Ditto weighing 6·57 lb. /d. super	per YS	6	0	Flettons 18 I	3-in.	8	
		5	3	Second stocks *27 II	4-in.	10	3
Ditto weighing 9·32 lb. and super	per YS	8	6	Lingfield Grade B 27 5		13	4
,		7	5	15 10 Hollow clay ditto	YS 2-in.	9	9
Precast concrete				II-in, hollow wall with 2-in. cavity and wall ties YS	2-in.	5	5
Precast concrete (1:2:				Flettons 39 4	3-in.		10
finished fair on exposed and hoisting setting and				Corred conde #50 11		6	10
ointing:				36 8 (6 cavity)	4-in.	8	6
4½-in. $ imes$ 6-in. lintols reid forced with one $rac{1}{2}$ -in. ro		2		One brick wall built fair and Wood wool slabs ditto	YS		
		2	21	pointed both sides YS Flettons 39 4	2-in.	13	11
4-in. $ imes$ 9-in. ditto with 4 -in. rods	two	4	0	Second stocks *58 11	21-in.	16	2
		3		Lingfield Grade B 55 10	3-in.	18	
Piling				32 9			,
Reinforced pre-cast cond				Sundries			
piles, approximate price supplying, unloading, pi				Extra over common brick-			
and driving 12-in. × 12-in. up to 30				work for internal fair face and flush pointing YS 4 Salt glazed stoneware pand flush pointing YS 4 Salt glazed stoneware pand flush pointings, "Best" questions and flush pointings and flush pointings are particularly to the particular t			
long 14-in. × 14-in. up to 50	ft.	34	0	Horizontal damp proof course Ordinary pipes	FR.		
long Sheet steel piling, ditto	FR	40		of two courses of slates and bedding and pointing FS *4 2	4-in		
,			to	2 5	6-in. 9-in.	2	
BRICKLAYER		1000		Horizontal damp proof course of hessian base bitumen FS II	No. 4-in.		101
				9	6-in. 9-in.	19	
Market prices	¥6			Facings The above are Standard prices less 2½%.	List		
Soft sand				Extra over ordinary brick- Pitch fibre pipe	FR		
Hydrated lime	Т	117	6	work with bricks P.C. 118s. per 1,000 for facings as	3-in. 4-in.	1 2	103
Plain Flettons	М	118	0	described	6-in.		04
Second hard stocks	M	*300	0	To solid wall in Flemish BS 437	YR	20	
Lingfield Engineering w cuts Grade B		256	. 0	Facings P.C. 250s per M 15 7	4-in. 6-in.	41	3
		230		Facings P.C. 350s per M 22 11	9-in.	77	3
Partitions				Facings P.C. 450s per M 30 2 Spun iron s. and s. pipe BS 1211, Class B	e to YR		
Clinker concrete, solid	YS 2-in.		9	24 2	4-in. 6-in.		
	24-in. 3-in.			To cavity wall in stretcher bond YS	9-in.		
	4-in.			Facings P.C. 250s per M 12 10 Measured rates			
Thermalite-Ytong	YS 24-in.		7 0	Facings P.C. 350s per M 18 5 Trenches and beds			
	3-in. 4-in.	8	3 5	Facings P.C. 450s per M 23 11 Excavate trenches by h			
Hollow clay	YS			Half brick wall in facings and strutting, part retu	urning.		
	2-in. 2\frac{1}{2}-in.	. 4	5	built fair and pointed on one side YS filling and ramming and wheeling and spreading			
	3-in.		5 5	Facings P.C. 250s per M 29 9 surplus, for pipes 4-in.	, 6-in. YR		
(6 cavity)			5 10	Facings P.C. 350s per M 35 3 Average depth of tren			5
Normal quality wood was slabs	YS			Facings P.C. 450s per M 40 10	4-ft. 6-ft.	38	3 1
	2-in. 21-in.		10	Partitions 27 1	9-ft.	70	0
				Excavate trench as last			
	3-in.			Clinker concrete solid by mechanical frenche	r YR		
Measured rates	3-In.			Clinker concrete solid by mechanical trenche partition blocks and setting in cement lime mortar YS		13	



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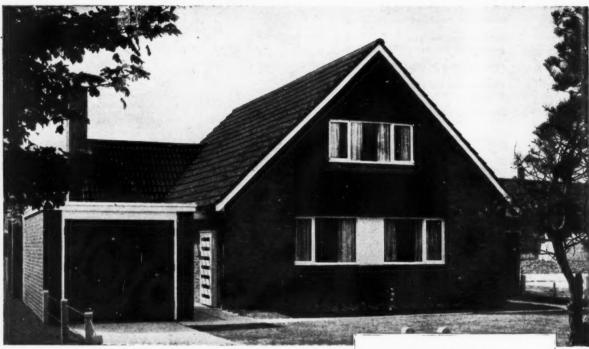


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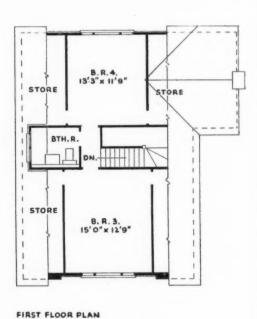
			_						
Drainlayer continued		\$	d	Pitch fibre drains	S	d		\$	d
6-in. concrete bed and benching for 4-in. pipes	YR		5				BS1097 BS1418		5
As above, for 6-in. pipes	YR	11		Pitch fibre drain pipes and laying and jointing in trench FR			Roofing		
6-in. concrete bed and		6		3-in.	2	3	4-in. flat laid to falls in two		
surround for 4-in, pipes	YR	9	6	4-in.	2	111	thicknesses on and including felt underlay YS		
As above, for 6-in. pipes	YR	11	5	6-in.	5 5	10	BS988 BS1162		
Stoneware drains				Form over sizeh fibre size	9		6-in. skirting with angle		
" Seconds " quality salt glazed stoneware drain	nines			Extra over pitch fibre pipe for 45° bend No.			fillet at bottom and rounded edge at top turned into		
and laying and jointing i	n			3-in.	13	11	groove FR BS983	42	4
trench	FR 4-in.	2	5	4-in.	22	. 1	BS1162	*2	ıi
	6-in.	3	8	6-in.	35		6-in. fascia with solid water		
		2	6		34	3	check roll at top and under-		
	9-in.	5	8	Cast iron drains			cut drip at bottom FR BS988	*4	
" Best " quality salt glaz	ed			Cast iron spigot and socket			BS1162	*5	3
stoneware drain pipes a				drain pipes and laying and jointing in trench FR					
laying and jointing in trench	FR	_	•	4-in.	13		PAVIOR		
	4-in.		9	6-in.	11	0	Market prices		
	6-in.	3	10	9-in.	16		Market prices		
	9-in.	6	5	2-1113	30		Granite chippings, 4-in. to dust	50	2
		5	4	Extra over cast iron pipes for			Buff quarry tiles, 6 in. ×		
Extra over "Seconds"				bend No. 4-in.	31	2		*22 13	
quality pipes for:					25	2	Measured rates		
Bend	No. 4-in.	3	7	6-in.	64	2			
	6-in.	3		9-in.		11	Cement and sand floated screed to receive pavings YS		
		4	11		170	, 10	a-in.	4 2	
	9-in.	16		Spun cast iron spigot and socket drain pipes and laying			I-in.	4	11
0 1. 1 1	Ma			and jointing in trench FR		7 6	I±-in.	3	
Single junction	No. 4-in.	6	11		5	5 5		3	6
	6-in.	5	10	6-in.		3 11	Cement and sand paving		
		8	2	9-in.		8 0	trowelled hard and smooth		
	9-in.	19			1.	, 0		4	7
Double junction	No.			Cast iron gullies			I-in.	5	5
Double junction	4-in.	10		Cast iron gully trap with high invert and setting on and			I‡-in.	3	0
	6-in.	15	5	surrounding with concrete				3	3 6
	9-in.	30		and jointing to drain No.		5 7	Granolithic paving laid on		
		27		6 In.	3		concrete YS	7	7 4
					9	9 2		5	5 4
Stoneware gullies				9 in.	24		I-in.		7 0
Salt glazed trapped gull with galvanized grating							1-in. red composition paving		
including setting gully of and surrounding with of				ASPHALTER			laid on prepared screed YS	16	5 6
and jointing to drain	No.			Measured rates			-in. terrazzo paving laid on prepared screed YS	38	. 4
6 in. × 6 in. gratir	outlet			Damp proof course and tanking				36	, ,
9 in. × 9 in. gratin	ne 6 in.	22	3	4-in, vertical damp proof			laying in rolls YS	39	9 5
, III. V , III. Bracii	outlet	43		course in two thicknesses on			1-in. rubber flooring and	-	
		38	3	brick or concrete YS BS1097	1		laying in rolls YS	63	3 0
Grease and mud gully diameter with 4-in, our				BS1418	3* 2	4 2	16-in. cork tile flooring,		
galvanized bucket and	grating			½-in. horizontal damp proof			12 in. × 12 in. and fixing		
and setting gully on an surrounding with conc				brick or concrete YS	5		with mastic and including polishing YS	45	5 11
and jointing to drain	No.	91		BS1097 BS1418			in. thermoplastic tile		
Road gully with 6-in. o		01	2			. ,	flooring and laying-on screed		
including setting on an surrounding with conc				Vertical tanking in three thicknesses Y:	5		YS	12	2 0
and jointing to drain	No.	100		BS1097	7 2			2	1 0
15-in. dia. 30-in		801	6		, 3		1-in. coloured linoleum and		
18-in. dia. 48-i	n. deep	211		Horizontal tanking in three thicknesses Y:	S		fixing with mastic to cement screed or boards YS	2	5 6



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technical section						
Pavior continued	s	d	s d Measured rates	8		d
in. coloured linoleum and fixing with mastic to cement			4-in. Broughton Moor slate lining FS 39 II Softwood and fixing in plates, sleeper joists and lintols FC	15		
screed or boards YS	20	3	SLATER TILER AND In floor and ceiling joists FC	13 17 13	1	1
7-in. buff quarry tiles laid on prepared screed YS	*36	10	Market prices In stud partitions, purlins and struts FC	20		0
7-in. blue black quarry tiles laid on prepared screed YS	34	6	Welsh slates, best quality M 16-in.×10-in. 1038 6 In hip and valley rafters FC	13 22 13		7
2-in. Noelite paving laid on			20-in.×10-in. 1914 3 Battening and boarding	13		
prepared bed, in random sizes and mixed colours YS	20	0	Best hand made sand faced plain tiles, $10\frac{1}{2}$ -in. $\times 6\frac{1}{2}$ in. M 315 0 Slate or tile battens $1\frac{1}{2}$ in. $\times \frac{1}{4}$ -in. and nailing to fixing for			
12 in. × 12 in. anchor steel			Grey corrugaged asbestos Cement sheets YS 7 0			
plates laid complete YS	54	7	Measured rates 16-in. × 10-in. slating to 6½-in. gauge	39		0
MASON			16-in. × 10-in. best Welsh slates laid 3-in. lap Sq. 310 0 84-in. gauge	32		0
Market prices			20-in. × 10-in. best Welsh 10½-in. × 6½-in. plain tiling			
Stone in blocks in truckloads at stations in the London area	1:		slates 3-in. lap Sq. 412 0 to 4-in. gauge	56	,	0
Beer FC	8	9	Westmorland green slates in random sizes laid 3-in. lap Sq. 632 9 12-in. gauge	*22		0
Portland FC	8	8	Best hand made sand faced S.E. boarding in batten widths plain tiles, 10½in. × 6½in. laid close jointed and fixing to	•		
Woodkirk Blue building quality FC	17	п	to a 4-in. gauge Sq. 221 0 flat or sloping roofs Sq. 3-in.	119		
Broughton Moor slate in			Best hand made sand faced plain tiles, 10½-in. × 6½-in. I-in.		,	
blocks at stations in the London area FC	65	0	hung vertically to 4½-inch gauge Sq. 237 0	115		6
Marble in blocks at works: Dove FC	70	0	Berkshire hand made sand faced red pantiles, 14½-in.× T. & G. boarding in batten widths close jointed and fixing to flat or sloping roofs Sq.			
Roman stone FC	70	0	10-in, laid 2½-in, head and 1½-in, side lap Sq. 213 0	138		0
Measured rates			Grey corrugated asbestos	169		3
Stone and all labours in			cement sheets fixed to wood roofs Sq. 129 3 2-in, wrot and cross tongued			
pilasters and quoins FC		2	Grey corrugated asbestos	2		3
Beer	51	5	cement sheets fixed vertically	,		U
Jambs FC	55	2	Cedarwood shingles laid 5-in. grooved eaves fascia p.o. FS		-	6
	51	3	gauge Sq.*258 0 Wall and ceiling boards fixed			
Portland	-	2	Metal roof decking and fixing to softwood ys			
Arches FC			with \(\frac{1}{2}\)-in. insulation board \(\frac{1}{2}\)-in. fibre board and three layers self finish	6		6
Portland Bee	67		felt roofing YS 18 gauge for 4-in. hardboard	5		9
Ashlar average 7-in. on bed			spans up to 10 ft. 57 6	4		4
with plain dressed face Fortland	3	3	spans up to 8 ft. 6 in. 50 0 wallboard	5		8
Beer		11	Two layer one ply bitumen felt and fixing with bitumen sheeting	8	3	6
Extra for each additional I-in thickness	5		to concrete or boarding YS 9 5	4	4 1	1
Portland Bee		5	Three layer bitumen felt YS 12 7 sheeting	10		8
4½ in. × 4 in. sill sunk,			Patent ribbed aluminium 2-in. Stramit, showerproof roofing and fixing to purlins quality fixed to joists with			_
weathered, throated and grooved for water bar, set an	d		Sq. 287 6 butt joints	15		5
jointed in cement mortar Ff		1 7	CARPENTER JOINER			
Bee Artificia		1 8	Market prices			
4 in. × 12 in. coping,			Softwood, carcassing quality Floors and skirtings			
weathered and twice throate	1		Std. 1910 0 Tongued and grooved soft-			
Portland Bee Artificia	r 2	1 2	Softwood, joinery quality wood flooring and nailing to joists Sq.			•
Marble and slate			1-in. imported fibre board Sq. 45 0	120	6	6
3-in. Dove marble lining and			i-in. imported hardboard Sq. 40 0	144		0
fixing on brick backings F:		9	a-in. insulating gypsum	-		
4-in. Roman stone lining F	36	5 9	wallboard YS 3 3 t, and g. Swedish softwood			



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Joiner continued	s	d		s	d		s	d
block flooring set in mastic			Oak	5	6	3-in. steel butts Pr.		
and polished YS		5		3	7	to softwood to hardwood		9
European beech YS	33	7	Shelving and fittings			Double action floor springs		
African Muhuhu YS	41	0			1	No. to softwood	21	9
Burma teak YS	52	6	4-in. shelving of 2-in. slats spaced 1-in. apart on bearers (measured separately) FS			to hardwood		
Moulded skirtings, 3-in. to 6-in. sectional area planted on (per inch in sectional			Softwood	1	11	6-in. barrel bolts to softwood to hardwood		
area) FR			4-in. solid shelving on				_	
Softwood		34	bearers FS Softwood	2	31	Cupboard locks to softwood	4	1
Oak		21/2	Oak	4	8	to hardwood	5	5
		71/2		4	1	Cylinder night latch to softwood	6	10
Extra for grounds plugged to			2-in. shelf bearers plugged		1	to hardwood		1
brickwork FR Softwood	*	9	to wall FR Softwood		71	Mortice latch		
	•	2			54	to softwood		5
Windows		1	Oak	1	111	to nardwood	7	3
2-in, rebated and moulded			Carlosson			Mortice lock to softwood	1 4	10
sashes divided into squares	8		Staircases			to hardwood		
Softwood	1 3	8	I-in. treads and 3-in. risers			Casement fastener		
Extra for side hanging Eacl		9	tongued together on and including framed carriages FS			to softwood	1 1	8
Softwoo	d 2	9	Softwood	4	71	to hardwood	1 2	2
Oal	k 4	1	Oak	13		Casement stays		
Doors			Jak	12		to softwood to hardwood		
2-in, framed, ledged and			13-in. × 11-in, wall string			to nargwood	2	2
braced doors, filled in with I-in. T and G and V jointed			plugged to brickwork FR Softwood	4	5	STEEL & IRONWO	N D W	EP
boarding and hanging FS Softwoo		1 ½ 5	Oak	11	5	Market prices	, n n	EN
Four panelled door square					-	Structural steel joist		
both sides and hanging F Softwoo	d 6	8	14-in. × 11-in. outer string FR Softwood	3	41	sections, basis sizes,	T 822	. 6
0.	6 k 19		*	2	10	Extras for other than		
	18		Oak	6	2	basis sizes vary between 10s. and 70s. per ton		
14-in. Standard flush door, hardboard faced size 2-ft. 6-i	n.		Ends of treads and risers			Measured rates		
× 6-ft. 6-in. and hanging N:		0	housed to strings No. Softwood	ı				
Malana and 6			Oak	6	2	Rsj in steel framed structures hoisted and		
Linings and frames			2½-in. × 3-in. moulded				1600	0
Window and door linings, 6-in. to 12-in. sectional area			handrail FR Softwood	3		including plates and rivets T	1880	0
(per inch sectional area)	R		Oak	6	5	Rs stanchions including caps,		
Softwoo		4		-	7	bases, cleats etc.	1860	0
Oa	ıle	3	li-in. × li-in. square balusters FR			Metal windows including		
	***	8	Softwood		8½ 6½ 1 4	cutting and pinning lugs to brickwork and bedding frames in cement mortar No	o.	
Frames wrot all round and framed (per inch sectional					i			
Softwoo		31/2	Framed ends to balusters No. Softwood		61	Domestic type 4 ft. high to BS 990 Type ND2F 3 ft. 3½ in. wid	e *89	9 1
Mullians supremos and sill		8	Oak		9	Type HD2F 3 ft. 3¼ in. wid	74	4 5
Mullions, transomes and cills (per inch sectional area) f Softwood	R	4				Type NDIIF 6 ft. 6½ in. wid	8 le*15	4 0
O	ak	9	IRONMONGER				120	6 8
Mouldings, architraves, etc. 4-in. to 6-in. sectional area			Market prices			"Z" range, 4 ft. high Type ZNDI 2 ft. 03 in. wid		
(per inch sectional area)	FR					Type ZND4F 6 ft. 04 in. wid	50 e+15	0 9
Softwoo	od ak	3	As prices for ironmongery vary so greatly depending upon the type and quality			7,50=115 11 010 04 111. W.		8 2
		9	required no prices are quoted here			PLASTERER		
6-in. window boards, 1-in. thick with rounded nosing			Measured rates			Market prices		
tongued at back and includ- ing bearers	FR		The rates which follow are			Plastering sand	C 2	2
Softwo	od :	3 0½ 1 8	for fixing only and are inclusive of profit			Plaster to BS 1191	- 4	



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Plasterer continued		s d		s d	S	d
Class B in loads of 4 tons to 5 tons 19 cwt.	т			Sprayed "Limpet" asbestos Approximate prices for sprayed "Limpet" asbestos on the	*5	3
Brown				following surfaces to the 20 SWG commercial quality		
Fibred brown Board fin				thickness shown for aluminium FS quantities of 1,000 yds. super. Flat roc Normal pressed finish. Gutters and flashin		4 2
in. plaster lath, over				New concrete soffits and Rainwater gutters and pipes	5.0	7 47
00 yds.	YS	2 5	5	beams 15	_	
in. × 6 in. × 6 in. cream				1-in. 14 5 f-in. cast iron half round eave	2	
lazed wall tiles	YS :	27 2	2	I-in. 21 9 fascia with brackets Fi		
				New structural steelwork	. 3	
deasured rates				YS 6-in	. 5	1
reasured rates				1-in. 16 6	3	7-
Metal lathing				in. 21 9 18 gauge pressed steel half round eaves gutter	1	
lo. 24 gauge expanded me	etal			Extra over the above prices 4-in	. 3	14
athing and fixing	YS		- 1	for coloured texture finish YS 3 3 6-in		11
To softwood sof	files	6 5		13 3 3		8
10 2015 MOOD 201	IIICS		4	Wall tiling		
-			-	Asbestos cement half round		
To me	etal		5	6 in. × 6 in. × 3 in. standard eaves gutter FR quality white glazed wall 4-in		10
		,		tiles set and jointed on	1	7
ime plaster				prepared screed YS *49 4 6-in		
ender float and set on bri	ale			Egg shell matt or glossy Aluminium half round	2	7
	YS	7 1		glazed enamelled tiles YS *60 II eaves gutter FF		
		2 6		4-in		10
.F. and S. on concrete					4	8
cluding hacking	YS	8 8	3	EXTERNAL PLUMBER Cast iron medium section rain water pipes jointed and		
		2 6	5	Market prices fixed to walls with pipe nails		
.F. and S. on expanded				FF		
netal lathing	YS	7 2		Sheet lead, 3½ lb. and	. 5	10
		2 5	5	upwards, in quantities of 5 cwt. to 1 ton C*126 3 4-in		
ubeum blaster					5	8
ypsum plaster				Copper sheeting, 23 gauge, in 1-ton lots C*280 0 Pressed steel FI		
ender in cement-lime-san			1	in 1-ton lots C*280 V Pressed steel FI		5
l : l : 6) and set in gypsun	n		1	Zinc sheeting, 14 gauge, in	. 3	
laster on brick walls and	YS	5 7	7	1-ton lots C*109 0 4-in		
		11	1	Aluminium sheeting 20 SWG C	4	7
lander in gyncum fibrad				Super purity 522 8		
Render in gypsum fibred prowning-sand (1 : $1\frac{1}{2}$) and				Commercial quality 336 0 Aspestos cement 3-in		8
set in gypsum on concrete				Cast iron rainwater and	. 4	3
offits including bonding oat	YS	8 1		soil goods 4-in		9
-		3		Medium weight pipe to		
			1	B.S. 416 and B.S. 460 in		
Render and set on expandence netal lathing including	ed		- 1	6 ft. lengths No.		9
oricking up coat	YS	8		2½-in. 18 10 3-in. 21 0	. (11
		3 1	0	4-in. 26 10	-	5 4
laster board				Half round gutter in 6 ft. lengths No.		
				3½-in. 7 11½ Soil and ventilating pipes		
ixed to softwood soffits				4-in. 10 4		
inished to receive plaster	YS	4	9	The above are Standard-List ing pipes (15 lb. per yd. for		
		21		prices plus 221%. 3-in, and 19 lb. per yd. for		
Gypsum board finish settii	nø			4-in. diameter) fixed to walls with lead tacks		
coat on last	YS	4	1		. *13	
		1	1	Milled sheet lead C	. *[9 7
				Flat roofs*207 9	1.	
Plain face				Gutters and flashings*207 9		
			1	24 SWG copper sheet FS Cast iron soil, waste and ventilating pipes with caulke	d	
-in. Portland cement and and (1:3) plain face			- 1	Flat roofs *5 5 joints fixed to walls with pig	e	
trowelled smooth on brick				Gutters and flashings *5 5 nails		7 1
walls	YS		5	23 SWG copper sheet FS 3-in. heav		5 2
		11	1	Flat roofs *5 II 4-in. heav	y	8 8
Tyrolean rendering				Gutters and flashings *5 11		6 6
. 7. o.com rendering				14 gauge zinc FS Asbestos cement soil and		
Render in cement, lime sa				Flat roofs 3 5 ventilating pipe fixed to wal		
(I : I : 6) and finishing wit three coats patent coloure		×		Gutters and flashings 3 5 with holder bats 3-i	R	3 9
preparations applied with				20 SWG super purity		2 4
hand operated machine	YS		9 5	aluminium FS 4-i		4 10
		2				



the new, super-efficient, super-smart cistern by Shires

Introduced several months ago, the 'Super-lynx' has been enthusiastically received by architects, builders and plumbers. Not only because it is super-efficient, not only because it is super-smart, but also because it is guaranteed for 5 years. Inside and out the 'Super-lynx' really is an outstanding job—one which you will be pleased to specify for initial installation or for replacement. High and low level models are available in extra high gloss black Duranite and white Keramic ware. The low level model has gold-lustre beading, operating lever and flush pipe. The high level model has a gold-lustre lever mechanism and beading, and chain with coloured acrylic handle. Matching flush pipe for the high level model can be supplied at extra cost. The 'Super-lynx' is fitted with the rustless, unbreakable, silent flush-at-a-touch 'Kingfisher' syphon mechanism. Powerful flush syphon to B.S.S. 1125 and water works specifications. Capacities 2, 21 and 3 gallons.



\$52

Shires are the largest manufacturers of flushing cisterns in the world.

They also make W.C. pans and seats, pipes, wash-basins and complete

W.C. Suites. Full details and trade terms from; Division A, Shires & Co. (London) Limited, Greenbottom Works, Guiseley, Yorks. (Also at London, Stoke, Birmingham & Glasgow).

\$	d I		s	d		s d
INTERNAL PLUMBER		Flushing and warning pipes			Class B tubing fixed to	
Market prices		fixed to softwood FR	*3	7	walls FR	2 7
		3-in. 4		10	¥-111.	10
Lead pipe in quantities of 5 cwt. to 1 ton C		1-in. 5	*4	5	å−in.	3 0
BS 602*128	3	1 1 -in. 6	*5 2	8 9	I-in.	3 1
Polychone tubing heavy		1½-in. 7	*6	2	14-in.	3 10
Polythene tubing, heavy gauge, in quantities of 500 to			3	2	1 1 -in.	5 1
999 ft. per 100 ft.	6	Waste pipes and fixing to				2 3
	0	softwood FR				
Ĭ-in. 193	6	1 1 -in. 6	*5	8 9	Extra or malleable Iron: Bend No.	
Steel tubes to B.S. 1387		1½-in. 7	*6	2		
class B galvanised FR 3-in. 0	9	•	3	2	I-in.	3 1
Î-in. I	01	Joints to fittings No.			I≟-in.	7 21
1 1 -in. 1	51			_		4 6
The above are Standard List	04	½-in.	6	8	I⅓-in.	9 4
prices plus 341%.		3-in.	7	0		
Galvanised malleable fittings.		Lie	7	5	Tee No.	
Bend No.		I∘in.	3	2		
1-in. 2 1½-in. 4	91	I₫-in.	8	4	⅓-in.	3 1
11-in. 4 11-in. 6	21	14-in.	4 9	5 2	₫-in.	3 5
Tee No.		1 1-111.	4		-	1 64
1-in. 1-in.	0 43				I-in.	4 0 2
Î-in. 2	0	Extra for: Bend No.		- 1	I‡-in.	5 6
	91	I‡-in.	2	7	11.1-	3 1
The above are Standard List	"	l <u>‡</u> −in.	3	8	I 1/2-in.	6 10
prices less 23½%, less 6¼% plus						
40%. Copper tubes to B.S.659 FR		Branch joints No.			Copper tube	
-in. *0	91	Lie	6	9	Connect subs to BS 1394 on	
3-in, *1 1-in. *1	8	<u>1</u> -in.	1		Copper tube to BS 1386 as supply pipe laid in trench	
1 1 -in. *2	0	∄-in.	9		(measured separately) to the	
The above are calculated on a		I-in.	9		following size and gauges FR	*1 10
basic price of Is. 9\u00e4d. per Ib. plus C.T.A. extras.			3	4		1 3
		14-in.	11		‡-in. 17	*2 7
Measured rates		1½-in.	12	9	I-in. 16	*3 5
Lead pipe to BS 602			5	0	1 1 -in. 16	2 10
Main supply and laying in		Polythene tubing to B.S. 1972			14-11. 10	3 9
trench (measured separately) at the following sizes and		Heavy gauge as supply pipe			1 1 -in. 15	*5 10
weights in lbs. FR		laid in trench (measured separately) FR				3 1
1-in. 7 *4	2	±in.	1	8	Copper tube to BS 659 as	
1-in. 11 *6	0	2-in.	2		distributing pipe fixed to walls FR	
1-in. 16 *8	10		1	9	{-in. 19	*1 11
7	2	I-in.	2		}-in. 19	·2 4
14-in. 28 *14	5		•	. 3	4-11. 17	1 7
1½-in, 35 *18	6	Heavy gauge as supply or			I-in. 18	*3 0
15		distributing pipe fixed to walls FR			1½-in, 18	*3 10
Main supply fixed to walls		1-in.	2			2 11
and ceilings FR	8	}-in.	3		1 1 -in. 18	*4 5 3 6
3	3		2	2 2		_
∄-in. 11 *6	8	I-in.	3	111	Extra for brass compression	
	3 2		-	. 7	fittings joining copper to copper No.	
14-in. 28 *15	2	Steel tubing to BS 1387			140.	
14-in. 35 *19	5	Steel tubing to by 1307			Coupling 1-in.	5 10
15		Class C with screwed red			3.1-	3 3
Distributing pipes fixed to		lead joints as supply pipe laid in trench (measured			₫-in.	6 8
walls and ceilings FR	-	separately) FR		2 0	I-in.	9 3
1-in. 4 *3	11	‡-in.		10	I ½-in.	5 10
3-in. 5 *3	10	3-in.		3 1	1	7 7
1-in. 7 *5	4	I-in.		3 3	I j-in.	11 0
3	4			1 44		
14-in. 9 •6	0	1 1 -in.		3 11	Bend 1-in.	7 4
11-in. 12 *7	10	I ½-in.		5 3	2-in.	8 7
	9	1		2 5	1	5 6

of glass with lead spacers

d 10 31

10½ 7½ 7½ 7½ 10

6 1½ 2½ 1

8

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4 10±

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11/2

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5

49

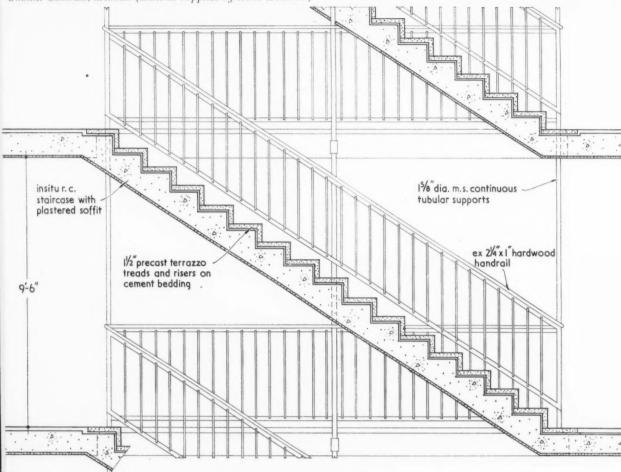
STAIRCASE: FLATS IN BERLIN

Gunther Gottwald, architect (material supplied by Hans Haenlein)

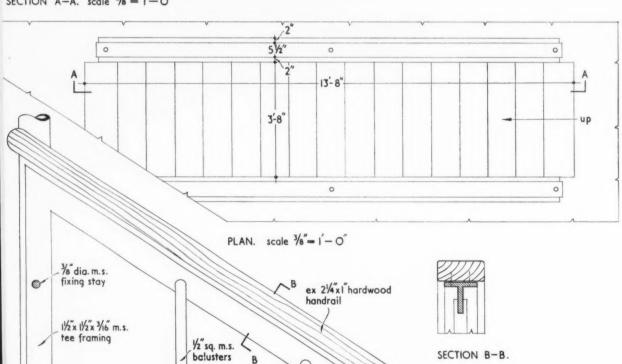


This is a good example of an economical form of stair balustrade. Support for the balustrade is provided by mild steel tubes which rise from the ground floor to the top floor ceiling and which themselves obtain intermediate support from the landing slab. By this means there is no direct connection between the balustrades and floor finishes or stair treads, thus making cleaning easier while at the same time evading an awkward fixing problem. STAIRCASE: FLATS IN BERLIN

Gunther Gottwald, architect (material supplied by Hans Haenlein)



SECTION A-A. scale 3/6" = 1'-0"



DETAIL OF BALUSTRADE. scale 1/4 full size

ZINC ROOF: CONCERT HALL IN BERLIN

Paul Baumgarten, architect (material supplied by Hans Haenlein)

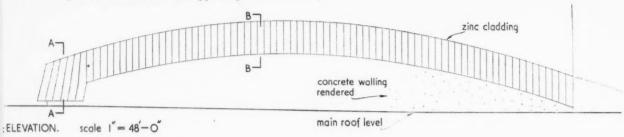


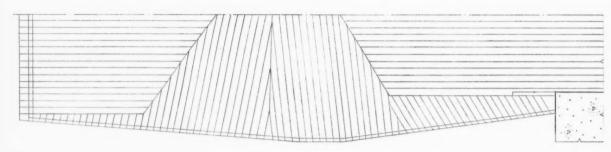
One of the features of this building is the consistent use of zinc finishes externally. The subject of this detail is the magnificent zinc roof. Concealed beneath the upper edge of the mansard profile is a secret gutter which is itself formed of zinc and is supported by galvanised mild steel straps and stiffened with a galvanised mild steel angle nosing. The mansard slopes are formed of close-boarding laid across sprockets, the cavity beneath being carefully ventilated.

working detail

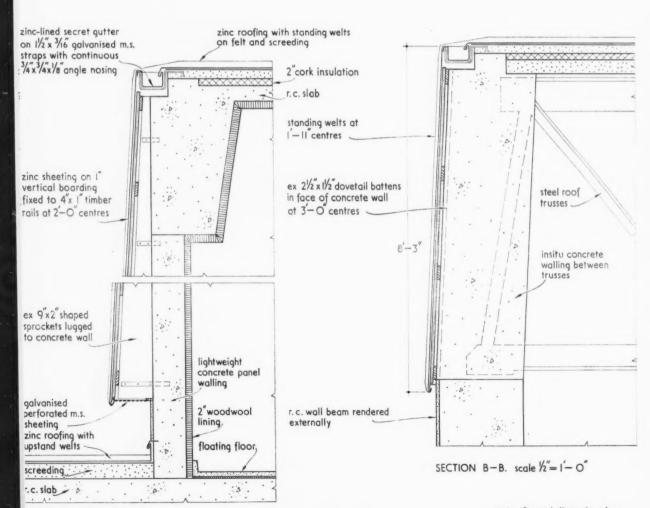
ZINC ROOF: CONCERT HALL IN BERLIN

Paul Baumgarten, architect (material supplied by Hans Haenlein)





HALF PLAN OF ROOF. scale 1"= 48-0"



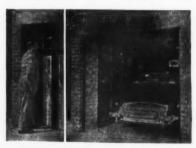






The illustration on left shows yet another example of ELLARD "Estate" Sliding Door Gear in the modern dwelling-house. See how simple it is to convert a spacious room to one of cosy and intimate atmosphere. Elegant appearance, ease of operation and long service are the main selling features of this attractive ELLARD Door Gear. The obvious choice for both council estates and private houses is ELLARD Door Gear.

The illustration on right shows ELLARD "Radial" Sliding Door fitted to a private garage. Valuable working space is offered at the entrance to the garage. ELLARD Door Gear provides easy access to and from the garage by a personal entry door. ELLARD "Radial" Sliding Door Gear is low in price and gives long service without maintenance. This gear is also suitable for the larger openings of commercial and industrial garages.



RAG



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Gear, illustrated on left, represents the best method of operating an overhead-type door, and it requires the minimum space, fixing time and maintenance. An entirely clear threshold is achieved, and both side walls are available for windows and shelves. ELLARD "Overdor"
Gear is designed for doors from 6ft. to 7ft. 3in. high and up to ELLARD "Overdor" Gear is designed for doors from 6ft. to 7ft. 3in. high and up to 200 lbs. in weight. The door is safely balanced and can be opened and closed with ease.

Fully descriptive literature will be gladly sent on request.

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Party games eh?

Don't be ridiculous. Anti-dazzle precautions that's all. Can't leave the bar.

Where's Mildred?

Cavortin' around with that ass Willoughby-Welford. He's another Reed Millican* enthusiast. Doin' a rumba last time I saw 'em. That's why I put the shutters up.

Big crowd here.

Of course there is. They all fall for it. Give 'em plenty of glass . . . plenty of mirrors . . . plenty of "exclusive colour silvering" and they're happy as larks. Newcastle 28383. Bah!

Must be something in it.

You bet there is . . . but who for?

Millican 1 suppose.







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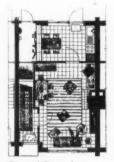
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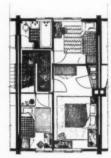
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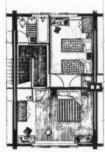
Elevation house type 5701



Ground floor plan house type 5701



First floor plan house type 5701



First floor plan house type 5702

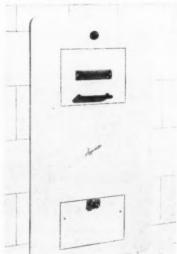
News continued from page 912

ONLY £1,000

For a Terrace House

Unity Structures have announced a terrace house design, of 750 sq. ft. which they say can be built for £1,000, excluding land purchase, roads, sewers and site works. A number of designs have been worked out for 3, 4 and 5 person households and the secret of the low price is attributed mainly to simplicity of design. Party walls are 15 ft. apart, supporting 9 in. first floor joists which thus require little cutting at the bearings. The roof is of prefabricated timber trusses resting on two r.s.j.'s spanning between party walls, at some distance in from the front and back walls—thus reducing the truss span. The rafter cantilevers beyond the r.s.j. to the eaves gutter, which is of flat trough section, made either of asbestos or fibre-glass. Traditional roof tiling is used. Party walls are of 9 in. brickwork up to first floor and cavity clinker block to roof, and they project beyond the front walls to comply with model byelaw 36 (fire). Front and back walls are brick up to first floor and timber framed panels above, clad externally with tile hanging and internally with foil-faced plasterboard. Alternatively external claddings and not tiling can be used. The ground floor finish is of pitchmastic and the plumbing of copper. One innovation is the use of unplasticized pvc as undercloaks to the tile hanging, permitting a wider gauge than usual and as a vertical dpc separating the projecting part of the party walls from the

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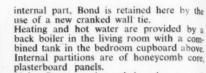
"HYGIENETTES" have been supplied for ICI, BOWATERS, SHELL, BP, ADMIRALTY (ROYAL OBSERVATORY), GUARAN TY TRUST CO OF NEW YORK, ESSO, WESTMINSTER BANK, BRITISH THOMSON-HOUSTON, CENTRAL ELECTRICITY AUTHORITY, CROMPTON PARKINSON, FBI, GLAXO, METRO-POLITAN VICKERS, ROWNTREE, SCHWEPPES, PLA, also CROWN AGENTS, MINISTRIES, ELECTRICITY BOARDS, etc.

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THE HYGIENETTE MFG. CO., 39 VICTORIA STREET, WESTMINSTER, S.W.I. ('Phone ABBey 5175)



Elevation house type 5703



plasterboard panels. Unity Structures base their price on estimates made by several builders in different parts of the country. The £1,000 is for terraces of not less than 6 in a contract of about 50 houses. They suggest that the total cost per house, including roads, etc., would not exceed £1,350.

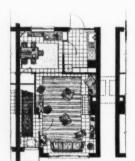
Their plan is to offer the houses to local authorities at a fixed price—to be built by local contractor-agents, Later on they hope to sell to private developers.

TIMBER

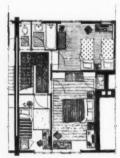
New Training Scheme

A scheme to train timber technologists is announced by the timber engineering firm, H. Newsum & Co., of Lincoln. The firm have realized that the traditional training of a carpenter and joiner is not adequate for present day products and that the kind of present day products and that the kind of man they need is difficult to come by. Hence they have worked out a training course, to begin next year for school leavers aged 16 to 17. The subjects to be studied are: Design, timber engineering, machinery, assembly, production, estimating, adhesives and lamination, management, site erection, factory maintenance and sales. Besides these studies, apprentices will be taught stress grading, conversion, preservation, etc. tion, etc.

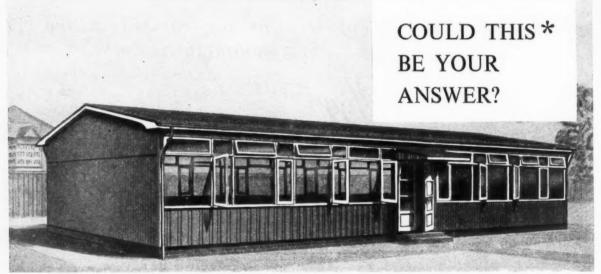
Students will be trained by one day and evening attendance at technical college and in the company's workshops and laboratory, and by visits to other manufacturing organizations



Ground floor plan house type 5703



First floor plan house type 5703



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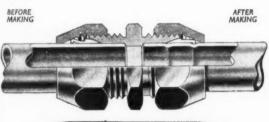
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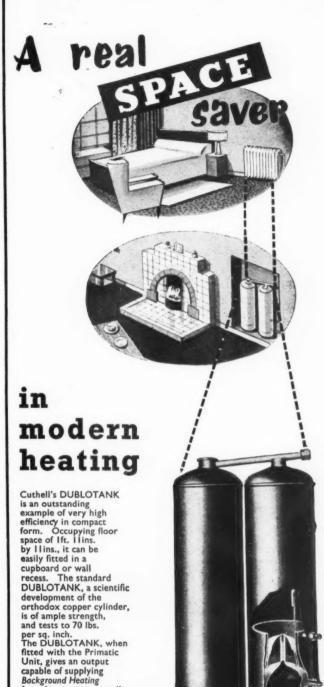
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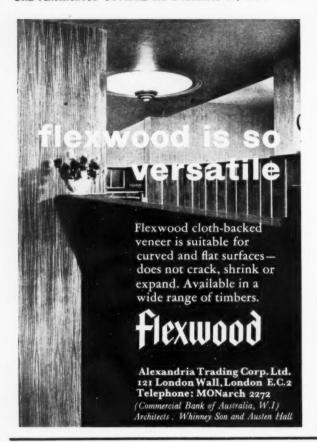


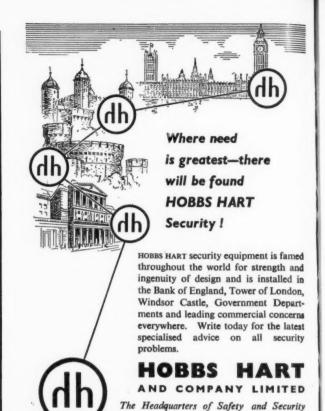
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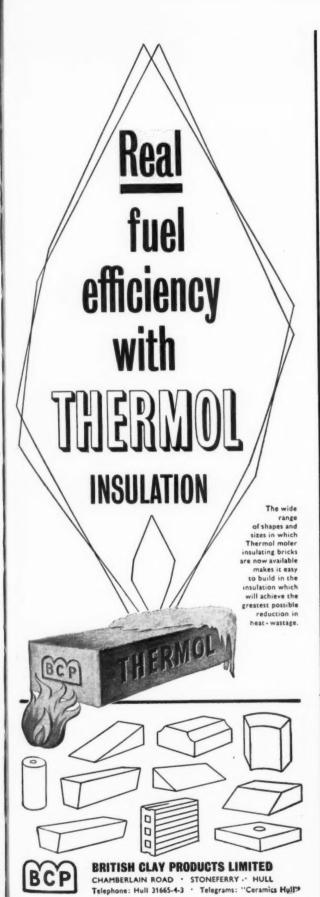
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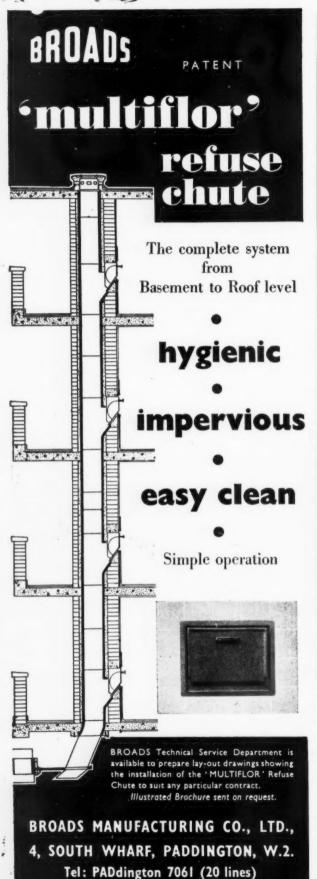
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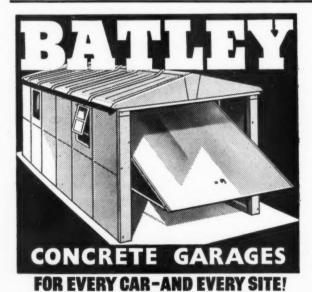
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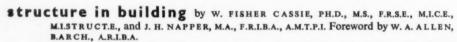
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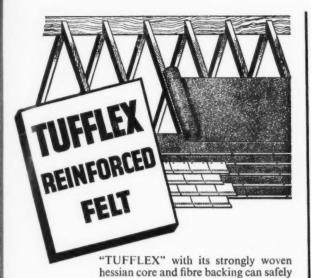
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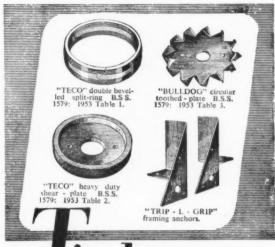
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