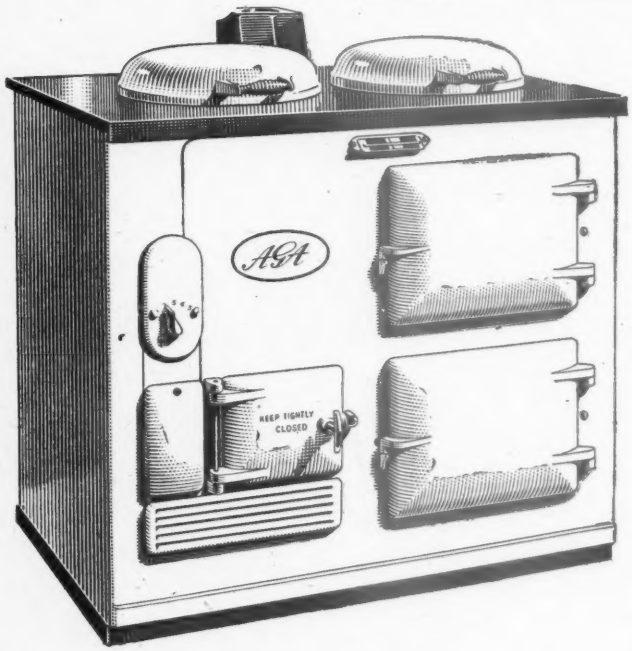
# HEAT STORAGE COOKING

EXAMPLE

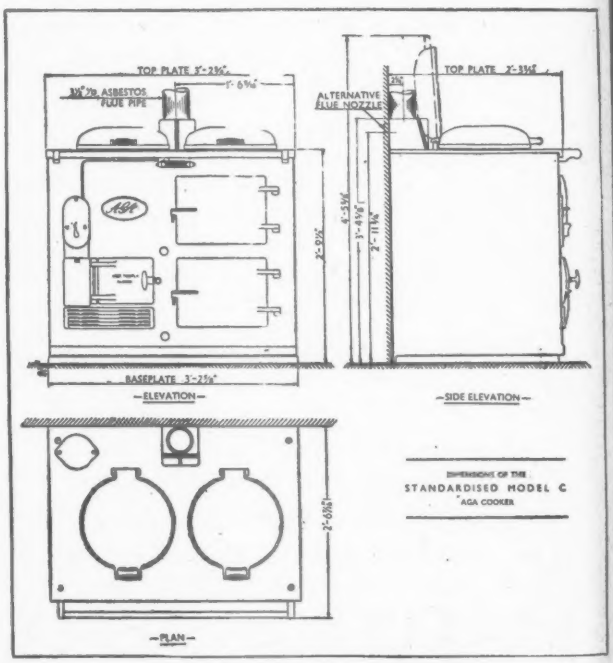
## THE AGA COOKER




SPECIFICATION FOR MODEL C:
The dimensions of this model are given in the drawings below, which show front and side elevations and plan. It is recommended for average conditions in a medium-sized house. It provides a fast boiling plate and a separate simmering plate, and two ovens, one for roasting and one for simmering and plate-warming. It is guaranteed not to consume more than an annual maximum of 2½ tons of fuel.

WEIGHT: Approximately 10½ cwt.

INSTALLATION: It fits right back against the wall: the flue pipe can be taken either straight up to the chimney or else a different flue chamber can be fitted and the stub taken to a built-in flue. It is recommended that the AGA Cooker should stand on a sheet of asbestos cement or asbestos millboard (in the case of a wooden floor): or it may be raised on a brick or cement dais flush with the front plate of the cooker. It is important that the hearth or base upon which the cooker stands should be perfectly level.




**ONE OF THE MANY CONTRIBUTIONS TO THE POST-WAR HOME THAT WILL BE MADE BY**

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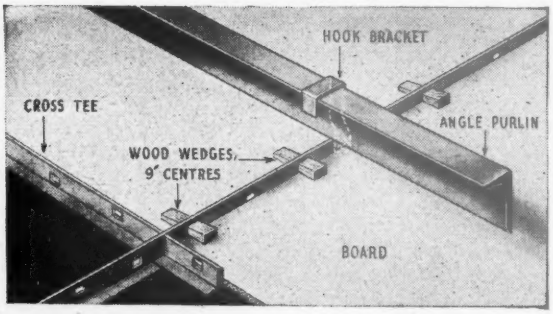
AnD WEDGE METHOD

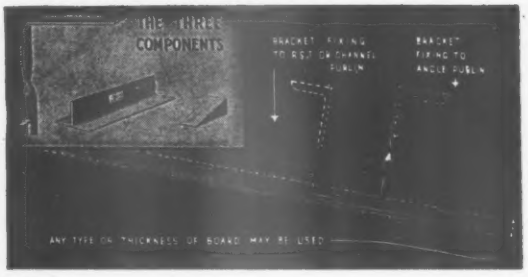
Patent No. 519406

# FOR APPLYING ANY TYPE OF BOARD TO CEILING & WALLS

The Wallboard is secured to sherardised, pressed steel, slotted T-section by wedges. Below are shown the methods of attaching the support to various forms of purlin.

*Escalator Tunnel of St. John's Wood Underground Station. Architect: S. A. Heaps.*




## 8 POINTS TO BE NOTED

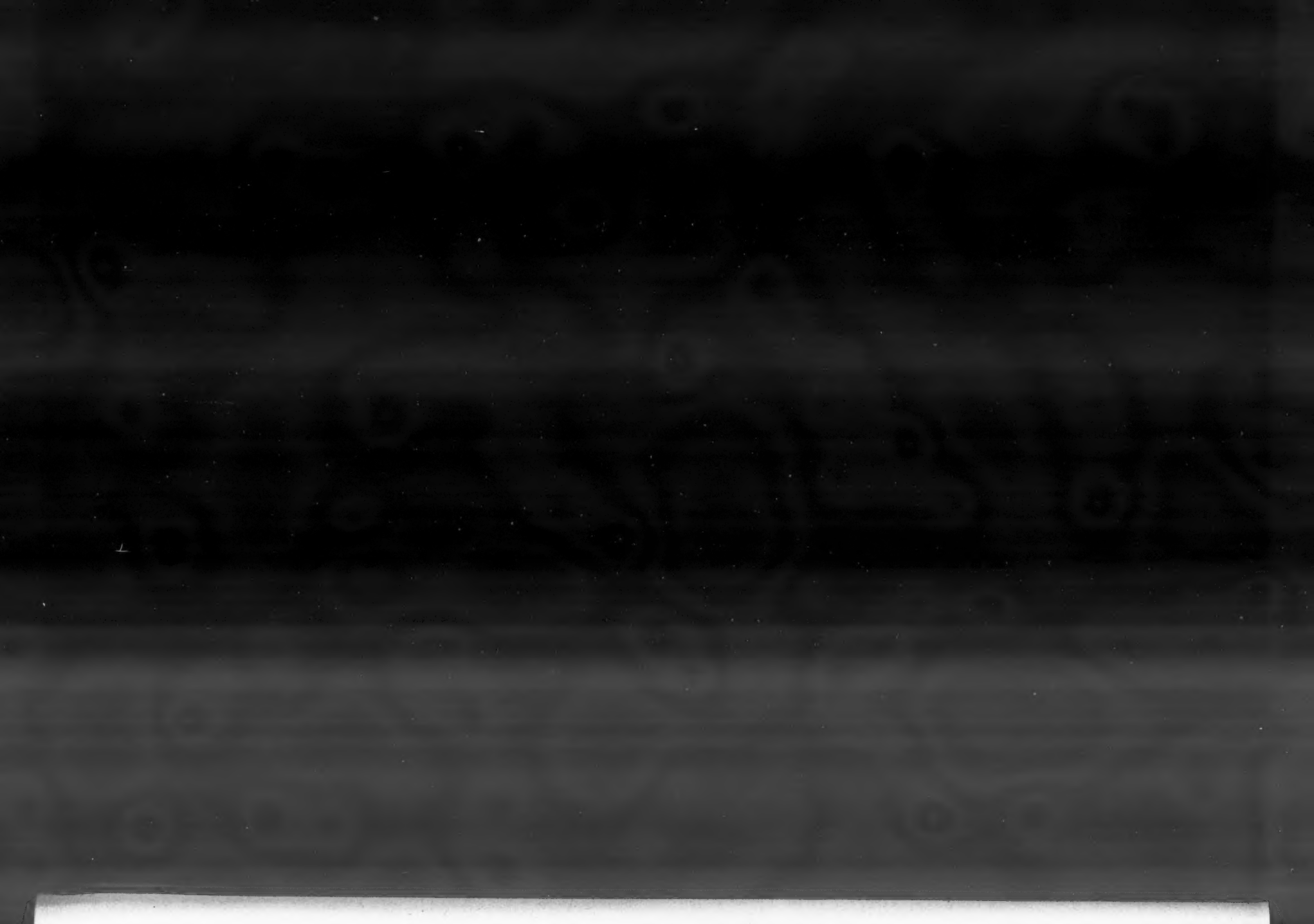
1. Fixed to UNDERSIDE of purlins—steel or wood—covering unsightly hook bolts, clips, etc.
2. Assures the insulating value of air-space between roof and underside of purlins. No dust or dirt.
3. Can be fixed to steel or wood purlins of roofs and joists of flat ceiling.
4. No unsightly nail heads showing.
5. Can be applied to new or old buildings of any construction independently of the roofing contractor, who proceeds with his work ahead of the AnD Wedge Method.
6. Any thickness of board can be used, from $\frac{1}{8}$" to $\frac{5}{8}$".
7. This method can be used for applying linings to exterior walls.
8. The simplicity of application is such that any contractor can apply the AnD Wedge Method, and the materials making up this method can be purchased by the contractor.

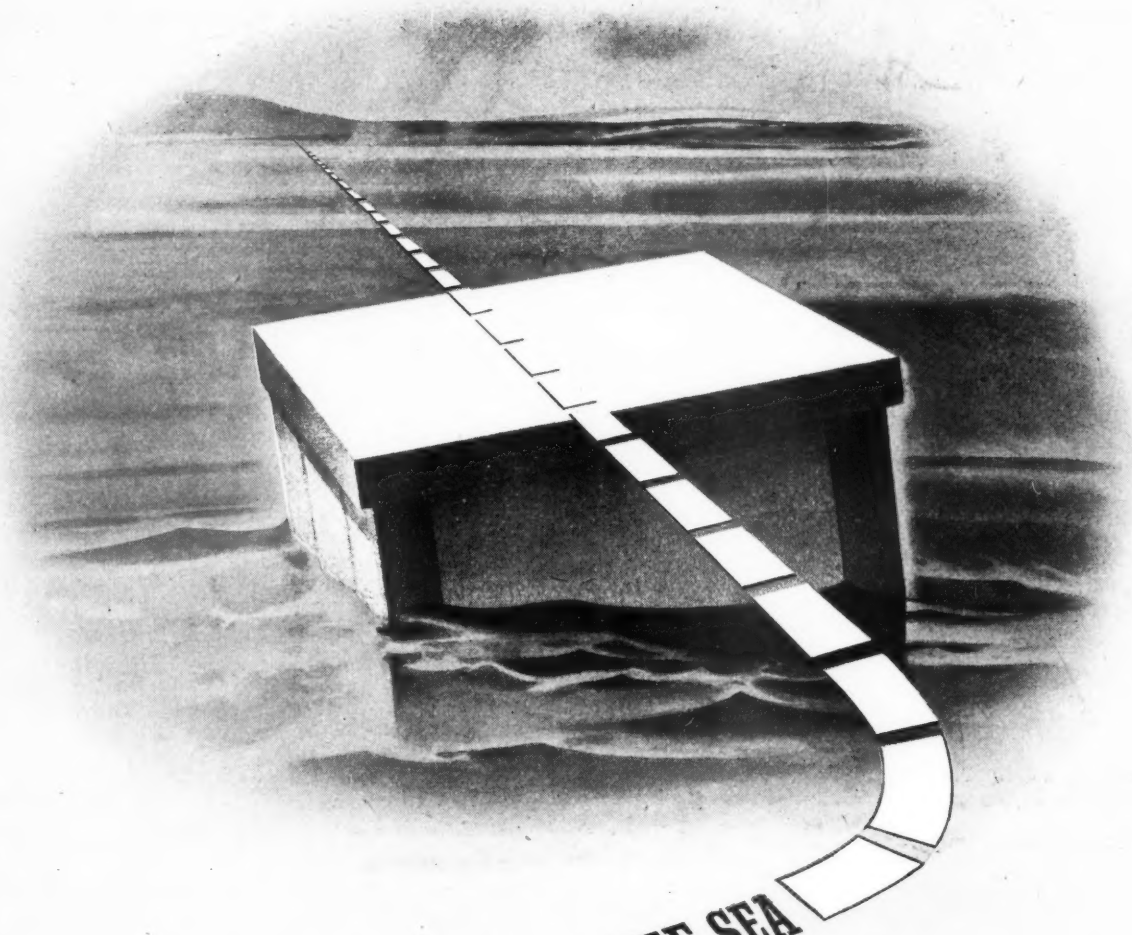
*Full particulars, specification and a typical layout will be sent on request*

## C. F. ANDERSON & SON, LTD.

*Wallboards for Government Work*

HARRIS WHARF, GRAHAM STREET, LONDON, N.1. TELEPHONE: CLERKENWELL 4582





# LAYING A ROAD ACROSS THE SEA

**What has a concrete box to do with a floating roadway? The reinforced concrete pontoons which we supplied to carry Mulberry Harbour's ten miles of floating pier had to be of shallow draught but not too wide. They had to be designed and constructed for towing broadside as well as bows on. They had to be light but strong enough, even if aground, to carry the weight of the flexible steel spans plus heavy military traffic. Following experiments with a concrete box we were able to proceed on a design in which pre-cast panels only 1¼" thick were used. In every detail of construction nothing was left to chance and, when the time came, the pontoons did their job to perfection. We'll be glad to take just as much trouble for those who are interested in the work of reconstruction.**

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## Domestic Appliance Department

### *MESSAGE FOR MAY*

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The invaluable knowledge thus gained is now being utilised by our engineers in the production of highly efficient domestic cooking equipment, water-heating apparatus, washing machines, fires and similar domestic products.

Whilst your plans are still fluid it will be to your advantage to discuss them with one of our Development Engineers. We invite you, therefore, to write to the Domestic Appliance Dept., Queens House, Kingsway, W.C.2.

*The* ENGLISH ELECTRIC COMPANY LIMITED

ENGLISH RITEMP ELECTRIC

ENLIST THE EXPERIENCE OF ENGLISH ELECTRIC

GA

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## —the practically imperishable roofing

Proof against crumbling under the action of heat and frost, impervious to the corrosive influence of acids in the atmosphere, non-porous and completely waterproof, North Wales Slates guarantee roofing service unapproached by any artificial roofing material.

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## THE UNPARALLELED ROOFING INVESTMENT

NORTH WALES SLATE QUARRIES ASSOCIATION — WALES FOR SLATE

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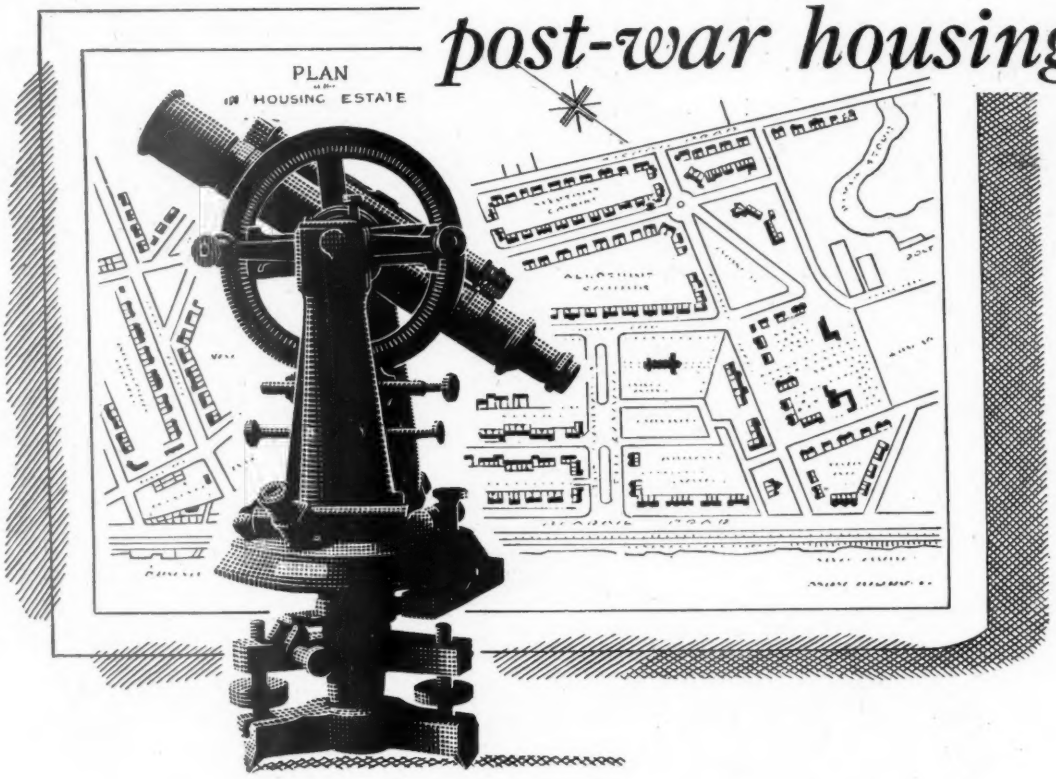
# *The New Craftsmanship for post-war housing*




The millions of new houses which are and will be needed in this country—"prefabricated" and brick built alike—will call for ample supplies of standardised electrical products of good design, quality and durability.

The M.E.M. factory is fully equipped to turn out switches, fuseboards, and other electrical gear immediately the change over from war priorities to peacetime production becomes permissible. By full mechanisation and skilled planning M.E.M. engineers have created the New Craftsmanship which might be described as *quality in quantities*.

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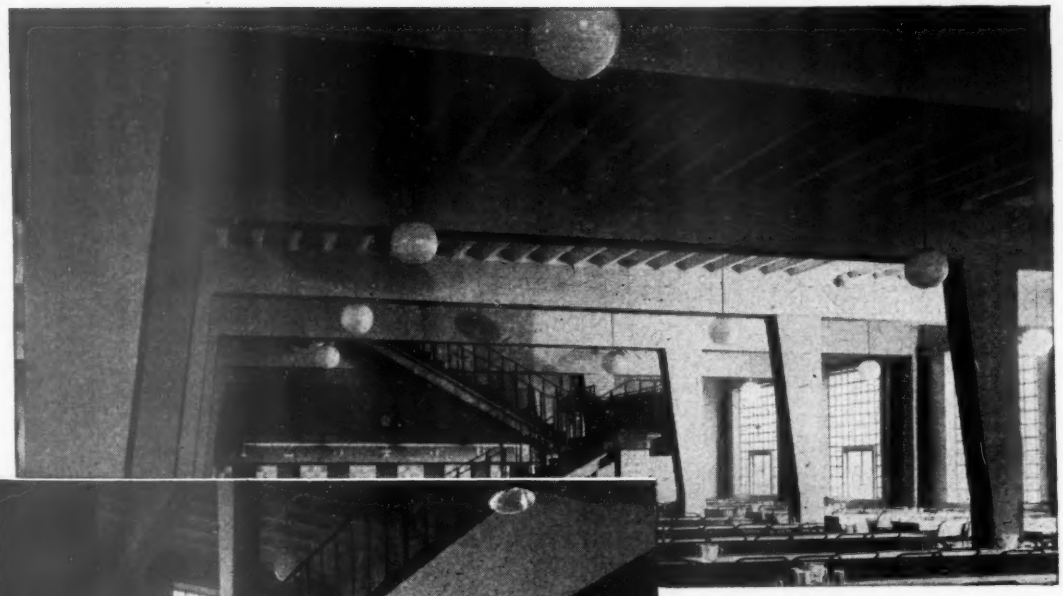

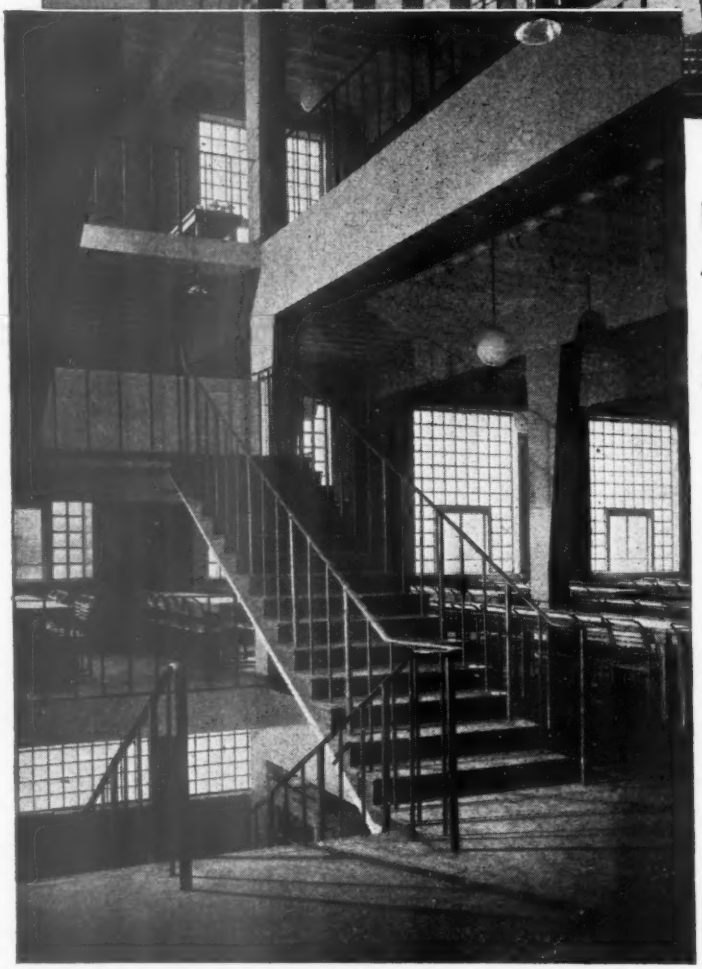

## CANTEEN IN THE NORTH OF ENGLAND

*Architects:* Richard Sheppard & J. Shufflebotham, AA.R.I.B.A.

*Assistant Architect:* Hilton Wright, A.R.I.B.A.

*Contractors:* Purdie, Lumsden & Company, Ltd.

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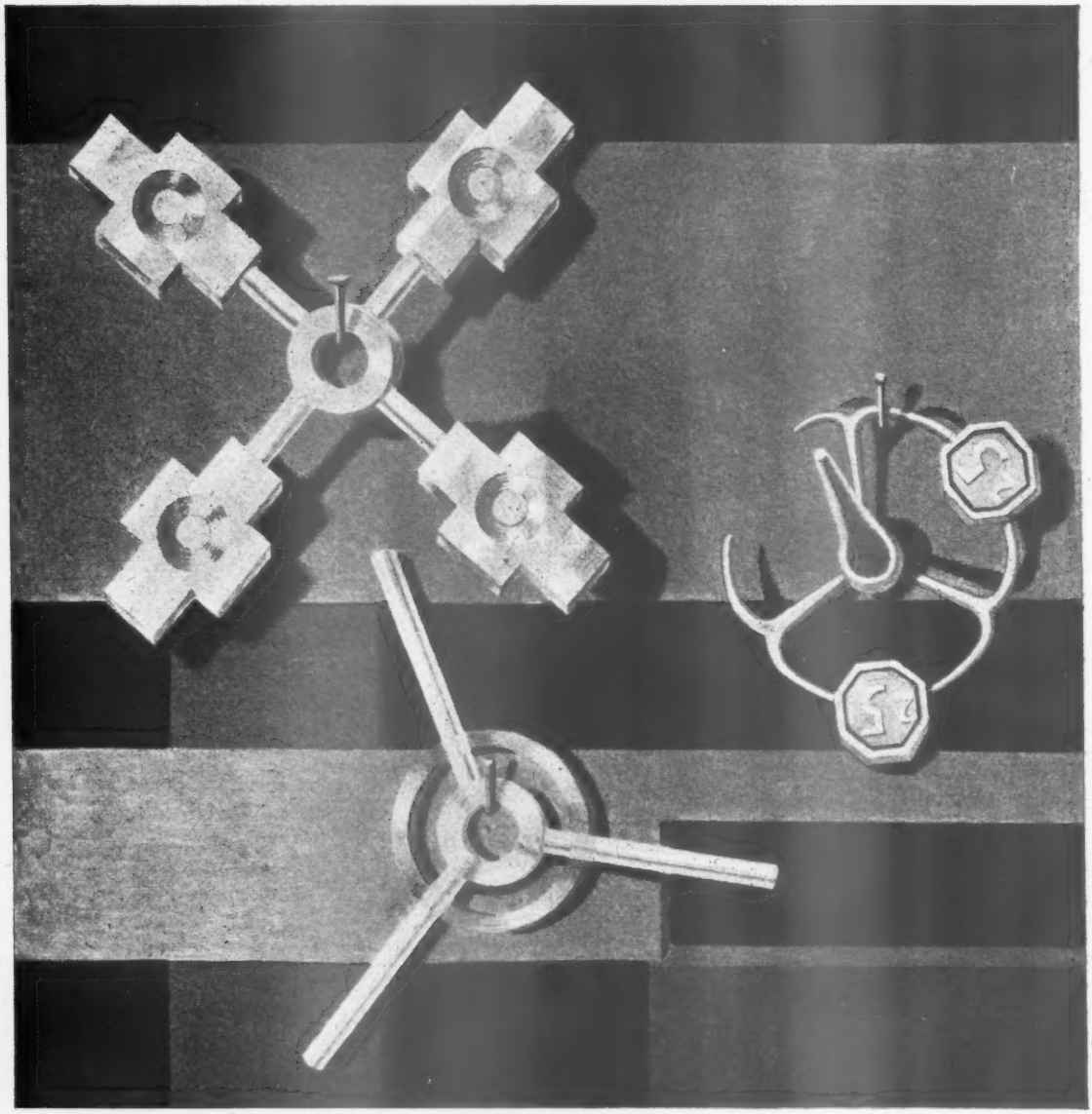
*Truscon Precast Units do not require false ceilings for this type of building; contain no inaccessible voids to harbour dust and vermin: are completely hygienic.*



Drawn specially for I.C.I. by Edward Wadsworth, A.R.A.

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***"Pinned up for observation on the studio wall these objects are, surely, destined to grace black velvet backgrounds in the jewellers' windows of Bond Street, or the Rue de la Paix. Not at all: they are purely functional and will never be allowed to waste any beauty on desert air. Each one of these 'pin-ups' has its own secret vocation—perhaps a small part of a submarine or a wireless transmitter? I do not know. Enough for me is the apparently accidental charm of these original and fascinating substances. No doubt our brave new world will contribute many more such delightful surprises: let us hope so." E.W.***

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**IMPERIAL CHEMICAL INDUSTRIES LTD.**
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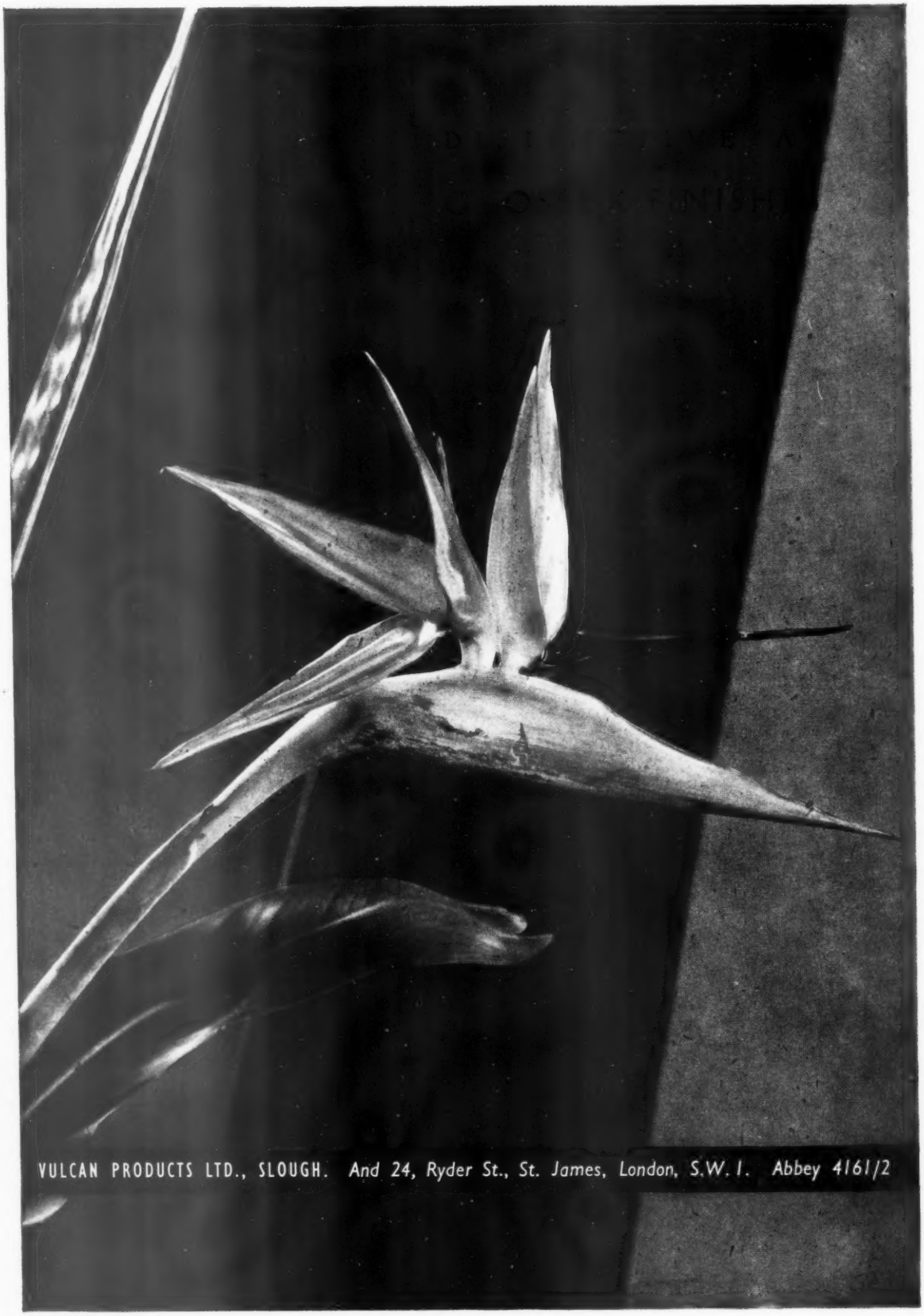
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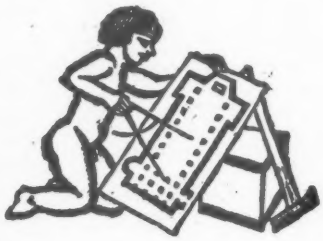

# DIARY FOR MAY JUNE AND JULY

Titles of exhibitions, lectures and papers are printed in italics. In the case of papers and lectures the authors' names come first. Sponsors are represented by their initials as given in the glossary of abbreviations on the front cover.

BELPER, Derby. *Homes to Live In.* Exhibition. At the Small Public Hall, King Street. (Sponsor, BIAE.) MAY 24-30

BIRMINGHAM. *The English Town: Its Continuity and Development.* At the George Dixon Grammar School, Edgbaston, Birmingham. (Sponsor, TCPA.) MAY 24-31

*Good Neighbours.* Exhibition. (Sponsor, HC.) MAY 24-30

BRISTOL. *Country Life and Country Needs.* Exhibition. At the Museum and Art Gallery. (Sponsor, BIAE.) MAY 24-26

LINCOLN. R. L. Stirling, Planning Officer, Lincoln and District Joint Planning Committee. *The Influence of Housing Needs on the Planning Scheme.* D. Whiteley, Water Engineer, Lincoln. *The Water Undertaking and its Contribution to the Nation's Health.* At the Usher Art Gallery, Lindum Road, Lincoln. Chairman: J. E. Swindlehurst. In the afternoon a visit will be paid to temporary bungalows, Outer Circular Drive, and the Lincoln Gas Works. (Sponsor, Royal Sanitary Institute.) 10.15 a.m. JUNE 9

LONDON. *Royal Academy of Arts.* One Hundred and Seventy-Seventh Summer Exhibition. MAY 24 onwards

*Aluminium from War to Peace.* Exhibition at Selfridge's. All sections of the aluminium industry have combined to stage an exhibition that will tell, for the first time, the story of aluminium and its varied applications in the nation's post-war reconstruction plan. Aluminium in housing is featured in the exhibition. There will be planned kitchens and other rooms and a bathroom in all of which aluminium is used to the best advantage. The public will get a pre-view of furniture, domestic appliances and utensils of all kinds. Examples of anodised aluminium ranging from electric fittings to complete kitchens in anodised aluminium are being shown. (Sponsor, Aluminium Development Association.) MAY 30-JUNE 30

Donald Barber. *Shopping Centres and Town Planning.* At 28, King Street, Covent Garden, W.C.2. (Sponsor, TCPA.) 1.15 p.m. MAY 31

*Industrial Insulation, Institute of Fuel.* Conference at the Institution of Mechanical Engineers, Storey's Gate, Westminster, S.W.1. Opening item, presentation of a paper by the President, Dr. E. W. Smith, which will summarize the eight papers on *Thermal Insulation* already presented to various Sections of the Institute during the present session. The opening paper will be followed by a discussion, the early part of which will consist of specially invited contributions. The remainder of the morning session and the early part of the afternoon session will be devoted to an open discussion, and the reply, which will be given in the later part of the afternoon, will be made by the various authors of the series of the insulation papers. The list of papers in the insulation series is as follows:—1. *Thermal Insulation,* by Dr. H. R. Fehling. 2. *The Economics of Saving Fuel, with Particular Reference to the Insulation of Steam Ranges,* by G. N. Critchley. 3. *The Practical Aspects of Reheating and Heat Treatment Furnace Insulation,* by A. Stirling. 4. *The Thermal Insulation of Buildings,* by N. S. Billington. 5. *The Insulation of Open-Hearth Furnaces and Blast Furnaces,* by Dr. J. M. Ferguson. 6. *The Insulation of Furnaces,* by Dr. R. J. Sarjant. 7. *The Insulation of Pottery Furnaces, Kilns, and Carbonising Plant,* by J. S. F. Gard. 8. *The Insulation of Boilers.* The conference will open at 10.30 a.m. There will be an adjournment for lunch at, or shortly after, 12.30 p.m., and the conference will be resumed at 2.30 p.m. MAY 31

Christian Barman. *Design in Modern Transport.* At the Royal Society of Arts, John Adam Street, Adelphi, W.C.2. The lecture will be illustrated by lantern slides. Chairman, T. E. Thomas, General Manager, London Passenger Transport Board. (Sponsor, RSA.) 1.45 p.m. JUNE 6

MANCHESTER. *Worthwhile British Products.* An exhibition of furnishing fabrics, glass, pottery and printing showing our pre-war attainment and chosen from the Manchester City Art Gallery Collection. At the Municipal School of Art, All Saints, Manchester, 15. Open during school hours. Closing 8 p.m. on Monday, Tuesday and Thursday and 12 noon on Wednesday and Saturday. MAY 24-JUNE 23

SWANSEA. J. B. Bennett, Borough Engineer and Surveyor. *Reconstruction and Housing Proposals of Swansea.* At the Guildhall, Swansea. Chairman: Dr. J. Greenwood Wilson. In the afternoon a visit will be paid to the blitzed area and to the Drainage Outlet at Mumbles Head. (Sponsor, Royal Sanitary Institute.) 11 a.m. MAY 26

WELLINGTON, Shropshire. *Your Inheritance; Living in the Country.* Exhibitions. At Wrekin College. (Sponsor, HC.) MAY 26

WORCESTER. *Country Life and Country Needs.* Exhibition. At the Women's Institute. (Sponsor, BIAE.) MAY 24-26

# NEWS

THURSDAY, MAY 24, 1945
No. 2626. VOL. 101

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*Though no feature in the* JOURNAL *is without value for someone, there are often good reasons why certain news calls for special emphasis. The* JOURNAL'S *starring system is designed to give this emphasis, but without prejudice to the unstarred items which are often no less important.*

★ *means spare a second for this, it will probably be worth it.*

★★ *means important news, for reasons which may or may not be obvious.*

*Any feature marked with more than two stars is very big building news indeed.*

## *The Colonial Office is to recruit Architects and TOWN PLANNERS FOR THE COLONIAL SERVICES.*

From May 1, 1945, arrangements for the appointment to the Colonial Service of engineers who are normally required to possess academic or professional qualifications, and also of qualified architects and town planners, formerly undertaken by the Crown Agents for the Colonies, 4, Millbank, S.W.1, will be conducted by the Colonial Office. Information regarding appointments of this nature will in future be obtainable from the Director of Recruitment (Colonial Service), 15, Victoria Street, S.W.1.

## *The Bristol Branch of the Association of Building Technicians is collecting TECHNICAL INFORMATION FOR THE FORCES.*

The Bristol branch of the Association of Building Technicians' Association is collecting details of development in building materials and their application in modern planning, for issue to its members in the Forces. Details of prefabricated housing, plastics, plumbing, heating and lighting are especially in demand, but any information relating to new materials or methods of construction would be welcomed. Trade literature and other information should be addressed to Mr. S. T. Wyatt, A.R.I.B.A., Hon. Sec. Bristol Branch ABT, "Steppings," Eastwood Road, St. Anne's Park, Bristol, 4.

## *From* AN ARCHITECT'S *Commonplace Book*

AMENITY OF VICTORIAN LONDON. [*From* An Account of the Architectural Amenities of the Savoy Hotel *in the Illustrated London News*, of 26 *October*, 1889, *published in* The London Miscellany, *compiled by Robert Harling* (William Heinemann, 1937).] To every floor there is a terraced balcony, supported either by granite columns or pillars of cream colour, having gilded capitals. Red and white striped blinds may be drawn at pleasure . . . The carriage entrance, on Savoy Hill, from the Strand, brings visitors into a rectangular central courtyard in the middle of which a fountain plays in a bower of flowers. Bright blossoms adorn the windows which pierce the lofty surrounding walls—walls that can never become smoke-begrimed, as they are built wholly of glazed white brick. At two corners, enclosed in towers which form portions of the square, have been provided American elevators, by means of which passengers may conveniently ascend to the top floors. On the first floor is the restaurant . . . splendidly mounted in mahogany, carved and inlaid, and the chairs are covered with red leather. French windows open upon the broad balcony, where after dinner the grateful cup of coffee and cigarette may be enjoyed in the open air. Conveniently at hand are the kitchens, connected with the vast underground store-rooms, and the cellars, which are already stocked with carefully selected champagnes, burgundies, and clarets, not to mention casks of ale and huge butts of spirits . . . In the lower floors of the building are lounge-rooms, bureaux, cloakrooms, smoke-rooms, and other conveniences which are the outgrowth of modern civilization. In the depths of the cellars are four electric light engines—for no gas, except for cooking, is needed—water heaters, pumps, and an artesian well, sunk over 420 ft. The Savoy Hotel will make no charge for lights or for baths . . . All the suites of rooms are upholstered and arranged on a scale which can only be equalled in a grand mansion. Messrs. Maple have supplied pile carpets, brass " twin " bedsteads, inlaid cabinets, and sets of mahogany, walnut, or enamelled ash, carved dados and mantlepieces, wall hangings of Japanese papers, or of tapestry designs, friezes of gold, and pottery of the choicest description . . . One noticeable point is the completeness with which the electric lighting has been carried out, the current being cut off at will or utilized in prettily shaded lamps of the most convenient pattern.

★

### *The Secretary of State for Air: There are approximately ONE THOUSAND FOUR HUNDRED ARCHITECTS AND SURVEYORS IN THE RAF.*

In the House of Commons, Mr. Alfred C. Bossom asked the Secretary of State for Air the number of architects and surveyors and the number of building trade operatives now in the R.A.F. Sir A. Sinclair: There are approximately 1,400 architects and surveyors and 65,000 building trade operatives in the Royal Air Force. The latter figure includes general labourers allied to the building trades.

### *Local builders may yet build PHŒNIX HOUSES.*

When the announcement was made that the contracts for Phœnix houses had been given to selected big builders and civil engineering contractors, the National Federation of Building Trades' Employers was inundated with protests from local builders in those parts of the country in which the houses were to be built. As a result, the National Federation, at its last Council meeting, passed a strongly worded resolution, which was sent immediately to the Minister of Works, viewing the decision with indignation. The Federation has now received a letter from the Ministry signed by the Principal Secretary, Sir Percival Robinson, saying: The Phœnix house is at present essentially experimental, and the order had therefore to be given to members of the group responsible for its design so as to afford them the opportunity of substantiating the claim made on its behalf. If, as a result of this experimental building programme, it is decided to proceed with the production of a larger number of Phœnix houses, full attention will be paid to the view expressed in your letter that this type of house is suitable for erection on a small scale by local builders. The concession follows quickly on the heels of the National Federation's successful representations on the size of the Government contracts for temporary houses, which the Ministry of Works agreed last month to reduce from 200 to 50. On Phœnix houses, too, the Federation is satisfied that it will have public opinion strongly behind it in pressing the claims of the smaller local builder, and if it is decided as a result of the present experiment to continue the building of these houses it will urge that the majority of them shall be built by local builders, the size of the contracts being adjusted to meet their capacity. In all cases, too, it will urge that the contracts shall be open to tender. The Phœnix house is a concrete house designed by one of the firms associated with the designing of the Mulberry Harbour.

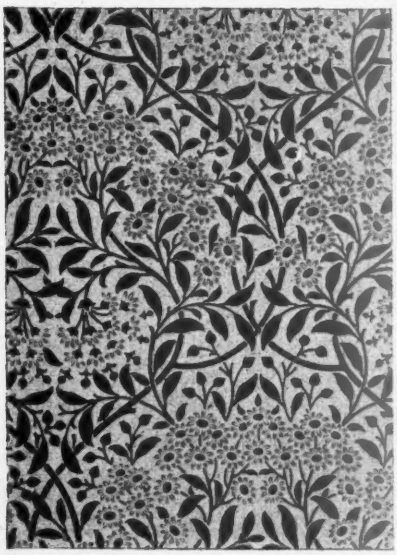
### *The Directors of the LNER have provisionally approved a scheme TO BUILD A NEW PALACE HOTEL AT ABERDEEN.*

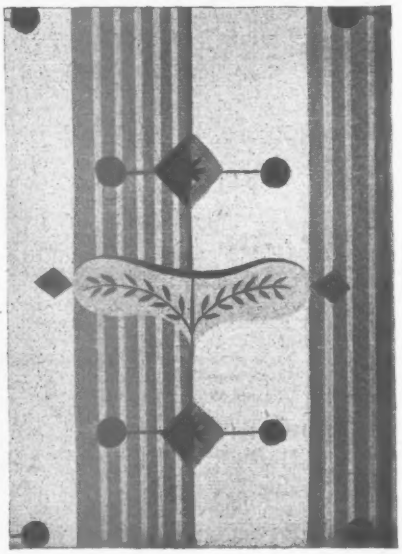
The Palace Hotel of the LNER at Aberdeen was destroyed by fire in October, 1941. The damage was so extensive that rebuilding in wartime was out of the question but, subject to satisfactory agreement with the Corporation Authorities, the Directors of the LNER have now provisionally approved a scheme for building a new Palace on the site of the old hotel, the work in connection with which will be taken in hand as soon as circumstances permit. It will contain 108 bedrooms for visitors, each with its own private bathroom and in addition to the usual public rooms, a cocktail bar, ballroom, reception rooms, private sitting rooms and stock rooms for the display of the latest fashions, etc. There will be an air-conditioning plant, and bedrooms will be heated by panel radiators. Special attention will be paid to the provision of adequate and comfortable accommodation for the staff.

★

### *The Minister of Supply, Sir Andrew Duncan, received a DEPUTATION FROM THE TIMBER TRADE FEDERATION of the United Kingdom.*

The Federation was represented by Mr. Bryan Latham (President), Major W. N. Hillas (vice-president), Mr. R. W. Corkhill (chairman, Timber Development Association), Mr. J. T. W. Forbes, Mr. Cecil V. Cochrane (chairman, Plywood Section), Mr. Henry G. Dodd (Chief Executive Officer), and was introduced by Mr. Percy W. Jewson, M.P. Mr. Bryan Latham, presenting the case for the Federation, drew attention to the erroneous statements in the national and technical press from time to time to the effect that a possible great shortage of timber in the future would necessitate the use of substitute materials in the reconstruction programme, including housing. It was clear to him that energetic action was being taken by the Department to ensure the adequacy of future timber supplies, but because of the lack of information on Government policy in this connection an impression existed that there would be an acute future shortage. For the same reason timber using industries were greatly handicapped in their post-war planning. Other members of the deputation stressed the great importance of timber in our national economy, and the desirability of early publication of details of the Government buying programme so that supplying, distributing and consuming industries can be placed in a position to prepare their rehabilitation plans. The Minister, replying, said it had been necessary to employ substitutes for timber during the war in certain directions. He felt sure, however, that timber possessed such qualities and appeal that there was no danger of its being permanently displaced. He outlined the policy of the Department, and promised that the Federation's case would receive most careful consideration. The reasons underlying the Department's present inability to publish details of their plans were explained, and it was noted that as soon as possible information would be published.





# *Wallpaper, Past and Present*

**Above are some examples of wallpaper on show at the current Exhibition of Historical and British Wallpapers at the Suffolk Gallery, Suffolk Street, Pall Mall. The exhibition was opened by Mr. Ernest Bevin, significantly enough on VE-Day, and remains open until May 29. It has been organized for the British Wallpaper Industry by the Central Institute of Art and Design, and has been designed by Eric Brown and Stefan Buzas. On pages 385-386, Mr. F. R. Yerbury reviews the exhibition, which is divided into four main sections—Historical Section, Technical Section, Main Section (displaying 500 modern wallpapers) and New Design Section. The illustrations above show: Top, an English black and white lining paper of about 1688; below, left, a William Morris design; centre, Palladian Fantasy, by Ronald Grierson; right, a design by Lawrence Scarfe.**

*The Minister of Supply has agreed to release MR. A. G. E. BRIGGS from the post of Deputy Controller of Iron and Steel Supplies as from April 30. His services, however, will continue to be available in an advisory capacity. Mr. K. G. Lampson has been appointed Deputy Controller.*

★

*The Minister of Health is to introduce a Bill in the House of Commons to enable PRIVATE BUILDING TO START.*

Mr. H. U. Willink, Minister of Health, addressing his constituents at Norbury, said that only by giving some of the work to private builders can a sufficient number of houses be built to meet the housing situation. He added: I shall shortly be introducing a Bill to put private enterprise builders in a position to start early to make a contribution to the housing problem.

*During the quarter ended March 31, LOANS SANCTIONED TO LOCAL AUTHORITIES by the Ministry of Health totalled £2,616,058.*

The loans sanctioned were as follows:—Housing, £1,683,125; municipal services (including clinics, sanatoria and mental hospitals), £377,690; swimming pools, playing fields, recreation grounds, open spaces, etc., £2,226; water supply, £355,793; disposal of waste products (sewerage and sewage disposal and refuse destruction), £95,871; education services (including libraries and museums), £31,213; roads and bridges (including private street works), £27,555; other services (including loans to defray contributions, etc., under War Damage Act, 1943), £42,585; total £2,616,058.

★

*The Ministry of Health is to discourage local authorities from TAKING OVER BUILDERS' LAND.*

Following representations by the National Federation of Building Trades' Employers, local authorities are to be discouraged by the Ministry of Health from taking over builders' land in their areas, which had been prepared for development before the war, and which, if left in private hands, would be developed quickly after the war by individual building firms. In reply to a question on the subject in the House of Commons, the Minister of Health stated categorically that it is not the Government's policy that this land should be acquired if a satisfactory alternative can be found, and that acquisition has been authorized in some cases only because of the urgent need to provide temporary houses quickly and the absence of a satisfactory alternative. Protests have been received by the National Federation from many of its members that local authorities are scheduling partly prepared building sites for compulsory acquisition, and are proposing to use them for the erection of Council houses. As this will have the effect of reducing, and not increasing, the number of houses likely to be built in the immediate post-war period, the Ministry of Health has agreed to discourage it.

# CODES OF PRACTICE

IN his recent lecture at the RIBA,* Mr. Roland Woods gave a comprehensive survey of the work of the Codes of Practice Committee. The significance of this work for the future development of the building industry cannot be overestimated. One of the handicaps of the building industry is the difficulty of propagating the results of improved building technique and research. As Mr. Roland Woods pointed out in his lecture, the Codes of Building Practice "provide in all branches of the building industry a vehicle by means of which the work in the laboratories or other research fields and the experience of active practitioners can be passed on in a useful and concentrated form to all branches of industry (including the schools where building is taught)." The Codes of Practice "are intended to be revised from time to time just as standard specifications are subject to be revised; consequently the various advancements that take place in the art of building can and will be included in codes as soon as the test of time and experience warrants."

A further handicap of the building industry is the lack of co-ordinated research. "A comprehensive scheme of building codes covering the whole field of building work will provide a background against which an organized scheme of building research can be undertaken. The use of Codes of Practice in the field will provide an almost infallible test as to the directions in which research can be carried out with the maximum value to the industry, thus fulfilling a want that has long been felt in the planning of schemes of building research. Conversely, the results of building research by whomsoever carried out, can, through the medium of Codes of Practice and their associated Standard Specifications, be carried effectively and rapidly into building practice, where otherwise they might lie dormant in pigeon holes until some accident brought them to light."

The question arises, however, whether the publication of Codes of Practice will in itself result in their being automatically applied in practice, or whether the Codes should be made mandatory. Whatever the answer, all must agree that many local building by-laws are obsolete or inadequate.

The inadequacy of by-laws may be of two types. Certain requirements may be unnecessarily strict thus causing unjustified waste, or they may not guarantee a standard now recognized as desirable. For example: Several housing schemes in the country are under way or will be under way in the near future. In some of these schemes the floors had to be designed for a superimposed load of 50 lb./sq. ft., and the roofs for 40 lb./sq. ft., whereas the party walls between dwellings are only 4½ in. thick. The superimposed loads are governed by existing by-laws, although according to the latest Code of Practice† 30 lb./sq. ft. would be sufficient. On the other hand, all the latest Government publications on housing

* See pp. 394—396
† See Information Centre, No. 1776, *A.J.*, February 1, 1945, p. 105.

emphasize that even a 9 in. brick party wall is inadequate from the point of view of sound insulation. The excessive design load for the floors and roofs is of value to nobody, but the very low standard of sound insulation will be a permanent source of annoyance. If the saving which could have been achieved by the reduction of the design load on the floors and roofs had been spent on increasing the thickness of the party walls, the amenity of the houses would have been greatly increased at probably the same total expenditure. Many more examples could be given but one is sufficient to show how important is the universal adoption of the latest standards established by the highest authorities in the country. It is hardly practicable to revise local by-laws individually at sufficiently close intervals to keep pace with technical developments.

As far as Functional Requirements, such as loading, precaution against fire, precaution against noise, etc., are concerned, there is obviously no justification for local variations, and only a *National* Code of Practice, which is brought up-to-date from time to time and made mandatory for all local authorities, would guarantee that the country as a whole would benefit from improved building technique and knowledge.

The other section of the Codes referred to by Mr. Roland Woods as General Series Codes should at least be considered as strong recommendations to be adhered to by all authorities unless they have sound reasons for a departure from a practice generally recommended.

*The Architects' Journal*
*War Address: 45, The Avenue, Cheam, Surrey*
*Telephone: Vigilant 0087-9*

# NOTES & TOPICS

## INSIDE RECONSTRUCTION

There was published before the war a number of books which whisked the reader vigorously around Europe and delivered to him at each port of call a pithy summary of personalities, tendencies and the Danger Spots. *Rebuilding Britain** belongs to the same good breed, but Sir Ernest Simon has advantages as a guide which were not possessed by the authors of the pre-war books. They are such special advantages that they are worth recalling to mind in case Sir Ernest, having become something of a national institution, has also acquired some of the shadowiness which belongs to such a position.

*

To begin with, Sir Ernest has been here before. He was Chairman of the Manchester Housing Committee from 1919 to 1923. He heard the Minister of Health declare at the end of the last war that the Government did not intend to regulate building by a licensing system and he had to steer the housing programme of Manchester through the disastrous results of that decision. Since then he has studied housing—one of the two big subjects of his present book—as a Junior Minister, writer, traveller and Government adviser during the present war.

*

Planning, his second subject, is so closely bound up with housing that he was bound to have learnt a great deal about it even if it had not come next to housing in the list of his interests. One therefore expects Sir Ernest to be an outspoken and capable guide to the Departments which will handle *Rebuilding Britain* and the good and bad points of their preparations; and so he proves to be.

*

The book is very well set out. The two big subjects are dealt with under three headings—Building, Housing and Planning—and many sub-headings, and what we are doing now, or apparently intend to do, in each important field is examined against post-1918 happenings or what has been done abroad. The scope of subjects is very large, ranging from Moscow to manpower and trade rings and from investment policy to Uthwatt and the relative costs of motoring in USA and Britain. And as each essay is largely self-contained, a reviewer is forced to work by sample and to hope that his samples are fair.

*

The consequences of the lack of a system of building licensing after the last war (a mistake which is not to be repeated), the description of the aims and organization of the Ministry of Works' Technical Committees and particularly the section on housing, seem to summarize a complex series of subjects in a way that could hardly be bettered in the space. Architects may feel that although Sir Ernest is right about the possibilities of mass-production, he does not do enough justice to the extraordinary difficulty of introducing large scale mass-production methods into the building industry.

*

On the other hand, most architects will enjoy his very sharp remarks about the *Private Enterprise Housing* Report. Few questions have been more clumsily handled by the Government. The selling prices or rents of all houses will certainly have to be strictly controlled for several years, and one hopes that for all time standards and siting will be controlled and that the Guaranteed Week will be universal. To meet these various requirements a housing subsidy will be needed in the first post-war years, and there is clearly a very strong case for confining these subsidies to housing built for local authorities. The actual building will be done by "private enterprise"

* By Sir Ernert Simon (Gollanz, 6s.) reviewed in the *A.J.* leading article, March 1.

builders, who will thus be able to collect and train competent labour; and builders and their architects should be entitled to put forward alternative designs for a proportion of the houses and to be able to appeal against their rejection.

*

But to go further than this during the emergency period seems indefensible. Public subsidies must be accompanied by public control and the local housing authorities are the obvious instruments for this control. The real squabble, in fact, is not about *building* at all. It concerns who is to own and who is to inhabit the houses of the first post-war years. It should be noted that the *New Statesman* alleges bluntly that the squabble is political: owner-occupiers on a building society mortgage being believed to vote Conservative and local authority tenants for labour.

*

When Sir Ernest reaches his second big subject of planning, his opinions are equally clear-cut, but seem, at least to the reviewer, to be not quite fair to the facts and now and then to contradict each other. Sir Ernest is a great believer in local government in its most vigorous form—the County Boroughs. He mentions, with an envy most of us will share, the ease with which the Moscow Planning Commission can get things done, but admits that unless our political opinions change radically, we can't do that kind of thing here. And most of us will agree.

*

But later he pounces on the 1944 Town and Country Planning Act and ridicules the claim that it provides a much quicker and simpler procedure for buying land for planning. Sir Ernest is far too well up in public affairs and too good a democrat to think that buying a large area of land in the middle of a big British city can be made as simple as buying a motor-bus. In this unreal sense he is quite right in saying the new procedure is still complex. But he is wrong in denying that it is a great improvement and in suggesting that purchase of land cannot now be completed in as short a time as that required for other preparations, such as making detailed development plans.

*

Similarly, Sir Ernest tells us very movingly (p. 223) of local authorities struggling to be free to do their duty over planning:—

> The local authorities are tackling their problems with conspicuous energy. The Ministry of Town and Country Planning is encouraging them in words; but what the local authorities want is Acts of Parliament, and they are not getting it. . . .

*

These strong words must be set against Sir Ernest's praise of Zurich's and Stockholm's care for the arts and town planning and his admission that the salaries paid to the planners in these cities, £12,000 and £20,000, much exceeded pre-war figures for British cities. This is an under-statement. Before the war, the town planning department of the Ministry of Health—itself not generally believed to be a body of ferocious reformers—spent nearly all its energies in trying to arouse some semblance of interest in town planning among local authorities.

*

In short, we have here a plain case of pot and kettle. But both, as the saying goes, have been much better lately. And if local authorities demand planning powers and use vigorously all they already have, they will probably obtain, with a little British delay, all they need. If they do not do these things, or if most of them do not, the rebuilding of Britain will be done badly.

*

What is the alternative? Would Sir Ernest like a Commissar from London to descend on Manchester and do its planning for it? Manchester may not need any such help, but Whitehall cannot make invidious distinctions.

POETS' CORNER

*PLAN OR SECTION*

We want to get on with the job
  Of towns for the working man,
Towns for us blinking millions
  That hundreds might like to ban.
But is it a case of a section,
  Or is it the case of a plan?

We know that a landlord or two
  Was here since the world began,
But for us the common people
  Three score and ten is the span,
So down with delay from a section,
  And up with the push from a plan!

Though Uthwatt we boys put our bets on,
  We boys of the old rag and tan,
If nobs in the Grandstand say No,
  Mr. Justice becomes also ran;
But is it the case of a section,
  Or is it a case of a plan?

Edward Lewis

ASTRAGAL

# LETTERS

*C. D. Spragg* (*Secretary, R.I.B.A.*)
*J. G. G. Stone* (*Director, Pharaohs Distributors, Ltd.*)
*W. F. Croll*
*Peter Berner, A.R.I.B.A.*

## Fees for State-Aided Housing

SIR,—At its meeting on April 10, the RIBA Council considered a report of the Practice Committee in which it was stated that communications from members and from local authorities had been received pointing out that in the case of housing in rural areas where the houses were on many scattered sites Clause C of the Scale of Fees for State-aided Housing Schemes as approved by the Council on May 16, 1944, provided a fee which was high in comparison with the fee which would be payable if the houses were on one site.

On the recommendation of the Practice Committee the Council has decided that in the case of rural housing undertaken for one local authority by one architect, where the houses come within an area of a radius of approximately five miles the housing may be considered to be on one site, and Clause C of the Scale of Fees for State-aided Housing Schemes applied accordingly.

This modification of the scale applies to Clause C only.

C. D. SPRAGG,
Secretary, RIBA

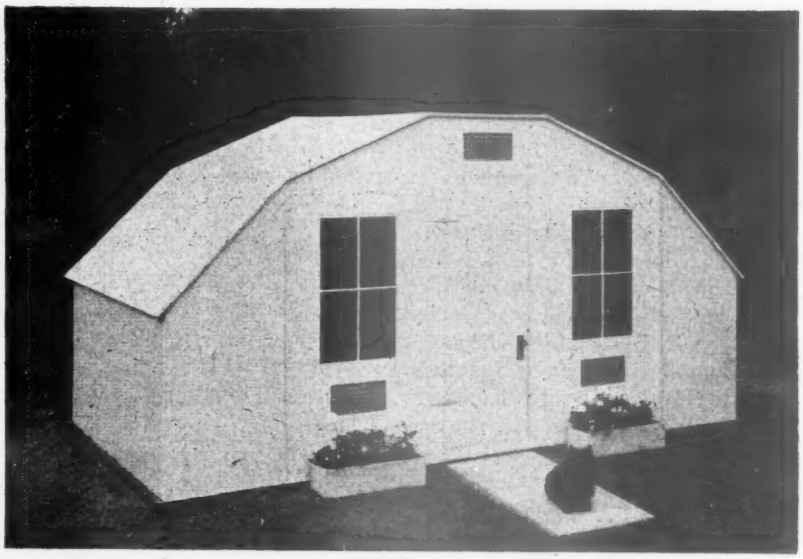
London

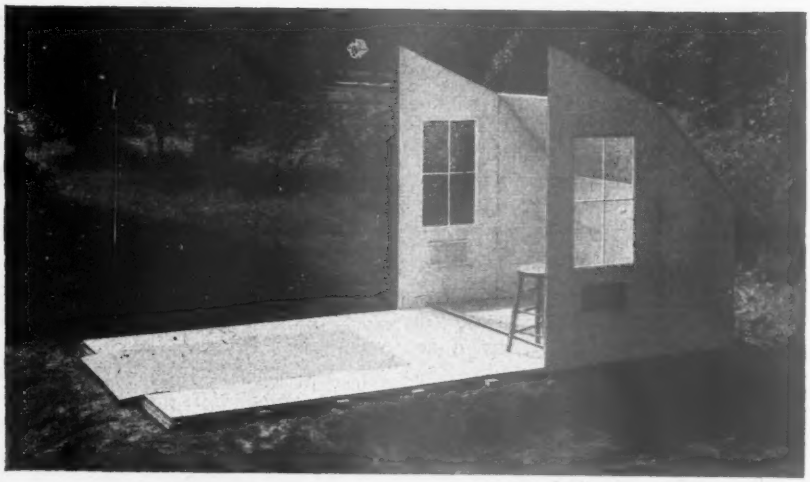
## Thermal Conductivity

SIR,—I was very interested to note from your report of the presidential address by Dr. Oscar Faber, at the Institution of Heating and Ventilating Engineers, that his experience at the Bank of England shows that the thermal conductivity of concrete is considerably higher than that of brickwork, which is contrary to the figures given in the IHVE Code of Practice.

Common knowledge of brickwork and concrete would lead one to suspect that the latter is a 'colder' material, *i.e.*, has a higher thermal transmittance, and I have for long wondered why the figures for the thermal conductivity of concrete published by the IHVE (NPL and BRS tests) not only fail to confirm this, but differ so radically from those published by the American Society of Heating and Ventilating Engineers in their Guide (1938

# FIRST HOUSE OF PAPER





*The American War Production Board recently completed its first house made of paper. The aim was to provide an emergency shelter, which is a cross between a house and a tent, for people whose homes have been destroyed by bombs, floods, storms, etc. It is made of waterproof laminated paper, 49 pounds of glue, special metal fasteners, transparent plastic windows and some little wood in the window frames. One of the laminations is corrugated and gives air insulation. It can be set up in one hour by two labourers. It is 16 feet long, 8 feet wide and 8 feet high. The first experimental house has withstood hot weather, rain, strong winds and frost. It is furnished with two double-deck bunks at the two ends. Heat comes from a small coal- or wood-burning stove. The total weight is 1,023 lb. It is not anchored to the ground; stakes around the four corners hold the house down. Total cost, £13.*

is the latest edition I have been able to consult).

The English figures for ballast-concrete are: 1:1:2 mix, $k=6.70$; 1:2:4 mix, $k=7.00$, whereas the American figures, over a variety of mixes of sand and gravel concrete, which are detailed, vary from $k=12.10$ to $k=13.20$, with an average figure, recommended for use in general calculations, of $k=12.62$. With reference to bricks, the IHVE gives $k=5.50$ for pressed engineering bricks, and $k=5.60$ to 11.60 (according to the moisture content) for common bricks. The corresponding American figures are $k=9.20$ for high density bricks and $k=5.00$ for low density, or common, bricks.

I have never seen any explanation of these discrepancies, and informal conversations with officers of the Building Research Station have failed to elucidate the matter. The variations appear to be too wide to be within the limits of normal experimental error, or slight differences in mix, and unless there is some fundamental difference between the types of concrete tested in the two countries, of which I am unaware, or the American figures have been amended since 1938, doubts must be raised as to the correctness of the results.

In view of the published experience of so eminent an authority as Dr. Oscar Faber, which tends to confirm the American figures, and also the widespread use of concrete as a building material and, therefore, the importance of accurate knowledge of its thermal conductivity, the comments of the Building Research Station, and the National Physical Laboratory, on this subject would be interesting, and possibly further tests would be desirable.

J. G. G. STONE,
London Director, Pharaohs (Distributors)

## Double Glazing

SIR,—May I be permitted to inform your readers that Mr. K. C. Scarff, L.R.I.B.A., and myself have applied for Patent Protection for a method of double and triple glazing which we believe meets the following requirements laid down by Mr. C. D. Lamb in the various paragraphs in his letter:—

Para. (*a*) Bringing the air to rest in the space.

Para. (*b*) Permanent exclusion of moisture by the prevention of interchange of air. At a cost low enough for ordinary domestic double glazing.

Para. (*c*) Dispensing with a "vacuum."

We are satisfied that by our invention the air-tight double or triple glazing unit is a practical possibility for ordinary house and shop windows, in most instances without alteration of existing designs of frames; nor will it be necessary to make provision to clean between the glasses. Of equal importance is the fact that the method is simple and production of such glass could be quickly forthcoming.

Further, the invention has great value in meeting the special conditions which arise in connection with the glazing of hospitals, sound recording studios, conservatories, etc.

Felixstowe W. F. CROLL

## Scales and Superficial Areas

SIR,—Congratulations on your presentation of the prefabricated Duplex house in your issue for May 3. The plans reproduced are to a recognized scale, in this case $\frac{1}{4}$ in.

May I plead for continuation of this practice, whenever space permits, as it is so very much more useful than the alternative of reducing the original drawings to some unstandard scale.

Another useful innovation—as far as housing plans are concerned—would be to indicate the basis on which the designer has computed the superficial area, *i.e.*, with or without storage, external walls, and so on.

Other journals please note.

Speldhurst, Kent PETER BERNER

*The author of this article, who needs no introduction to architects, here reviews the Exhibition of Historical and British Wallpapers now open at the Suffolk Galleries, London. He describes and comments on the significance and scope of the exhibition, which stimulates him to make several constructive suggestions. The exhibition, which remains open until May 29, has been organized for the British Wallpaper Industry by the Central Institute of Art and Design.*

# The WALLPAPER Exhibition

[*by F. R. Yerbury*]

The Wallpaper Industry is pulling up its socks, that is, of course, if it ever let them down, but judging by the splendid exhibition at the Suffolk Galleries, the Industry is certainly very much alive and obviously full of ideas and hopes for the future.

British wallpapers have always had a reputation abroad much higher than the many stay-at-home critics give credit for. The industry must have played a very big part in our pre-war export trade, and there is every indication of its taking an important place in future world trade.

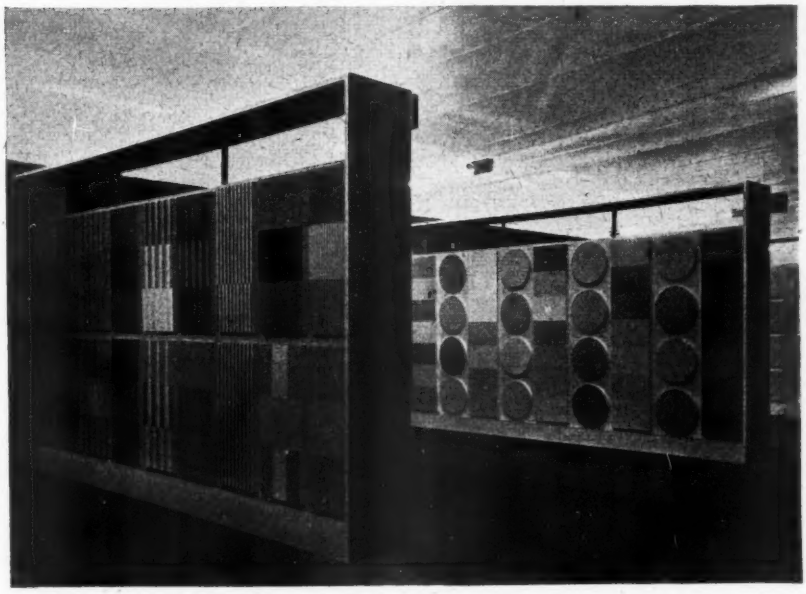
To many the Suffolk Galleries exhibition will be a surprising revelation of the very wide variety of excellent wallpapers which were on the market even before the war. The method of display adopted at the exhibition has made it possible to show, for the easy inspection of everyone, a much better selection than seemed to be available in the average showrooms. There must have been something wrong with the showrooms, but no doubt, after the experience of the present exhibition, manufacturers and dealers will be considering whether something should not be done to improve on their pre-war methods of selling. Possibly this was one of the intentions of the Exhibition, and if it succeeded only in this one effort it would be commendable.

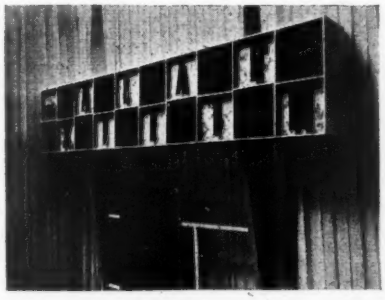
As an exhibition it is beautifully designed, and it is hoped that the names of the architects who are responsible for it (Eric Brown and Stefan Buzas) will be found linked up with many exhibitions of the future. Indeed we may hope that this well-timed effort of the Central Institute of Art and Design, under the directorship of Mr. T. A. Fennemore, will be the forerunner of further exhibitions in connection with other industries. There are so many which need putting across in the same way as has been so successfully done with the wallpapers. All those interested in the development of industrial design would be grateful, the country would benefit, and surely the export trade would get its fair share of help.

With such an infinite variety of exhibits, all very well and logically arranged, it is almost invidious to attempt to make any special references. It was an excellent thought to bring in a really good Historical Section. The British may certainly pat themselves on the back for their well designed contribution in the past, and good luck to them if the back-patting encourages an appreciation of the work of the designer in the future.

It is surprising to learn that British papers originally owed nothing to Oriental or Chinese influence when most of us were under the impression that our first papers came from the East. It is interesting to learn too that some of the earliest wallpapers were developed from papers designed and printed as for the lining of covers, boxes and so on, and were printed by booksellers and stationers. Perhaps the wallpaper industry, having gone so far with this exhibition, will one day cause to be produced a book on the whole subject of papers. If it does—and what scope is offered—let us hope it will appear as one of those handsome volumes, beautifully illustrated and of the type so pleasant to browse over on a winter's evening. Such a subject deserves treatment in the noblest manner.

Admiration must, of course, be given to the selection of the French papers shown, and also to the exquisite hand-painted Chinese examples of the 18th century, but in the main the show is a British one, and when we look at the fanciful and practical contribution running right through the 19th century we appreciate how competent and industrious were the designers of those times. Many of these best papers were designed for





*Top, a view of the general section of the exhibition showing the stand of fifty-six varieties of stripes and the stand of ninety-six designs of spots, sprigs and small floral patterns. Some five hundred modern designs are shown in this section, many of which will be available to the general public before long. Above, the stand at the entrance. The architects for the exhibition were Eric Brown and Stefan Buzas.*

special rooms, and it is interesting to trace the change in the architectural fashions reflected in these. It is interesting, too, to see the names of the famous architects and designers of the times taking their place in the industry—A. W. N. Pugin, Owen Jones, Walter Crane, Lewis F. Day, and of course, that of our old and provocative friend, Voysey.

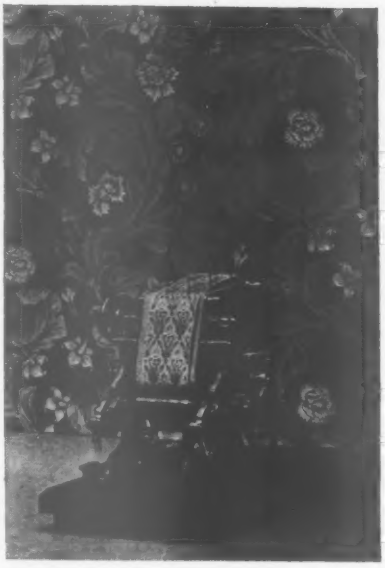
Although in the series of new designs shown the names of the designers appear it has never been usual in recent times, generally speaking, for any commercially produced wallpaper to be identified with the designer. Would it not be an excellent thing to give us the opportunity of taking a pride in the names of the designers of our wall coverings? We all have our likes and dislikes, and what is perhaps more human, our prejudices. Recognition of the human and personal element must surely help towards not only an improvement in, but also an appreciation of, design, and when we talk of appreciation of design how good it is occasionally to get somewhere near to the understanding of the difficulties to be mastered before the perfect thing can be produced by any industry.

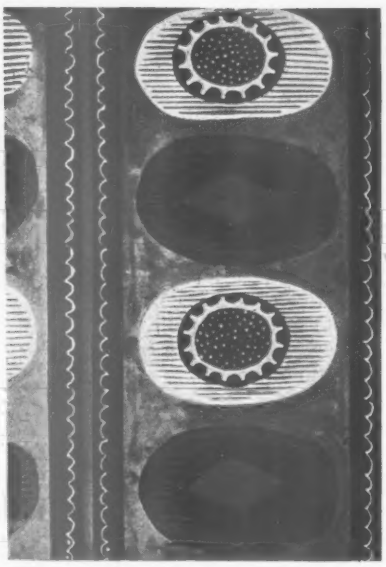
A part of the exhibition has been very wisely devoted to what is called the technical section. This indeed is worth very close study, and whatever criticisms of wallpapers we may have made in the past, surely we shall be more careful and modest having seen this section, in our criticisms in the future. The lovely accuracy of the workmanship of those who cut the blocks for printing and the skill required to produce satisfactorily even the most simple designs, leave one with a very definite conviction that wallpaper production is not merely a trade but a craft.

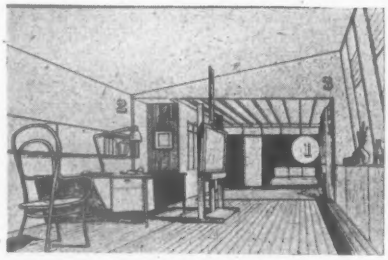
In looking at some of the new designs one wonders how far the designers have studied the processes through which their design has to pass before it reaches the final product. Some undoubtedly have a very close knowledge of the craft and understand the value of simplification. One would imagine, on the other hand, that some of the designs would be a headache for everyone concerned, but perhaps they are not quite so complicated and difficult to execute as they appear. Be this as it may, the New Design Section is most helpful and encouraging.

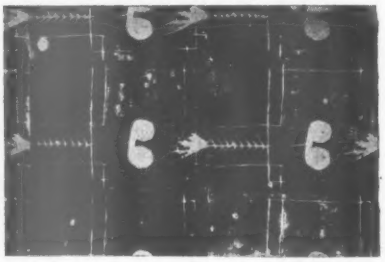
There are six Specimen Rooms to be seen, designed specially for the exhibition. One is not at all sure that these are entirely successful. They are all amusing, and have a very personal touch. They have, of course, been designed to introduce wallpaper as a background, but they all have a sort of feeling of " those were the days." There is nothing of " these are the days," or " these will be the days." One would like to have seen rooms for the average family and rooms to show how wallpaper might be introduced in a decorative and perhaps newer way. The tenant of the ordinary Council house (and, after all, there are to be some millions of these in the future) would no doubt appreciate some guide in the use of wallpapers. The use of a patterned wallpaper on the ceiling or in alcoves, or the chimney breast, with the main walls in a different colour or a different paper, or the chimney breast itself treated decoratively with paper. There must be an almost unending variety of ways in which a new note could be brought into the decoration of the small house. Perhaps the industry, or the Central Institute of Art and Design will do something about this.

Although obviously the exhibition has taken some months to prepare and organize, it was by luck and most appropriately opened on VE-Day. In the exhibition we have a new note for the future. This welcome collaboration between a body like the CIAD and an industry has shown that designers in Britain are by no means moribund, but full of vigour and only needing the opportunity to prove it.







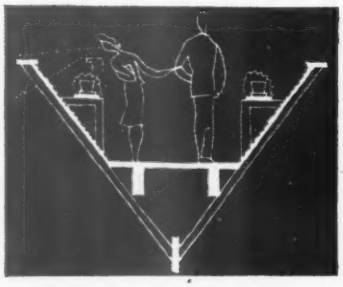


*Top, a design in the historical section—a fragment of early English block and stencilled dual-purpose papers having black outlines with stencilled additions in three colours; probably early 18th century; it was removed from a house in Park Lane. Centre, left, model of a modern wallpaper rotary printing machine in the technical section, against a background of a paper designed by William Morris. Centre, right, a modern design by Stephen Russ. Below, left, one of the drawings by Stefan Buzas in a series of panels of decorative schemes with wallpaper suggestions. Below, right, a design by Graham Sutherland.*

# HOUSE

## OF TIMBER IN CALIFORNIA

### *DESIGNED BY HARWELL H. HARRIS*



GENERAL — This house, at Berkeley, California, breaks away from the usual characteristic of hillside houses so common on the west coast of the USA. They invariably burrow into the hill with the result that many rooms have windows only on the view side, service elements being located along the retaining wall at the rear. This house, however, opens to the back as well as to the front. Equally remarkable are its inverted gables. Both factors contribute to the character of lightness, almost of flight. The gables are not a mere "stunt" for they allow the view to be extended not only out but up. The design was largely conditioned by the desire to make the most of the magnificent view to the west towards the Golden Gate and San Francisco. "The house," says its designer, "does not frame the view, it projects the beholder into it. The height above the ground, and the lack of visible connection with it, together with the soaring effect produced by the rising ceilings as they move outward, tend inevitably to lift the beholder into the sky. It is a sky house more than an earth house."

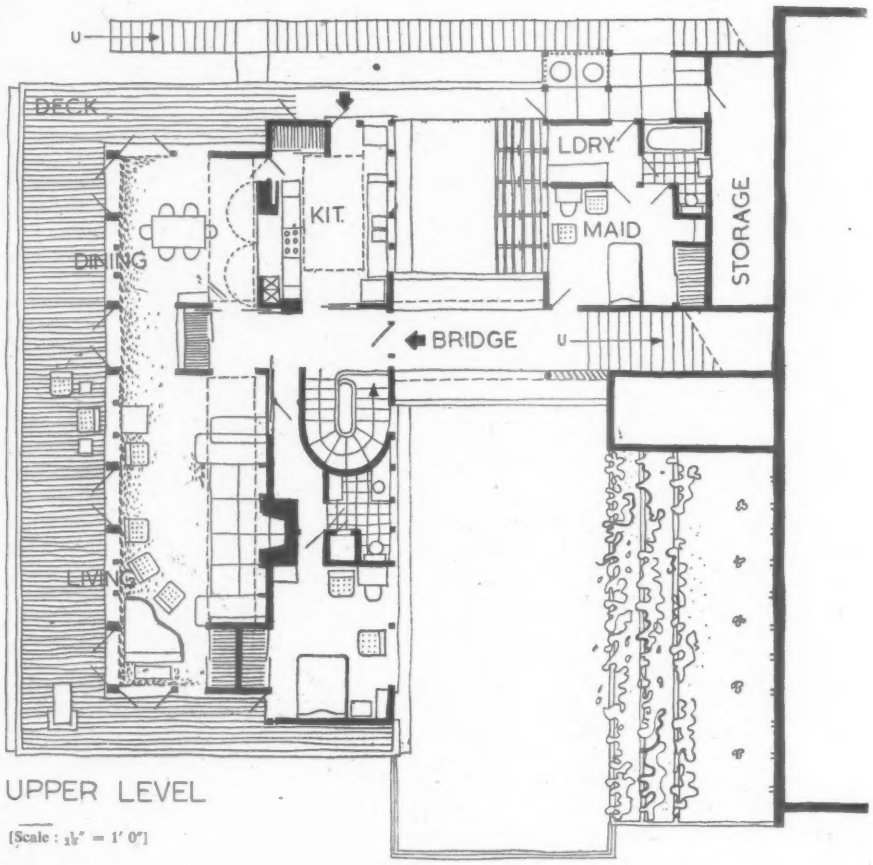
The house proper, apart from the garage and maid's room and bath below, is kept away from the

road with complete privacy, being linked to it by a footbridge. A retaining wall with its series of terraces connects the house visually with the hillside. The luxurious air of the house is due less to the finishes or furniture than to the general handling of space.

PLANNING — The house provides an interesting example of open planning. Each bedroom on the lower level has a wide, brick-paved terrace sheltered by the sloping ceiling, and is entirely separated from the other bedrooms; the cluster of baths and closets at the centre acts as a sound barrier.

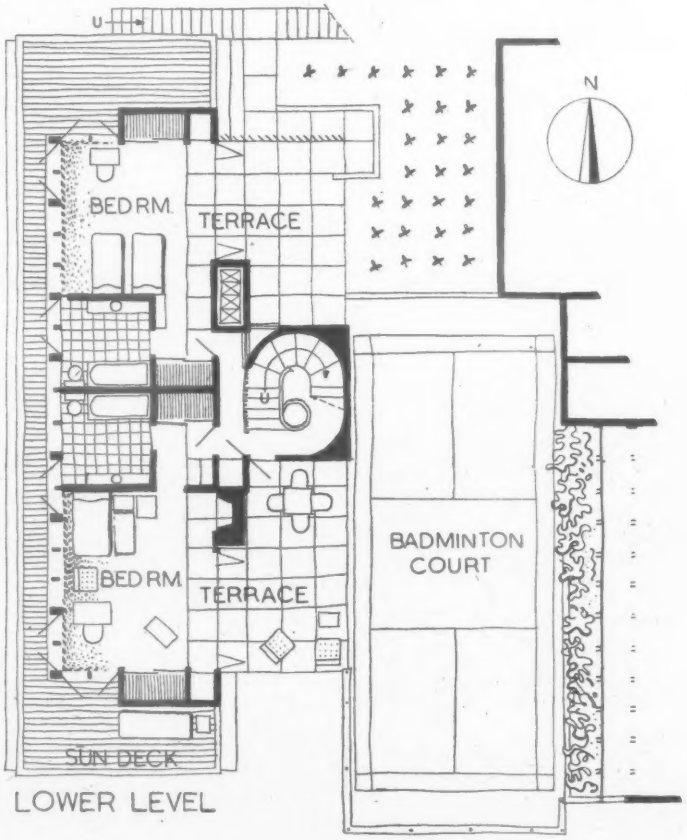
CONSTRUCTION—The exterior walls are of redwood boarding on each side of Douglas fir studs. Roof trusses are built up of fir studs, gable ends being faced with redwood; the sharp edges are sheathed with copper. Roofs and overhanging floors are insulated with fibreboard and aluminium foil. Floors inside are of oak; the projecting deck floors are covered with cork. Ceilings in the rooms are finished with 3 ft. wide asbestos cement sheets; where they project over the terraces they are finished with plywood painted grey to match the asbestos cement. The staircase has sides of curved plywood with redwood finish and stairs of birch.

INSTALLATIONS—The ceilings in the main rooms are partly sheathed and partly left open to contain the lighting fixtures. In the living room and dining room there is a laylight for both artificial and daylight running the full length of the rooms.
Heating is by warm-air radiant heating to avoid the difficulties caused by the large area of glass, the sloping ceilings and connecting air spaces. Air blown from the gas furnace in the basement passes through ducts above the ceiling and below the floor. A fan recirculates the air indefinitely. The radiating surfaces are so large that no high temperatures are necessary. Ceiling joists are boxed in on top with plywood to form ducts the full width of the ceiling. The insulation needed to make this system economical also keeps out the summer heat. To quote the designer, "There is modern lighting, but not modern lighting fixtures. There is modern heating, but neither registers nor radiators. Lighting is illumination and heating is temperature; neither is furniture."

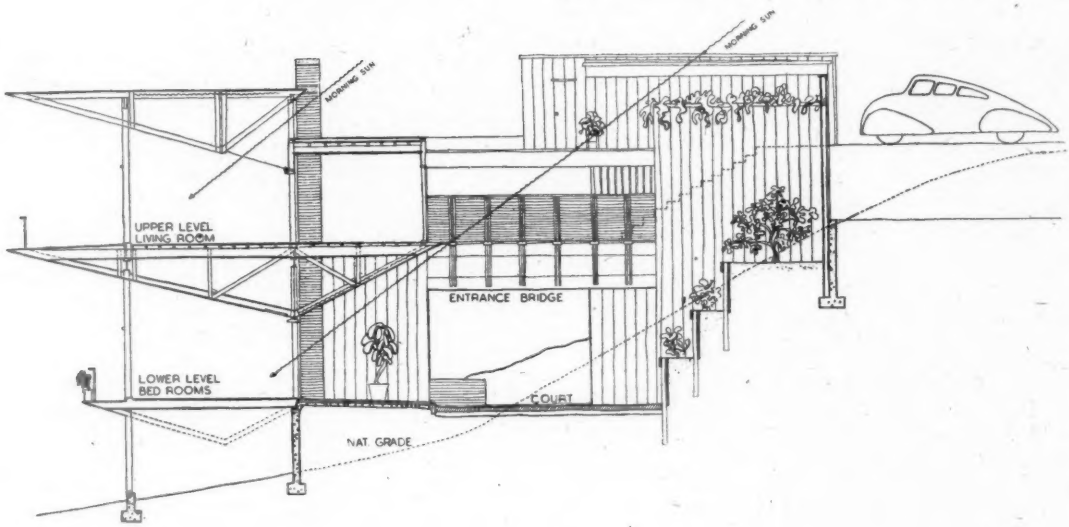


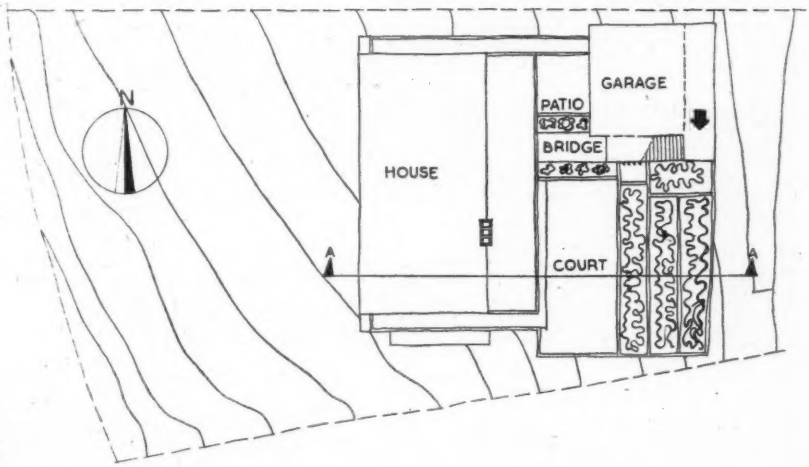

UPPER LEVEL

[Scale : $\frac{1}{8}$" = 1' 0"]

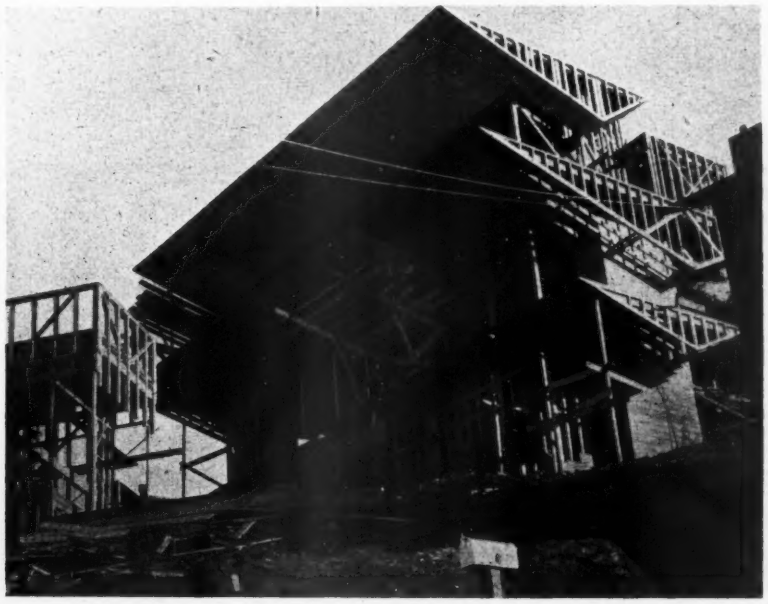



LOWER LEVEL




*Above, west to east section. Right, site plan. Below left, the south end of the upper balcony; the floor is of moulded cork. Below right, the house from the south west during construction.*



# HOUSE OF TIMBER IN CALIFORNIA

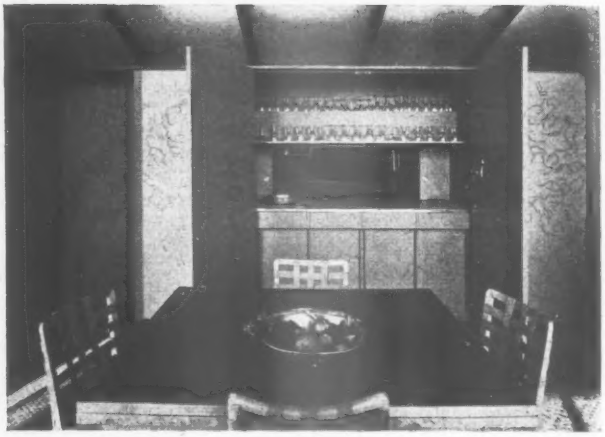
*Above, the entrance bridge from the badminton court ; the retaining wall of redwood facing on the right, the projecting plant box, the sloping walls of the bridge and the louvres at the staircase end of the bridge, all give privacy and prevent the approaching visitor from seeing in. Below left, view from the badminton court across the brick terrace into the owner's bedroom ; a folding door opens onto the terrace ; at the left is a glass windshield ; the door at the right opens into the stair hall. Below right, looking from the owner's bedroom onto the badminton court.*

# HOUSE OF TIMBER IN CALIFORNIA

D

*Top, the living room illuminated by the laylight which provides diffused fluorescent light at night and sunlight in the morning ; ceiling covering is asbestos cement sheeting of natural colour ; walls are covered with redwood both inside and out. Below, looking across the dining room into the living room ; there is a buffet behind the map-covered doors and behind that again a wide hatch to the kitchen ; there is a built-in loud-speaker above the cabinet.*

## DESIGNED BY HARWELL H. HARRIS



*Above left, the cooking counter separated from the buffet counter by sliding doors; the buffet itself is separated from the dining room by a pair of full-sized doors; when both sets of doors are open, the kitchen and dining room are joined as shown. Above, right, the buffet doors partly open. Below, the owner's bedroom looking towards the west; ventilation is by two sets of double doors; all other glass is in fixed sashes.*

# HOUSE OF TIMBER IN CALIFORNIA

# INFORMATION CENTRE

*The function of this feature is to supply an index and a digest of all current developments in planning and building technique throughout the world as recorded in technical publications, and statements of every kind whether official, private or commercial. Items are written by specialists of the highest authority who are not on the permanent staff of the Journal and views expressed are disinterested and objective. The Editors welcome information on all developments from any source, including manufacturers and contractors.*

## *STRUCTURE*

**1953** *Standardized R.C. Members*

THE STANDARDIZATION OF REINFORCED CONCRETE STRUCTURAL MEMBERS. (*The Reinforced Concrete Association, January*, 1945.) Standard sizes recommended for structural members.

Approximately one-third of the prime cost of a typical reinforced concrete structure is absorbed by the temporary formwork and roughly two-thirds of the cost of the formwork is absorbed by labour. The scope for economy in this item is therefore very great. The outstanding results obtained by the frequent re-use of purpose-made forms on large jobs in which much repetition is involved have clearly shown that the key to low formwork cost is standardization. An essential preliminary to the standardization of formwork is the standardization of the dimensions of the structural elements. If the designs of all structures were based upon an agreed limited range of overall dimensions of columns, beams, etc., contractors would be able to use standard forms, designed and constructed as pieces of plant, throughout each individual contract and it would not then be necessary to write off the whole cost on each work. Manufacturers would be encouraged to make and keep forms available for hire by contractors. This would reduce the cost, increase the speed of construction and improve the quality of reinforced concrete work which depends on the use of efficient formwork.

With this object in view the Reinforced Concrete Association suggests that standard dimensions for the more important elements of structure should be adopted. The dimensions which are tentatively recommended are set out in this Memorandum. They are overall dimensions of concrete members; the amount and distribution of reinforcement in these members is a matter for the designer. If, in certain cases, the use of standard dimensions involves some increase in the cross-sectional area of a member, the cost of the extra concrete will be negligible in comparison with the saving in the cost of the formwork.

Architects, engineers, contractors and others who may use this Memorandum are invited to send their observations to the Association, as it is intended, after a suitable period for testing, to invite the British Standards Institution to use it as a basis for a British Standard Specification.

**1954** *Prestressed Reinforcement*

FULLY AND PARTLY PRESTRESSED REINFORCED CONCRETE. *P. W. Abeles.* (*Journal of the American Concrete Institute, January*, 1945, *pp.* 181-214.) Distinction between fully and partly prestressed concrete. Various systems and methods of pre-stretching and post-stretching. Losses of initial pre-stress. Factor of safety against cracking. Comparative test results.

The article gives a brief summary of the development of pre-stressed reinforced concrete since 1888, explains the difference between fully and partly pre-stressed concrete, and contains simple formulæ for the calculation of stresses in the various cases. It reports on recent comparative tests carried out by the author, which have proved that partly pre-stressed beams with an applied stretching force of only 40 per cent. of that required for full pre-stressing, allow the economical use of steel of very high strength without the danger of cracks wider than usual in ordinary reinforced concrete. A bibliography of publications in English and German is included.

**1955** *Welded Steel*

WELDING APPLIED TO STEEL STRUCTURES. *Lecture by R. G. Braithwaite at the Institute of Welding on March* 28, 1945. (*The Architect and Building News, March* 30, 1945, *p.* 199.) Correct treatment of joints essential to achieve economy. Practical considerations in design to facilitate welding and avoid distortions. Advantages of rigid portal frames as against conventional roof trusses.

**1956** *Plywood Formwork*

PLYSYL FORMWORK PANELS. (*Pamphlet issued by Plysyl Formwork, Ltd., Victoria House, Southampton Row, London, W.C.*1.) New system of reinforced concrete floor cast *in situ* on prefabricated plywood panels, forming permanent shuttering and flat soffit.

The formwork is pre-fabricated in panels of resin-bonded plywood. The units consist of a flat sheet, forming the soffit of the floor, and of tubular boxes fixed to the flat sheet and running parallel with the span. Such a unit has a considerable load-bearing capacity, as has been proved by tests, and requires propping only at about 6 ft. centres to carry the weight of the wet concrete. The reinforcement is placed in the gaps between the boxes, and is secured in position by special metal clips. These gaps, when filled with concrete, form the ribs of the floor. The standard width of a panel is 4 ft., its maximum length 18 ft., the depth of the ribs varies according to the span and the live load to be carried. The weight of the formwork is 2 to 3 lb./sq. ft., depending on the depth of the ribs. Services running parallel to the span can be accommodated within the tubular cavities.

The soffit is ready for decoration and no plastering is required.

Tests carried out an a panel of 9 ft. 8 in. span in foamed slag concrete of about a weight of 20 lb./sq. ft. gave favourable results. The formwork panels were also tested in compression. A panel of 3¼ thickness of 10 ft. length and 4 ft. width failed under a load of 10 tons, after a deflection of 1.05 in. in the centre.

In an alternative form of construction Kraft paper manufacture is used for the boxes. Test results with such panels are favourable.

One of the main advantages of the floor is its ease of erection.

**1957** *Temporary Bungalow*

THE TOMO TEMPORARY BUNGALOW. *Designed by F. R. S. Yorke, E. Rosenberg and C. Sjostrom Mardall.* (*Architects' Journal, April*, 1945, *pp.* 303-304.) Prefabricated bungalow of stressed skin type.

The walls are composed of panels 8 ft. high by 3 or 4 ft. wide, surrounded by a light timber frame. The facing material may be of fluted asbestos, plywood, aluminium, etc., on the outside, plywood, wall board, etc., on the inside, and is glued to a slab core of sawdust and wastepaper. Contrary to usual practice the roof is laid without fall.

**1958** *Drawing Office Practice*

ARCHITECTURAL AND DRAWING OFFICE PRACTICE. (*British Standard*—1192: 1944, 5*s.*) Size of drawings and drawing boards. Types of line to be used. Dimensioning and lettering. Scales. Projection methods. Symbols, hatching and abbreviations. Layout of drawings with titles, etc. Numbering of plan units and drawings. Selection and preparation of papers and cloth. Reproduction of drawings.

This is a new departure for the BSI, and in it there is much to interest architects. Doubtless some of the recommendations will meet with a certain amount of criticism, but a general acceptance of most of them would simplify office practice to some extent and greatly assist builders and craftsmen who have to interpret drawings. It is to be hoped that architects will not feel that this is an attempt to interfere in what they may in

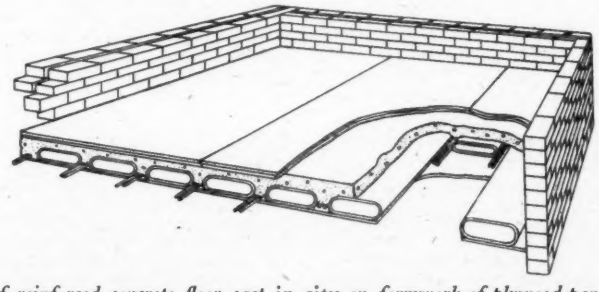


*Diagram of reinforced concrete floor cast* in situ *on formwork of plywood panels and cover forming a permanent shuttering. See No.* 1956.

the past have regarded as purely a matter of personal choice. If this specification is to become the basis for all future working drawings then it must be known to and used by architectural schools. If it is used regularly in the schools for a few years it will not be long before the students become office draughtsmen, and it will then quickly become absorbed into normal practice.

## *PLUMBING and Sanitation*

**1959** **100 Years' Sanitation**

ONE HUNDRED YEARS' PROGRESS IN SANITATION IN GREAT BRITAIN. *The late H. C. Whitehead.* (*Journal of the Royal Sanitary Institute, April,* 1945.) Review, mainly of legislation, of sanitation over past 100 years, with appendix giving list of Bills, Acts, and other important events.

**1960** **Rural Water Supplies**

RURAL WATER SUPPLIES. *F. G. Jones.* (*Journal of the Royal Sanitary Institute, January,* 1945.) Short Paper on problems of provision of water supplies to farms and houses in rural areas. Figures quoted show need. Financial difficulties mentioned.

**1961** **Rural Water Supplies**

RURAL WATER SUPPLIES. *W. H. Ashmole.* (*Journal of the Royal Sanitary Institute, January,* 1945.) Some discussions of White Paper on water policy. Description of local water supply plant, with costs.

**1962** **Trade Effluents**

THE NEUTRALIZATION OF TRADE EFFLUENTS. *Noel E. Rule.* (*Plumbing Trade Journal, January,* 1945.) Paper on specialized subject of neutralization of trade wastes, with particular reference to wastes from steel works in form of spent pickles from processes of de-sealing and cleaning of steel.

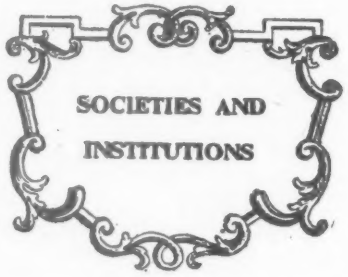
## *QUESTIONS and Answers*

*THE Information Centre answers any question about architecture, building, or the professions and trades within the building industry. It does so free of charge, and its help is available to any member of the industry. Answers are sent direct to enquirers as soon as they have been prepared. The service is confidential, and in no case is the identity of an enquirer disclosed to a third party. Questions should be sent to:* THE ARCHITECTS' JOURNAL, *45, The Avenue, Cheam, Surrey.*

**1963** **Building Apprenticeship**

Q *Some time ago it was stated in a daily paper that the Government intended to sponsor a scheme for the apprenticeship of boys in the building trade, on completion of a three-year course at a Technical School. Can you give me any information on this? Also, can you furnish me with the name and address of any building firm which accepts boys as apprentices?*

A We suggest you get in touch with the National Joint Apprenticeship Board for the Building Industry, 11, Weymouth Street, Portland Place, London, W.1 (Tel., Langham 1740), who should be able to give you all the information you require. We also understand that they will put you in touch with your local Apprenticeship Committee, who will help you to find the name and address of a suitable firm of builders.




*Speeches and lectures delivered before societies, as well as reports of their activities, are dealt with under this title, which includes trade associations, Government departments, Parliament and professional societies. To economize space the bodies concerned are represented by their initials, but a glossary of abbreviations will be found on the front cover. Except where inverted commas are used, the reports are summaries, and not verbatim.*

## RIBA

## C. Roland Woods

April 10, at 66, Portland Place, W.1. An informal meeting of the RIBA. Paper on THE WORK OF THE CODES OF PRACTICE COMMITTEE, by C. Roland Woods.

*R. Woods:* The Codes of Practice Committee, which is an independent Committee and not a Department of the Ministry of Works, was set up in the autumn of 1942, largely as a result of efforts by Sir Hugh Beaver in collaboration with Sir Reginald Stradling.

If the quality of building were not to be governed by minimum commercial standards with low costs as the sole consideration, it became necessary that efforts should be made to institute something in the nature of codes of good building practice; but without the wholehearted help and co-operation of the professional institutions and other representative bodies, the Codes of Practice as we refer to them to-day might well have been something still to be strived for instead of something in which there has already been accomplished some measure of progress.

Codes of Practice had, of course, been produced with industrial guidance in the natural process and expansion of standardization; some of these were very good, and for this reason, readily accepted. Every architect will have had experience of some one or another of the 50 codes of practice mentioned, for example, in the First Report of the Codes of Practice Committee, and will recognize that many of these have an industrial origin, but have been readily accepted in professional circles.

No one professional institution could deal with all the subjects which fell for consideration in relationship to codes of practice, and just before the war there were tentative discussions fostered by the British Standards Institution with a view to co-operative action, and no doubt effective results would have emerged eventually from these discussions.

However, the war put an end to this phase, and it fell to the Ministry of Works to organize the necessary co-operation between the interested institutions.

The efforts of the Ministry of Works and Planning as it then was, in collaboration with the Ministry of Health, resulted in the establishment in September, 1942, of the Codes of Practice Committee, consisting of nominees of the principal institutions in the building industry, together with the British Standards Institution, the Building Industries National Council, and assessor members from certain Government Departments. The chairman of the Committee is appointed by the Minister of Works, the first chairman being Sir Clement Hindley, who unfortunately died in May, 1944. Sir Clement was succeeded by Mr. Hubert M. Fairweather, who had been deputy chairman.

### *THE SCHEME OF CODES*

The Committee set out the programme of work it proposed to follow in two reports published in March and September, 1943. This programme divided the general work of code drafting into two main divisions, Civil Engineering and Public Works Codes, and Building and Constructional Codes, the latter dividing naturally into two sections, viz.: Building Codes and Engineering Services Codes.

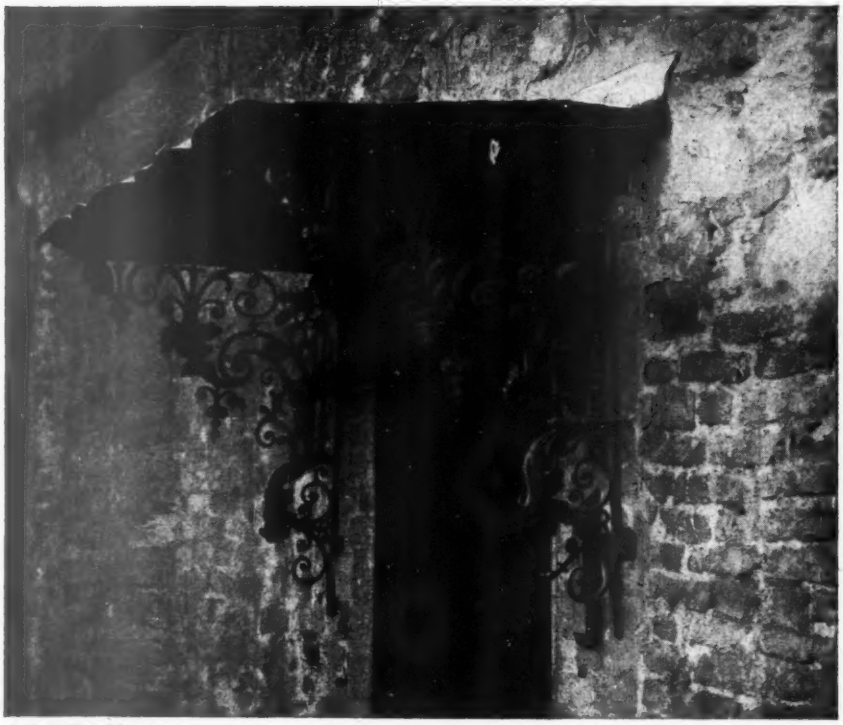
The architect naturally has greater day by day interest in the Building and Constructional Codes than in Civil Engineering and Public Works; and this was at once recognized by the RIBA, who took their full share of the work which fell completely within the general scope of their activities.

The codes for building are intended to ensure that all parts of the building shall be dealt with on a uniform basis, and to this end the codes are designed to be linked together in a comprehensive scheme in which all codes likely to be required can take their proper place.

The comprehensive scheme of codes has two advantages, it ensures that the necessary field of work shall be adequately covered, and it will conduce to better co-ordination and co-operation within the industry in carrying out building operations.

That there is room for a co-ordinated series of codes to meet these needs arises from an outstanding difference between the building and many other industries. Building is a very loosely knit industry. In the manufacture of a motor car, for instance, the designer, the production engineer, and the research department are commonly to be found under one roof and working together as an homogeneous unit. Without this co-operation the motor car would undoubtedly have been much more expensive and far less efficient, and without it we could not have had the remarkable reductions in cost and improvements in efficiency that have demonstrated themselves.

Since the same degree of close co-operation to be found in other industries is impracticable under the existing organization of the building industry it remains to be seen what measure of co-ordination can be



*L. E. Walker, Photo*

## ST. ANN'S HOUSE, KING'S LYNN

RICH as is the ornamentation of these brackets, it grows out of the construction, and this is a quality characteristic of the best work of the 18th century English blacksmiths. The greatest reward of the craftsman is in the satisfaction of a job done superlatively well, and the true value of such work is measured by the service and pleasure that it gives to the users. Whatever may have been the cost of these brackets, it has been repaid many times over for, after nearly two hundred years, they continue in their useful purpose, and are as great a delight as ever to discerning eyes.

evolved in the industry, and to what extent the advantages which other industries derive from the close physical co-ordination of their various processes can be secured to the building industry by adherence to a well ordered and documented technique in the field, or rather in the many fields of building.

The comprehensive scheme of building codes will be one way of securing this ordered technique and of providing the manufacturer of building components with an adequate guide to the technical environment of the market he seeks to cover.

The construction of a modern building calls for the exercise of the skill of a large number of persons each adding his quota of expert knowledge to the whole. Each must play his part, but to do so effectively each must be provided with the necessary instructions at the right time. Whilst the issue of such instructions is the normal function of the architect and the engineer (and was freely exercised by these experts as recently as forty years ago), yet the more recent growth in the complexity of the industry and the tendency for responsibility for various stages of building and constructional work to be divided between numerous contractors, specialists and sub-contractors industry will benefit by a clearly defined and agreed procedure.

To these ends the scheme of codes of practice will provide for the following:—

(1) Functions which are determined by the purpose of the building, by its occupancy or by its situation. These can only be rightly defined in terms of standards of performance, or standards of amenity.

(2) Techniques which appertain essentially to the individual element or component and enable the functions required of the building and of its parts to be satisfied.

(3) Organisation and co-ordination required to ensure that the various techniques involved are properly related and can each proceed without delay or confusion.

These three headings fall naturally into two sub-divisions, viz.:—

1. Functions which are defined by the nature of the building, its situation or its occupancy, and which can only be dealt with by considering the building as a whole and when planning and construction are interrelated.

2. Functions which appertain essentially to the individual element or component, which can be satisfied in a number of ways without reference to the building considered as a whole.

The scope of functional treatment is not difficult to visualize. There are, for example, already in existence codes of practice relating to the strength and stability of buildings which are in general use in the industry.

Technique is covered to some extent by existing codes drawn up for the use of special materials, *e.g.*, asbestos cement roof sheeting and magnesium oxychloride flooring. Very substantial progress in standardization and codification of technique has been made in these and other directions by the British Standards Institution. Organization of building processes in so far as it can be considered separately from technique was dealt with meagrely in earlier codes, although it was fully realized that co-ordination of the sequence and interrelation of all stages in manufacture and in the construction of buildings would serve a very useful purpose indeed.

By stages of construction is implied every phase of activity, including the preparation of drawings, the issuing of specifications and schedules of quantities, the ordering of materials and their delivery, and the preparation of instructions for the craftsmen.

On a general examination of the subject it becomes clear that there are certain overriding requirements which are common to any building and which are independent of the method of construction or the type of equipment installed in it. For example, the superimposed loads to be carried in a building for any particular occupancy are not dependent upon the materials of which it is constructed; similarly heat and light requirements are constant, according to the use to which the building may be put.

## *FUNCTIONAL REQUIREMENTS CODE*

It has therefore been found desirable to divide the code framework into two sections as already mentioned. The first, called the *Code of Functional Requirements of Buildings*, covers the standard of performance required of the building as determined by its situation and occupancy, and the second, the main code system, comprises codes and sub-codes for elements of structure and installation of equipment.

The Code of Functional Requirements is divided into eleven chapters as follows:—

I. Natural light and air.
   A. Daylight.
   B. Sunlight.
   C. Ventilation.
II. Space and circulation.
III. Precaution against noise.
IV. Precaution against fire.
V. Loading.
VI. Weather protection.
VII. Services, *e.g.*, drainage, water and such services.
VIIA. Artificial light.
VIII. Heating and heat insulation.
IX. Corrosion.
X. Dirt and vermin.
XI. Acoustics.

In order to meet potential needs for guidance in the immediate post-war period in the construction of dwellings and schools, the drafting of interim chapters of this functional code to deal with dwellings and schools was undertaken first, and these have nearly all been published in draft for comment.

The drafting of the functional code is a direct responsibility of the Codes of Practice Committee itself. The various draft chapters of this code when completed have been issued for comment, and as a result of the very encouraging and helpful volume of comment received, have been revised in many details before final approval.

It is to be here observed that the Codes of Practice Committee regards the public issue as priced documents of draft codes of practice for comment as a most important factor in the process of production of a code which it is hoped will ultimately have wide acceptance. By no other method could the Committee assure itself fully that the subject matter of the code it proposes to promulgate is regarded as scientifically acceptable and reasonable by all those who would be affected by it in one way or another.

The Committee holds conferences with those whose comments on draft codes call for discussion, and every effort is made to reach unanimity in the interpretation of scientific data, although this is by no means easy.

This process of issue-of-draft-for-comment has long been satisfactorily employed by both the British Standards Institution and the American Institute for Testing Materials.

## *GENERAL SERIES CODES*

To leave the Code of Functional Requirements with its eleven chapters and to come to the general series codes we enter a new sphere. These latter are divided into three sections, *viz.*:—

(1) the Carcase series of codes;
(2) the Finishings series of codes; and
(3) the Installation series of codes.

It will be as well to consider each of these series in some degree of detail.

The Carcase series of codes, which in the decimal notation adopted for the whole range of general series codes is numbered 1, includes codes for 1.1 Foundations and substructure, 1.2 Load bearing superstructure, 1.3 External walling (weather resisting) including windows and doors, 1.4 Weather resisting roof coverings, and 1.5 Internal walls and partitions, and doors and windows.

The Institutions in the fulfilment of their undertakings have appointed some 60 committees, sub-committees and drafting panels comprising some 300 experts, the best men available on the subjects under review, and these committees have freely given of their time and expert knowledge. It need not be explained that the servicing of these many committees is in itself a task of magnitude, and the Institutions have at some cost employed suitable officers and staff to do this. These officers have been very carefully selected and have found it possible to work in close and amicable collaboration with the staff of the Building Research Station at Garston and of the Codes of Practice Committee.

The second series of codes mentioned above, the Finishings series has the decimal notation 2 and is divided into 2.1 Finishes of floors and stairs (wearing surfaces), 2.2 Finishes to floor soffits (ceilings), 2.3 Wall finishes, internal and 2.4 Decoration. All this group of Finishings codes is being handled by the Royal Institute of British Architects, who have the very effective assistance of various branches of the Department of Scientific and Industrial Research in dealing with the technical aspects of the various problems that emerge. There is to take but a single example a very wide range indeed of scientific problems associated with the preparation, selection and use of paints.

At this point it may be apposite to mention that there is an intimate relationship between Standard Specifications as prepared and issued by the British Standards Institution and Codes of Practice.

Very important steps have been taken in the direction of rationalizing the dimensional side of building technique, and this work has been speeded up effectively by co-operation between the Standards Committee of the Ministry of Works and the Standards Institution itself with a view to producing the maximum efficiency and economy in post-war housing. The utmost extension of dimensional rationalization is envisaged because only in this way can the true benefits of standardization be realized.

However, the moves towards standardization in the building industry have started with the individual component and the industry have started with the individual component and the industry has hitherto benefited to a limited extent only from the resultant limitation of the number of types of components and of dimensions essential to ensure that individual components fit into the more complex assembly. The logical way to work out a scheme of standardization is from the composite structure downwards to the individual component and this involves a code of practice or codes of practice for the incorporation of the components.

Very many of the codes now in draft will call for, and in fact are calling for, new or elaborated standard specifications and many of the newly contemplated standards for building components are being drawn up with a view to their taking their appropriate places in codes of practice.

The third series of building codes, the Installation series has the decimal notation 3 and is divided into 3.1 Sanitation, drainage and refuse disposal; 3.2 Water supply; 3.3 Heating, lighting and power; 3.4 Refrigeration; 3.5 Telecommunications; 3.6 Lifts, hoists and escalators; 3.7 Vacuum installations; 3.8 Pneumatic and other transmission networks; 3.9 Hydraulic power.

The parcelling out of these general series codes between the institutions for drafting purposes was done with the greatest care,

and wherever there was inevitable overlapping, joint committees with joint responsibilities were formed as in the case of heating and power installations where the Institution of Mechanical Engineers and the Institution of Heating and Ventilating Engineers are working in harmony.

### *STANDARD SPECIFICATIONS AND CODES OF PRACTICE*

The working arrangement with the British Standards Institution is that while British Standards Specifications will deal with the standardization of materials, components and appliances, Codes of Practice will be concerned with the methods of using them. This broad division of functions has now been more precisely stated in the following definitions:—

*A British Standard Specification* sets out the technical requirements with which materials, components or appliances purporting to be in accordance with the B.S. Specification should comply and prescribes, where practicable, the tests to be carried out to prove compliance with such requirements.

*A British Standard Code of Practice* sets out those requirements which are generally recognized as good practice in the execution of building or civil engineering construction. It prescribes the method of use, erection or installation of materials, components or appliances in view of their properties and the performances for which they are intended; it also deals where necessary with structural design methods.

Standards and Codes are complementary and their development will go on side by side.

### *WAYS OF OPERATING CODES*

An oft discussed subject is as to whether a Code of Practice should be mandatory. Essentially a Code of Practice of the kind with which the Codes of Practice Committee is concerned is a Code of Good Practice and not a statement of the permissible minimum; at the same time it should have regard to costs and should endeavour to combine efficiency with strict economy.

There must be a reasonable relationship between the technical content of a code and the purpose for which the code is used. For example, a code setting out or specifying an optimum method of carrying out a building operation with high grade materials might, if it had a legal status and were enforceable by fine or other penalty, result in an unnecessary restriction of building activity if economic conditions, or the availability of building materials or of labour at a particular time or in a particular locality were such as to make it difficult or even impossible to carry out the provisions of the code. Circumstances of this kind have to be kept in mind by those who are drafting codes.

It is by no means easy to strike the right balance in code drafting, because from the point of view of technical practice there may be an almost infinite variety between the contents of codes, depending upon the state of the art, the capacity of industry or the availability of materials. To illustrate this point by an extreme case; the earliest Norman English code of fire precautions involving only the ' Curfew Regulations ' and the Elizabethan code requiring stone fronts to houses in London are hardly recognizable as codes in the same sense as the present day fire requirements of the London County Council, but such they were indeed, the differences arising only from the state of the art and the ready availability of materials.

Whatever may be the forms and shapes of building codes, however, there are really only three ways in which they can operate in actual building practice:—

(1) A code may be drafted as a mandatory document to be observed and followed under penalty for its infringement.

(2) A code may be drafted without the direct intention of its being mandatory but in such a way that it may become mandatory wholly or in selected parts, by inclusion in a document having legal force, such, for example, as a contract.

(3) A code may be drafted with the intention of being nothing more binding that the setting out of a desirable method of carrying out a building operation in which event its force is derived from its adoption by consent between the parties, *e.g.*, the building owner, the architect and the contractor as an agreed method of carrying out the building work in contemplation.

To illustrate these uses of codes, the first, the mandatory code is best illustrated in this country by the London County Council By-laws which are in fact a penal code giving very precise instructions on technical matters.

The second, the code which is drafted without the direct intention of being mandatory, but in such a way that it may easily become so, is well illustrated by two examples, with which we are all familiar, *i.e.*, British Standard Specification No. 449 of 1937 for the use of Structural Steel in Building. The Report of the Reinforced Concrete Structures Committee of the Building Research Board dated July, 1933.

These two codes are mentioned in the Ministry of Health Model Bye-laws as permissible methods of carrying out a bye-law whose legal import requires " due stability " in the walls of a building. If the walls rely for their load bearing capacity upon steel or reinforced concrete, then the bye-law is regarded as fulfilled, provided they the built in accordance with the appropriate code. There is, however, no penalty associated with the use of this code. It is always open to the architect or builder to secure due stability by any means whatever that will satisfy the building inspector and the appropriate committee of the local authority concerned.

While on the subject of the Ministry of Health Model Bye-laws, which are nothing more than a model and do not acquire any legal force until adopted by a local authority, one should mention that certain technical building codes are drawn up in a mandatory shape just as are the Ministry Model, and secure legal force when adopted by local authorities. Well known among this class of building code are the Pacific Coast Building Code which has been adopted by over 300 local authorities in the United States; the National Building Code of Canada which has been adopted by numerous local authorities in Canada and is perhaps the most complete building code in existence, and the German Building Code which has been adopted throughout Prussia and by many other German local authorities.

These codes are all drafted so that they are suitable like our own Ministry of Health Model for immediate use as penal documents upon their adoption.

We now come to the third way which codes can operate in building practice. This brings us to the code which sets out a desirable method of carrying out a building operation and is drafted with the intention of being nothing more than this. The force which such a code possesses is derived from its adoption by consent.

It is at this last level that the codes of practice now being drafted by the Codes of Practice Committee will first emerge, and for this reason every code bears on its front page the words " This Code of Practice represents a desirable standard of good practice, and therefore takes the form of recommendations."

There is, however, another aspect of the building code of practice which may in the long run prove as important or even more important than its use in or in connection with bye-laws, regulations or contracts. An interesting brochure on Post-War Sanitary Engineering Problems, published by the Institution of Sanitary Engineers in March, 1944, recommends under Part III, section 55, that "An effort should be made to gather together and to collate the very large number of papers on important engineering and allied subjects which have been and are constantly being published, so as to bring within easy reach of the busy engineer the most up-to-date thought on subjects of current issue. Abstracts of articles on some subjects are published, but these, while of great value, do not meet this need; they in fact tend to create confusion by directing the engineer's attention to a multiplicity of published papers irrespective of the value of their contents. Guidance is required as to the trend of current thought and practice by means of periodic, concise but authoritative reviews. Learned societies have performed valuable work in the past, but cannot unaided afford to carry the burden of this rapidly growing need, and progress is, therefore, retarded unnecessarily. The learned societies should be encouraged to perform this service if need be with public money."

To a very material degree the codes of building practice now being prepared and issued (and afterwards kept always up-to-date) fill the need expressed by the Sanitary Engineers. They provide in all branches of the building industry a vehicle by means of which the work in the laboratories or other research fields, and the experience of active practitioners can be passed in a useful and concentrated form to all branches of industry (including the schools where building is taught). Codes of practice will never replace the text-book or the experience of the architect, the engineer or the builder, but they will provide valuable pointers to all of these.

### *CIVIL ENGINEERING CODES*

I do not wish in this paper which is devoted principally to building practice to deal at any length with the scheme of civil engineering codes. Sufficient to say that they deal with such subjects as site investigation, earthworks, foundations, drainage, liquid retaining structures, traffic bearing structures and the use of materials of civil engineering construction in relationship to roads, airports, railways, docks and harbours, water supply and power, sewage and sewage disposal, canals and rivers, coast protection and land drainage and reclamation.

### *CONCLUSION*

Finally, may I say that this work of preparing codes of practice for building and civil engineering presents certain features which are new and most encouraging. It offers for the first time in this country a forum wherein the professional men of all branches of the building and civil engineering industries have had the opportunity to meet together and pool their technical experience to the advantage of the industries generally; and it provides a mechanism by which the results of experimental work and experience can find their way quickly and effectively into practice; the whole trend of expansion in building technique, the new and often almost untried materials and methods which seem every other day to tumble over each other for admission into building practice have made it inevitable that the professional institutions in the industry would at some time have come together to lay down agreed principles for their mutual guidance. We are fortunate that the assistance of Government has enabled the work to be started so much earlier than it might otherwise have been and that we have the active interest of the Minister of Works to whose Department the inception and effective carrying on of the scheme owes so much. We are also fortunate in having effective collaboration with the Institutions and Departments in Scotland.

The whole conception of the work is definitely in the interests of the public and of the nation who cannot but benefit from improved building and constructional technique, and its development on independent scientific lines, untrammelled by problems of departmental policy is highly desirable.

# Publications Received

*Planning and Reconstruction Year Book.* F. J. Osborn. (Todd Publishing Co., 21s.)
*When Ireland Builds Again.* (Architectural Association of Ireland, 1s.)
*Sheffield's Green Belt.* (Council for the Preservation of Rural England, Sheffield and Peak District Branch, 1s.)
*Miners' Welfare Looks Forward.* (Miners' Welfare Commission, 6d.)
*A Policy for the Service of Youth.* (Yorkshire Council for Further Education, 1s.)
*The New Builder's Handbook on Brickwork and Drainage.* E. J. Ward and A. Vollor. (George Allen and Unwin, 5s.)
*Plastics and Industrial Design.* John Gloag. (George Allen and Unwin, 10s. 6d.)
*Conversion Factors and Tables.* (British Standards Institution, 3s. 6d.)
*Art and Everyman.* Hervey Adams. (Batsford, 1s.)
*Architecture as a Communal Art.* Sir Charles Reilly. (Batsford, 6d.)
*Practical Typography.* A. J. Bastain. (Bastain Bros., 7s. 6d.)
*I Saw a City.* Norman Tiptaft. (Cornish Bros., 7s. 6d.)
*Maps for the National Plan.* Association for Planning and Regional Reconstruction. (Lund Humphries, 15s.)
*The Elements Rage.* Frank W. Lane. (Country Life, 10s. 6d.)
*The Rehousing of Britain: Target for Tomorrow Series, No. 9.* John Madge. (Pilot Press, 4s. 6d.)
*Presenting Scotland.* Norman Wilson. (Edinburgh Film Guild, 2s.)
*Industrial Record, 1919-1939.* (Cadbury Bros., 8s. 6d.)
*Housing.* (White Paper, HMSO, 2d.)
*Report on Plumbing for Low-Cost Housing.* (Lead Industries Development Council.)
*The Book of 150 Low-Cost Homes.* G. R. Hann. (Building Publishing Co., Sydney, £1 1s.)
*Principles and Practice of Heating and Ventilating.* E. Molloy. (G. Newnes, 21s.)
*Hot Water Engineer.* E. Molloy. (G. Newnes, 21s.)
*English Furniture.* John Gloag. (A. and C. Black, 12s. 6d)
*Style and Composition in Architecture.* Trystan Edwards. (J. Tiranti, 8s. 6d.)
*Good and Bad Manners in Architecture.* Trystan Edwards. (J. Tiranti, 8s. 6d.)
*An Introduction to Soil Mechanics.* W. L. Lowe-Brown. (Pitman, 4s. 6d.)
*Reinforced Concrete Design.* J. Berry. (Hutchinson's Publications, 10s. 6d.)
*Housing in the West Indies.* (HMSO, 30 cents.)
*Report of the Inter-Departmental Committee on Rent Control.* (HMSO, 1s.)
*Our Heritage of Wild Nature.* A. G. Tansley. (Cambridge University Press, 7s. 6d.)
*Planning the New Schools.* (University of London Press, 2s. 6d.)
*The Wood from the Trees.* R. Jefferies. (Pilot Press, 9s. 6d.)
*The House.* Anthony Bertram. (C. and A. Black, second edition, 6s.)
*Warsaw Airport.* (Polish Ministry of Industry, Commerce and Shipping—Aeronautical Department.)
*Building Apprenticeship and Training Council—2nd Report.* (HMSO, 9d.)

# ANNOUNCEMENTS

Mr. Lionel A. G. Pritchard, F.R.I.B.A., Chartered Architect, has resumed practice at Princes Building, 81, Dale Street, Liverpool, 2

Messrs. Tarran Industries, Ltd., Building and Civil Engineering Contractors, have moved to 27, Gilbert Street, London, W.1. Telephone: Mayfair 0352. Telegrams: Tarranlond-Wesdo-London.

Messrs. J. Walter Hanson & Son, chartered and registered architects, have resumed practice at 123, Northumberland Street, Newcastle-upon-Tyne, 1, at which address they would be glad to receive trade literature.

The Brightside Foundry and Engineering Co., Ltd., have moved their Glasgow offices to 113, St. Vincent Street, Glasgow, C.2. The telephone number remains as before, *viz.*, City 6149/0. (Please note that this is *not* City 6149/*10*.)

Henry Fedeski, A.R.I.B.A., who passed the Examination conducted by the Town Planning Joint Examination Board in 1944, has gained approval for the requisite probationary work, and has been awarded the RIBA Diploma in Town Planning.

The British Aluminium Co., Ltd., Manchester Office is located temporarily at Chancery Chambers, 55, Brown Street, Manchester, 2. Telephone No.: Blackfriars 8913. Telegrams: Aluminium Manchester. The Branch Manager is Mr. J. R. Whitelegg.

The Minister of Fuel and Power has appointed Air Commodore O. R. Gayford, C.B.E., D.F.C., A.F.C., F.R.G.S., to be Regional Controller for the Eastern Region of the Ministry of Fuel and Power in succession to Mr. W. W. Marsh, C.B.E., who is resigning.

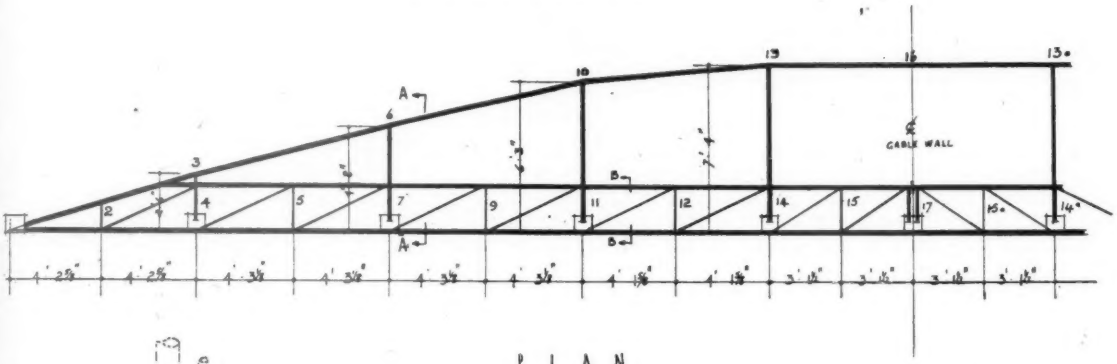
Following the disbandment as a separate organization (except in London) of the Emergency Works Directorate of the Ministry of Works, Mr. G. M. Carter, Director of Emergency Works and Recovery, has, with the Minister's consent, relinquished his post, and resumed his private business.

Owing to the absence on military service of two of the partners, the practice of Messrs. Hugh Minty & Partners, F/F/A.R.I.B.A., formerly carried on at 93, Park Lane, W.1, has been temporarily transferred to:—The Red House, Yateley, near Camberley, Surrey. Telephone, Yateley 3235, where the partners, Major R. J. Hugh Minty, F.R.I.B.A., Capt. E. Daydon Griffiths, F.R.I.B.A., and Mr. W. Stanley Minty, A.R.I.B.A., will be glad to receive trade circulars, etc.

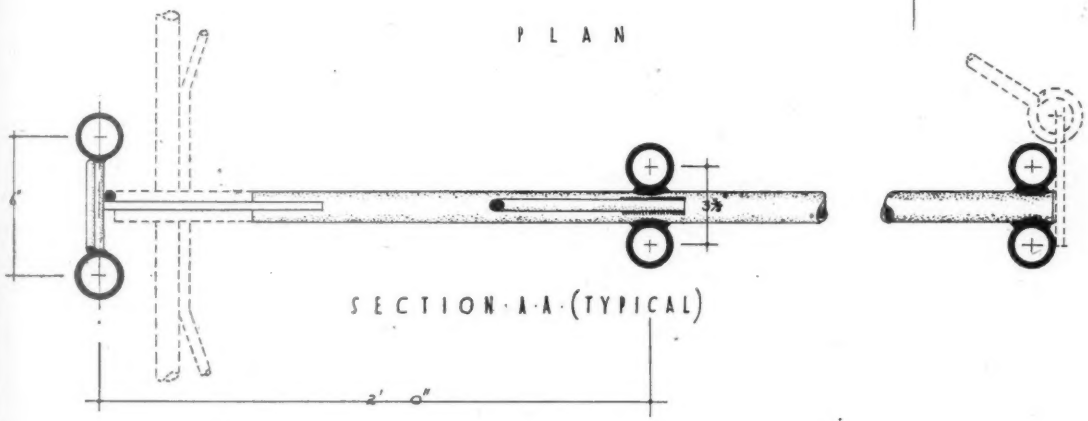
# PATENT WELDED TUBULAR CONSTRUCTION

Data Sheet No. 19

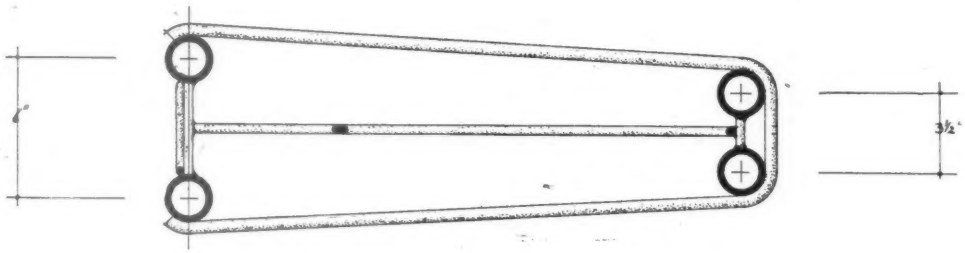
ELEVATION




PLAN



SECTION A-A (TYPICAL)



SECTION B-B (TYPICAL)

LAYOUT OF GABLE END WIND TRUSS.

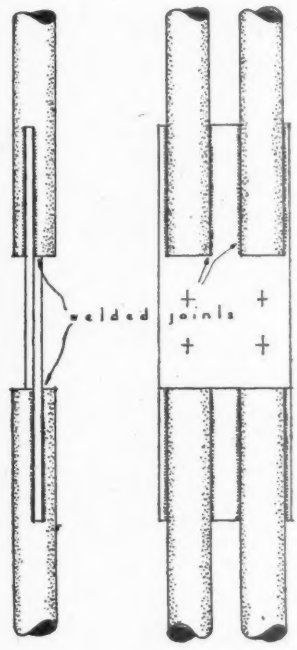
## WIND TRUSS

A horizontal wind girder, spanning 80 ft., is provided at each gable end. In the design of the structure the fact that only a definite type of loading occurs has been taken into consideration. A trussed beam is used, the rigid part of the structure being latticed. The tension chord follows the line of the parabola and is hung from the roof. Details of typical sections are shown in this sheet. Section AA shows the intersection of the verticals with the chords.

*(Continued overleaf)*

# PATENT WELDED TUBULAR CONSTRUCTION

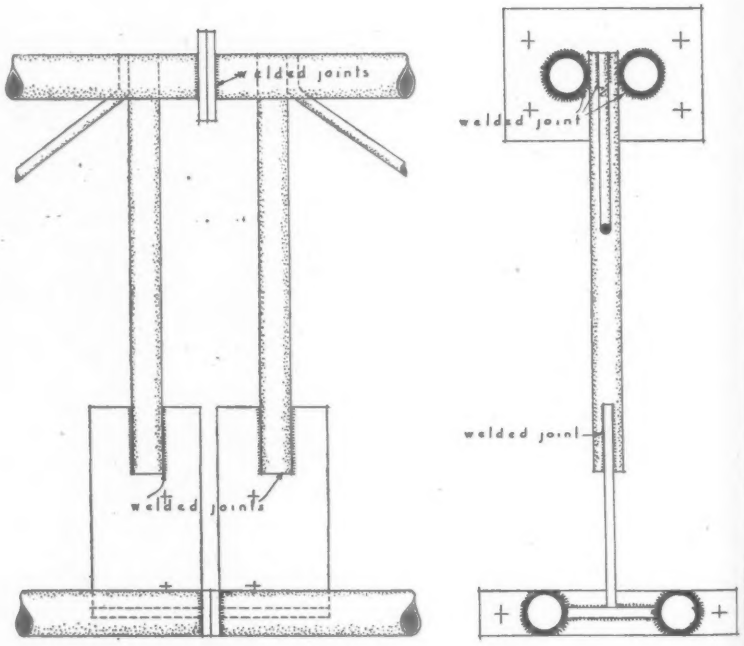
Data Sheet No. 19




DETAIL AT 16

The truss is delivered in two sections and jointed at intersections 16 and 17 (see plan overleaf)

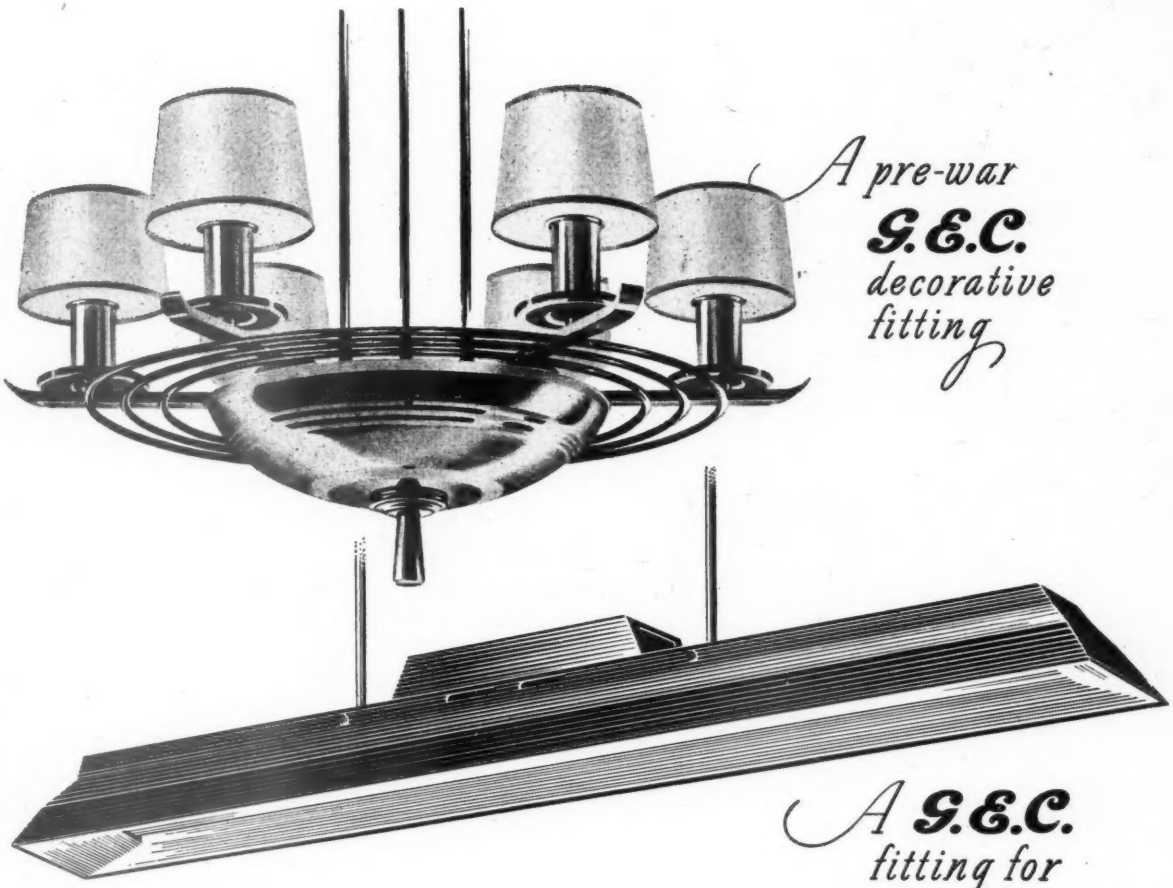
## DETAIL AT GABLE END WIND TRUSS




DETAIL AT 17

In order to eliminate site welding different structural members are bolted together (see details above), steel plates being used to afford facilities for such bolting.

*NOTE.—These Data Sheets are appearing fortnightly in* THE ARCHITECTS' JOURNAL*—the complete series is available in Folder Form and application for copies should be addressed to Scaffolding (Great Britain) Limited, Saunderton, Princes Risborough, Bucks.*



*A pre-war* **G.E.C.** *decorative fitting*

*A* **G.E.C.** *fitting for the war industries*

# now for reconstruction . . .

. . . the memories of those delightful G.E.C. fittings of character and refinement known so well before the war may soon be happily revived. The cloak of the Company's great war effort will be shed, and its fittings designers and manufacturing craftsmen will be free to turn their skill and artistry once again to producing ranges of fittings that will satisfy the tastes and needs of all.

**G.E.C.**

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**ELECTRIC LIGHT FITTINGS**

# CLASSIFIED ADVERTISEMENTS

*Advertisements should be addressed to the Advt. Manager, "The Architects' Journal." War Address: 45 The Avenue, Cheam, Surrey, and should reach there by first post on Friday morning for inclusion in the following Thursday's paper.*

*Replies to Box Numbers should be addressed care of "The Architects' Journal," War Address: 45 The Avenue, Cheam, Surrey.*

## Public and Official Announcements

*Six lines or under, 8s.; each additional line, 1s.* THE INCORPORATED ASSOCIATION OF ARCHITECTS AND SURVEYORS maintains a register of qualified architects and surveyors (including assistants) requiring posts, and invites applications from public authorities and private practitioners having staff vacancies. ADDRESS: 75, EATON PLACE, LONDON, S.W.1. TEL.: SLOANE 5615. 991

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NORTHAMPTONSHIRE COUNTY COUNCIL.

PLANNING ASSISTANT.

Applications are invited from members of H.M. Forces and others for the appointment of a Technical Assistant on the permanent staff of the County Planning Department at a salary of £350-£400, according to qualifications and experience, plus war bonus as authorised by the Council from time to time.

Applicants should have had experience in the preparation of Planning Schemes, and preference will be given to those who possess architectural qualifications or who have had architectural training.

The successful candidate will be required to provide and maintain a motor car for use in connection with his duties, for which an allowance will be paid.

The appointment will be subject to the provisions of the Local Government Superannuation Acts, 1937 and 1939, and the candidate selected will be required to pass a medical examination.

Applications, endorsed "Planning Assistant," stating age, qualifications and experience, and past and present appointments, accompanied by a copy of one recent testimonial and the names of two persons to whom reference may be made, must be submitted to the Acting County Planning Officer at the address below, not later than 30th June, 1945.

J. ALAN TURNER,
*Clerk of the County Council.*

County Hall, Northampton.
14th May, 1945. 751

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COUNTY BOROUGH OF NEWPORT.

BOROUGH ARCHITECT'S DEPARTMENT.

Applications are invited for three appointments as ASSISTANT ARCHITECTS in the above Department.

Applicants must be members of the R.I.B.A.; the appointments are temporary, but it is possible that permanent positions may develop later. Salaries are subject to superannuation deductions and to the Corporation's scale of salaries (Class 1), £390 per annum, rising in two increments to £416 per annum, plus cost of living bonus.

Applications, giving particulars of experience, accompanied by two recent testimonials, must be delivered to the undersigned not later than 1st June, 1945.

JOHN BLACKETT, A.R.I.B.A.,
*Borough Architect.*

Town Hall, Newport, Mon. 747

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GOVERNMENT OF NORTHERN IRELAND.

VACANCIES FOR ARCHITECTURAL STAFF.

Applications are invited for temporary Architectural posts in the Ministries of Finance and Health and Local Government.

To qualify for appointment on the (*a*) and (*b*) range of salary candidates must be A.R.I.B.A. or equivalent. For appointments on the (*c*) range, preference will be given to candidates who have passed the Intermediate (Student) examination of the R.I.B.A.

Other considerations being equal, preference will be given in all cases to ex-Service candidates of the 1914-1918 or the present war.

Salaries:

(*a*) £550-£800 p.a., plus war bonus, at present £60 p.a. (Reference EA. 1411A).

(*b*) £350-£550 p.a., plus war bonus, at present £60 p.a. (Reference EA. 1412A).

(*c*) £250-£450 p.a., plus war bonus, at present £60 p.a. (Reference QC. 1).

Write, quoting appropriate reference, to Ministry of Labour and National Service, Central (T. and S.) Register, Room 5/17, Sardinia Street, Kingsway, London, W.C.2, for application form, which must be returned completed, together with copies of two testimonials, by 4th June, 1945. 750

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NORTHERN IRELAND HOUSING TRUST.

APPOINTMENT OF CHIEF TECHNICAL OFFICER.

Applications are invited for the above post from Fellows or Associates of the Royal Institute of British Architects who have good experience of general architectural practice and special knowledge of housing. Applications from qualified persons at present serving in His Majesty's Forces, who are not immediately available to take up duty, will be entertained.

The salary attaching to the post will be at a rate not exceeding £1,750 per annum, and will be fixed according to the experience and qualifications of the successful applicant.

The Northern Ireland Housing Trust is a Statutory Body set up by Parliament, and has an immediate building programme of several thousand houses. Employment will probably continue for a period of years, but the appointment will be subject to termination by three month's notice on either side.

The appointment will be a full-time one, and the successful candidate will be required to carry out such work in connection with the design, construction and supervision of housing schemes from the layout stage to the completion of the houses as may be assigned to him.

Preference will be given, other things being equal, to ex-Servicemen.

Candidates should apply by letter to the address given below, stating the date and place of birth, qualifications and experience, and the date when able to commence duties, together with the names of three referees. The closing date for the receipt of applications is 16th July, 1945.

Northern Ireland Housing Trust,
5, Donegall Square South, Belfast. 752

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KINGSTON-UPON-HULL COLLEGE OF ART AND CRAFTS.

SCHOOL OF ARCHITECTURE.

Applications are invited for the post of LECTURER IN ARCHITECTURE. Applicants should be Associate Members of the Royal Institute of British Architects, preferably trained in a recognized School of Architecture.

The salary for a Graduate would be £345 x £15—£585, plus increments for previous teaching and/or professional experience.

It is hoped to fill the vacancy by September, 1945, but in the case of the successful candidate being a member of H.M. Forces, the commencing date of the appointment may be postponed.

Further particulars and forms of application may be obtained from the Director of Education, Guildhall, Kingston-upon-Hull, and should be returned not later than the 14th June, 1945. 761

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BIDDULPH URBAN DISTRICT COUNCIL.

APPOINTMENT OF ARCHITECT.

Applications are invited for the above temporary whole-time appointment at a salary of £500-£600, according to experience.

The successful applicant will be required to advise the Council on their Post-War Housing Schemes, and to prepare the necessary Surveys, Plans, Quantities and Specification, etc., and to supervise construction.

The Council will consider applications submitted by men at present serving with H.M. Forces.

Applications, endorsed "Architect," stating age, qualifications, details of experience, and position regarding National Service, together with copies of two recent testimonials, to be sent so as to reach the undersigned not later than the 5th June, 1945.

GEORGE L. KAY,
*Clerk of the Council.*

The Council Offices, Biddulph, Stoke-on-Trent.
16th May, 1945. 760



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SPALDING URBAN DISTRICT COUNCIL.

ARCHITECTURAL ASSISTANT.

Applications are invited for the post of Architectural Assistant in the Surveyor's Department, at a salary of £450 per annum, plus cost-of-living bonus (at present £49 8s. per annum).

Applicants must be A.R.I.B.A. or hold an equivalent qualification, and have had practical experience in housing and other architectural work normally carried out by a Local Authority. The appointment is subject to the provisions of the Local Government Superannuation Act, 1937, and the successful candidate will be required to pass a medical examination.

Applications, to be acompanied by copies of three recent testimonials, must reach me not later than 1st June, 1945.

RAYMOND W. HASTINGS,
*Clerk of the Council.*

11, Market Place, Spalding. 759

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MONTGOMERY COUNTY COUNCIL.

COUNTY ARCHITECT'S DEPARTMENT.

Applications are invited for the appointment of an ARCHITECTURAL ASSISTANT (Male or Female) in the County Architect's Department. The appointment is a temporary one for the duration of the war. The salary is £350 per annum, plus war bonus.

Application, stating age, training and experience, together with copies of three recent testimonials and endorsed "Architectural Assistant," should reach the undersigned not later than 30th June, 1945.

H. CARR, F.R.I.B.A., F.S.I.,
*County Architect.*

County Offices, Welshpool, Mont. 758

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TECHNICAL ASSISTANTS (temporary) required by Borough of Chelmsford.

(*a*) ENGINEERING ASSISTANTS:

Candidates should hold the Testamur of Institution of Municipal and County Engineers or be Associate Members of Institution of Civil Engineers, with previous experience in municipal engineering and surveying, including roads, sewerage, housing layouts, sewage disposal, etc.

Salary £365 to £410 per annum, plus cost of living bonus, at present £59 16s. per annum.

Reference E. 1427XA.

(*b*) ARCHITECTURAL ASSISTANTS:

Candidates should have passed the Final Examination of Royal Institute of British Architects or equivalent, and have had previous experience in design of Council houses, housing layouts, etc.

Salary £365 to £410 per annum, plus cost of living bonus, at present £59 16s. per annum.

Reference EA. 1351XA.

Commencing salaries in each case in accordance with qualifications and experience.

Write, quoting appropriate reference numbers, to Ministry of Labour and National Service, Central (T. and S.) Register, Room 5/17, Sardinia Street, Kingsway, London, W.C.2, for application form, which must be returned completed by 28th May, 1945. 748

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## Architectural Appointments Vacant

***Four lines or under, 4s; each additional line, 1s.***

*Wherever possible prospective employers are urged to give in their advertisement full information about the duty and responsibilities involved, the location of the office, and the salary offered. The inclusion of the Advertiser's name in lieu of a box number is welcomed.*

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LONDON OFFICE.—Architectural Assistants required immediately for post-war work in West End office; state age, qualifications, experience and salary. Box 745.

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ARCHITECTURAL ASSISTANT required; modern outlook, and preferably with experience of or interested in hospital work; Reading and London office; full details, salary, etc., to Box 749.

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PERMANENT progressive post offered to Architects' Senior Assistant in North Staffs; state training, experience, N.S. liability, and salary required. Box 722.

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ARCHITECT'S or Building Surveyor's Assistant required by Chartered Surveyor, London, N.W.1. Particulars, with age and salary, to Box 725.

DONCASTER.—Architectural Assistant required immediately for housing and post-war work. Apply, stating age, salary, and experience, Johnson, 20, Priory Place, Doncaster. 755

STAFF ARCHITECT of London commercial firm invite applications from Architectural Assistants, exempt from National Service, for work in connection with current work and post-war expansion. Applicants should state age, experience, salary required, to Box SA. 8346, 10, Hertford Street, London, W.1. 728

## Architectural Appointments Wanted

*Advertisements from Architectural Assistants and Students seeking positions in Architects' offices will be printed in "The Architects' Journal" free of charge until further notice.*

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