BUILDING —AND NEW TECHNIQUES

RESEARCH CHEMIST OF 1960

...ace of her ... will grow ... We know, ... viewpoint ... we have ...op seeking. ... Gyproc technicians have already made discoveries which should transform conditions under which the children of today will live and work when *their* time comes to take control of the great experiment.

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Laboratory of wood-framed construction with Gypklith rendered on the exterior, and Gyproc for the interior linings.

GYPSTELE: Is a prefabricated system for using Gyproc board in steel-frame units. These are very strong with a high resistance to fire, and are designed to make construction rapid and removal easy.

THE vocation of building has been transformed by the war. Those who take part in reconstruction will be working with different materials and new methods. We are preparing for the time when comfortable and healthy conditions will be specified for every building. Gyproc research is constantly improving existing products and opening up possibilities for yet more.

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★ ★ ★

During a war there are not many opportunities for experiment, but we have made the fullest use of such opportunities that were open to us. Our own technicians working in collaboration with a committee of architects, are investigating the use of prefabricated units in relation to housing, incorporating prefabricated Gyproc products. The results may be revolutionary.

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Alphabetical Index to Advertisers

For Appointments (Wanted or Vacant), Competitions, Open, Drawings, Tracings, etc., Educational Legal Notices, Miscellaneous Property and Land Sales—*see* pages xxx and xxxii.

THE archaic telephone of the Cast Iron Age is removed for ever from our desk to its appropriate shelf in South Kensington Museum. Its passing is as natural as the passing of the log hut. It has been out-moded by new materials.

The telephone of to-day has a well-balanced receiver which is satisfying to hold and never cold to the touch. The instrument's flowing lines and clean design make it a pleasing thing to look at, whether in sober black or some cheerful colour harmonising with a modern room. Bakelite Plastics are the modern materials which have made the re-styling possible.

This is but one of the many instances where they have replaced other materials on merit. In the new post-victory world which many of us are trying to visualise, Bakelite Plastics will enter largely into a thousand and one everyday things formerly made of wood, metal, stone or other of the older materials.

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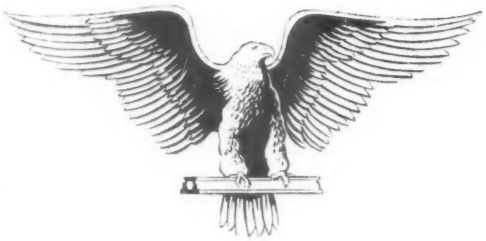

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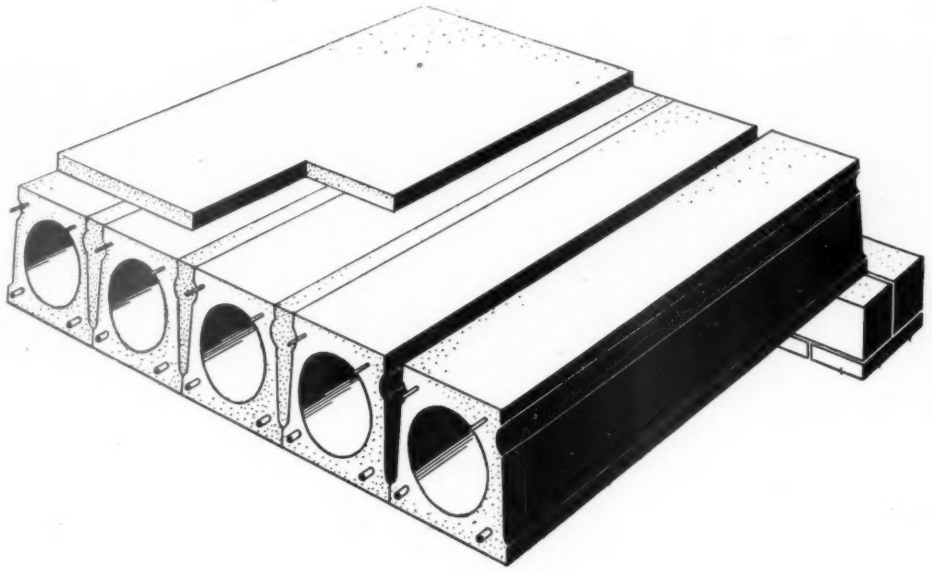

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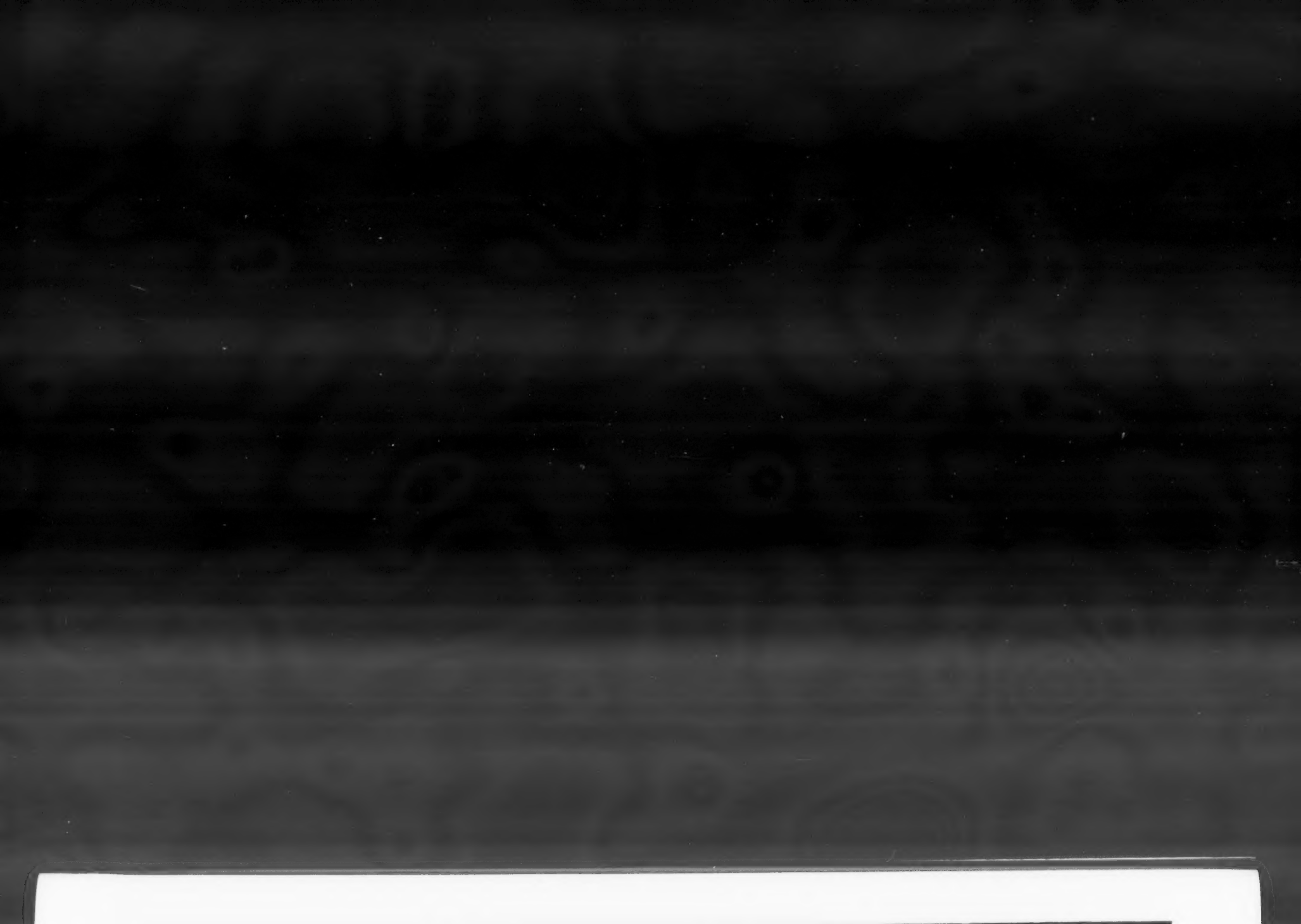

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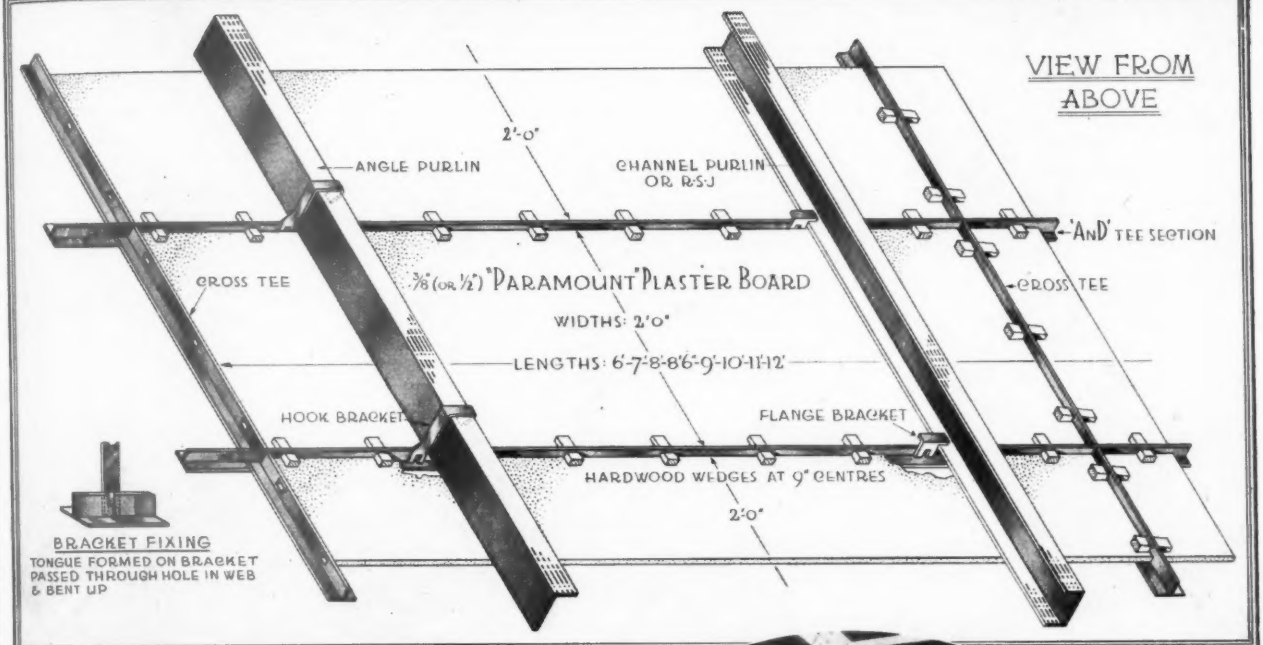

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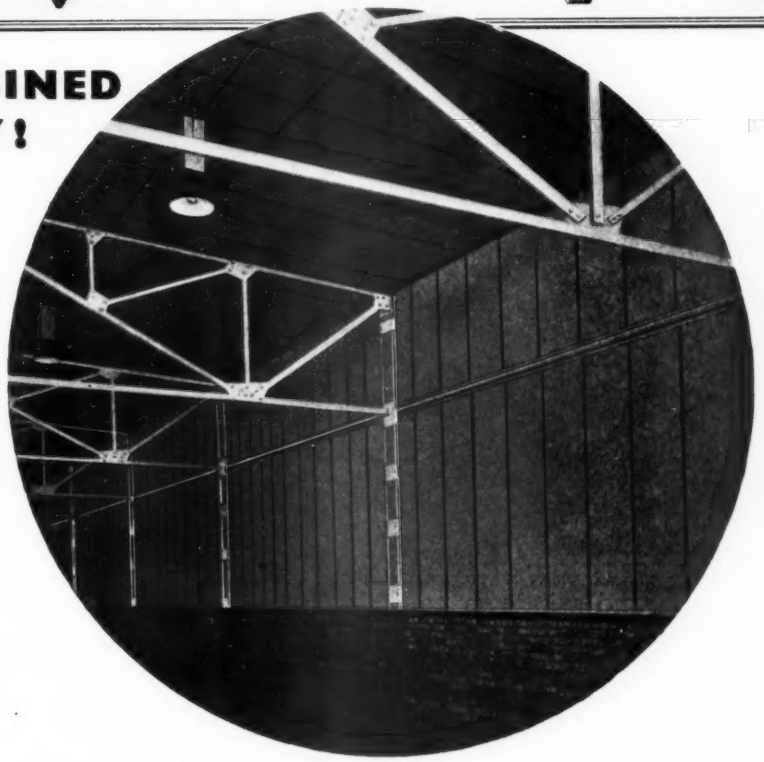

The photograph shows finished linings of "Paramount" Board applied by the "AND" Wedge Method as supplied by The British Plaster Board Ltd.

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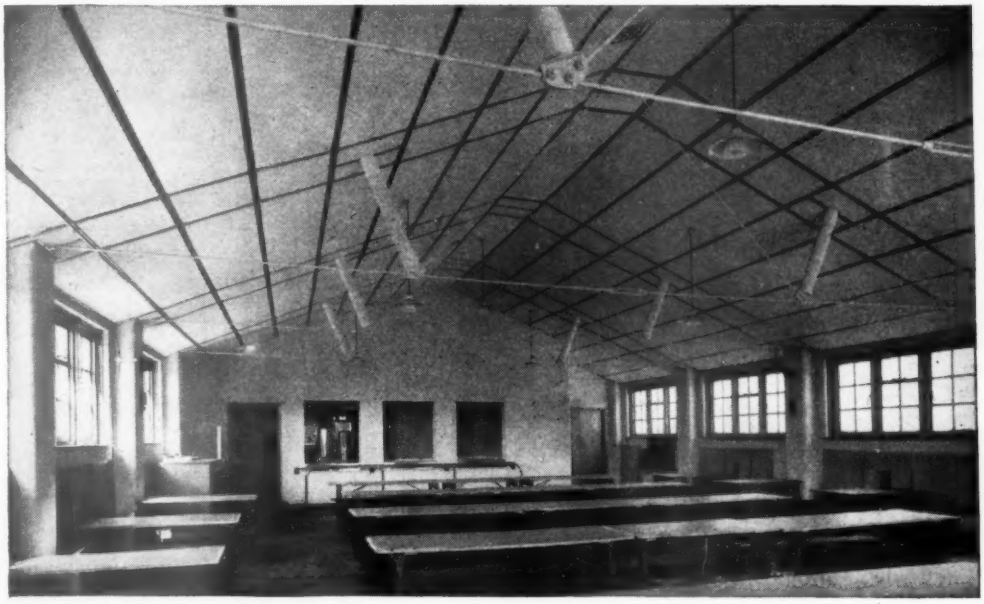

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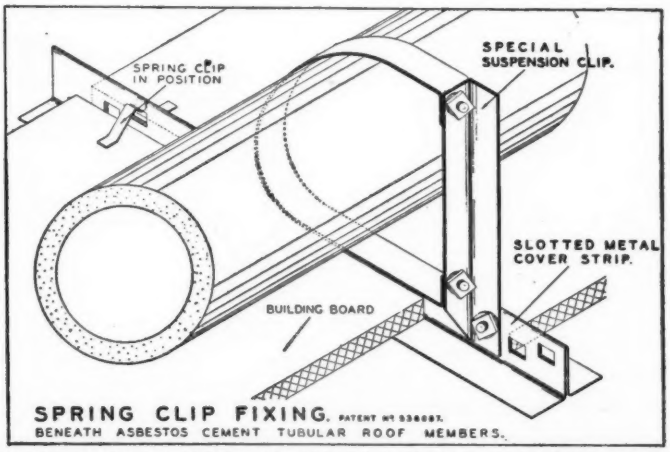

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The Editor will be glad to receive MS. articles and also illustrations of current architecture in this country and abroad with a view to publication. Though every care will be taken, the Editor cannot hold himself responsible for material sent him.

THURSDAY, JULY 30, 1942. NUMBER 2479: VOLUME 96

PRINCIPAL CONTENTS

The fact that goods made of raw materials in short supply owing to war conditions are advertised in this JOURNAL *should not be taken as an indication that they are necessarily available for export.*

Owing to the paper shortage the JOURNAL, *in common with all other papers, is now only supplied to newsagents on a "firm order" basis. This means that newsagents are now unable to supply the* JOURNAL *except to a client's definite order.*

ASBESTOS-CEMENT

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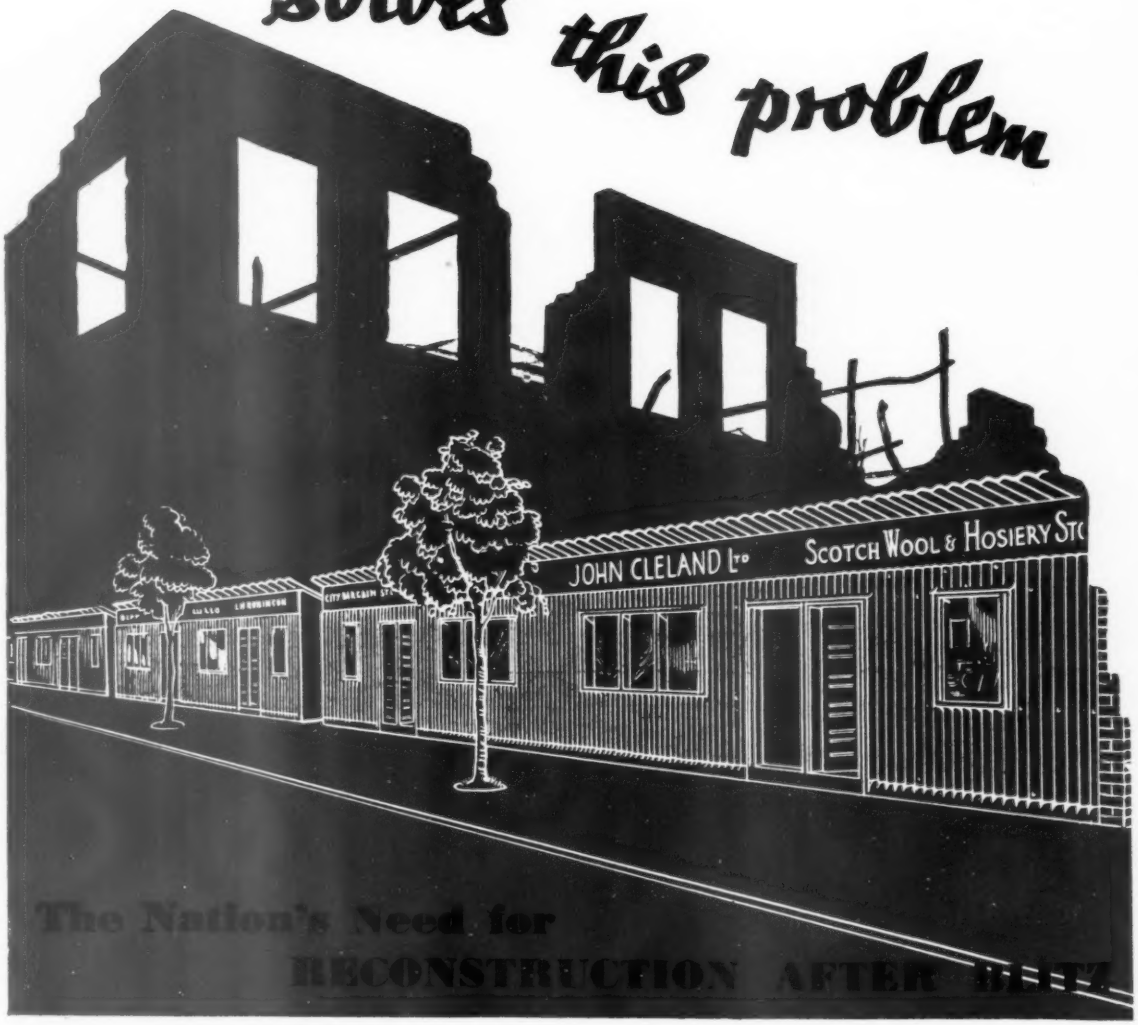
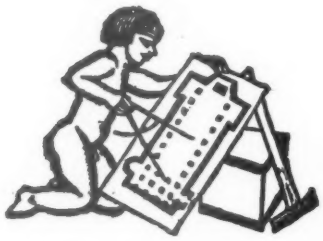


This is one of a series of advertisements designed to show how Asbestos-cement can help to solve an almost infinitely varied range of problems. At present, war-time needs have a monopoly of its service, but when peace comes the manufacturers look forward to extending further its usefulness.

TURNERS ASBESTOS CEMENT CO
(Branch of Turner & Newall Ltd.)
TRAFFORD PARK MANCHESTER 17

The above sketch shows:
"EVERITE" "BIGSIX" Asbestos-cement Corrugated Sheets.
Also used but not visible on sketch: "EVERITE" Asbestos-cement Rainwater Goods and Fittings.

In common with every other periodical and newspaper in the country, this JOURNAL *is rationed to a small proportion of its peace-time requirements of paper. This means that it is no longer a free agent printing as many pages as it thinks fit and selling to as many readers as wish to buy it. Instead a balance has to be struck between circulation and number of pages. A batch of new readers may mean that a page has to be struck off, and conversely a page added may mean that a number of readers have to go short of their copy. Thus in everyone's interest, including the reader's, it is important that the utmost economy of paper should be practised, and unless a reader is a subscriber he cannot be sure of getting a copy of the* JOURNAL. *We are sorry for this but it is a necessity imposed by the war on all newspapers. The subscription is £1 3s. 10d. per annum.*



from AN ARCHITECT'S *Commonplace Book*

As many days as in one year there be,
So many windows in this Church we see ;
As many marble pillars here appear
As there are hours throughout the fleeting year :
As many gates as moons one year does view—
Strange tale to tell ! yet not more strange than true.

From Salisbury Cathedral

NEWS

★ *Two appointments in MOWP have been inquired into by the Select Committee on National Expenditure* *page* xxvi

★ *Letter signed by ninety members of the architectural staffs of MOWP and the L.C.C., calling for an R.I.B.A. election* *page* 78

★ 144 *members of the R.I.B.A. are also members of the I.A.A.S.* *page* 79

MOWP

The areas controlled by the Ministry of Works and Planning Licensing Officers in two Regions have been amended, while telephone numbers and addresses of other Licensing Officers have been changed. Details of the changes, which should be made in Appendix D of *Notes for the Guidance of Applicants*, are : (i) *N.E. Region.*—Telephone Number is Leeds 29063/4. (ii) *N. Midland Region.*—(*a*) Address changed to : 2, Lucknow Drive, Nottingham. (*b*) All Derbyshire is now included in this Region. (iii) *S.W. Region.*—Address changed to : 5/6, Cotham Lawn Road, Bristol, 6. (iv) *N.W. Region.*—All Derbyshire is now in the N. Midland Region. (v) *Southern Region.*—Address changed to : "Hillingdon," 39, Christchurch Road, Reading. Telephone number : Reading 81246.

Change of Address.—The Branch Offices of the Emergency Works Directorate, and the Works and Planning Emergency Organization for the London Civil Defence Region, have now been moved to : Drake House, Dolphin Square, London, S.W.1. Telephone number : Victoria 4477. Extension 134.

Following are extracts from a circular letter sent to local authorities and joint town and country planning committees in England and Wales by Sir Geoffrey Whiskard, Secretary to MOWP :

(1) I am directed by the Minister to call your attention to the Minister of Works and Planning Act, 1942, under which the functions hitherto exercised by the Minister of Health under the Town and Country Planning Act, 1932, have been transferred to him, with the exception of those exercisable under Sections 32, 51 and 55 of that Act.

(2) The object of the Government's policy is to secure the right use of the land of the country for all purposes. The Minister has accordingly been charged with the task of guiding the formulation by Local Authorities in England and Wales of town and country planning schemes which will adequately reflect the national policy for urban and rural development. Further legislation will be introduced in due course, in order to improve the present system and to give effect to this wider scope of planning : but in regard to current administration the orders, circulars and memoranda already issued by the Minister of Health will continue to apply.

(3) In order to facilitate collaboration with Local Authorities, the Minister will appoint Planning Officers, with headquarters at convenient centres, who will be available to help and advise them. Each of these officers will keep the Minister informed of the problems of the Authorities in his area, and will keep the Authorities informed of the requirements of national policy as it is developed.

(4) Surveys form the groundwork of Planning. Many Local Authorities and Joint Committees have already collected and are collecting a good deal of information in maps and reports. The Ministry is itself engaged in assembling the material required to provide a comprehensive view of factors affecting development and conservation in relation to the country as a whole. This information will be made available to Local Authorities in due course.

(5) The Minister recognises that war has laid many extra burdens upon Local Authorities and has depleted their staffs. Nevertheless, it is important that they should make as much progress with the work of survey and planning as they can.

When the war began, a number of Local Authorities and Joint Planning Committees were working on planning schemes, some in an advanced state of preparation. The time, thought and money spent on these should not be wasted, but the schemes will need to be reviewed in the light of changing conditions. Planning Authorities should seek to carry their work to the stage of provisional conclusions, though it will generally be impossible during the war to make progress with the formal stages of statutory schemes. Plans should show comprehensively the best practical form of development, whether that development is to be carried out under a planning scheme or otherwise.

(6) Particular attention should be paid to the following matters :—

(*a*) The war has shown the importance of agriculture in the life of the nation, and it is essential that careful consideration should be given to the effect of planning proposals on agriculture. Planning Authorities should bear in mind the Government's expressed intention to seek to avoid the diversion of productive agricultural land to other purposes if there is less productive land that could reasonably be used for those purposes. The Minister of Agriculture proposes, in due course, to appoint Regional Advisers on Rural Land Utilization. In the meantime, any information or advice that may be required should be obtained either from the Ministry of Agriculture Headquarters, or from County War Agricultural Executive Committees.

(*b*) The case for large planning units has been increasingly recognised by Local Authorities. Some of them have already grouped themselves in Joint Committees and others have relinquished to County Councils their powers to prepare schemes. There are, however, still areas where co-operation is inadequate and the boundaries of some existing combinations could, with advantage, be enlarged or adjusted to form more effective planning units. The Minister hopes that the appropriate method of co-operation wil be worked out to the fullest possible extent.

(*c*) Many towns are congested and require re-planning. The problem is particularly urgent in the case of towns that have suffered war damage and contain areas which must be reconstructed at the earliest practicable moment. In this connection the provisions of Section 7 of the War Damage Act, 1941, should be borne in mind. The existence of provisional plans of reconstruction will greatly assist the Commission in deciding upon the type and extent of the appropriate specification, and in exercising its powers to impose conditions when making payments.

In dealing with the problem of congestion in the centres of towns, the aim should be to secure adequate room for carrying on such activities as have their proper place at the centre. It will inevitably cause some displacement of other activities for which appropriate provision must accordingly be made elsewhere. As a result, neighbouring Authorities may be involved and, if so, they should be taken into conference at an early stage.

(*d*) It is necessary in all planning schemes to consider not only health and convenience, but the future appearance of town or village. Architectural advice is therefore essential. From an early stage thought must be given to such matters as the practicable

Regional Controller for Wales

Mr. Percy E. Thomas, O.B.E., F.R.I.B.A., has been appointed Regional Controller for Wales by the Minister of Production. Prior to his appointment to this office, Mr. Thomas was the Regional Representative of the Ministry of Supply for the same area. Born in 1883, he was educated at private schools and was articled to E. H. Bruton, of Cardiff. He was an assistant in the Lancashire County Offices until 1911, when he entered private practice after winning, with Ivor P. Jones, the open competition for the Cardiff Technical College. Mr. Thomas has been responsible for the design of a number of public buildings, including the Civic Centre, Tunbridge Wells, which he won in open competition in collaboration with Ernest Prestwich. He was vice-president of the R.I.B.A. in 1927-28; President in 1935-37; and Royal Gold Medallist in 1939. He has also occupied the Presidency of the South Wales Institute of Architects on three occasions, and is Honorary Corresponding Member of the American Institute of Architects. Mr. Thomas, who served in the last war in the Artists' Rifles and the Royal Engineers, is a Lieut.-Colonel in the 22nd Bn. of the Glamorgan Home Guard.

size and shape of building blocks, the relation between streets, buildings and open spaces in respect of height and scale, and the appearance of new development seen in association with, or as a contrast to, the old.

The value of architectural advice taken at an early stage will amply prove itself when rebuilding takes place; and no planning scheme can be regarded as satisfactory, which does not provide opportunities for good building in every area in which building is contemplated.

(7) Planning and reconstruction of town and country are matters of immense importance to the well-being of the nation. If they are to be well done, early thought must be given to t e many problems involved. In this great task the Minister intends to collaborate with Local Authorities, and is confident that he can rely on their cordial co-operation and support.

A.A.S.T.A.

Mr. W. E. Frank Fairweather has been appointed Chairman of the newly-formed Romford branch of the A.A.S.T.A. In order to obtain recruits to the Association, there is to be an A.A.S.T.A. booth at the fête which Mr. Fairweather is running, in support of the Stay-at-Home Holidays scheme, at the Lawns Recreation Ground, Romford, on August 1, 2 and 3. The fête will open each day at 3 p.m.

Final accounts of the A.A.S.T.A. exhibition of modern art in aid of the National Council of Labour Aid to Russia Fund at 2,

Willow Road, N.W.3, have been completed. The result is: the exhibition was visited by 1,776 people, 18 pictures were sold, expenses were only £22 14s. 5d. and the net profit, paid to the Fund, amounts to £248 11s. 9d.

MEETINGS

Tuesday, August 4.—A.A.S.T.A. (Westminster Branch). At Livingstone Hall (opposite St. James' Park Station), S.W. 6.30 p.m. Discussion: War Time Building in the U.S.S.R., to be opened by Mr. David Percival. Open to non-members.

Thursday, August 6.—Town and Country Planning Association. At 224, Regent Street, W. 12.45 p.m. Talk by Mr. W. H. Ansell, P.R.I.B.A.

Friday, August 7. Architectural Association Schools. Annual Prize-giving.

WILL

Mr. J. A. Gotch, PP.R.I.B.A., left £56,180. He left his MSS and drawings to the R.I.B.A.

WAR DAMAGE REPAIRS

The War Damage Commission issued in the *London Gazette* a notice which affects the whole of the County Borough of Norwich.

The notice is issued under Section 7 (2) of the War Damage Act, 1941, whereby provision is made for securing that the making of payments by the Commission in respect of war damage shall have regard to the public interest. The publication of the notice in the *Gazette* is, therefore, of great importance to all those with interests in war-damaged property, and particularly to those professionally concerned with work on such properties, since upon them must, in practice, fall the responsibility, on behalf of their clients, for seeing that the requirements of the Act are complied with.

The effect of the notice is that any person proposing to execute works of war damage repair in Norwich where the total ultimate cost will be more than £1,000, or ten times the net annual value of the hereditament, whichever is the less, must first inform the Commission. That body in its turn will consult the appropriate Local and Planning Authorities to ascertain whether the carrying out of the proposed works would conform with their intentions regarding re-planning and other public interests. The price limits laid down will be strictly enforced, and the incurring of a larger expenditure than that named without prior notification to the Commission will render the person doing such works liable to forfeit the right to repayment by the Commission. If, therefore, there is a doubt whether the figure named will be exceeded, the proposed work should be notified to the Commission.

Power is given to the Commission in such cases to impose requirements as to the nature of works, the materials to be used, and the time for their execution, and it may change a cost of works payment into a value (or total loss) payment in those cases where restoration of a building would be contrary to the public interest. In the case of buildings which have been totally destroyed the Commission is already empowered by the Act, without the previous publication of notices in the *Gazette*, to attach conditions to the payments made, in order that the public interest may be observed.

The powers conferred upon the Commission by the Act are exercisable only in direct relation to war damage, and the action which it has now notified is not to be confused with any steps which may be taken with regard to reconstruction areas as recommended in the Uthwatt Report, or with any measures decided upon by the authorities responsible for short or long term planning.

ROYAL SOCIETY OF ARTS

The Council of the Royal Society of Arts has re-elected Sir Edward Crowe, K.C.M.G., as its Chairman for the ensuing year. He also holds the office of President of the Society. The new Council is constituted as follows:—*Vice-President*: F. H. Andrews, W. H. Ansell, Viscount Bennett, Alfred C. Bossom, Sir Atul C. Chatterjee, Major P. J. Cowan, Sir William Davison, T. C. Dugdale, Sir Edward A. Gait, Ernest W. Goodale, C. Geoffrey Holme, Lord Horder, Lord Huntingfield, Sir Harry A. F. Lindsay, Sir Henry McMahon, Sir David Meek, G. K. Menzies, John A. Milne, C. G. Paterson, E. M. Rich, E. Munro Runtz, Sir John Russell, Harold W. Sanderson, Flight-Lieut. W. W. Wakefield. *Ordinary Members of Council*: Captain Colin Bain-Marais, Sir Frank Brown, Professor E. C. Dodds, Sir Thomas D. Dunlop, Miss Caroline Haslett, J. S. Highfield, F. R. Hiorns, R. W. Holland, Professor B. W. Holman, Captain A. H. Ryley, Allan Walton, William Will. *Ex-officio Member of the Council*: James Hogan, Master of the Faculty of R.D.I. *Treasurers*: E. F. Armstrong and Oswald P. Milne.

SHEET MATERIALS

SHEET materials, though they differ widely in type, have certain characteristics which distinguish them as a class and which should, logically, produce an entirely new building technique. As a rule they lack good all-round qualities, but are highly efficient for a particular purpose, which means that the quantity and weight of material required to construct a wall with certain properties, is usually less if the wall is built up of sheet materials than if some omnibus material is used. Sheet materials also simplify building operations by ruling out wet processes and increasing the size of unit. On the other hand they are non-weight bearing and a separate structural framework must be provided; this can, however, be very light particularly where the possibilities of stressed skin construction can be exploited. Sheeting has the further advantage of making available to the building industry a wide range of new light weight, raw materials which is a great advantage in a country which has to import most of its timber.

During the last 20 years a great variety of types have been launched on the market. Sheet materials are now available with almost every property building materials of this type need to possess; the only exception being that no really satisfactory method of sound insulation has yet been discovered that does not involve putting back the bulk which it is the object of *sheeting* to eliminate.

In spite of rapid developments, however, little has been done yet in this country to exploit the possibilities of sheet materials systematically and to use them to provide buildings that are not only quicker to erect but are, cost for cost, better to live in than more massively constructed buildings of traditional type. In England sheet materials have, on the whole, been used only where cheap substitutes for older materials have been needed—wall boards have been used instead of plaster, building boards instead of slates. Used in this half-hearted way the results are, as a rule, far from charming.

This lack of enterprise has not been the fault of the building industry however, and if the potentialities of sheet materials are to be more fully exploited in future, steps will have to be taken either by the manufacturers or by MOWP to make their use easier. For instance, the sizes and thicknesses of sheets will have to be standardized, so that *any* sheet material required to build up the necessary degree of protection, can be used without having to be cut to shape, provided designers work in multiples of a certain size. Dimensions of other building components, *e.g.*, doors, windows, structural elements will also have to be standardized so that they are related to sheet material sizes. A system of testing, much more comprehensive than any that exists at present, will have to be worked out, giving results in such a way that properties of different materials can easily be compared and built-up walls designed accurately to meet

a given specification. (Some of the headings under which accurate information is needed are heat and sound insulation, resistance to vermin, acoustic properties, incidence of condensation, expansion and contraction, durability of surface wearing properties, resistance to corrosion and brittleness; there are probably others). Finally building bye-laws will have to be modified to allow the use of new materials, which can only be done by expressing standards in terms of performance. This, of course, would only be possible in conjunction with a reliable system of testing.

Unless some steps of this kind are taken it seems unlikely that developments in the technique of light-weight building, which are confidently predicted, will actually take place. This type of construction has figured prominently in America's War Housing Schemes because it combines the advantages of being quick to erect, cheap, and demountable. It is to be hoped that it will be able to play some part in the solution of our own post-war problems.

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

NOTES & TOPICS

DIRECTORATE OF POST-WAR DESIGN

As summer advances the Directorate of Post War Building puts forth new shoots. An account of the 22 sub-committees already constituted appeared in the JOURNAL for July 16, page 48. Eleven are already sitting.

★

These twenty-two sub-committees are grouped under three policy committees, one for design, one for structure and one for installations. One cannot help being startled by the fact that there is a standards committee convened by MOWP in the design section but no standardization committee in the section dealing with structure.

★

The official reason given for this is that MOWP is anxious to control standardization in the interests of good design. This, of course, is an inversion of everything that modern architects stand for. For the last 100 years they have said with increasing emphasis that design should be influenced and limited by technique, until Le Corbusier finally rammed the point home by stating "When technique flourishes the result *is* art."

★

Further study of the report reveals that the structure section includes a sub-committee on steel, a sub-committee on timber and a sub-committee on reinforced concrete, but no committee to study problems connected with prefabrication.

★

All the sub-committees, apart from the standards committee referred to above, have been convened by outside bodies and will be left free by the Ministry to reach whatever conclusions they like. The Ministry takes responsibility only for seeing that they are convened, that their findings are presented in a standard form, and that they keep in touch with each other. It is hoped, however, that the school planning group, at any rate, will see its way to replace the present Board of Education recommendations by standard plans comparable to MOWP's own hostels, and that local education authorities will see fit to rely entirely on these for some years after the war.

MR. COPPOCK IN THE DOME LOUNGE

Mr. Coppock gave the operatives' point of view to ladies and gentlemen of the Town and Country Planning Association with a vigour that must have surprised some of them. He started off by saying you can fool some of the people some of the time but not all the people all the time. We have memoranda and we have committees dealing with post-war reconstruction but the necessary machinery simply does not exist. The Government has no real desire to get on with the job and that's plain for everybody to see.

★

He lamented this because, he said, war production suffered. Looking ahead he said that the impact of peace would be more sudden than that of war, which started with a year or so of business as usual, and that it might produce a revolution unless steps were taken now to make planned reconstruction possible when the time came. (Cross-questioned, he made it clear that the idea of a revolution was not repugnant to him, but that he would prefer it to be peaceful and to take place now.)

★

The machinery Mr. Coppock asked for was a Central Planning Authority working through a regional administration with local authorities under it, to start finding out now what obstacles are likely to interfere with planning and work out ways of surmounting them; to agree also on standards to be aimed at.

★

Discussing the operatives' part in reconstruction he said he did not think there was likely to be any shortage of machine workers on either the civil engineering or building side, after several years of mechanized warfare, but that large numbers of craftsmen would undoubtedly have to be trained, and

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A verbatim report of Mr. Coppock's speech appears on page 79 of this issue.—Ed. A.J.

this should be organized on a national basis. Trade unionists, he said, were ready to make whatever sacrifices were necessary.

★

Recalling the Borders case, Mr. Coppock said that standards of workmanship should be laid down for the building industry by the State and should be enforced by law. He suggested that when bad workmanship was proved contracts should be cancelled and those responsible made liable to prosecution, as a grocer would be if he used false weights and measures or sold adulterated foodstuffs.

★

When asked if it would be trade union policy to insist on honest workmanship, Mr. Coppock returned to the same point. You can't, he said, get honest craftsmanship without honest contracting. Under existing conditions workmen who adhere to architects' specifications simply get the sack.

★

In passing he referred to prefabrication talk as nonsense. That question, he said, had been thoroughly investigated after the last war and he wondered why it was necessary to go all over the same ground again.

UTILITY FURNITURE

Soon, like the Bigger and Better Tanks, the utility dining table will be in production. The motive is sound. It is one which is clearly going to be operative in all fields of reconstruction. It may even be part of our national economy for a long time to come. The pity is that the Government has delayed so long. The only step hitherto taken (apart from price control) was that made by Timber Control which limited the amount of wood which could be used on a given piece of furniture, and offered the trade a set of designs by one of the Office of Works staff for guidance. These measures were hardly forward-looking.

★

The new committee has some good names on it. John Gloag, incorrectly described as architect in the Press even if a good friend of architecture, as also Elizabeth Denby. Gordon Russell, perhaps best known of contemporary designers, and a housewife who woke to a day's fame in the popular press for being the mother of five. The committee will presumably invite designs from the best available talent, which will not necessarily be from within the furniture trade. A singular proportion of the successful designs of furniture in the twenty years between the wars, both on the Continent and in these islands, originated from architects. Without flattering the profession, I think this is because a furniture man trained in wood does not easily think in terms of other materials such as steel or plastics, while an architect is not limited to one technique. I imagine wood will be scarce for a long time to come.

D.I.A. ESSAY PRIZE

The D.I.A. recently offered prizes to secondary school children throughout the country for the best essays on *The House I Would Like To Live in*. The essays could be illustrated by drawings or photographs. I am told by one of the judges that the standard of knowledge of house planning and furnishing shown by the essayists was much higher than he expected, even allowing for the fact that the five hundred who chose to enter would naturally be those disposed to interest themselves in the subject.

★

Several rather significant facts emerged. About 99 per cent. want a house in the contemporary idiom with nothing olde worlde about it. Only one competitor elected to live in a communal block of flats, clearly as a matter of political ideology. The majority want to live in the country, but on the edge of or within easy reach of a town. The same old urge you note which, by leading the Smiths to live more on the edge than the Browns, built up the English suburb and lost both the Smiths and the Browns both the town and the country.

★

Both sexes seemed to agree that the kitchen as the working part of the house deserved most consideration in planning, and the idea of a large living-room (combined as a rule with a dining-room) seems to have won general acceptance. The magazines from which ideas and illustrations are derived are the popular domestic monthlies, and to a less extent the *Studio* and *Architectural Review*. Penguin books, in particular Anthony Bertram's *Design* and J. M. Richards' *Modern Architecture*, have had most influence. The constant use of photographs from the catalogues or advertisements of Heals, Gordon Russell and Bowmans suggest the enormous influence of pictorial advertising in forming the tastes of the young.

★

If there was one phrase that the judges got heartily sick of it was Corbusier's famous epigram.

THE A.A.S.T.A. DEBATE

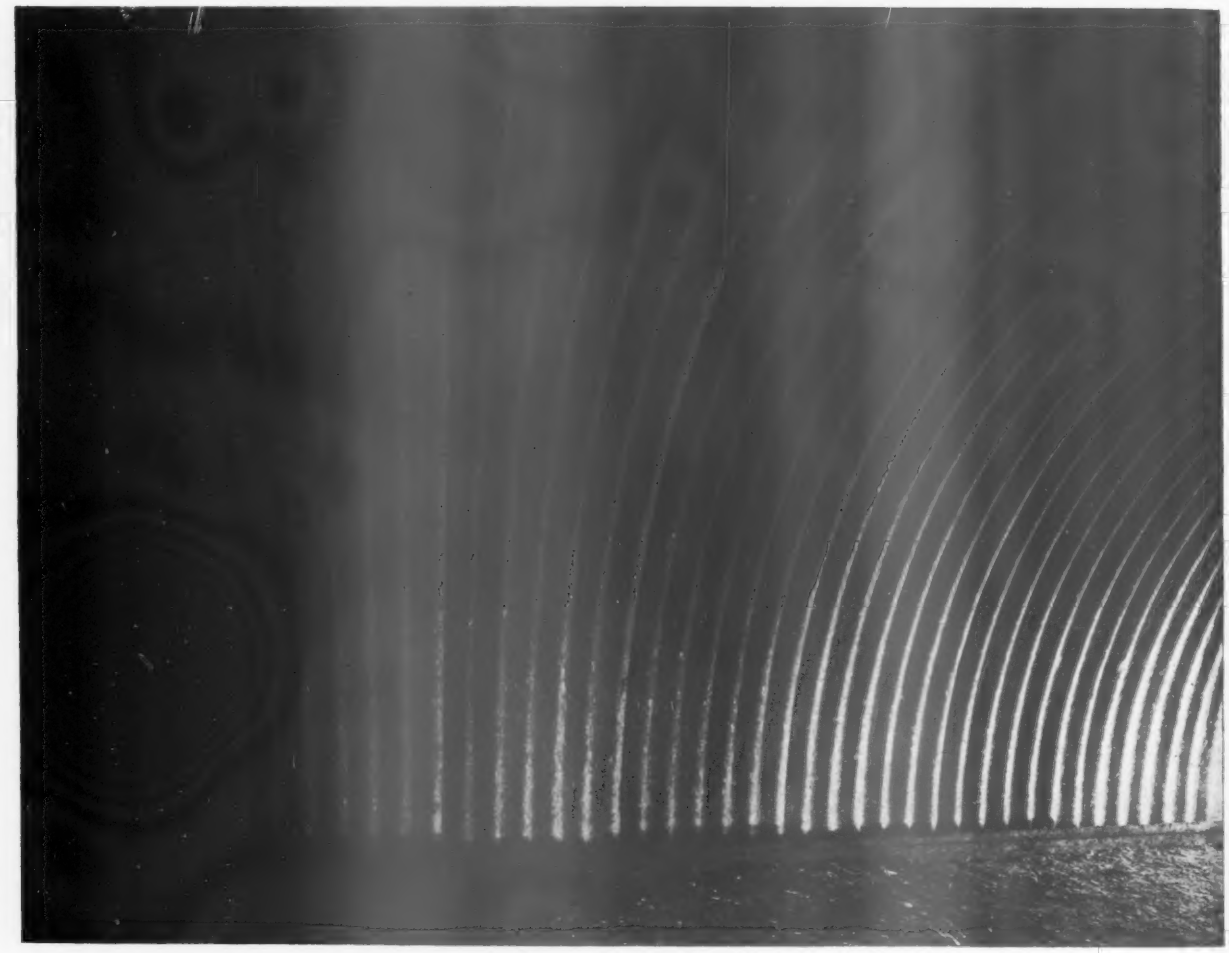
The A.A.S.T.A. debate showed up reconstruction for the woolly word it is. Mr. Colin Penn summed up the A.A.S.T.A.'s anti-reconstruction policy by saying "the organization of planning is far more important than planning itself." Professor William Holford, supporting the opposite point of view, said he thought it a mistake to start getting out blue prints now, but, "if by planning is meant a survey of present resources . . . . and the working out of a technique of development and redevelopment, now and in the near future, then my vote would be strongly in favour. You cannot escape from the fact that the stage is being set at the moment on which the post-war play is to be acted. . . . It is essential that someone should take a bird's eye view—and by a bird I do not mean an ostrich."

★

Reading the summary of these two speeches alone one wonders why a debate was necessary at all: the views expressed appear to be identical. But various other speeches make it clear that the A.A.S.T.A. imagines political organization along trade union lines to be the same thing as working out a *technique* of development and redevelopment. Other people don't.

ASTRAGAL

A report of this debate appeared on page 63 of last week's issue—Ed., A.J.



SHEET MATERIALS

BY A SPECIAL CORRESPONDENT

Attempts to devise light-weight systems of construction met with little success before the war. War-time demand for light-weight temporary buildings has, however, created new opportunities, and enterprise has been further stimulated by relaxation of byelaws and by scarcity of materials. Though it is unlikely that any of the systems so far developed will be extensively used after the war, as they are designed to meet a very much lower standard of requirement than is normal in peacetime, they are interesting as they must form the bases of further research and development. There cannot be many people left who doubt the need for this. The chief difficulty still to be overcome is that of designing an effective method of sound insulation that does not depend on weight. Americans, who use light-weight frame construction more extensively than we do (because they are forced to economize on construction in order to meet the demand for a high standard of equipment at reasonable cost), appear to be ahead of us in this respect, and to have discovered ways of providing a useful degree of sound insulation without adding materially to construction costs.

BEFORE the war, buildings were generally of massive construction and achieved a relatively useful degree of strength and insulation from the weight and other properties of the materials used. Surfacing materials were employed very largely to improve or adjust the conditions obtained by the structure so that individual requirements might be more exactly fulfilled.

The economics of heavy systems of building construction are frequently challenged, and many attempts have been made to find suitable alternatives in lighter systems. These attempts have met with very limited success so far, and the difficulties that are being experienced arise principally from the need for a new medium of sound insulation to take the place of weight.

The war-time demand for lightweight temporary buildings has given many opportunities for experiment and research, and some new systems of con-

struction have been developed. It is unlikely that any of these new systems will produce a successful solution to the problems of lightweight building construction however, because they are all designed to fulfil a very much lower standard of achievement than is usually required in peace-time.

Light construction generally implies the use of a light framing system in which the framing components are erected at suitable intervals to support the main loadings. The intervening voids are filled-in or enclosed by thin building boards or renderings, and these must fulfil all reasonable requirements of insulation.

In America, light frame constructional methods are more widely used than in this country, and experience there has shown that a relatively useful degree of insulation can be obtained in this form of construction without adding materially to the weight and cost of the structure.

BUILDING BOARDS OR SHEETS

Most sheet covering materials in common use to-day are sufficiently rigid to contain all the forces normally encountered, without registering appreciable deflection, and are sufficiently resilient to withstand extreme pressure without causing fracture or permanent deformation. With few exceptions, these materials are designed to rely on support from a one-way framework of battens or joists spaced at centres of sixteen or eighteen inches.

Some external wall and roofing types are corrugated to increase their transverse strength, and may therefore be used over a more widely spaced grid than is necessary where flat sheets are used. This arrangement has many features to commend it, and might be used very much more than it is at present if the corrugations were designed to obtain a more interesting surface treatment.

Flat sheets could be strengthened by increasing their thickness, but it is doubtful whether this would produce any useful economies. Some types might be reinforced by incorporating a system of ribbings on the back of the boards during manufacture, and others could be stiffened by a process of grafting.

Most metal type sheet coverings possess a high degree of resilience and impermeability, but they are particularly susceptible to temperature change, and in some cases, to corrosion. Metal coverings are generally corrugated to increase their stiffness and to release the length variations of expansion and contraction.

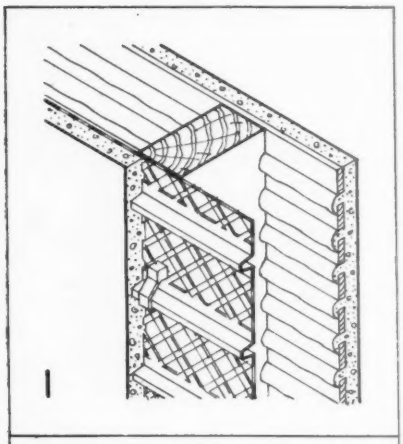
Glass is capable of many different applications as a wall or roof covering. Glass sheets are produced in opaque, transparent and figured types, and can be used for external or internal work. Owing to its peculiar susceptibility to fracture and spalling, great care must always be taken at the edges of glass sheet. Joints must secure the glass against undue displacement, but must not engage it in the load bearing system. Lap jointing methods are generally employed with glass sheets, and these are sometimes supported by a bedding of resilient material.

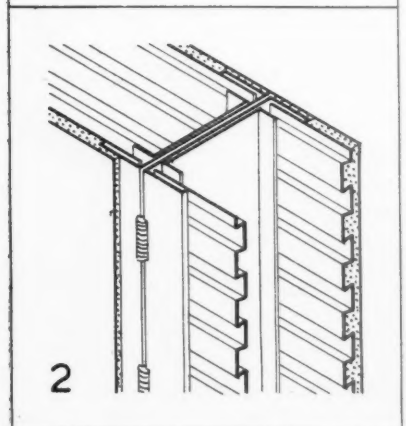
Sheet materials of mineral composition are inclined to become brittle under sustained exposure to the weather, but experimental work is now being carried out with a view to reducing this

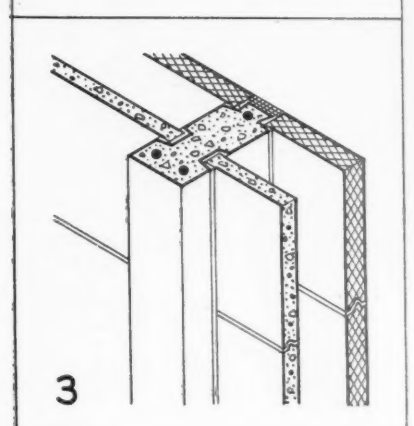
Temporary Shops at Coventry.—The bombing of important cities and towns has caused widespread destruction in many essential shopping areas. The City Architect of Coventry has built about forty temporary shops in the centre of the town to provide accommodation that will fulfil minimum requirements until such time as the new plans for reconstruction have been brought into effect. The shops are constructed of a light framework and are surfaced on all exposed areas with impervious sheet asbestos-cement materials. Roof and wall covering sheets are corrugated to simplify the framing requirements, but flat sheets have been used over the facia areas to provide an untextured base for the shop signs.

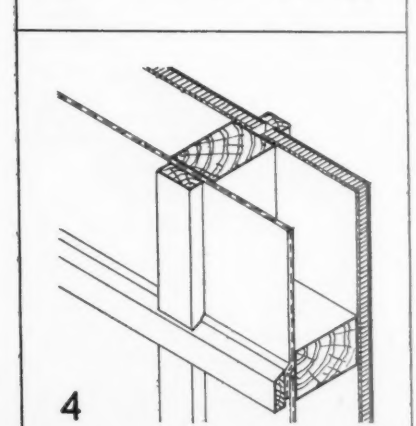
Peter Jones' Store, Sloane Square, S.W.—Before the war, sheet materials were used extensively on the street frontages of large store and office buildings. In this example, glass sheets have been fixed over the whole area of the external walls, and colour variations are obtained by changing the backing sheets suspended in the cavity behind the glass. Facing page: Interior of asbestos-cement curved hut.

EXTERNAL WALLS









tendency. Otherwise, mineral products obtain most necessary qualifications for external positions, and many home-produced types are on the market now.

Timber boarding is often used as an external or internal lining to a light timber framework. When used in this way, it must be laid in narrow widths and the fixings must make adequate allowance for the shrinkage and expansion of the boards. Some timbers will withstand exposure to the weather without further treatment, but a protective coating of paint is generally applied over timber surfaces, and this must be renewed at frequent intervals.

Laminated timber sheets should not be used in exposed positions unless the whole of the surface area and all edges are rendered completely watertight. Paintwork and normal varnish treatments do not seal timber surfaces against sustained exposure to the weather and are insufficient for the protection of plywood or other types of laminated and timber surfaced boards.

Recent developments in the field of plastics have shown how timber may be treated to render it impervious to moisture by the use of special resins. These resins are forced into the pores or cells of the natural wood, but do not enter the cell walls. This treatment is designed to exclude water from the cell walls by enclosing them behind an impervious structure. A defect in this seal may admit moisture to the cell walls and produce swelling in the region affected. The stresses created by swelling may cause progressive degeneration of the seal, and destroy the work. The experience so far gained by the use of resin bonded plywoods has shown that they will withstand exposure to the wind and rain for a relatively long time if protected from the abrasive effects of wear and tear.

Sheet materials of organic composition are rarely used in exposed positions. Many materials of this kind were imported as finished products before the war, and others were made in this country from imported raw materials. New types have been developed to take the place of certain imported types, but it is doubtful whether the necessary supply of organic substances can be maintained by home resources.

Patrick Portable Building.—Temporary hutments are required for many war-time purposes, and the problems of their construction have produced many ingenious systems. In this example, the sheet filling is formed in the framework, and its strength plays an essential part in the structural system. The units are 24 in. wide, and span from the foundation to the ridge in one length. The section of each unit is formed in the shape of a U, and its greatest depth is at the eaves. The units are made of concrete and are reinforced by sacking. This system was designed by Mr. J. H. de W. Waller.

Details 1-4 *show some external walls of light frame construction. These examples have been selected because they demonstrate certain features that are characteristic of a large number of structural forms in common use to-day.*

1. *A light framework of timber members surfaced on both sides by renderings. This system obtains smooth and unbroken surfaces, and can be made to give durable and effective cover under different conditions of exposure. The external covering has been constructed over a ribbed form of expanded metal sheet, and the internal surface is built over a closely laid framework of wooden laths. The need for air circulation in the enclosed areas of the wooden framework of this external wall may weaken its thermal insulation.*
2. *A light framework of widely spaced pressed steel members. The external and internal renderings have been applied over impervious sheet lathings of dovetail section. A relatively useful degree of thermal insulation should be obtained with this detail.*
3. *A light wall framework of precast concrete studs. Precast concrete slabs are laid between the studs to form the wall surfaces. The composition of the concrete used in the infillings may be varied to suit the different exposures of the inside and outside, and renderings may be applied if desired. Insulation against damp penetration is obtained in the cavity.*
4. *A woven fabric stretched over a light timber framework. This fabric could be rendered wind and waterproof by rendering the outer surface with a special type solution. The internal linings are constructed of standard sheet materials to conform*

Recent developments in the production of resinous type materials promise to add some new building sheet types to the present range. These materials should prove eminently suitable for the construction of external wall linings, and because of their resilience, simplified fixing techniques may be used.

Sheet boards of widely different composition may be laminated together to obtain almost any predetermined requirements, but these should not be used in exposed positions. Care must always be taken to provide against unfavourable chemical or physical reactions that might arise from the conditions to which these boards are exposed.

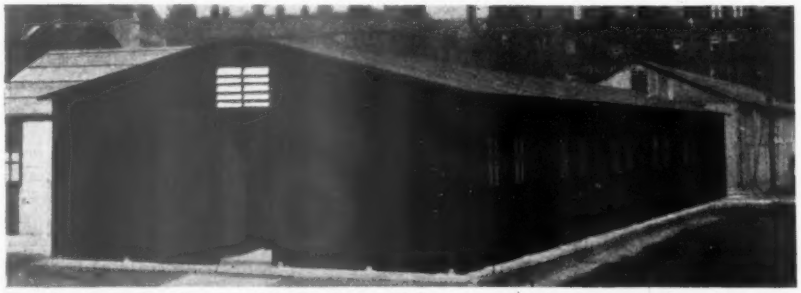
RENDERINGS OR IN-SITU SHEETS

Split or sawn timber laths have been used as a base for plaster renderings in domestic building construction for a long time, and the results have proved eminently satisfactory where the materials and workmanship were sound. Failures in plaster coverings of this kind during recent years, and the delays caused by the long drying-out period that must be allowed where non-hydraulic lime is used, have combined to discourage the use of open lathing systems, and base-boarding materials are coming into more general use.

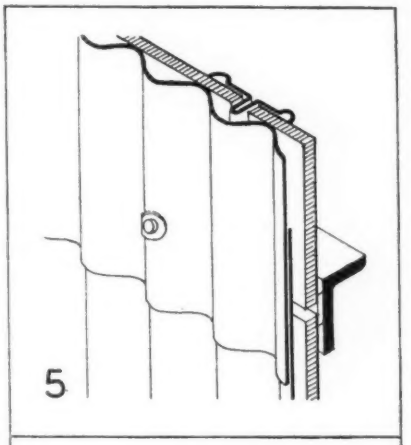
Base-boards can be finished with a single coat of quick-setting plaster, provided that the joints between the boards are suitably treated. There is always a danger that the plaster skin will crack along the line of these joints, and a strip of wire mesh or other reinforcement should always be fixed to bridge the joints before plastering begins.

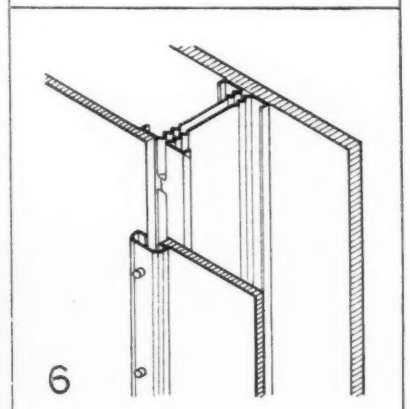
Metal lathings may be used over a one-way framing system to support plaster renderings or in-situ concrete. Metal lathings may be used over considerable spans, and one-way or two-way reinforcement may be incorporated. The danger of corrosion should always be taken into account when selecting plaster for use with metal lathing, because of the chemical reactions that take place in some types.

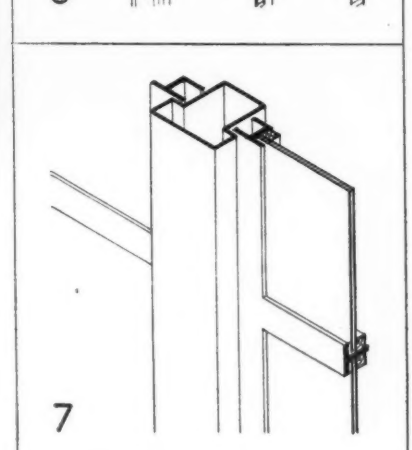
Plain sheets of expanded metal lathing may sometimes have to be stiffened against deflection while the plaster is being applied, because it is difficult to

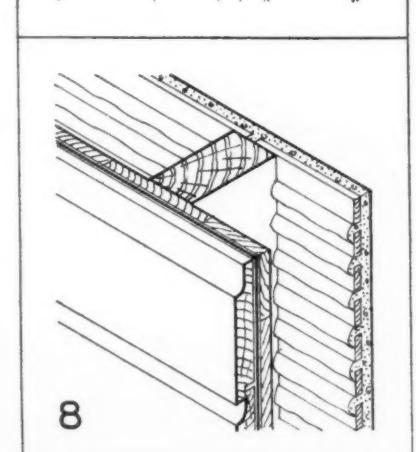


This hut is designed to provide sleeping cubicles on each side of a central corridor and has been exhibited by MOWP on a site behind the Tate Gallery. The external wall and roof surfaces are constructed of resin bonded plywood cemented over a light timber framework. The internal surfaces are also of plywood, but these are not treated against moisture. Plywood sheets and the timber framework are prefabricated in relatively large panels, and are assembled to butt-join together. A principal framework is not used and the plywood in the panels is stressed by the normal loadings of the structure.









with the different requirements that may have to be fulfilled. This detail should prove useful in temporary buildings of certain categories.

Details 5-8 show a representative range of external walls constructed of a light framework. The external coverings are constructed of prefabricated sheets and boards.

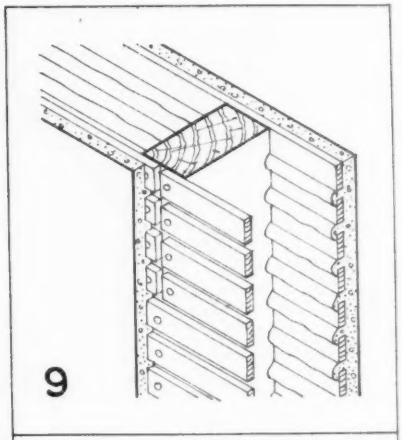
5. *This sketch shows how corrugated metal or asbestos cement sheets may be suspended over a framework of horizontal members to obtain a waterproof covering in an external wall. Thermal insulation is improved by the introduction of a thin lining of suitable sheet materials. The detail shows how thin boards may be fixed in a supplementary framework of pressed metal components.*

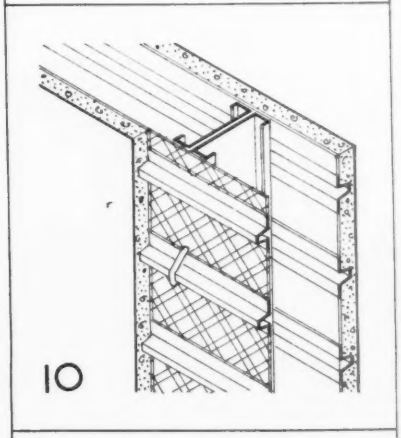
6. *A light wall frame constructed of pressed metal studs. The studs are designed to provide a fixing for screw nails or bolts along the line of the web. Flat sheet materials have been used in the external and internal coverings, and spring metal battens secure the boards where they join. Thermal insulation may be improved by checking wind penetration at the joints.*

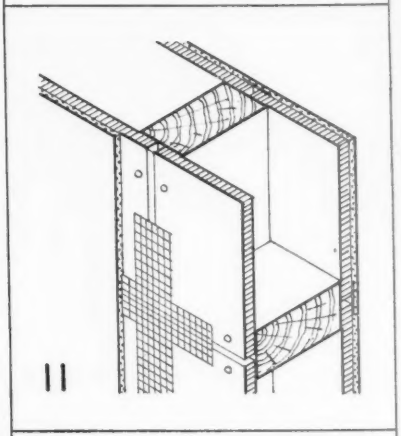
7. *A light metal framework containing a framework of glazing components. Glass or other rigid type sheet materials may be used in the panels to obtain a wind and waterproof wall.*

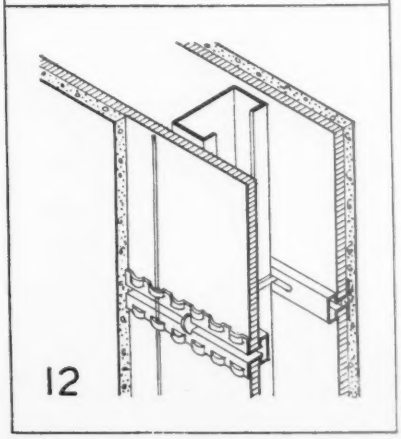
8. *A conventionally built timber frame external wall braced by a close laid covering of diagonal boards, and sealed against wind and water penetration by a covering of building paper and lapped weather boarding. The internal wall surfaces are built over a system of wooden laths.*

INTERNAL WALLS









obtain the necessary key when the base yields freely under the pressure of the plasterer's trowel. This requirement is particularly important in the construction of suspended ceilings.

Pressed sheet metal lathings of dovetail section are now available and these may have an advantage over open-mesh types where resistance to water and wind penetration is desired. A similar form of sheet lathing is constructed of bituminous felt, and the dovetail corrugations are maintained in this example by a traversing system of light metal strips.

A sheet lathing of this kind may prove very useful as an impervious backing for pre-cast concrete building units, and will at the same time provide an effective key for any form of surface rendering that may be desired. The corrugations will also improve the bedding key for building-in.

In-situ methods of sheet construction may be applied to a wide range of constructional problems, and have many advantages over prefabricated forms. Experimental work is now being carried out to determine the suitability of other materials and techniques for the construction of wall and roof coverings. Many of these experiments are limited to the study of war-time problems, but some useful contributions may be achieved in the form of resilient-type fabric coverings.

JOINTING AND FIXING

The jointing of sheet materials on the exposed surfaces of external walls and roofs is governed very largely by two requirements. The first concerns the movements that may occur in a building because of uneven ground settlements, or by deformation of any part of the superstructure by failure of the materials or the connections. If no provision is made for these movements in the design of the joints, deformation or fracture may occur. The movements of expansion and contraction that may take place in the materials exposed to changing temperatures must also be provided for in the joints if no other provision is made for them in the design of the boards or sheets themselves.

Thin partition walls may be constructed to obtain a smooth surface over a reinforcing system of expanded metal sheets and steel tension rods. In this example, a ribbed form of expanded metal lath has been suspended between the floor and ceiling, and horizontal tension rods have been wired to the mesh at intervals of about 24 in. Plaster is applied on both sides of the reinforcing mesh giving an overall thickness of from 2 in. to 2½ in. The reinforcement may have to be temporarily strutted and restrained against buckling while the plaster is being applied.

Details 9-12 *show a representative range of internal walls designed to obtain smooth and unbroken surfaces on each side.*

9. *A light timber frame supporting wall, plastered on both sides over a system of wooden laths. Sound insulation is relatively satisfactory, but may be improved by the introduction of another thickness of plaster in the cavity of the wall.* (*As shown in Detail No.* 14).

10. *A light bearing or dividing wall frame built of special type pressed metal studs. The studs are constructed to provide an almost continuous cavity in the thickness of the web so that fixings may be performed along the centre line of the section. Both sides of the wall frame have been lathed with ribbed and expanded metal sheet to provide a key for plaster.*

11. *A light timber frame supporting or dividing wall boarded on each side to provide a base for plaster. All joints are treated to prevent failure of the plaster at these positions.*

12. *Shows a proprietary system of light partition wall construction. Sheet boards are used as a base for plaster, and special type jointing battens are used to hold the boards in position. Steel rods have been laced through the fixing battens to provide additional reinforcement for the coverings.*

Details 13-16 *show a range of light framed internal walls surfaced with standard sheet and board materials. Panel forms are created by the joints which are matched or covered.*

It would not be difficult to provide for these contingencies if no other conditions applied, but since the second requirement is concerned with the wind and the rain, open-type butt joints cannot be used unless some form of rain and wind check is incorporated.

The alternative method of using an impervious mastic in the joint is not generally adopted because no suitably resilient and adhesive mastic is available at the present time. To obtain the necessary conditions for the seal jointing of rigid type impervious materials, the mastic would have to fulfil many exacting requirements, and for the present, lap jointing techniques provide the only adequate solution for the twofold requirements of the problem.

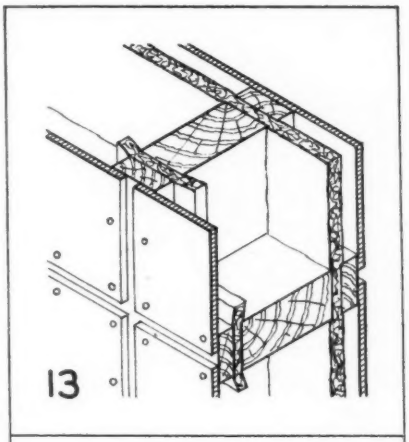
Lap joints may take many different forms, and may be executed with or without the aid of strip components. In the case of pitched roof surfaces, the sheet coverings are generally lapped over one another at their upper and lower edges. The detail of the side joint is complicated by the direction it follows in relation to the slope of the roof. A lapped joint may be formed between corrugated sheets because the corrugations produce a ridge along the line of the joint, and so prevents water penetration.

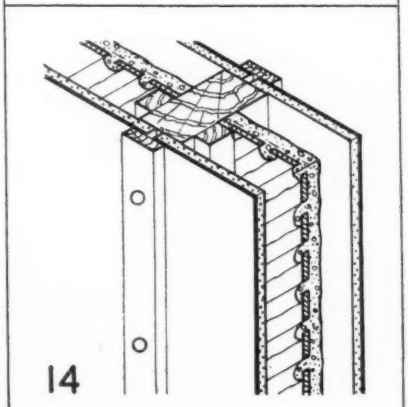
When flat sheets are used, a specially designed lap-jointing batten may have to be introduced between the side edges of the sheets. This method is generally used with glass sheets, and many proprietary systems have been developed for the purpose. When opaque type-sheets are used in small sizes, as is usual with slates and tiles, a double thickness is generally laid over the whole area, and the positions of all upright joints are staggered.

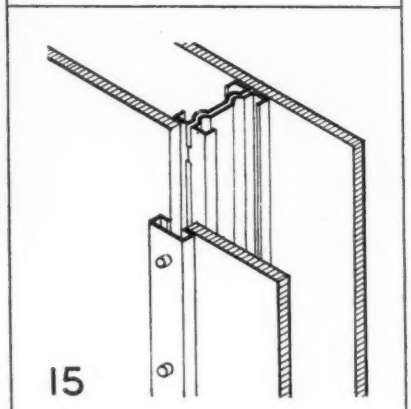
The construction of exposed wall surfaces may be carried out in much the same way as is general with roofs, but horizontal lap-jointing battens may be used in the horizontal joints without causing appreciable obstruction to the flow of the water down the face of the wall.

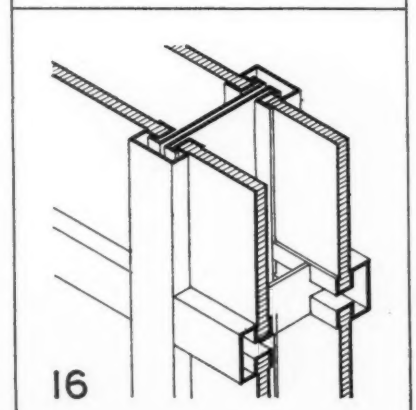
An efficient capillary check must be incorporated in all lap joints and this requirement, when added to the pro-

This surround is constructed of pressed metal framing. The panels are filled with glass.







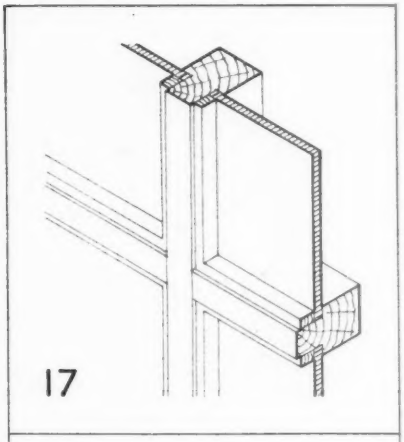


13. *A light timber framework supporting flat boards with matched edges. The upright frames are spaced at centres of just over sixteen or eighteen inches according to the size of board used, and horizontal frames are spaced at about three or four feet centres. The edges of the boards do not touch one another where they join, and may be rounded or splayed to give a suitable match. To improve sound insulation, special type linings have been incorporated in the thickness of the wall. These linings are continuous on one side of the studs only, but better results would be obtained if they were continuous on both sides. Fixing battens separate the covering materials from the studs and secure the insulating linings.*

14. *A light timber framework covered by flat boards. The boards are nailed to the timber frames at their edges, and the joints are covered by battens. Insulation has been improved by the introduction of a plaster filling in the cavity of the wall.*

15. *A light wall frame constructed of special type pressed metal studs. The studs have been designed so that an almost continuous cavity is formed in the web of the section. Nails will bend against the corrugated sides of this cavity when they are driven through the fixings, and will secure the joints. The coverings are constructed of flat boards, butt jointed, and secured against the framework behind pressed metal or timber cover beads or battens. Insulation against sound transmission may be improved in the same way as shown in Detail No.* 13.

16. *A proprietary system of wall construction in which the studs and horizontal battens are built of metal components. The whole framework is clip jointed together, and the surface coverings are inserted in the grooved flanges of the framing members.*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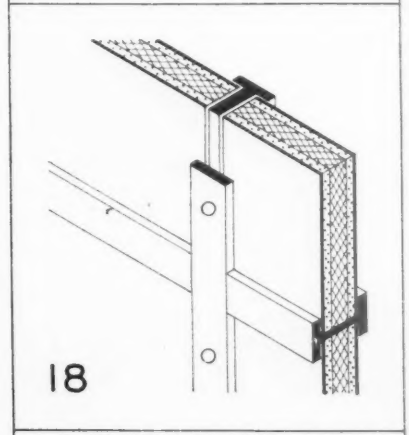
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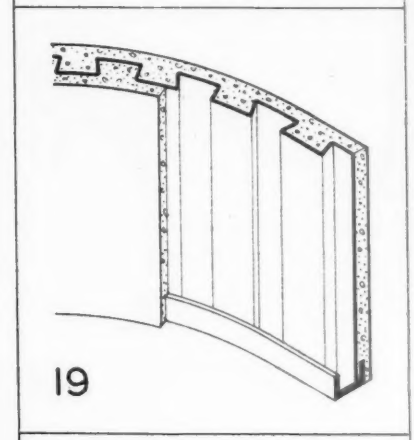
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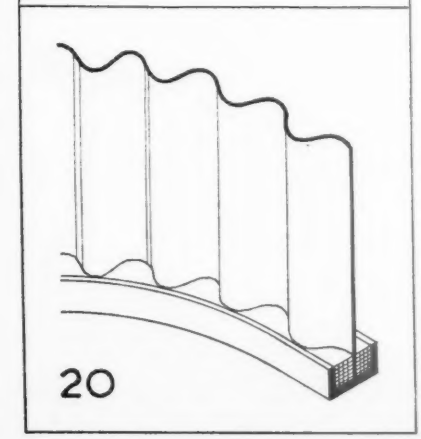
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vision that must be made for the movement of the structure, may exaggerate the problems of insulation. A partially effective solution to this difficulty may be obtained by enclosing the back regions of the joints in sealed wrappings. This arrangement cannot be recommended, however, as it does not provide for the escape of water that may form by condensation, or by leakage in any part of the joints.

On the other hand, it may be advisable to admit a certain amount of air through the joints so that healthy air conditions may be maintained in the enclosed regions of the framework. The final check to air penetration should therefore be provided somewhere between the inside and outside linings.

Special type interlocking jointing systems in which the necessary laps and grooves are incorporated in the edges of the sheets, may obtain many advantages over others which rely on independent components. These joints may be used with materials that possess a high degree of strength and ductility, and are frequently employed in metal work.

The installation of sheet board linings on the ceilings and internal walls of a building frame is concerned more with the superficial characteristics of the arrangement than with any other requirements. Where smooth and undivided surfaces are required, a rendering treatment is generally necessary, but where panel forms are admissible, a variety of effects may be obtained by the arrangement of the boards and the design of the joints. Plain or matched edges may be butt-jointed or lapped to obtain an unobtrusive detail, or strip batten sections may be incorporated as part of the jointing detail.

Where structural movements are likely to assume important dimensions, as is the case where large prefabricated units are employed in the main load-bearing structure, it may be necessary to make special provision for these movements in the joints. Cover battens or fillets are recommended, and renderings or other monolithic coverings should never be used.

FIXINGS

Most standard sheet materials are designed for hammer or screw-driven

Interior of an arched building constructed of asbestos-cement sheets without the help of a framework. The interior is lined with flat sheets of cement asbestos, and these are held in position by an ingenious system of batten fixings and butt joints. This lining relies on the positional restraint of the outer structure, combined with the close fitting butt joints between the flat boards for its security. Continuous surface battens enclose the transverse or arched joints to prevent displacement of the internal lining by the forces of gravity.

The details on this page show a representative range of screen walls constructed in a single thickness.

17. *A panelled screen of single board thickness built in a framework of dressed timber components. This system can be equally well executed with pressed metal components.*

18. *A laminated building board built in a light framework of extruded metal sections. Boards may be laminated to obtain a variety of different properties to fulfil the separate or combined requirements of finish, strength and insulation.*

19. *This sketch shows how a screen wall may be constructed in one thickness over a corrugated or ribbed metal lathing. In this example, dovetail section metal sheet lathing has been secured to the floor and ceiling without the aid of intermediate frames, and this has been plastered on both sides to obtain smooth and unbroken wall surfaces. Curved plan shapes may be very easily executed in this way.*

20. *A very simple screen constructed of lap jointed corrugated sheets. The sheets extend through the full height of the room, and are kept in position by channel tracks at floor and ceiling levels. Curved plan shapes may be very easily executed in this way.*

nail fixings. The almost universal use of timber frames and battens is mainly responsible for this, and if other materials are used in the structural frame, changes may also have to be made in the design of the fixings.

Screw and hook-bolt fixings are generally used for the support of corrugated metal and asbestos-cement sheets. These fixings are easily executed, and secure the sheets against displacement in all necessary directions. The danger that water may penetrate these fixings is modified by the position they take in the upper regions of the corrugations.

The most useful form of fixing for all general purposes is probably that obtained by the common screw and hammer-driven nail, and these may be obtained with metal framing sections, either by the use of special type metals, or by incorporating specially designed slots in the section of the framing components. A metal stud or joist framing section produced in America is interesting in this connection.

The section is composed of two pressed steel channels, spot welded together at regular intervals of length. The webs are separated by a narrow space which is just wide enough to admit a nail. The web section is gently corrugated, and this forces the nail to bend as it is driven home. A secure fixing is obtained for the nail in this way, and considerable force is necessary to withdraw the nail. So far, this principle has only been applied for hammer driven nailing, but there seems no reason why it cannot be applied for screw-driven fixings.

Metal batten fixings are being developed for use where timber is not available. Clip or slot connections are generally used with these battens because screw bolt fixings would involve elaborate workmanship and careful setting-out to ensure perfect co-ordination of the separate components.

The fact that clip fixing battens must appear on the face of the wall or ceiling may sometimes prove a disadvantage. There can be no doubt, however, that they are convenient in the event of replacement, and eminently useful for the construction of temporary buildings which may have to be dismantled before the natural life of the materials has been exhausted.

Welding is unlikely to prove very useful for the installation of sheet coverings except where they are of metal construction.

THERMAL INSULATION

To achieve efficient thermal conditions in the design of an external structure, the arrangement of the materials should, as a rule, provide that each side may be dominated by the conditions to which it is exposed. Viewed in this way, it becomes apparent that an insulating structure must be incorporated somewhere between the two exposures, and that the nature of the materials used in the exposed surfaces may be determined separately to fulfil their different functions.

The external surfaces should provide a degree of resistance to the radiant effects of the sun and the sky, and should be impervious to the wind and the rain. Where, for practical and other reasons, it is not possible to obtain all these conditions in the surface coverings, suitable precautions must be taken elsewhere in the thickness of the structure.

The internal surface treatment may be influenced by a variety of circumstances, but only those concerned with space heating and comfort will be considered here.

Where heating is intermittent and mainly by radiation, the surfacing materials should possess a high value of thermal conductivity, and because of this they will respond to the changing temperatures very quickly. To minimize heat loss, these materials should be thin, and an effective form of insulation must be incorporated as near to the inside surface as possible.

When heating is more or less continuous and mainly by convection, the thermal check may be placed nearer to the centre of the structure. Surfacing materials possessing a low value of thermal conductivity are preferable and will help to retard temperature exchange through the thickness of the structure.

The insulating structure must obtain a check to conduction, and in some circumstances must be impervious to air. These requirements may be fulfilled in a variety of ways, and many sheet materials possess the qualifications necessary for such purposes.

CONDENSATION

Surface conditions are important where rapidly changing air temperatures and humidity are encountered. The walls and ceilings of bathrooms and kitchens are generally exposed to changes of this kind, and condensation takes place on the surfaces. Impervious surfaces, supported as they frequently are by rapid conduction in the materials of which they are made, tend to exaggerate the incidence of condensation. Open surfaces over an absorbent backing will lessen this nuisance, but cannot be recommended in all cases because of other reasons.

Sustained heating of the surfacing materials will provide the only effective solution to the problems of condensation, but as this cannot always be obtained, the treatment must contrive to reduce the nuisance, and to eliminate the accompanying dangers.

Where unsuitable thermal conditions arise because of the nature of the materials and the construction employed in the enclosing walls and roofs, condensation may occur on the surfaces exposed to heat. This frequently applies when cold brickwork and concrete enclose rooms in which heat is applied intermittently. To modify this condition, thin sheet coverings may be installed over a framework of battens to obtain a narrow air space between the cold materials of the outside, and the surface linings of the inside.

SOUND INSULATION

Air-borne sound waves are probably the original cause of most conditions requiring insulation. Sound waves will travel through the cracks and air spaces round doors, or through walls and ceilings if they are constructed and surfaced with porous materials.

Very much can be done to reduce the nuisance of air-borne sound transmission by judicious arrangement of plan and section, so that the necessary air connections at doors and windows do not produce conditions that cannot be controlled within the structure. Insulation against air-borne transmission can only be achieved by creating an impervious barrier against air penetration, and it is interesting to note that a 13½ in. brick wall is only partially impervious to air. Porous type materials are therefore unsuitable for insulation against air-borne noises unless they are treated to render them impervious.

Air-borne noises will produce compression waves in the materials they encounter, and as there is probably a close affinity between the physical conditions that produce impermeability in a material, and the conditions that respond most readily to compression wave activity, these two causes of sound transmission must be studied together.

Very little information is available at the present time about the physical properties of materials in relation to the development and activity of compression waves, and although it appears that these concern density to an important degree, other factors are most certainly involved.

The susceptibility of materials to flexual activity is generally considered to be the most important factor in the transmission of sound in buildings. Different materials respond to vibration in different degrees, and although this phenomenon is not yet explained by the findings of research, it is probable that elasticity and the conditions that limit viscosity in a material have a direct connection with the subject.

There is a tendency at present to accept the theory of flexual activity in materials exposed to sound, but to pay little or no attention to the fundamental causes for it. In practice, treatment varies between the use of weight in the structure to act as a deterrent to vibration, and of discontinuity between the separate parts of the building to break up the flexual waves. Between these two extremes, many variations are applied and varying results are achieved.

It has been proved that different results may be obtained by the use of different materials of the same weight. This does not discredit the value of

weight in relation to sound insulation, but it emphasizes the relationship that must exist between the physical properties of the materials used and the degree of insulation obtained. Results will also vary with different sound-wave frequencies, but as the frequency range normally concerned with buildings is limited, this should not create unusual difficulties for the designer.

It has also been shown that rigid or continuous connections may sometimes obtain as much insulation against sound transmission as discontinuous connections. This is attributed to the improved resistance obtained in the structural path by the rigidity of the connections, and the consequent reduction of flexual freedom in the materials. Against this, discontinuous connections will provide greater flexual freedom in the materials, and this will result in greater air-wave production on the other side.

These conditions apply with varying effect in different structural relationships, and it must be noted that flexual vibration in columns or beams will transmit sound over very long distances if continuous. If surfacing materials are fixed to these membranes by rigid or continuous connections, they may produce sound wave activity in the air of other regions relatively distant from the original cause of the noise.

Light systems of construction will vibrate more freely than heavy ones, and where weight cannot be incorporated, other means must be adopted to reduce sound transmission through the building frame. Air-borne noises will not cause appreciable vibration in a building frame if reasonable precautions are taken to reduce transmission in the surfacing materials and at all connections between the surfacing materials and the framework.

Floors create special problems of insulation, partly because of the nature of the sound waves encountered, and partly for technical reasons. The old-time practice of incorporating a heavy type screen of ashes or lime plaster in the thickness of floors is effective to some degree, but an improved technique of bearing joint construction would generally prove more serviceable.

ACOUSTICS

It is possible that a treatment obtaining efficient sound insulation in a light building will create unfavourable acoustical conditions. If this should occur, an additional treatment of the surfaces may be necessary.

VERMIN

The subject of vermin is not generally given as much consideration in the design and construction of buildings as it may deserve. This may be due to many reasons that need not be discussed here, but it must be apparent that ground pests will enter the open joints and crevices of a structure, and find their way to the inside. In this way, they may become obnoxious and a menace. While this may not generally occur in a brick building to any important degree, it is possible that the more open fabric of a light frame structure will be more seriously affected.

LETTERS

43 *MEMBERS, ARCHITECTURAL STAFF, MOWP.*

47 *MEMBERS, ARCHITECTURAL STAFF, L.C.C.*

H. A. N. BROCKMAN.

F.R.I.B.A.

R.I.B.A. Elections

Sir,—As members of the staffs of the two largest architectural departments in the country, we should like to support the correspondents who have in these columns expressed the view that R.I.B.A. elections should be held this year and annually.

The War has brought many changes to the profession. Building is now on a national basis and as a consequence there has been a large increase in the size of public offices. There are many problems arising from these changes which have yet to be solved and can only be solved by professional co-operation. It is not a question of private versus public practice—the course of history is deciding that and is demanding a greater measure of public service; before the war many of us were private practitioners or employed in their offices.

We are very conscious of the need to raise further the level of efficiency in public offices; of the need for more direct contact with clients and site, more responsibility for Architects and more freedom from red tape and bureaucracy. The R.I.B.A. as the professional organization of Architects can play an important part in bringing about such improvements if only members in these offices have a voice in decisions on policy commensurate with their numbers and the extent of their service in the national building programme. In the work of the R.I.B.A. Council and Committees we should like to see the current problems of war building being given more attention. If this had been done in the past, the misgivings of members in the Armed Forces that non-serving members were trying to "cash in" on reconstruction, would not have arisen.

The last elections took place over three years ago, since when the isolation between the membership of the Institute and its Council has steadily increased. We have no doubts that this is largely due to the absence of annual elections and meetings which has prevented members from undertaking their share of responsibility for the policy and activity of the Institute. The demand for elections is not necessarily an attack on members of the present Council—they, just as much as the membership, are prevented by the absence of elections from fulfilling their function efficiently—but we do feel that the reasons advanced for the suspension of elections are inadequate.

We wish to see a vigorous Institute taking an active part in the formulation of war building policy as well as looking to the future and we consider that the holding of elections is an essential step in this direction.

SIGNED:—

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The MARS Plan

SIR,—The MARS plan has been adequately dealt with and, one might almost say, disposed of by your excellent leader and the Hon. Lionel Brett's criticism. There is, nevertheless, one æsthetic aspect which might be emphasized.

In January, 1938, about eight years after the first examples of the extreme continental vogue had made their appearance in this country, the MARS Group staged an intensely interesting exhibition which represented the progress of the new architecture since its inception here. The exhibition summed up the first phase of extreme severity,

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DETAILED CONSIDERATIONS OF DESIGN IN WELDED STEEL 9 : COLUMN SECTIONS (c) :

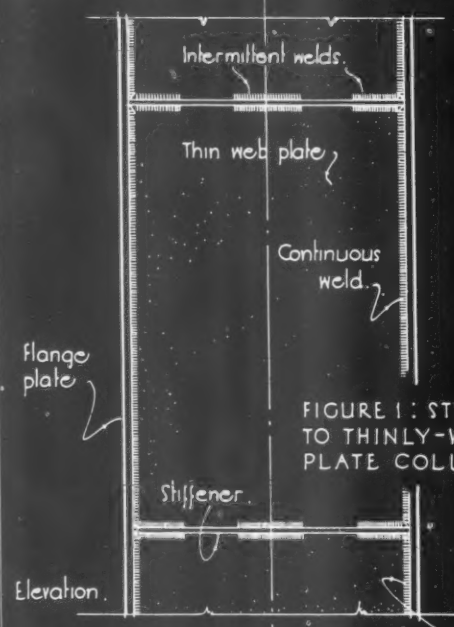
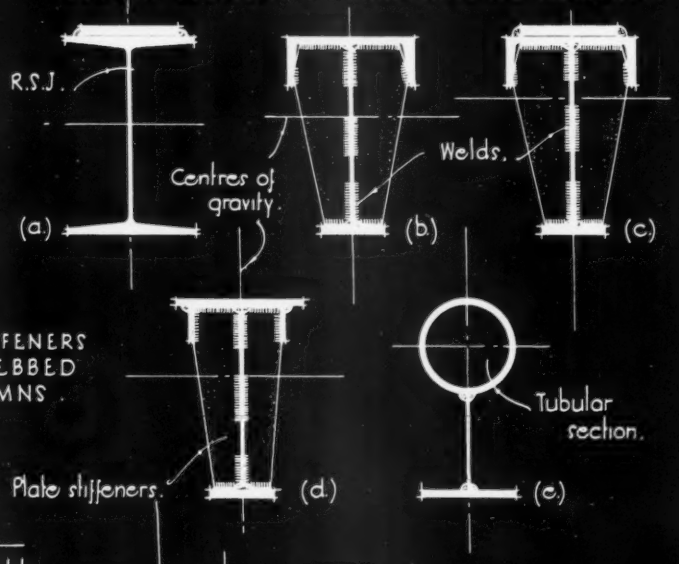


FIGURE 1 : STIFFENERS TO THINLY-WEBBED PLATE COLUMNS.

FIGURES 3 : TYPICAL UNSYMMETRICAL COLUMN SECTIONS TO TAKE BENDING MOMENTS.



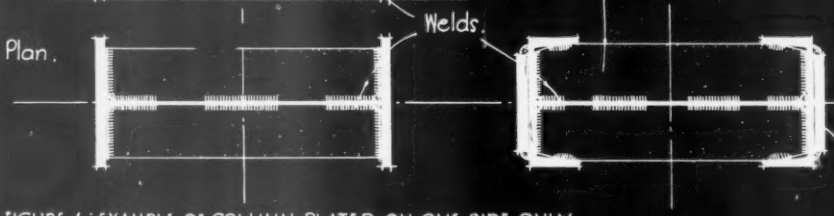
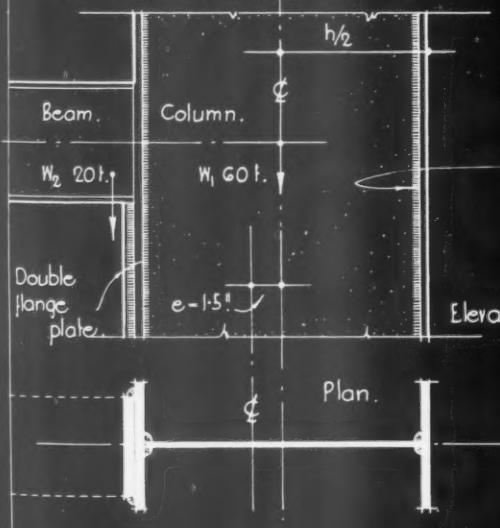


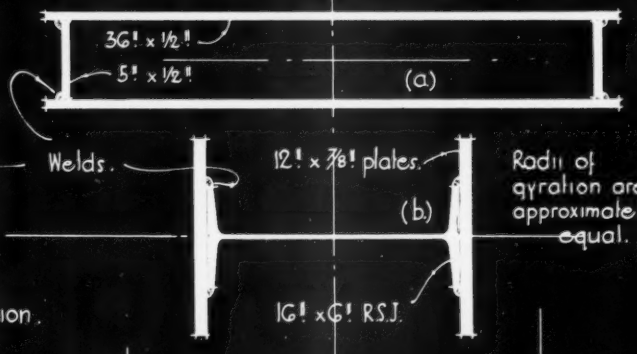
FIGURE 2 : CHANNEL FLANGES TO INCREASE RADIUS OF GYRATION.

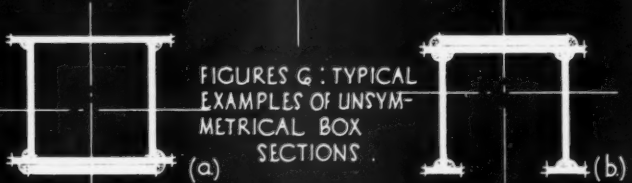
FIGURE 4 : EXAMPLE OF COLUMN PLATED ON ONE SIDE ONLY.

W_1 — 60 t. Original B.M. due to eccentric load W_2,
W_2 — 20 t. 20 x 9·5 = 190 tons. ins.
h — 18". B.M. on unsymmetrical section,
e — 1·5". 20 x 8 − 60 x 1·5 = 70 tons. ins.



FIGURES 5 : ILLUSTRATING ADAPTABILITY OF BOXED COLUMNS TO LIMITED SPACE.





FIGURES 6 : TYPICAL EXAMPLES OF UNSYMMETRICAL BOX SECTIONS.

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INFORMATION SHEET : STEEL FRAME CONSTRUCTION, 80 : WELDING 36

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INFORMATION SHEET

• 871 •

STRUCTURAL STEELWORK

Subject : Welding 36 : Detailed Considerations of Design in Welded Steel 9 : Column Sections (C)—(see also Figs. 4 and 5 on Sheet No. 34 of series).

General :

This series of Sheets on welded steel construction is a continuation of a preceding group dealing with riveted and bolted construction, and is intended to serve a similar purpose—namely, to indicate the way in which economical design as affected by general planning considerations may be obtained.

Both the principles of design, and the general and detailed application of welded steelwork are analysed in relation to the normal structural requirements of buildings. The economies in cover and dead weight, resulting from the use of lighter and smaller steel members and connections, are taken into consideration in the preliminary arrangement of the building components in order to obtain maximum economy in the design of the steel framing.

This Sheet is the ninth of the section on detailed considerations of design in welded steel and is the third dealing with columns.

Columns with One Web : (see Figure 5 of Sheet No. 34)

In section these columns closely resemble plate girders. Unless there are heavy shear forces, the web serves for the transmission of vertical forces only. Many variations can be made by altering the thickness of the plates used to make up the sections. If the web plate is kept as thin as possible, the maximum Radius of Gyration will be obtained with a given cross sectional area. Horizontal stiffeners, however, are more necessary with such thin web plates. See Figure 1.

Built-up Joist Sections :

The replacing of flange plates by channels may also increase the smaller Radius of Gyration. See Figure 2. Where Bending Moments as well as normal forces have to be taken, it is usually more economical to use an unsymmetrical section, as shown in Figure 3. It is important to realise that with the latter type of section, not only is the material placed where it is most needed, but the Bending Moments themselves are reduced owing to the fact that the Centre of Gravity is in a more economical position. See Figure 4.

Built-up Box Sections :

To simplify the welding process, box sections are usually made up in such a way that two of the plates overlap the other two, as shown in Figure 4 of Sheet 34. The Radius of Gyration of such box sections is very large, even if one of the dimensions is small —thus the column shown in Figure 5a on this Sheet, being 36 in. long and 6 in. wide, is just as efficient as the plated joist shown in Figure 5b, which is 12 in. wide instead of 6 in. Such a column would be particularly useful where the available space for the column is limited in one direction.

Box sections can, of course, be of unsymmetrical section, see Figure 6. They are most suitable when Bending Moments have to be considered, but for structural reasons they may be used with advantage even when the load is normal and the Bending Moment of no consequence. In such a case, open box sections, as shown in Figure 6b, might be used. The number of possible variations is considerable.

Previous Sheets :

Previous Sheets of this series on structural steelwork are Nos. 729, 733, 736, 737, 741, 745, 751, 755, 759, 763, 765, 769, 770, 772, 773, 774, 775, 776, 777, 780, 783, 785, 789, 790, 793, 796, 798, 799, 800, 801, 802, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 816, 819, 821, 822, 823, 824, 826, 827, 828, 830, 832, 836, 837, 838, 839, 840, 842, 843, 845, 847, 848, 849, 850, 851, 852, 853, 855, 856, 857, 859, 860, 862, 863, 865, 867, 869 and 870.

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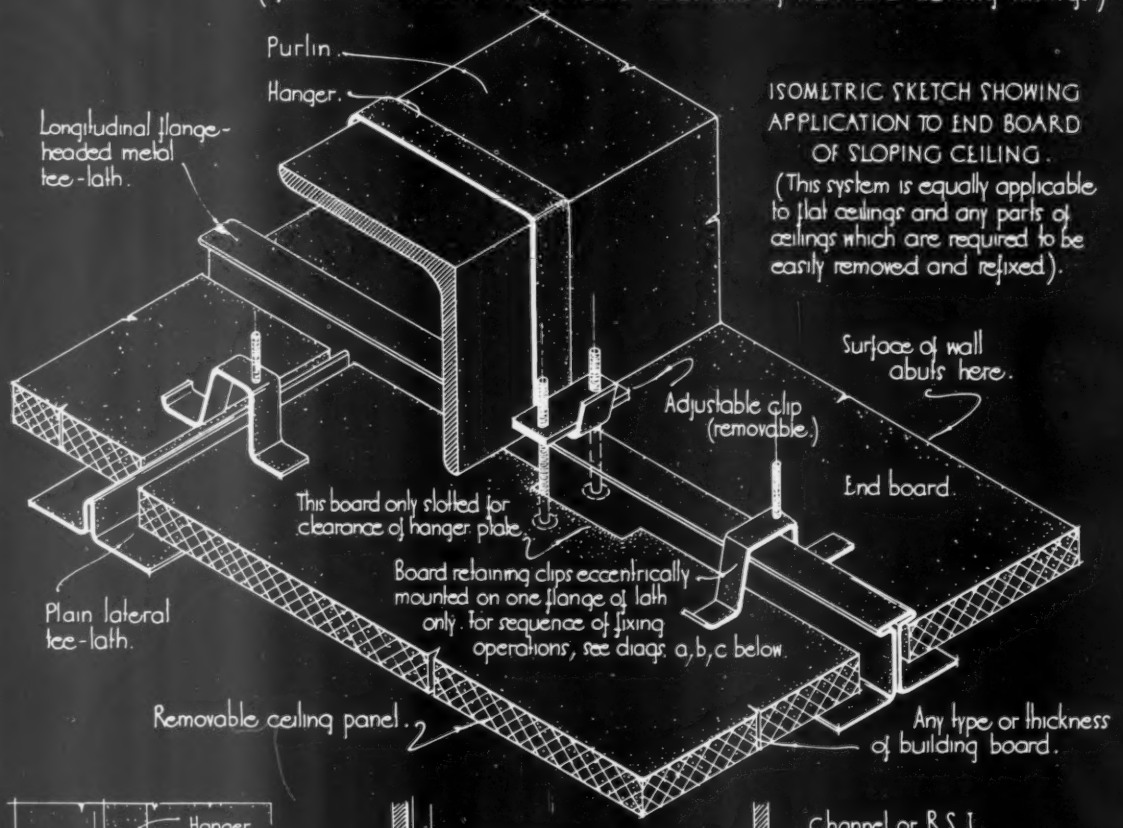
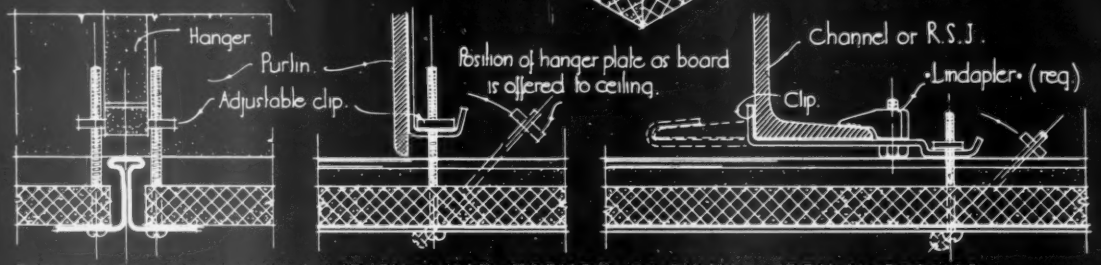
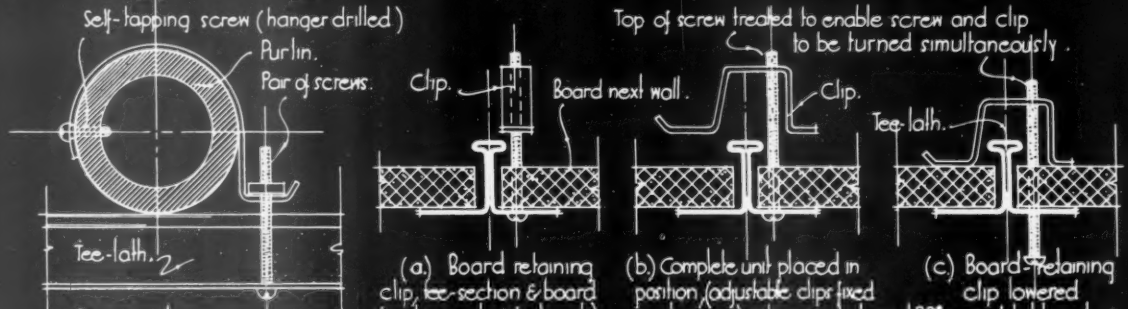
•PIMCO• SYSTEMS : ADJUSTABLE CLIP FIXING UNDER PURLINS :
(for end boards or removable sections of wall and ceiling linings)



ISOMETRIC SKETCH SHOWING APPLICATION TO END BOARD OF SLOPING CEILING.
(This system is equally applicable to flat ceilings and any parts of ceilings which are required to be easily removed and refixed).



DETAILS OF ADJUSTABLE CLIP SHOWING METHOD OF FIXING FROM UNDERSIDE.



BOARD RETAINING CLIPS : DIAGRAMS SHOWING SEQUENCE OF FIXING.

Issued by P.I.M. Board Co. Ltd., & T.T. Trading Co. Ltd.

INFORMATION SHEET : CEILINGS WITH REMOVABLE PANELS :
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET • 872 • WALL AND CEILING LININGS (Removable)

Product :

Pimco Systems Adjustable Clip Fixing. (Patent No. 544389.)

Description :

An all-metal assemblage for attachment of any type or thickness of building board to structural members of steel or timber, or lining to soffits of concrete floors and roofs. This method of fixing is designed primarily to facilitate the removal and replacement of any sheet in a ceiling or wall without disturbing adjacent sheets and thus affording easy access to e.l. conduits, sprinkler points, etc. Where such access is not required, the method described in Sheet 861 (Pimco Systems Adjustable T Suspension) should be used and, to overcome any abnormal difficulty in fixing the last sheet, the fixing shown here may be used.

The method employs laths of T section—either plain or flange-headed attached to structural members by hangers which are finally engaged and adjusted from the underside after the laths and boards are positioned. Board-retaining clips are eccentrically mounted on screws passing through one flange of the Tee-lath and, after the laths are attached to structural members, the clip screws are pushed up and rotated through 90 degrees, thus straddling the clip over the lath web so that, on screwing up, the clip ends engage the boards on either flange. Since the clips are initially mounted on one side of the lath only, the lath may be offered up vertically to purlins or other members, thus enabling any sheet to be removed and replaced should access to services be required. The hangers also permit the removal and replacement of boards entirely from the underside. Laths are available in various heights and gauges. Hangers comprise a hook member for permanent attachment to structural members and a plate member removably attachable to the hook member by a pair of screws. The board retaining clips have one end at a lower level to ensure that pressure is exerted on the board remote from the screw hole.

All materials are sherardized.

Erection :

Mount clips on one side of Tee-lath, the clip screws passing through holes in edge of board to be fixed. (A special tool is available for holing the boards.) Mount hanger plate on pair of screws passing through lath flanges. Attach hook hangers to structural members. These hangers should be spaced at 2 ft. 0¼ in. centres if 2 ft. widths of board are used. The lath, with board attached, may now be offered up vertically so that flange engages under edge of previously erected board. The hanger plates should now be swung over (by means of screw heads) to engage hook member and thereafter tightened up. Care should be taken that hanger plates recline away from hook members when offering up lath. The edge of previously erected board should be slotted sufficiently to clear end of hanger plate when lath is being offered up. The edge of board attached to lath need be slotted to clear hanger screw only. The slotting is speedily effected with the special tool used for holing boards for clip-screws. After hangers are fully tightened up, push up clip screws, rotate through 90 degrees, and tighten up. To act as a stop during rotation of clip through 90 degrees and also during screwing up process, a thin awl may be pushed through board to engage against overhanging end of clip. The awl is withdrawn after clip is tightened up.

At first and last sheets, the laths may fit directly to wall or truss or, if obstructions exist, a narrow strip of board may be scribed and used as finish to wall.

To remove any sheet unscrew all clips and hangers on the lath to which it is attached. Slacken off clip screws only on lath attached to adjacent sheet. The first sheet may now be slid laterally away from lath. To replace, remount all clips and hanger plates on lath and board, insert free edge of board between lath flange and clips of adjacent lath (the clips overhang the lath flanges to facilitate this insertion). The lath attached to removed board may now be offered up and fixed as previously described.

Previous Sheets :

No. 854, Metal-framed Partitioning ; No. 858, Edge-Pinned Roof and Wall Insulation ; No. 861, Adjustable T Suspension for Wall and Ceiling Linings ; No. 864, Edge-Pinned Insulation Board Ceilings ; No. 868, Concealed Reinforcement to Ceiling Panels.

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Telephone : Chancery 8150 and 8159.

Telegrams : Sprufibre, Estrand, London.

PATENT WELDED TUBULAR CONSTRUCTION

Data Sheet No. 5

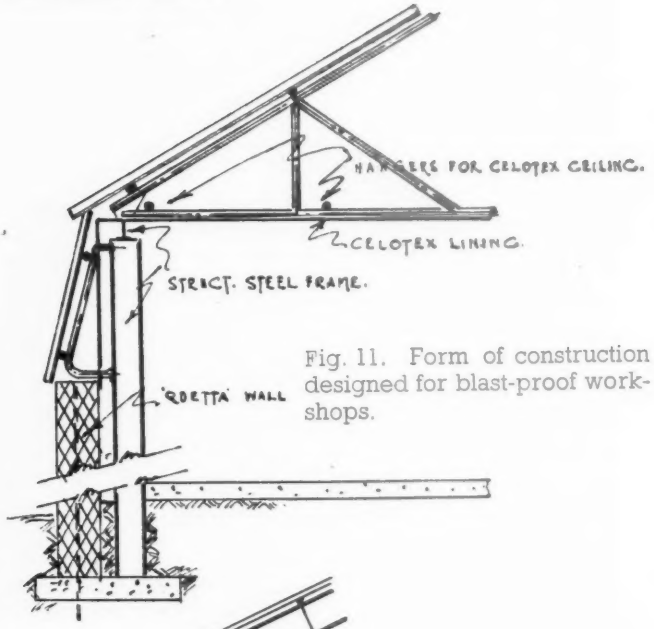

Fig. 11. Form of construction designed for blast-proof workshops.

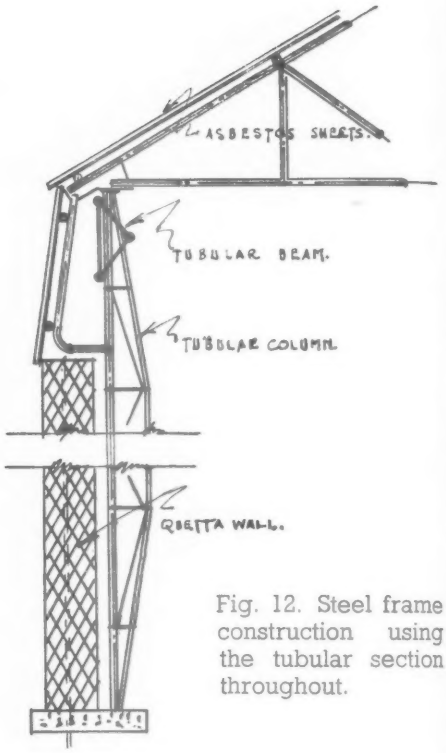

Fig. 12. Steel frame construction using the tubular section throughout.

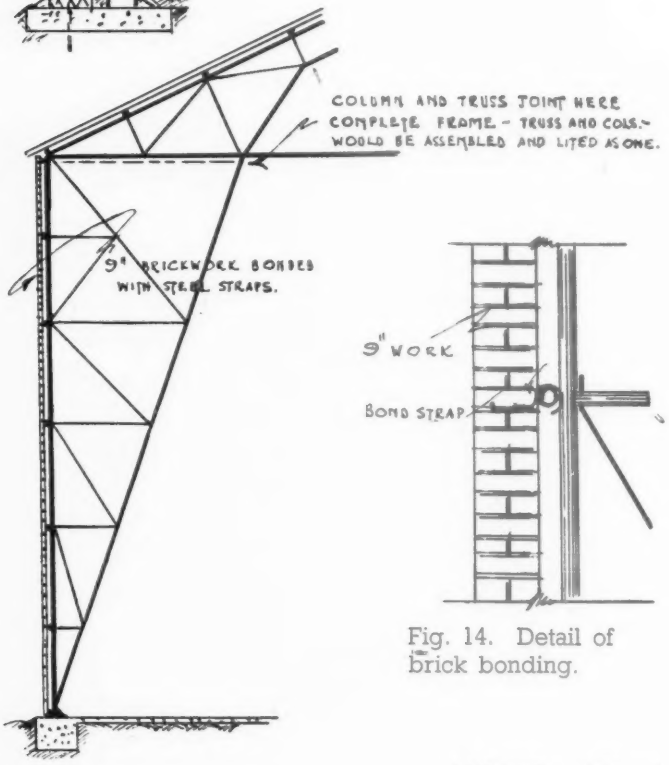

Fig. 13. 9" brickwork bonded to tubular steel column.

Fig. 14. Detail of brick bonding.

BLAST-PROOF CONSTRUCTION

The form of construction detailed in Fig. 11 was designed for the erection of blast-proof workshops (Architects: Messrs. Turnbull & Fraser), and incorporates the new Quetta reinforced brickwork. It will be noted that the structural steel frame is independent of the outer shell.

A development of this form of construction is shewn in Fig. 12 where the whole of the structural framework is carried out in prefabricated welded tubular steel sections—again the structural frame is independent of the outer wall of Quetta reinforced brickwork.

Fig. 13 shews another design for a prefabricated tubular steel column, the whole of the steelwork consisting of tubular sections, including the longitudinal ties and braces. In place of asbestos sheeting, which is being more generally employed with this form of construction, the structural frame is faced with 9 in. brickwork bonded by steel straps to the tubular steel columns (see detail in Fig. 14). Pre-cast concrete walling could be bonded in a similar way.

This system of prefabricated tubular construction is exceptionally flexible and adaptable, and lends itself admirably to the prefabrication of single storey buildings of any size. The advantages of the tubular section, as compared with other steel sections, may be summarised as follows: Reduced weight in section to resist compression. Its stiffness during handling, i.e., allowing larger prefabricated sections to be handled. Its uniformity in all directions—allowing connections to be made from any side and at any angle. Assembly and erection on site can be carried out rapidly and any subsequent alterations or extensions to the existing building can be simply and speedily effected.

NOTE.—These data sheets are appearing weekly in THE ARCHITECTS' JOURNAL *—they will be available shortly in complete Folder form and application for these Folders should be addressed to Scaffolding [Great Britain] Limited, 77, Easton Street, High Wycombe, Buckinghamshire.*

of the cultivated austerity necessary to the period which inevitably precedes development. Except for the few extreme purists, however, who were often merely being fashionable, there was a noticeable tendency to become both rational and national. It was thus occasionally possible to recognize an example as a building of the thirties which was both English and truly contemporary. The more arbitrary examples were, however, still easily to be confused with the works of their continental inspirers.

In the MARS plan for London three things seem to have been forgotten. The first is that the present lack of planning in the Greater London area can only be rectified by utilizing and moulding what is already there, however great a revolution in control is necessary to attain this end. The second, that in order to maintain the character of London it must be remembered as a living organism with fundamental and unalterable characteristics. To alter it in form and character in the short space of twenty years would surely impose such a strain on the resources of the whole community that the country would itself become crippled in the doing of it. The third is that no designer can do justice to the æsthetic development of planning in London who is not a man in whom the English tradition of "well building" is inherent.

H. A. N. BROCKMAN.

London.

Unity in the Architectural Profession

Sir,—In reply to your correspondent Mr. George C. Oldham, in the JOURNAL for July 9, I would point out that new entrants to the profession are now bound to pass qualifying examinations, but it is generally agreed that architecture will gain, and not suffer, in the process.

I fail to see how an extension of the Licentiate class can adversely affect either architecture or the Royal Institute. The potential licentiates are already entitled to practise as Registered Architects and architecture should benefit rather than suffer by their admission to the influence of the Royal Institute. Obviously, the Institute's position becomes stronger the greater its membership in relation to the total number of architects on the Register.

Alternative societies can do nothing the R.I.B.A. cannot do, except represent architects who have not acquired a certain standard of qualification. My proposals have indicated a method of meeting this exception which would remove the need for any alternative representative bodies as far as the architectural profession is concerned, and thereby facilitate real unification.

The General Secretary of the I.A.A.S. states that his observations are not in reply to my drivel, but for the consideration of your readers; this is a fine distinction which he proceeds to ignore, even though the reply is somewhat obscured by irrelevance and abuse.

As to anonymity, my name and qualifications are known to the Editor, and would convey nothing to your correspondent except perhaps the fact that those qualifications were awarded after examinations. Anonymity is legitimate and the subject of my letters is above personalities.

Your correspondent's reference to unnamed societies is quite incorrect; the bodies I regard as alternative societies were named in my first letter.

His statement that the policy of the I.A.A.S. in regard to membership appears to differ very little from that of the R.I.B.A. is meant to make the reader imagine that there is a real similarity between the two bodies. In this connection I invite Mr. Athoe to answer the following questions, and I am sure your readers will not regard distaste for anonymity as a reasonable excuse for any failure to reply:

(1) How many members were admitted to the I.A.A.S. before the first qualifying examination was held?

(2) When was the examination to qualify for membership of the I.A.A.S. last held?

(3) How many persons have been admitted to membership of the I.A.A.S. on the strength of this qualifying examination, and what percentage of the total membership do they represent?

With regard to the numbers of R.I.B.A. members who have been so "wise in their generation" as to join the I.A.A.S., an examination of the I.A.A.S. Year Book reveals that the actual position is approximately as follows:

	F.R.I.B.A's	A.R.I.B.A's	L.R.I.B.A's
Fellows, I.A.A.S...	10	6	55
Associates, I.A.A.S.	5	21	47
Licentiates, I.A.A.S.	0	0	0
	15	27	102

It would be interesting to know whether any of the L.R.I.B.A.'s considered it worth while to sit a qualifying examination to become Fellows and Associates of the I.A.A.S. in preference to the R.I.B.A.

It is not true that if my proposals were adopted, Licentiates of the R.I.B.A. would never be able to rise to Fellowship; there would be nothing to prevent a licentiate taking the qualifying examinations.

As for the extravagant suggestion that there would be created a class of untouchables labelled as the also rans of the architectural profession, no doubt members of the R.I.B.A. already have views of their own on this matter.

F.R.I.B.A.

Cheshire.

SOCIETIES AND INSTITUTIONS

A talk on post-war planning as the operatives see it was given recently to the Town and Country Planning Association by

R. COPPOCK

The reconstruction problems that we will have to face when the war ends will be very serious indeed, and I am speaking on these problems from experience—not from notes.

There are many associations at the present moment interested in post-war problems. We are supposed to be interested in things like the Atlantic Charter, a thing which is abstract—but what we are interested in is the re-habilitation of the working-classes of this country. There are too many of us trying to aim at different angles of the matter, and there appears to be no co-ordination on planning. There are too many people who are only self-interested; looking at the profits likely to be gained; wondering how it is possible for them to maintain the rent standard, and so on.

It is not possible to face the post-war problems in precisely the same way as last time. Politicians of the last post-war period knew it was impossible to carry out the programme they pretended to believe in. This time they will not get away with that. Obviously, the question of planning is the question of expert knowledge and understanding. One of the first things necessary as far as planning is concerned is to secure the land for the people; whether it is by compensation or annexation, does it matter?

The fact is that we shall have a very small building personnel as compared to the personnel we had in 1939. During the 20 years between the wars we built four million houses; we cannot wait 20 years for four million houses again. Whether those houses are to be prefabricated, or ordinary brick or stone-built, is irrelevant at present.

We are getting the people who talk about standardization as though it was a subject never talked about before. There has always been standardization and there will obviously be further developments in this direction.

But one of the biggest problems will be how to empty London out a bit; how to clear spaces in Manchester; how can we create a new town for Sheffield, Leeds and Glasgow? How can we reduce them in size? The problem of the size of London is very serious. 1940 showed just how vulnerable it was. Is it desirable that our towns should be as huge as our present large cities?

At what point are we going to tread upon vested interests? Insofar as vested interests have power to finance undertakings they are the real directors of policy; not the people who vote for politicians. I want to say quite candidly that if we have to examine this problem, then we have to appreciate that

fundamental changes are necessary in our method of administration. Are we to alter the expensive method that we at present have to pursue in any town or village where we want development: the application for permission, the private pool, the amount of charges, the process through both Houses, all the legal luminaries who come and argue; and then in the end the whole business is torpedoed.

The effect of all this on town planning is tremendous. I have been on many committees on town planning, I have been to many town planning conferences, and I have seen the difficulties arise. Local people in the village or rural area, or the county, have prevented certain developments because they found they would not suit their interests, although they would bring improvement for the ordinary people. There should be regional control under a central direction. There should be a Planning Ministry; not Works with a side line, but planning generally, and it should be the authority as far as planning is concerned; covering traffic, which planning is associated with. There should be regional organizations, directly responsible to the National Planning organization, avoiding all the expense and waste of time of private bills going through the House.

I do not believe that in the minds of the Cabinet at the present moment there is the real desire to make any preparation for post-war planning. There are a lot of attempts being made and a number of committees, but there is no real central direction from a high level to get on with the job, and if the war finished to-morrow we should be in a complete mess. We should see the hostels for munition workers being used as temporary accommodation for the people.

We have got beyond the talking stage. A plan should be moulded, in my opinion. We always seem to be waiting for some report or other. We are now waiting for the Scott Report, the Uthwatt Report—and the report of my committee, I suppose.

We have to consider these problems if we are to stop the impact of revolution in the peace. It has taken three years to get to what not even yet is total-war preparation. Can we expect to be ready for peace-time development overnight? Everybody in the building trade knows that there is a time-lag of about nine months between deliberations and the start of building. You have to provide the machine tools before the machine. We have to do the same for town planning and the re-habilitation of the people of this country. Questions in Parliament do not matter. If we could get an Atlantic Charter for the planning of Britain we should give tremendous encouragement to the people in the factories. We expect there will only be 600,000 people as building trade operatives after this war.

What is the good of beautiful town planning unless we have beautiful buildings. If we have to have the design that is being used for hostels for our houses, it will be hopeless.

The Ministry of Works and Planning is studying apprenticeships; this is a national consideration. If the industry has not time to train apprentices then the State must compel them to do so.

The building industry have always sold you the commodity at less than the cost price, and the charge has always been on the worker. The only time it was profitable to build was when Hitler started operations. People became afraid to invest their money in other countries, and suddenly discovered that they could get 5 per cent. on their security on houses at home.

Exploitation of land values must cease. All jerry building must cease. We look forward in the building trade to a standard of stability for the people who build. The building trades operatives are rough, tough, working people who believe sincerely that their industry should be nationalized. They will carry out their part of the job. What they ask in return is decent conditions, three square meals a day, and opportunities of education for their families.

R.I.B.A.

On July 20, the following members were elected:

As Hon. Fellow (1).—York, The Archbishop of, the Most Rev. Cyril Foster Garbett (York).

As Fellows (6).—Messrs. John Hardwick (Rawdon, near Leeds); Harry William Smith (Oxford); Sydney Edmund Eaton (Sheffield); Herbert Young Margary (Farnham, Surrey); Samuel George Short (Hounslow, Middlesex); and Albert Thomerson, F.S.I. (Loughton, Essex).

As Associates (10).—Messrs. Russell Edwin Collis (Maidstone, Kent); Verson Waterworth Fishwick (The Polytechnic, Regent Street, London) (London); Francis John Fletcher (Mansfield, Notts.); Robert James Harris (Tadworth, Surrey); and Frank Melrose Wilson, B.ARCH. (King's College (University of Durham), Newcastle-on-Tyne) (London). *Overseas*: William Edward Alexander (Bulawayo); Samuel Gilovitz (Marrickville, New South Wales); Robert Hutton Lockwood, B.ARCH.SYD.UNIV. (Moree, New South Wales); Charles Henry Rees, PH.D. (Salisbury, S. Rhodesia); and Jacques Theron Du Toit (Bloemfontein, Orange Free State).

As Licentiates (15).—Messrs. Edward William Bracey (Bristol); Ernest Knox Conyngham (Pinner); Alan Damien Coward (Guildford); Samuel Downing (Penzance); Albert Victor Elliott (London); Albert Hugh Charles Griffin (London); John Lawrence Hazell (Yeovil); Leonard Clarence Holden (Richmond, Surrey); Robert Stanley Ireland (Nuneaton); Harold Mastin (Sheffield); Miss Harriett Bertha Robinson (London); Ronald Watson Robson (Durham); William Henry Shelley (Cardiff); Major Alexander Ross Shepperdson (Porthcawl, South Wales); and Alfred Marshall Wire (Wembley).

Following is the constitution of the R.I.B.A. Council for the 1942-1943 session:

President.—Mr. W. H. Ansell, M.C.

Past Presidents: Messrs. H. S. Goodhart-Rendel and Percy E. Thomas, O.B.E., HON.LL.D., J.P. (Cardiff).

Vice-Presidents: Messrs. A. C. Bunch (Warwick), Edward Maufe, A.R.A., M.A. (Oxon), C. G. Soutar (Dundee) and Hubert Lidbetter.

Hon. Secretary: Mr. Michael Waterhouse, M.C., B.A.(OXON).

Hon. Treasurer: Mr. L. Sylvester Sullivan.

Members of Council: Professor Patrick Abercrombie, M.A.LVPL., and Messrs. Victor Bain (Leeds), Percy J. Bartlett (Nottingham), A. C. Bunch (Warwick), C. Cowles-Voysey (Winchester), C. Lovett Gill, Stanley Hamp, G. Noel Hill (Manchester), Charles H. Holden, HON.LITT.D.MANCR., T. Cecil Howitt, D.S.O. (Nottingham), L. H. Keay, O.B.E. (Liverpool), Edward Maufe, A.R.A., M.A.(OXON), J. Nelson Meredith (Bristol), Howard M. Robertson, M.C., S.A.D.G., C. G. Stillman (Chichester), John Swarbrick (Newcastle-on-Tyne), E. P. Wheeler (Epsom) and G. Grey Wornum.

Associate Members of Council: Wesley Dougill, M.A., B.ARCH,LVPL., R. A. Duncan, Professor W. G. Holford, B.ARCH.LVPL., and Messrs. R. D. Manning (Thetford), Anthony Minoprio, M.A., B.ARCH.LVPL., Norval R. Paxton, M.C. (Leeds) and E. Berry Webber.

Licentiate Members of Council: Messrs. Stanley A. Heaps, C. Bertram Parkes (Birmingham) and S. Lunn Whitehouse (Birmingham).

Representatives of Allied Societies in the United Kingdom or Eire.

(1) *Six representatives from the Northern Province of England*: A representative to be appointed by the Northern Architectural Association and Messrs. H. T. Seward (Manchester Society of Architects), T. M. Alexander (Liverpool Architectural Society), C. H. E. Bridgen (York and East Yorkshire Architectural Society), Alderman Wm. Illingworth (West Yorkshire Society of Architects) and Mr. Stephen Welsh (Sheffield, South Yorkshire and District Society of Architects and Surveyors).

(2) *Five representatives from the Midland Province of England*: Messrs. C. F. Martin (Birmingham and Five Counties Architectural Association), G. A. Cope (Leicester and Leicestershire Society of Architects), H. F. Traylen, F.S.A. (Northamptonsire, Bedfordshire and Huntingdonshire Association of Architects), C. H. Aslin (Nottingham, Derby and Lincoln Architectural Society) and Theo. G. Scott, M.C. (East Anglian Society of Architects).

(3) *Six representatives from the Southern Province of England*: Messrs. John Challice (Devon and Cornwall Architectural Society), J. Ralph Edwards (Wessex Society of Architects), J. T. Saunders (Berks, Bucks and Oxon Architectural Association), A. E. Geens (Hampshire and Isle of Wight Architectural Association), Herbert Kenchington (Essex, Cambridge and Hertfordshire Society of Architects) and John L. Denman, J.P. (South-Eastern Society of Architects).

(4) *Four representatives of Allied Societies in Scotland* (nominated by the Council of the Royal Incorporation of Architects in Scotland): Messrs. Lockhart W. Hutson, J. R. McKay (Edinburgh), A. G. R. Mackenzie (Aberdeen) and John Wilson, O.B.E. (Edinburgh).

(5) *One representative of Allied Societies in Wales* (nominated by the Council of the South Wales Institute of Architects): Mr. C. F. Jones (Cardiff).

(6) *Two representatives of Allied Societies in Ireland*: Messrs. W. H. Howard Cooke (Royal Institute of the Architects of Ireland) and J. H. Stevenson (Royal Society of Ulster Architects).

Representatives of Allied Societies in the British Dominions Overseas (nominated by the Council of each of the following): Royal Architectural Institute of Canada, Mr. Gordon M. Pitts; representative in the United Kingdom, Mr. L. Sylvester Sullivan; Royal Australian Institute of Architects, Professor A. S. Hook; representative in the United Kingdom, Mr. W. H. Ansell, M.C.; New Zealand Institute of Architects, Mr. H. L. Massey; representative in the United Kingdom, Mr. Howard Robertson, M.C., S.A.D.G.; Institute of South African Architects, Mr. B. V. Bartholomew; representative in the United Kingdom, Mr. E. Berry Webber; Indian Institute of Architects, Mr. D. W. Ditchburn; representative in the United Kingdom, Mr. A. J. A. Illingworth.

Representative of the Architectural Association (London): Mr. A. W. Kenyon.

Representative of the Association of Architects, Surveyors and Technical Assistants: Mr. V. L. Nash.

Chairman of the Board of Architectural Education: Mr. Stanley C. Ramsey.

Chairman of the R.I.B.A. Registration Committee: Mr. T. A. Darcy Braddell.

Chairman of the R.I.B.A. Official Architects' Committee: Mr. A. C. Bunch (Warwick).

Representative of the R.I.B.A. Salaried Members' Committee: Mr. W. E. Brooks.

Chairman of the Allied Societies' Conference, Vice-President: Mr. C. G. Soutar (Dundee).

HOUSING CENTRE

Mr. Herbert Morrison was expected to be present and speak at the annual meeting of the Housing Centre, but his duties in the House of Commons prevented his attendance. In his absence the meeting was addressed by Dr. Dudley Stamp, Miss Caroline Haslett, Councillor Sullivan, from West Ham, and other speakers. Professor P. Abercrombie, F.R.I.B.A., presided. The report and accounts were presented and adopted, and the honorary officers and retiring members of the executive committee re-elected.

Dr. Dudley Stamp said: "Great changes are impending in the whole sphere of planning. We have been promised a central planning authority and those interested ask what this will mean. There are some who hope we shall have a central Ministry of Planning, but others say one Minister will not be a sufficient answer to our problems. Will the Ministries of Transport, Agriculture and Health be content to put a large part of their present work into

new hands? The Ministry of Planning will never have the power to plan the future because there are the vested interests of other ministries. There is frequently a confusion of thought between planning and execution. In the future the central planning authority will be concerned with the formulating of great national plans while the ministries I have mentioned, together with local authorities, statutory undertakings and private individuals will do the actual work. The fundamental difference between this conception and what we have now, is that we are going to look in future for guidance to the State. Under the Act of 1932 the initiation of planning schemes came from individual authorities in different parts of the country, and a rather ridiculous position has been reached because, if we added together all the town and country planning schemes that have been formulated up to the outbreak of war, they allowed for a population of 300,000,000. In the last eighteen months or two years the Ministry of Agriculture has had a rebirth. It is proving a lusty infant, is taking a really definite interest in all matters affecting the countryside as opposed to urban areas, and we are going to see it as the Ministry concerned with all phases of country life.

MOWP APPOINTMENTS

Two appointments in MOWP have been inquired into by the Select Committee on National Expenditure following questions in the House of Commons on the dual capacity of individuals appointed to high positions in Government departments while retaining association with firms which have contractual relations with these departments. The persons concerned are: Mr. Hugh Beaver, Director-General, MOWP (lately a member of the firm of Sir Alexander Gibbs and Partners); and Mr. T. P. Bennett, F.R.I.B.A. (lately senior partner in the firm of T. P. Bennett and Son). The Committee, in its report published last Friday, states that, from the evidence submitted, it would not appear that there has been any abuse of their positions by the holders. Extracts from the report are printed below.

Your Committee have examined the arrangements in force in the Ministry, and have taken evidence from the late Minister, the Permanent Secretary and the Deputy Secretary, in addition to the two gentlemen who are the subject of this Report and other witnesses. Mr. Beaver joined the Ministry in October, 1940, as Building Priority Officer, and became Director-General, Works and Buildings, in April, 1941. He gives his entire time to his work in the Ministry. He remained a partner in his firm, but since joining the Ministry he has taken no active part in the business, and your Committee have been told that he severed relations with his firm on March 1, 1942. He received no salary from the Ministry before this date, but is now paid a salary of £2,500 a year. In his capacity as Director-General, Works and Buildings, he is, among other things, responsible for the general direction and control of the Ministry's building and civil engineering programme, but he is not personally concerned in any way with the supervision of the work carried out by the firm with which he was formerly associated. Mr. T. P. Bennett joined the Ministry as Director of Bricks in November, 1940, and became Director of Works in July, 1941. He remained a member of his firm after joining the Ministry, and he was available on occasion for consultation by old clients, but took no part in the consulting work entrusted to the firm by the Ministry. He was at first paid no salary (although he received a consolidated allowance of £250 a year from which he had to meet all travelling expenses), but he has recently severed his connection with his firm, and receives a salary from the Ministry of £2,000 a year. As Director of Works he is consulted when contractors are appointed to carry out work for the Ministry, but the Contracts Department makes the final recommendation. Before a contract is awarded to a firm which has a member on the Ministry's staff, the matter has to be considered by the Director-General, Works and Buildings (Mr. Beaver), the Secretary and the Minister.

The appointment of Mr. Beaver and Mr. Bennett to salaried posts in the Ministry took place when the present Minister, on taking office, reviewed the cases of these gentlemen in the light of the criticisms which had been made in Parliament regarding the terms and conditions of their appointments. Both gentlemen informed him that they were ready to resign their positions in the Department if he should so decide. The Minister, who was anxious to retain their services, decided that, however ill-founded the criticisms were, it was desirable that they should give up all connection with their firms and should take up full time appointments in the Ministry on a salaried basis; but he emphasized that, even if they preferred not to give up their connection with their firms, he would still wish to retain their services in the Ministry. Both gentlemen decided to accept the Minister's advice: they severed their connection with their firms and were appointed to salaried posts with Treasury approval.

The late Minister told your Committee that while he was aware that the appointments might have an unfortunate appearance, he was satisfied that neither of the firms with which these gentlemen were associated had received a contract which it would not have had if none of its members was an official of the Ministry; in fact, such firms had probably received fewer contracts than would otherwise have been the case. It had been decided that certain posts in the Ministry should be filled by men of standing in the building and civil engineering world. It was in the national interest that such men should be in the Ministry, and also that their firms, as efficient firms, should be awarded contracts. He confidently asserted that there was no abuse of position.

Your Committee have been furnished by the Ministry with particulars of the work which the firm of Sir Alexander Gibb and Partners have done for the Ministry, and of the remuneration which they have received.

The total work now being supervised by the firm on behalf of the Ministry of Works and Planning and Ministry of Supply consists of the three Royal Ordnance Factories first mentioned, together with certain hostels connected therewith, and certain other factories, for the Ministry of Supply, and the three other Royal Ordnance Factories, with hostels, and the large group of factories, also with hostels, for the Ministry of Works and Buildings. The total estimated cost of this work is about £48,000,000, including certain expenditure, referred to below, not normally undertaken by civil engineering consultants. The total cost of the supervision carried out by the firm amounts to £1,100,000, of which the firm's fee amounts to £46,000. In addition to the sum of £1,100,000, which represents the total cost of supervision, a further sum of £931,000 has been expended by the firm on behalf of the Ministry in respect of all the schemes for which Sir Alexander Gibb and Partners were responsible.

The firm of T. P. Bennett and Son received three architectural commissions in May, 1941, from the Ministry of Works and Buildings; they were asked to design the layout of hostels of a typical pattern in two places for the Ministry of Agriculture and Fisheries and in a third place for the Ministry of Aircraft Production.

At the time when the commissions were given to the firm (May, 1941) Mr. Bennett held the substantive post of Director of Bricks, Ministry of Works, but he was in fact acting as Deputy Director of Works under the then Director of Works (the late Colonel Howard Humphreys). The actual recommendation of the firm of T. P. Bennett and Son for these commissions was put forward by Colonel Howard Humphreys for the Minister's approval on the ground that this firm, by reason of their resources and experience, were in an exceptional position to undertake the work which was entrusted to them, and that it would have been against the national interest and unjust to the firm to be debarred from taking this work on the ground that a member of the firm was employed by the Ministry. The Minister personally approved the placing of these commissions with this firm.

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

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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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Copies of three recent testimonials should be sent with the application to me by the 4th August, 1942.

G. R. HUTTON,
County Architect.

3, Becket Street, Oxford. 791

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Particulars as to duties attaching to the appointment can be obtained from me.

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

Applications, enclosing copies of three recent testimonials, endorsed "City Architect," should be delivered to me not later than Tuesday, 18th August, 1942.

N. L. FLEMING,
Town Clerk.

Town Hall, Bradford. 797

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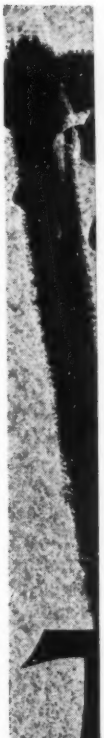

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