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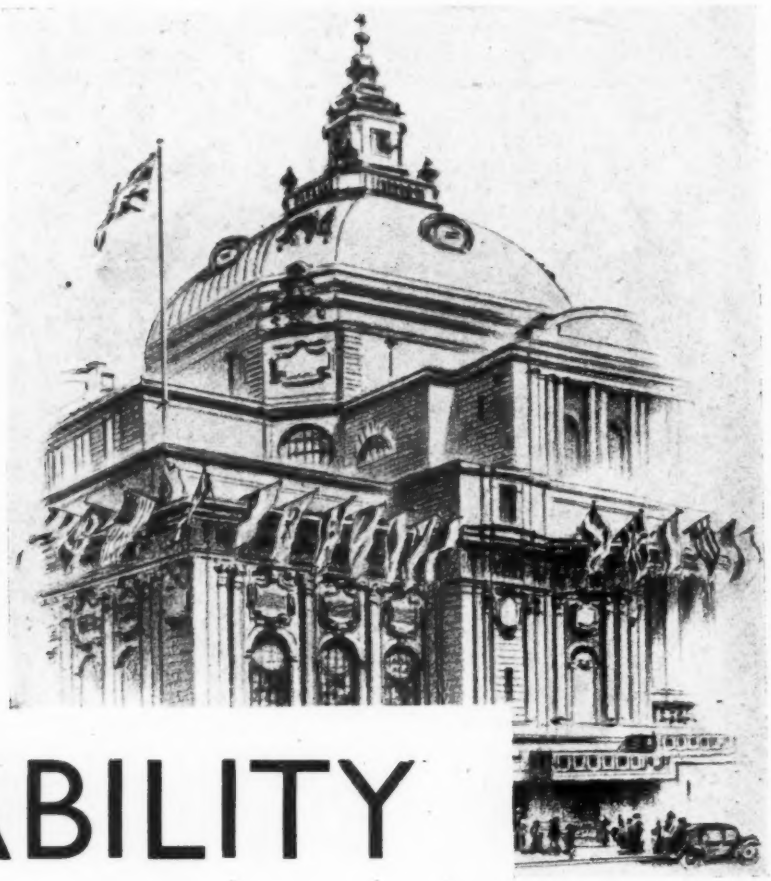


STABILITY

THE CENTRAL HALL
WESTMINSTER
ENGLAND

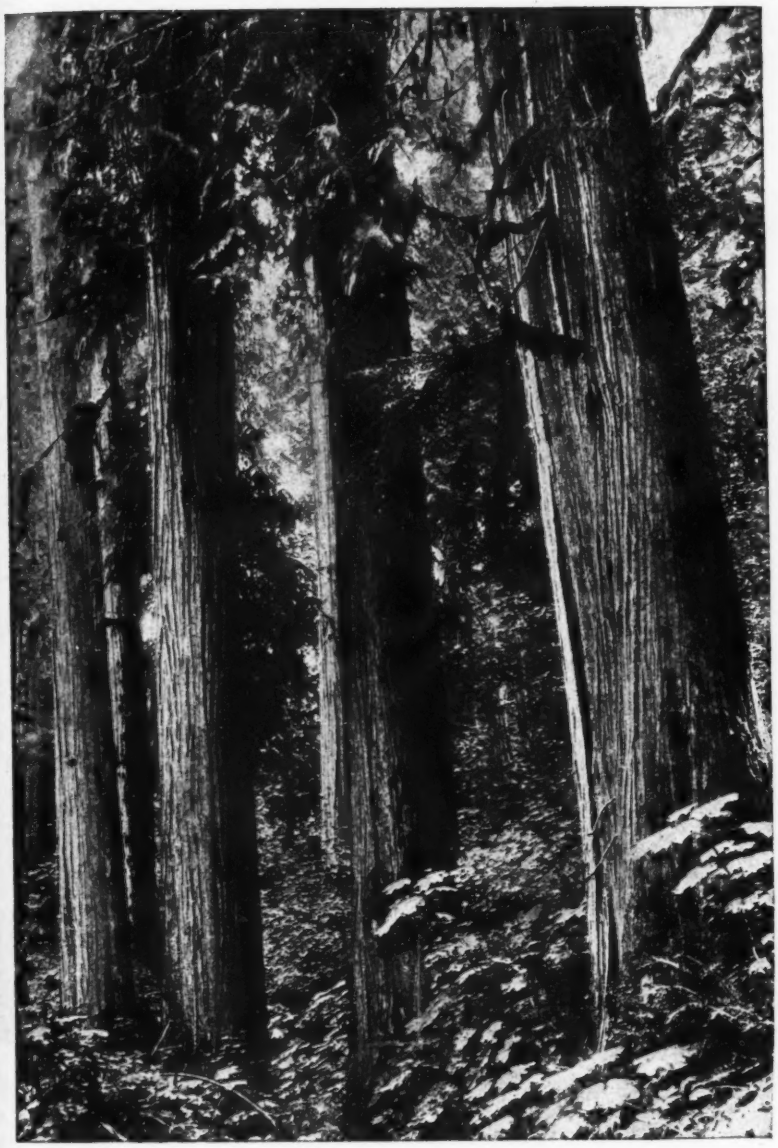
When, nearly 40 years ago, Dawnay's fabricated and erected the steel structure of the Central Hall, Westminster, their watchword then, as now, was—Stability.

Having survived a decade of devastating wars, the Central Hall is now the scene of the first assembly of the United Nations Organisation, where statesmen of 51 nations are engaged on a task affecting the whole future of mankind—the building of Peace.

In every nation of the civilised world, the Central Hall, Westminster, London, is looked upon as the foundation stone for peace. The delegates are fully aware that peace, to be enduring, must be built on stability.

DAWNAYS OF BATTERSEA

King's Dock Works **SWANSEA 3185**	East Moors Works **CARDIFF 2557**	54 Victoria St., London, S.W.1 **VICTORIA 1541**	Bridge Rd. Works **WELWYN GDN. 242**	Thorpe Works **NORWICH**
236 Winchester Road **SOUTHAMPTON 72826**	16 Park Street **PETERBOROUGH 4547**	Steelworks Rd., London, S.W.11 **BATTERSEA 2525**	Western Chmrs., South St. **ROMFORD 2106**	7 The Close **NORWICH 23141**



British Columbia Red Cedar —one of the many fine woods used by this Company to produce work of which the Industry can be proud.

The

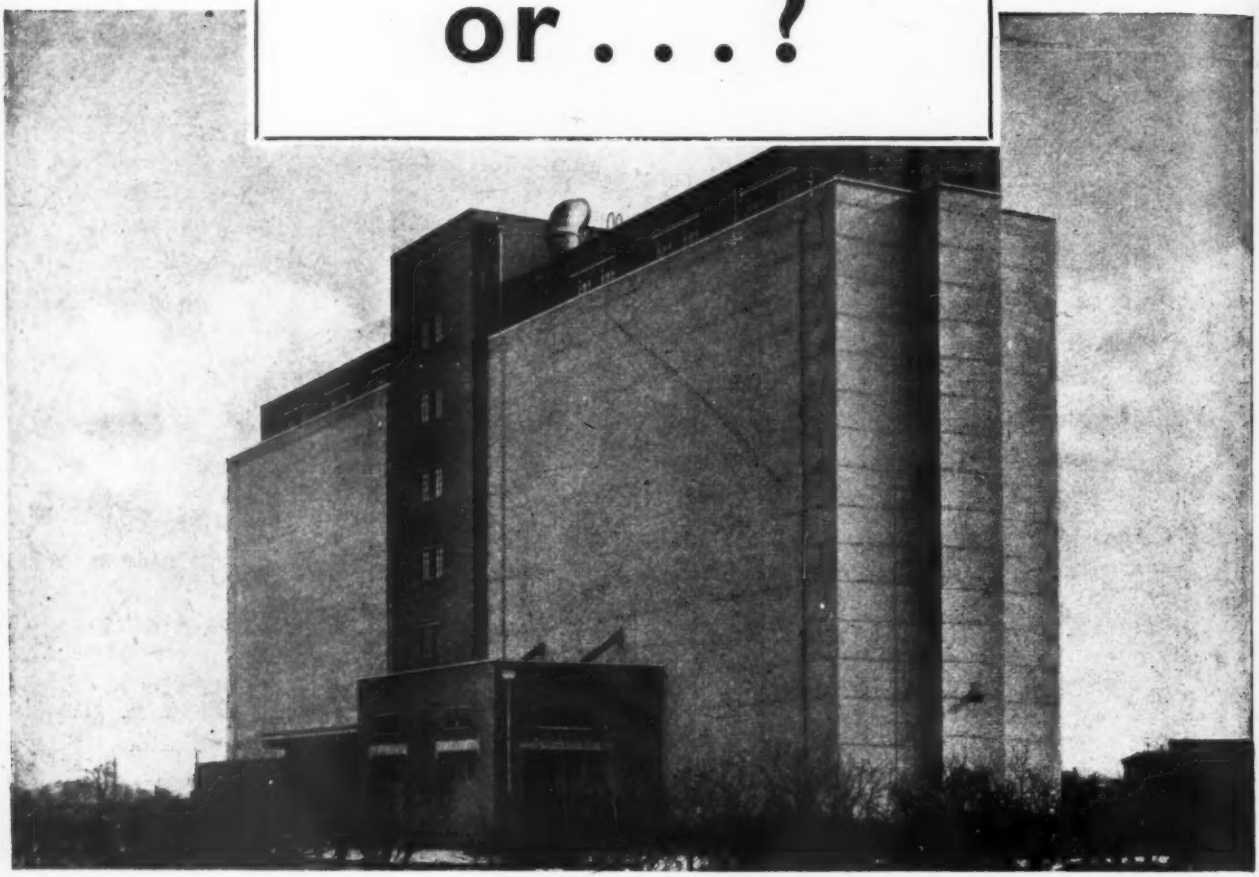
Midland Woodworking Company Ltd

MELTON MOWBRAY

Craftsmen in Domestic Joinery

Warehouse? Garage? Cinema?

or . . . ?



Actually this is a Grain Silo at Newport, Shropshire, built by Wimpeys during the war.

But the building problems ahead of us have one big factor in common with pre-war and wartime building operations. They call for experienced planning. They call for unwasteful use of time, money, man-power and machine-power. And that is where Wimpeys can contribute — methods, resources and experience.

★ ★ ★

The smooth speed and economy of Wimpey's work are the result of planning: *complete* pre-planning. Before a single lorry stirs, every step and sequence exists in chart-form, plotted, timed, co-ordinated.

But this planning isn't done 'in a vacuum.' It isn't based on theories. It is based on information from the site—collected by the nearest Wimpey Regional Office. Building, Estimating, Plant, Transport, Accountancy—each department works out needs and

schedules. These are adjusted, welded together. Wimpey's Central Laboratory tests all materials (both at this stage and during work on site). The Master Plan is rapidly completed.

Finally, throughout work on site, Progress Engineers see that performance matches plan—or occasionally, if some new factor enters, see that performance is modified. For, let us repeat, Wimpey planning is elastic. It is the result of sixty years' successful practice. It is employed *because it saves time and money and produces better work*.

Regional Organisation

Wimpeys can immediately apply their methods to any job of any size in any part of Britain. Wimpeys Head Office is at Denham, Middlesex, and their Regional Offices are at Bristol, Birmingham, Cardiff, Manchester, Newcastle, Nottingham, Plymouth, Wakefield, Worthing, Edinburgh and Glasgow.

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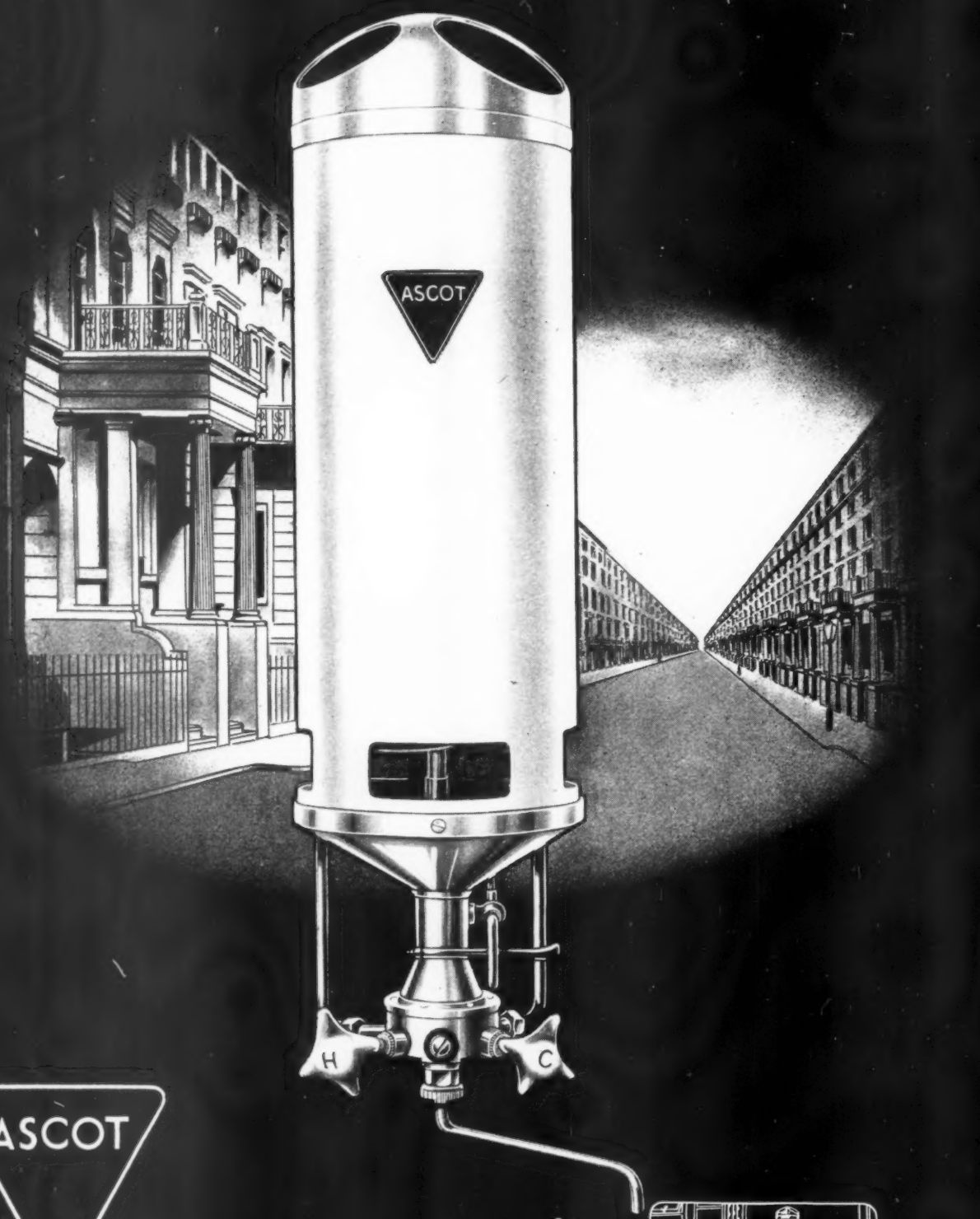
KEY TO CONVERSION

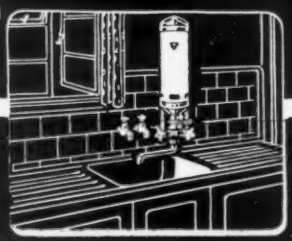


ASCOT

CONVERSION OF EXISTING PROPERTY

Your Hot Water Problems Solved

INSTANTANEOUSLY BY GAS



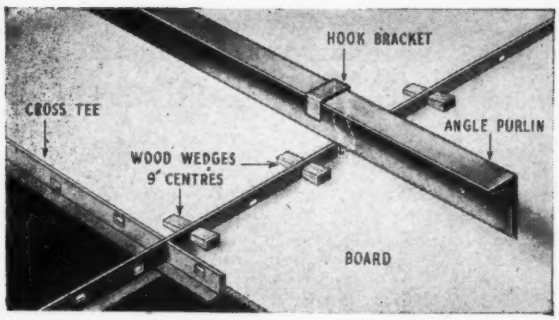
AnD WEDGE METHOD

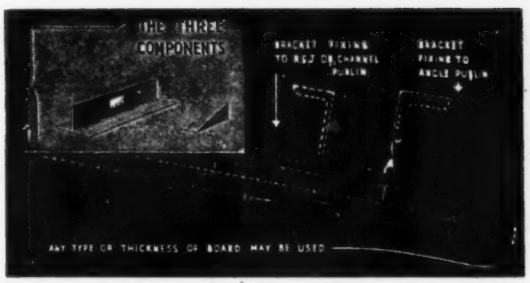
Patent No. 519406

FOR APPLYING ANY TYPE OF BOARD TO CEILING & WALLS

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

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





8 POINTS TO BE NOTED

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

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

C. F. ANDERSON & SON, LTD.

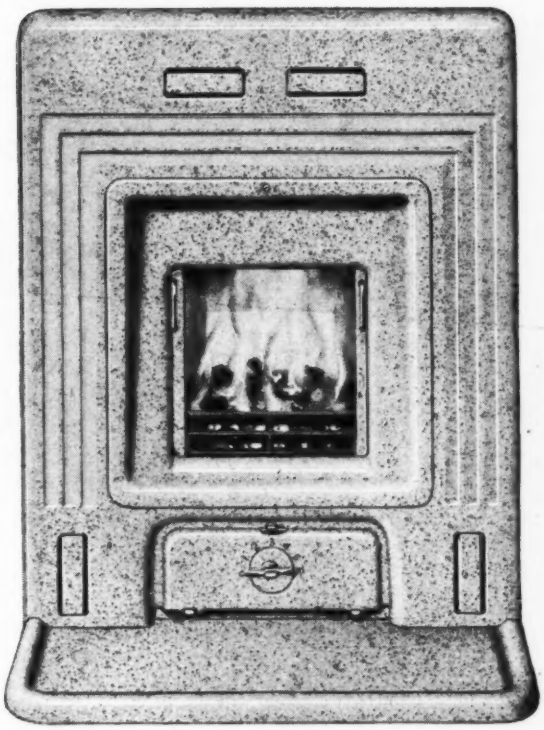
Wallboards for Government Work

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

T.2 JAN.46

HOUSING SCHEMES

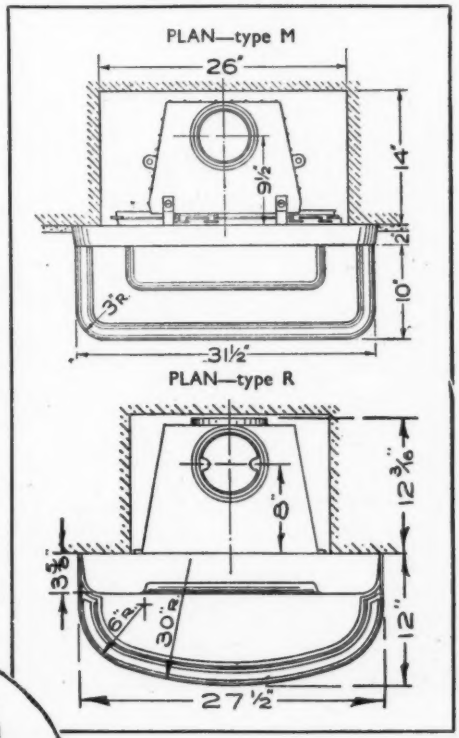
continuous warmth with the *ESSE-Q* . .



This latest self-setting ESSE Stove, open and closed fire, burning continuously, using any type of solid fuel, reducing smoke emission when bituminous coal is burned, is specially suitable for municipal and other mass housing projects. The ESSE-Q can be used in combination with an air duct to convey heat by convection to other rooms. It is fitted with tight-fitting, sideways sliding fire doors (obviating ugly appearance of inner side of fire doors when open). Fire doors are closed for overnight burning, or boosting. Standard exterior finish is oatmeal mottled porcelain enamel, but other mottled colours are available if desired. There are three types, R, S and M, detailed below.

three main types

Type M, illustrated top right, has mantel front with or without shelf and has hot and cold air louvres for convection heating. Type R, illustrated below, is designed for setting into a recess and front can be supplied with hot and cold air louvres. Type S (not illustrated) is similar to Type R but is fitted with surrounds to stand free from wall.



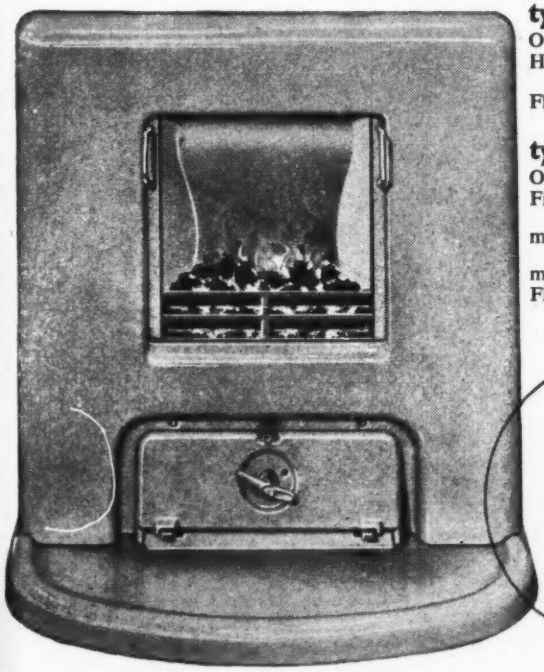
brief technical details

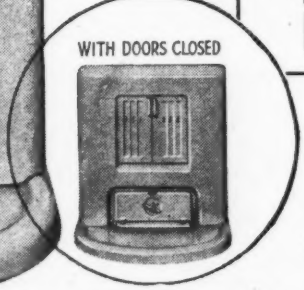
type M

Overall height 40"; Height of Fire-place opening 33"; Flue outlet takes 6" cast iron pipe.

type R

Overall height 28½"; Fire-place opening: height min. 27½", max. 28"; width min. 18", max. 24". Flue outlet takes 6" cast iron pipe.





FULL DETAILS GLADLY SUPPLIED ON REQUEST FROM

SMITH & WELLSTOOD LTD

ESTABLISHED 1854

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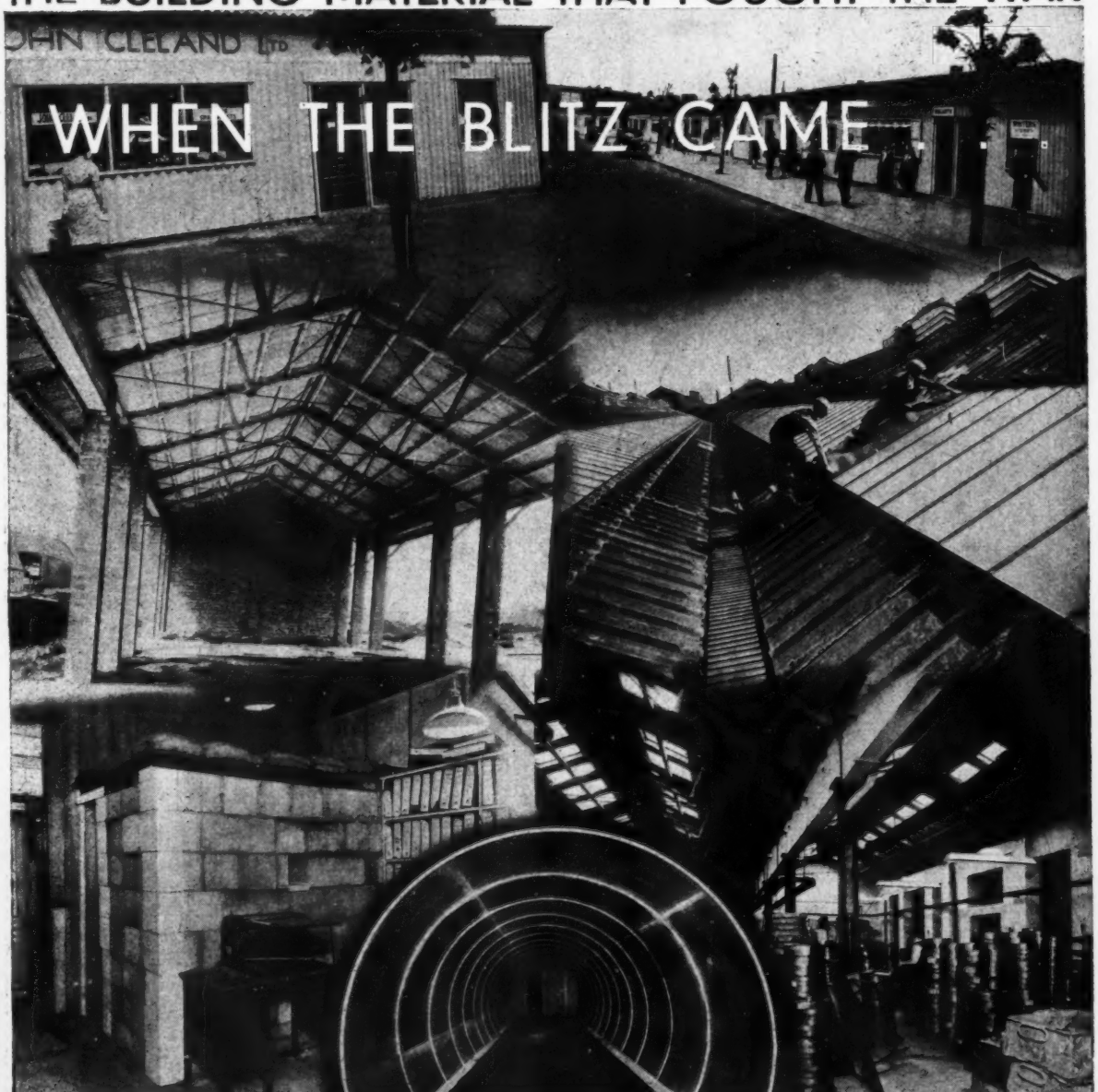
ASBESTOS-CEMENT

THE BUILDING MATERIAL THAT FOUGHT THE WAR



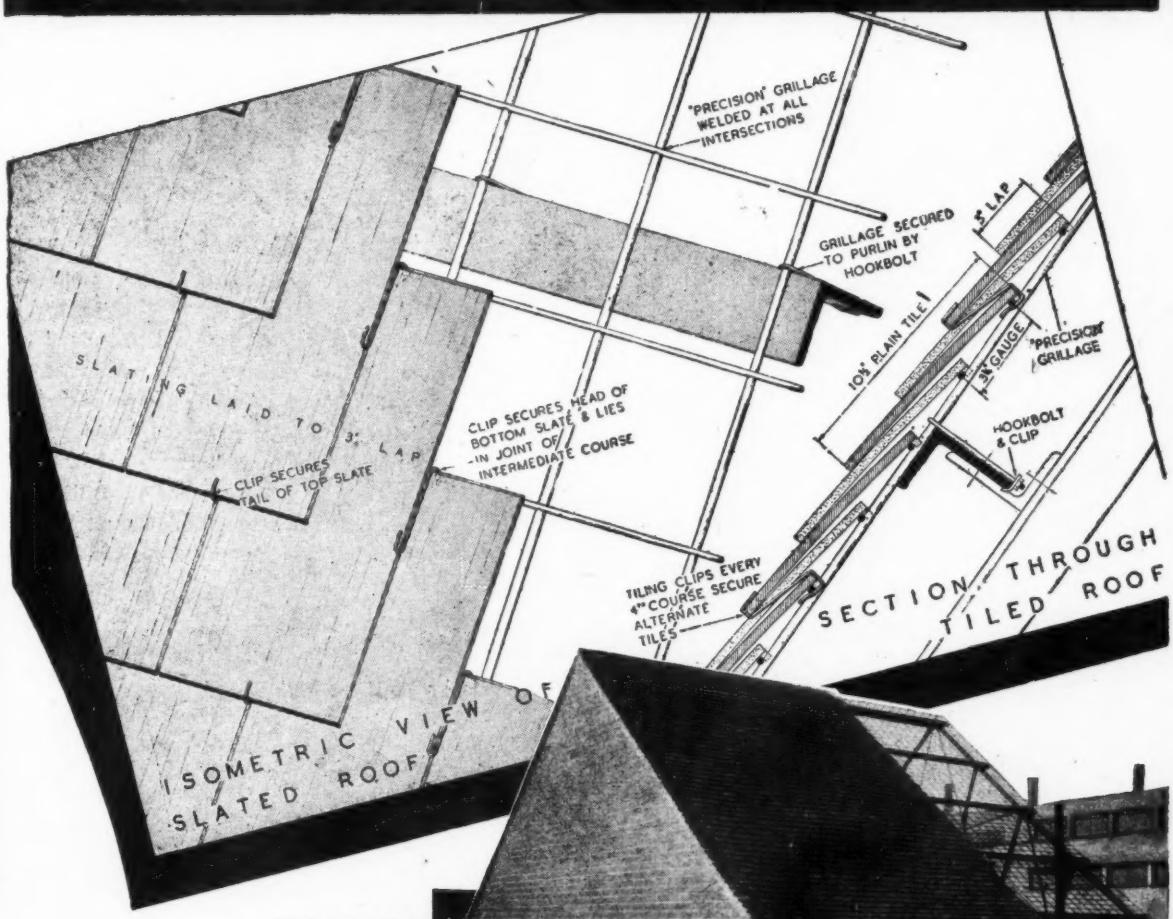
The "Blitz" created the need for Anti-Aircraft Gun-sites, Searchlight Stations, and Hospitals, with their hundreds of buildings of all sizes and shapes, to be clad and serviced; the rehabilitation of the Shopping centres in Towns that were "Coventrated"; the filling of "blast gaps" in the factories, houses, etc.; and the need for the black-out of hundreds of millions of square feet of glazing — all these called forth a tremendous effort on the part of the asbestos-cement Industry, to which the workers nobly responded.

TAC **TURNERS ASBESTOS CEMENT CO. LTD.** TAC

TRAFFORD PARK • MANCHESTER 17

G.G.115

PRECISION ROOFING



Tiled roof under construction.

WORKS-CONSTRUCTED TO CONFORM TO MODERN BUILDING METHODS

Here is a new form of roofing which can be speedily erected with a minimum of labour.

The roofing is works-produced in the form of a standardised steel grillage, spaced according to the type of covering to be used. Slates or tiles are secured to the horizontal bars of the grillage by specially designed rustless steel clips.

Precision Roofing is light, easily erected with a minimum of labour, and adapted to any type of span roof. Send for a booklet.

Close up of roof tiling.

PRECISION ROOFING

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PR2

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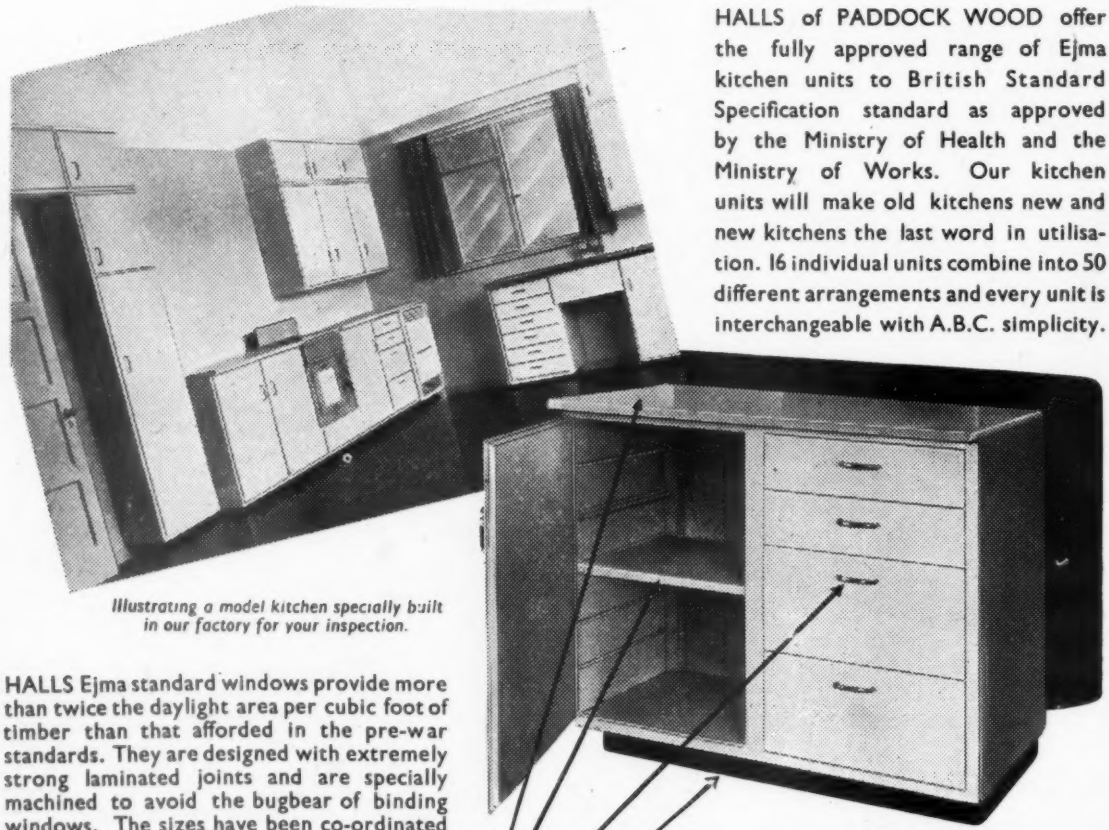

Illustrating a model kitchen specially built in our factory for your inspection.

HALLS of PADDOCK WOOD offer the fully approved range of Ejma kitchen units to British Standard Specification standard as approved by the Ministry of Health and the Ministry of Works. Our kitchen units will make old kitchens new and new kitchens the last word in utilisation. 16 individual units combine into 50 different arrangements and every unit is interchangeable with A.B.C. simplicity.

HALLS Ejma standard windows provide more than twice the daylight area per cubic foot of timber than that afforded in the pre-war standards. They are designed with extremely strong laminated joints and are specially machined to avoid the bugbear of binding windows. The sizes have been co-ordinated with brickwork dimensions thus saving many man hours on site. They are weather, draught and dust resisting.
We have an ample range of standardised units and you cannot do better than SPECIFY HALLS Ejma windows and doors.

Whatever you need in KITCHEN UNITS, WINDOWS, DOORS AND FRAMES MANUFACTURED TO THE Ejma STANDARD, REMEMBER the name is HALL the mark of QUALITY for the RIGHT STANDARD at the RIGHT PRICE.

EJMA THE HALL MARK OF QUALITY

Here are just four of the outstanding features of Ejma Kitchen Units supplied by Hall's of PADDOCK WOOD, one of Britain's greatest and finest joinery plants:

A.—Continuous worktop fits over floor cupboards at convenient working level of 3ft. above floor.

B.—All drawers and cupboards interchangeable.

C.—Specially designed dustproof drawers.

D.—Toe space is given by a recessed 3" plinth.

Ejma is the Certification Trade Mark of the English Joinery Manufacturers' Association.

ROBERT H. HALL & Co. (KENT) LTD.

Salem Wharf 4 PADDOCK WOOD KENT TELEPHONE PADDOCK WOOD 105, 107, 108. 3 LINES

A New method of Building

The Wates precast concrete permanent houses are constructed with concrete units of which a specimen walling unit is shown on left. This system employs a widely distributed, cheap and well understood material, requires no steel frame, is capable of widespread production in existing factories and calls for no new machinery. The method of construction is extremely flexible and can be applied to almost any plan for houses or other buildings. Approved by H.M. Government for Local Authority Housing Schemes.

WATES BUILD

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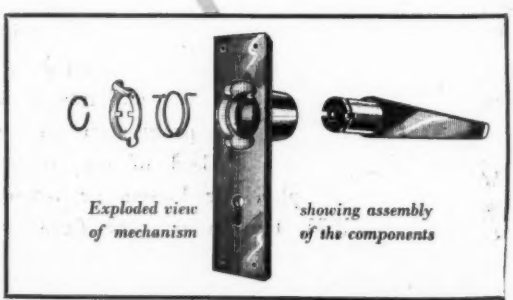
1258-1260 LONDON ROAD, LONDON, S.W.16. TELEPHONE: POLlards 4401 (15 lines)

OF course it's handy — that's the essential idea in making door furniture. But Lacrinoid door furniture is something more than handy; it embodies entirely new principles. Consider this lever for instance. It operates on the 'roller' principle, the neck being moulded in one piece with the back plate and the shank of the lever rotating within the neck. The spindle floats, thus automatically compensating for variations up to 1 inch in door thickness. There are no grub screws at all. There is no risk of rattle or looseness. The spring is so made that an even pressure is exerted throughout the turn of the lever. These handles are being made at present in black and brown only, but later a full range of colours will be available.

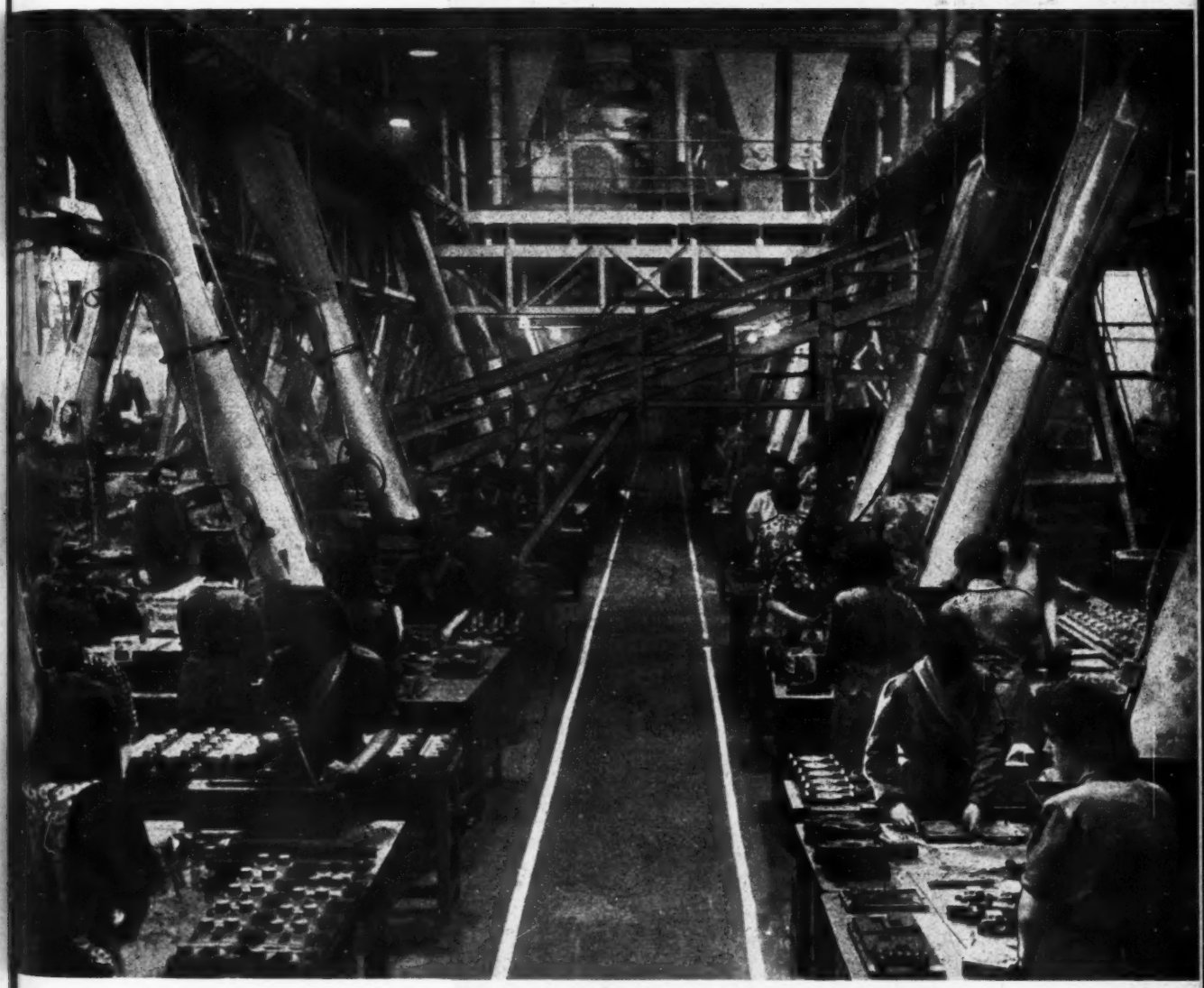


Exploded view of mechanism *showing assembly of the components*

LACRINOID

LACRINOID PRODUCTS LTD · 90 REGENT STREET · LONDON W.1 *Regent 5001*

Core-making IN A FAMOUS LIGHT METAL FOUNDRY



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Geared for Peace

British Industry needs more castings than ever. Renfrew Foundries, the largest and most highly mechanised light metal casting plant in Europe, can meet all demands. Output capacity and cost are such that they open new fields for the application of these tough, durable and light alloys. Abundant raw materials, fully mechanised production supported by outstanding research, design and engineering specialists, unique facilities for the quick production of prototypes are features of Renfrew service of vital interest to manufacturers pressed for delivery. Full co-operative service from drawing board to despatch.

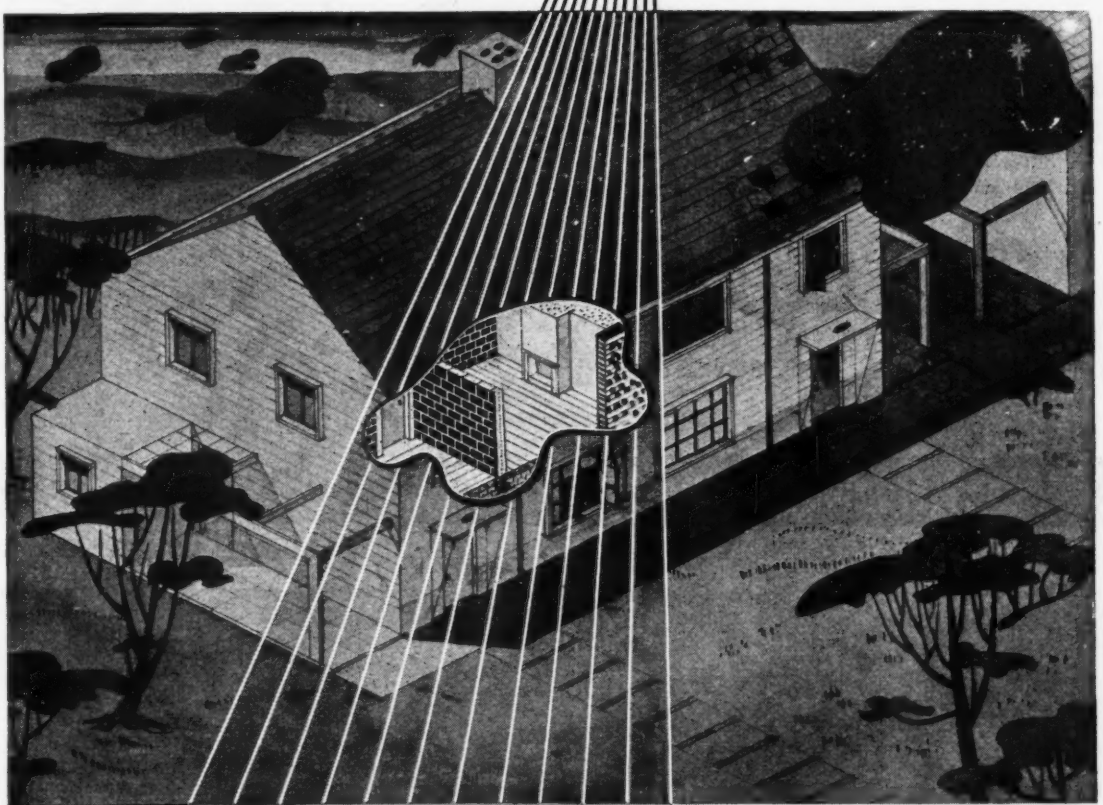
RENFREW FOUNDRIES LTD

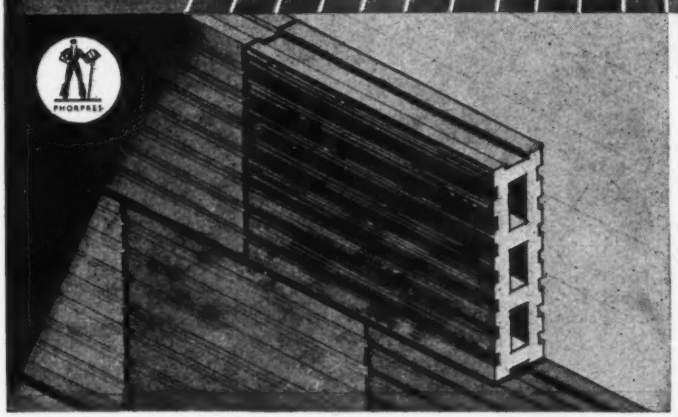
HILLINGTON · GLASGOW · SW2

FOR POST-WAR HOUSING

For all types of partition work, internal linings to brickwork and party wall construction.

PHORPRES
HOLLOW CLAY BLOCKS





The principal advantages of "Phorpres" hollow clay blocks include :

- Low cost.
- Speed of erection.
- High insulation value.
- Sound plastering results.
- Proof against shrinkage and cracking.
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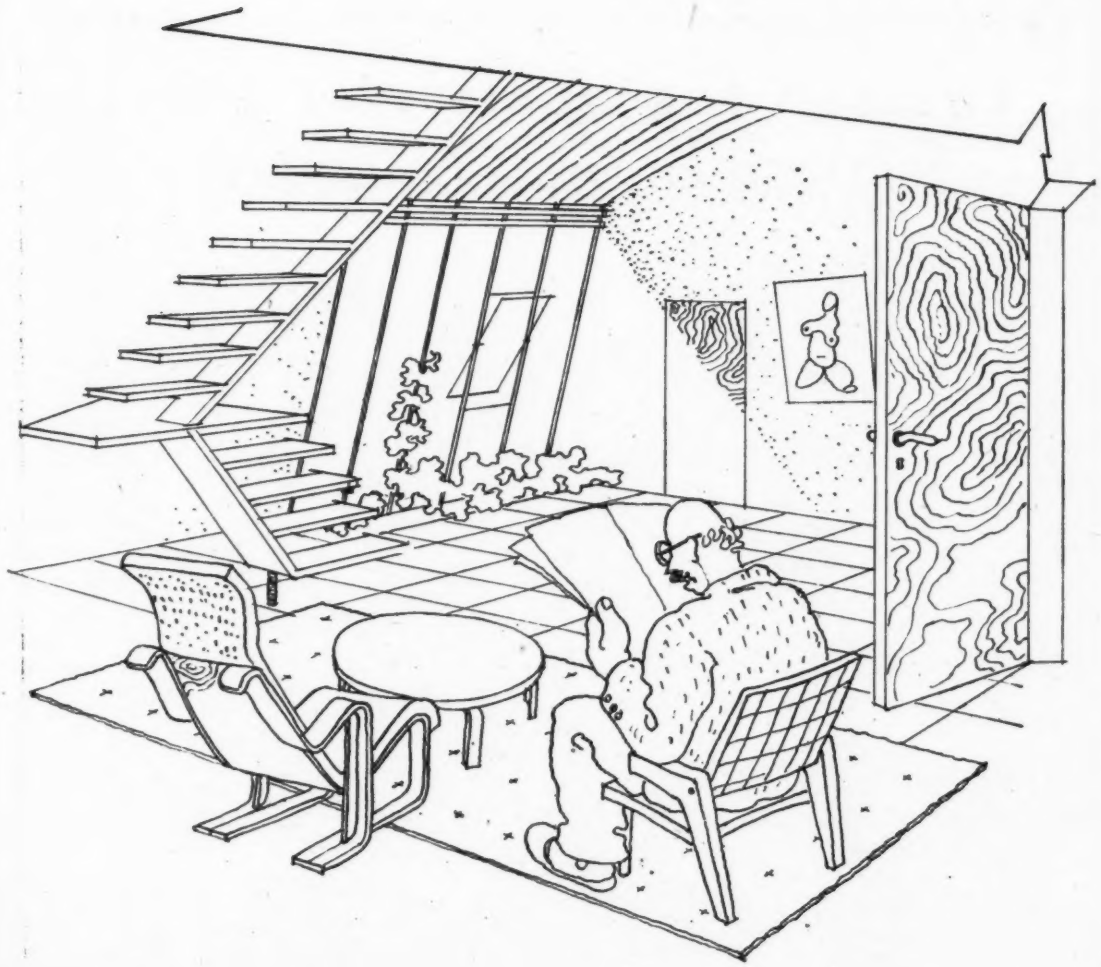

REST AND RE-CREATION

Architects . . . with psychological foresight . . . planning homes whose beauty and—dare we use the word?—utility shall be fitting compensation for the vanished years of domestic and architectural eclipse; homes designed as oases of rest in an atomic age of tireless progress. A better, brighter home is on the way! . . . Linden Doors should be on the specification, and the odds are that they will be.

We supply Flush, Panel, Casement and Garage Doors, Gates, etc., in Softwoods and Hardwoods in large quantities of standard designs, or special units for individual schemes. Today, of course, supplies are restricted; but we shall welcome your enquiries and advise you what best can be done.

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In common with every other periodical this JOURNAL *is rationed to a small part of its pre-war needs of paper. Thus a balance has to be struck between circulation and number of pages. We regret that unless a reader is a subscriber we cannot guarantee that he will get a copy of the* JOURNAL. *Newsagents now cannot supply the* JOURNAL *except to a "firm order." Subscription rates : by post in the U.K. or abroad, £1 15s. 0d. per annum. Single copies, 9d. ; post free, 11d. Special numbers are included in subscription ; single copies, 1s. 6d. ; post free, 1s. 9d. Back numbers more than 12 months old (when available), double price. Volumes can be bound complete with index, in cloth cases, for 15s. each ; carriage 1s. extra. Goods advertised in the* JOURNAL *and made of raw materials now in short supply, are not necessarily available for export.*

DIARY FOR FEBRUARY MARCH AND APRIL

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

LONDON. *Arts and Crafts Exhibition Society. Twentieth Exhibition.* At the Royal Academy of Arts, Piccadilly, W.1. 10 a.m. to 5 p.m. daily (Sundays 2 p.m. till 5 p.m.) Admission 1s. (Sponsor, Arts and Crafts Exhibition Society.) FEB. 28-MAR. 16

Solid Smokeless Fuel Appliances for Domestic Heating Services. Exhibition. At the Horticultural Hall, Vincent Square, S.W.1. The exhibition is being designed by Ian Jeffcott. (Sponsor, Solid Smokeless Fuels Federation.) MARCH

Stormont Murray. *Eric Gill; His Life and Work.* At the International Arts Centre, 3, Orme Square, Bayswater Road, W2. (Sponsor, IAC.) 8 p.m. MAR. 1

Prof. J. D. Bernal. *The Organization of Building Science Research.* Architectural Science Board Lecture. At the RIBA, 66, Portland Place, W.1. (Sponsor, RIBA Architectural Science Board.) 5.45 p.m. MAR. 6

Maurice Reckitt. *The Polls and the Citizen.* At the Town and Country Planning Association, 28, King Street, Covent Garden, W.C.2. Chairman, Dr. A. Leslie Banks. (Sponsor, TCPA.) 1.15 p.m. MAR. 7

G. L. E. Metz and R. L. Davies. *The Electrical Engineering Industry in The Post-War Economy.* At the Institution of Electrical Engineers, Savoy Place, Victoria Embankment, W.C.2. (Sponsor, IEE.) 5.30 p.m. MAR. 7

Town & Country Planning Association. *Conference: From Plan to Reality; The Operation of the Greater London Plan.* At Conway Hall, Red Lion Square, W.C.1. The conference is intended primarily to supply information as to the present stage of progress and to enlist the support of organized bodies who can stimulate interest and discussion in localities affected by the Plan. A second purpose is to advance the solution of the outstanding problems, among which are: 1. How to co-ordinate re-development in the bombed and blitzed areas with rehousing and the dispersal of the necessary amount of industry and business. 2. How to bring to a stop the sprawl of suburbs and to save for London the nearer parts of its Green Belt Ring. 3. How to start and push on with the necessary speed, the new towns and small town extensions in the Outer Country Ring. Speakers include: F. J. Osborn, member of Lord Reith's New Towns Committee, on *London's Chance: Can London Take It?* H. W. Wells, Chief Estate Officer, Ministry of Town and Country Planning, on *Redevelopment: Public and Private Agencies*, and J. F. Eccles, Director, Welwyn Garden City, Ltd., on *Relocation of Industry and People.* (Sponsor, TCPA.) 2.30 p.m. to 9.45 p.m. MAR. 7

New Systems of Concrete House Construction. Exhibition. At the London Scottish Drill Hall, 59, Buckingham Gate, S.W.1. (Sponsor, British Cast Concrete Federation.) 10 a.m. to 5 p.m. MAR. 9-14

Christopher Columbus Memorial Lighthouse. Exhibition of a model of the design of J. L. Gleave, A.R.I.B.A., placed first in the International competition held before the war. At the RIBA, 66, Portland Place, W.1. (Sponsor, RIBA.) 10 a.m. to 6 p.m. MAR. 13-25

London Master Builders' Association. Central Area No. 1. Meeting at Derry & Toms Restaurant, Kensington High Street, W.8. Chairman, C. E. B. Head. Guest of Honour, E. W. Garrett, President, LMBA. 2.15 p.m. MAR. 13

Ashley Havinden, Designer and Art Director, Sir William Crawford and Partners. *Design and Publicity.* At the London School of Hygiene, Gower Street, W.C.1. Chairman, Sir William Crawford. (Sponsor, DIA.) 7 p.m. MAR. 13

MARS Group (Modern Architectural Research). *Public Meeting* at the RIBA, 66, Portland Place, W.1. Various members of the Group who have recently returned from visits to different countries will give short reports on *Architectural News from Abroad.* (Sponsor, MARS Group.) 6.30 p.m. MAR. 14

Percy Delf Smith. *Signs and Amenities.* At the Town and Country Planning Association, 28, King Street, Covent Garden, W.C.2. Chairman, Clough Williams-Ellis. (Sponsor, TCPA.) 1.15 p.m. MAR. 21

R. E. Enthoven, lately Monuments and Fine Arts Officer, CMF. *Architectural Journey in War-time Italy.* At the AA, 34-36, Bedford Square, W.C.1. (Sponsor AA.) 6 p.m. MAR. 26

William Allen. *Colour in Building.* At the RIBA, 66, Portland Place, W.1. (Sponsor, RIBA.) 5.45 p.m. APRIL 3

H. Berry, M.P. *Town Planning and Water Supply.* At the Town and Country Planning Association, 28, King Street, Covent Garden, W.C.2. (Sponsor, TCPA.) 1-15 p.m. APRIL 4.

Mrs. Lovat Fraser. *The Future Use of Plastics.* At the International Arts Centre, 3, Orme Square, Bayswater Road, W.2. (Sponsor, IAC.) 8 p.m. APRIL 9

UXBRIDGE. *NALGO Exhibition.* At the Public Library. (Sponsor, BIAE.) FEB. 28-MAR. 2

NEWS

THURSDAY, FEBRUARY 28, 1946
No. 2666. VOL. 103

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

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

★★ *means important news, for reasons which may or may not be obvious. Any feature marked with more than two stars is very big building news indeed.*

From AN ARCHITECT'S *Commonplace Book*

ON THE GAS STATION. [*From* An Autobiography *by Frank Lloyd Wright* (*Faber and Faber*).] One more advance agent of reintegration, an already visible item in the coming decentralization of the City, may be seen in any and every roadside service station happening to be well-located along the highways. The roadside service station may be—in embryo—the future city-service distribution. Each station may well grow into a well-designed convenient neighbourhood distribution centre naturally developing as meeting place, restaurant, restroom, or whatever else will be needed as decentralization processes and integration succeeds. Already, hundreds of thousands occupy the best places in the towns or, more significantly, pretty well outside the towns. Eventually we will have a thousand new city equivalents at work detracting from every small town or great city we now have. Proper integration of these would help overcome the super-centralization now trying to stand against human Freedom. Added to many such minor stations destined someday to become beautiful countryside features there will be larger traffic stations at main intersections. There may be really neighbourhood centres where there will be more specialized commerce and such special entertainments as are not yet available by every man's own fireside.

★

After March 31, all candidates for the RIBA Probationorship will be required to submit certificates of having passed recognised examinations.

It will no longer be possible to submit special applications as has been the case for those who started their full-time architectural education or joined the Armed Forces before June 30, 1943. Special applications may, however, be submitted after March 31, 1946, by applicants serving with HM forces overseas who produce evidence that they have been prevented from making their special applications by March 31, by reason of their overseas service.

The Rt. Hon. Peter Fraser P.C., Prime Minister of New Zealand, was presented with the Diploma of HONORARY FELLOWSHIP OF THE RIBA at a Council luncheon on February 12. Other war-time Prime Ministers who are Honorary Fellows of the RIBA are Mr. Churchill, Mr. Mackenzie King and Field - Marshal Smuts.

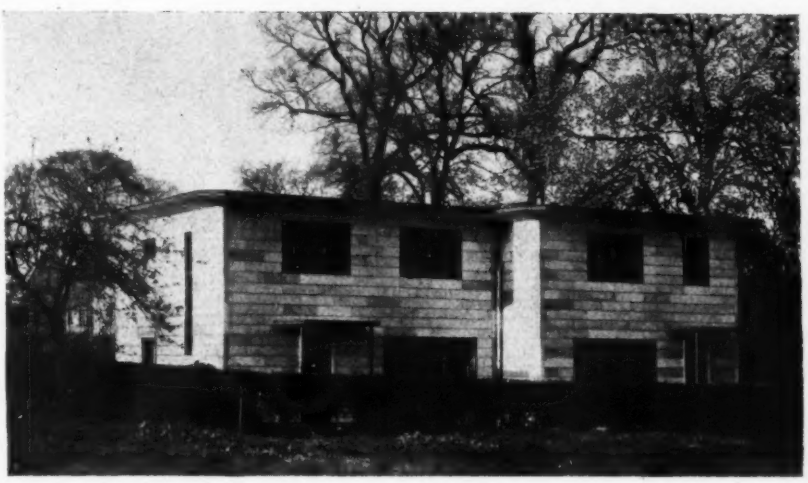
Mr. George Buchanan, M.P., Joint Parliamentary Under-Secretary of State for Scotland: DUNDEE SHOULD MAKE A BOLD APPROACH in obtaining tenders and pressing on with the preliminary stages of the housing programme.

Dundee's housing programme was the subject of a meeting at Edinburgh, when Mr. George Buchanan, MP, Joint Parliamentary Under-Secretary of State for Scotland, met a number of the town's representatives. In addition to town council representatives, there were present also Mr. John Strachey, MP, and members of the Dundee Trades' and Labour Council. A bold approach to the matter of obtaining tenders and pressing on with the preliminary stages of the housing programme was urged by Mr. Buchanan, who said in this way there will be no hold-up in taking full advantage of labour resources and supplies of materials as these became increasingly available. The bigger numbers of building trades workers due for early demobilisation make it imperative that all preliminary steps—such as site preparation, roads and services, and especially the inviting of a sufficient number of tenders for the building of houses—be taken to ensure that there will be no delay in absorbing these men to the fullest extent. Local authorities will be better even to err on the side of taking in more tenders than they can cope with for the time being, rather than to play for safety and so find that local building operatives might even be faced with temporary unemployment. Immediate acquisition and preparation of sites for temporary houses is especially urgent, stated Mr. Buchanan, because delivery of the various types is expected to come into full flood in the very near future, and it will be calamitous if the completed houses are to pile up at the factories because sites are not ready to receive them. Get in touch with us at once if you have problems, was Mr. Buchanan's final injunction to the deputation. You can be assured of every assistance in making the job of building houses easier and faster. And, said Mr. Buchanan, be rather overbold than over-cautious. Take risks—to get the housing programme going full blast.

★

The General Assembly of UNO has given unanimous approval to the proposal to erect a MEMORIAL TO CHRISTOPHER COLUMBUS.

The Dominican Republic has been chosen as the site for the memorial as being the centre of discovery and colonization of the Western Hemisphere. The monument is being erected by the twenty-one Republics of the Americas as a symbol of unity and co-operation. On the same site it is also proposed to house a Columbus Library and Museum which will serve as a centre of information for all countries of the world. In an International Competition, held before the war, in which 455 architects from 48 countries submitted designs, a British architect, Mr. J. L. Gleave, M.A., A.R.I.B.A., M.T.P.I., of Edinburgh, was the winner. His design is being used for the memorial and takes the form of a lighthouse placed on a gigantic recumbent cross three-quarters of a mile long. A 40-ft. model of this memorial will be on show at the RIBA, 66, Portland Place, W.1, every week-day from March 13 to March 23, from 10 a.m. to 6 p.m. Admission is free.



The Airey House will be shown in the Hall of Houses at the Modern Homes Exhibition to be opened at Dorland Hall on March 26. The house embodies a system of frame construction with a cladding of pre-cast vibrated reinforced concrete panels and is one of four permanent prefabricated houses to be shown in the exhibition in the form of models. The Airey House is by Richard Costain Ltd. The exhibition is being organised by the Daily Herald.

Architecture of Protection

Trajan's Column, Rome, cased in reinforced concrete and brick to protect it from air bombing and artillery fire during the war. Elaborate precautions were taken by the Italian ARP. to shield immovable works of art, and all movable ones were removed to safety. Important work was also done under the Supreme Command of the Allied Forces by the Monuments, Fine Arts and Archives Branch. The creation of this branch—whose activities are described by Lieut.-Colonel Sir Leonard Woolley on pages 186 to 187—had no precise precedent in the British Army and all British architects enrolled were suggested by the RIBA. The above illustration is reproduced from *La Protezione du Patrimonio artistico nazionale dalle oppese della guerre aeria.*

Advisory Committee on Furniture Production in Northern Ireland: There should be a POOL OF FURNITURE DESIGNERS through which firms can employ free-lance designers.

The Advisory Committee on Furniture Production in Northern Ireland, appointed by the Minister of Commerce, has issued its Report, the most important section of which contains important recommendations on the problems likely to arise in the industry with the return to peace-time conditions. The Chairman of the Committee was Mr. R. W. Charlesson. Here are some points from the Report which is published at sixpence (H.M. Stationery Office). A person should not be permitted to engage in the manufacture of furniture unless he is prepared to observe certain conditions, such as minimum standards of production, the maintenance of adequate factory premises, etc. In order to carry out this recommendation all furniture manufacturers in Northern Ireland should be registered. Registration would be granted only to those firms which observed the prescribed conditions, and in any case no new manufacturer would be licensed until firms already in business as furniture manufacturers in 1939 have had an opportunity to attain normal production. The majority of manufacturers in Northern Ireland are medium or small concerns. Individually they would not all be in a position financially to employ full-time the services of one or more skilled designers. There should be therefore a pool of designers, under the auspices of the Ulster Furniture Federation, through which firms could employ free-lance designers. In addition, arrangements should be made for scholarships to a suitable number of young craftsmen who have shown marked ability in designing, so that they can be given the opportunity of adequate training as designers. A design centre should be established, to be financed in part by the industry and in part by the Government. A central body for the Northern Ireland furniture industry should be established. It is therefore recommended that the Ministry of Commerce should establish an inspectorate for the purpose of carrying out these functions, particularly the enforcement of a minimum standard, the application of grade labels and the restriction of manufacture to registered firms. In exercising these functions the Ministry should be guided by a governing body to be appointed by the Minister of Commerce. This body should consist of representatives of employers and trade unions, representatives of distributors, representatives of appropriate Government departments (who should serve in a purely advisory capacity) and representatives of consumer interests. Registration should be granted to manufacturers by the Ministry of Commerce only on the recommendation of this governing body, with a right of appeal direct to the Ministry where such recommendation is refused.

Ministry of Health: COPPER IS IN GOOD SUPPLY.

Copper is at present in good supply, says the Ministry of Health, and local authorities may therefore wish to consider making further use of it in suitable cases for plumbing work in their housing schemes. Materials used should comply with the British Standards Specifications for copper products given in the Appendix to Circular 211/45. Local authorities, warns the Ministry, no doubt appreciate that some precautions may be necessary to avoid corrosion where copper and some other metal are used in the same system.

PREFABRICATED BUNGALOWS

NOW that the various prefabricated bungalows are being delivered and erected in some quantity in London and elsewhere, it is possible to form some idea of their appearance on the ground rather than on the drawing board, and we must admit that, so far, reality seems to fall a good deal short of promise.

Many rude remarks about the temporary housing programme have appeared in the daily press and elsewhere, and, although there may be a little substance in some of the criticisms, the fact remains that the majority of the houses, within the closely defined limitations of their programme, are perfectly satisfactory. The accommodation provided is certainly better than many architects have had during the last six years. During the last month we have visited three sites in the London area, and we have found that the majority of the tenants are very pleased with the houses and are as energetic as usual in making something of their gardens, but on each site we found the layout to be deplorably uninspired. We should add that none of the layouts was the work of an architect, but that is no excuse for dumping the houses in long parallel lines so that the result looks like an up-to-date chicken farm. In the early days of the temporary housing programme we saw a number of perspectives of complete estates in which considerable attention had been paid to layout. While it is true that any imaginary site will be shaped so as to give a good layout and the trees will, fortunately, be placed just where they help the landscaping, we cannot believe that the layouts perpetrated by local authorities need be quite so far removed from the ideal.

This seems to be a matter in which the appropriate Government departments are intimately concerned, yet none of them seems to have done anything. True, the Ministry of Health issued a memorandum of advice to local authorities as far back as 1944, but no Ministry seems to have power to do more than advise, and advice, however excellent in itself, tends to be pushed into a pigeon hole and probably never reaches the junior assistant who is doing the layout in some dim corner of a busy Borough Surveyor's office. The advice given in the memorandum is not very specific. "Every effort must be made to ensure that the surroundings are as pleasant as possible . . . The layout of the bungalows and their colour scheme will require even more skill than with permanent buildings . . . where necessary additional planting should be arranged, especially if it can be permanent." These high minded principles are, however, supplemented by fifteen type plans, some needing a little more land than others, but none with a density less than 11½ dwellings to the acre, so that they could certainly not be called extravagant.

Yet for the layout of estates, as opposed to the designing of the actual houses, there are appropriate (though small) fees for architects which have been agreed by the Government to be reasonable. Is it too much to ask that regional housing

authorities might encourage the employment of architects in the layout of temporary housing sites? It is urgently necessary that local authorities should be prevented from laying out estates in the way that a farmer plants cabbages.

The responsibility perhaps rests jointly with Mr. Bevan and Mr. Silkin, though the latter seems to be concerned mainly with long term planning. But the total cost of the temporary housing programme will be something like 180 million pounds; less, of course, than a couple of weeks of war, but is it too much to suggest that the old adage about a ha'porth of tar might also be applied to temporary housing?

In the days before the war coroners used to deplore the "suburban neurosis" which led young wives to suicide. Mr. Bevan's health plans may make a few general practitioners redundant, but unless he does something about layouts he will find, in a few years, that he is very short of psychiatrists.

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

NOTES & TOPICS

NEWS FROM SWEDEN

Stockholm, a Scandinavian tells me, is flaunting its wealth, with shops full of all the luxury goods we've forgotten (or tried to forget) during the last six years. Many new buildings have gone up there, including the biggest hospital in Scandinavia. The Svenska Slojdforeningen (Swedish Arts and Crafts Society to you) recently held its jubilee exhibition, commemorated by a thick souvenir catalogue whose advertisement pages alone form quite a gallery of industrial art. New price-list of Swedish Co-op. furniture starts with coloured sketches of decorative schemes, ends with natural-colour photographs of individual pieces of furniture and furnishing fabrics, and in between shows that, despite Sweden's present prosperity, well-designed goods can still be bought there at reasonable prices.

In Malmö, Sweden's third largest town, a magnificent theatre has just been completed, said to be the largest in Scandinavia. Three architects, aged eighty, fifty and thirty, collaborated in its design, but, judging by results, the junior partner must have pulled a lot of weight, as the theatre is an essentially modern building. In fact, it is not one but two theatres—a small hall for intimate plays and a larger hall, seating 1,800, for the more spectacular. The size of the large hall, moreover, can be varied by an ingenious system of sliding partitions. Not only is the theatre faced in marble, but its courtyard is paved in the same material. In Stockholm they are wisecracking, "Now that Malmö has such a first-rate theatre, it can only afford third-rate actors."

. . . AND FROM DENMARK

In Denmark (unlike Norway) building continued during the German occupation; some of it is said to show Germanic influence. Nevertheless, a Norwegian opinion is that Danish architecture is the best in Scandinavia, Sweden's, though good, being considered at times too playful, too consciously clever.

*

Copenhagen has a new Broadcasting House—a concrete building with a very fine concert-hall and modern equipment. The Danes adopted a go-slow policy in building it, in the hope that it wouldn't be finished in time to be of much use to the Germans. It wasn't completed until late in 1944, and seems to have escaped the mark of the jackboot—though there are signs of wartime about it; for instance, a balustrade originally intended to be of steel was eventually made in wood in a different design because steel was no longer available for such purposes.

*

It is said that Copenhagen is to pull down her present airport restaurant and replace it by a larger one more fitted to the Clapham-Junction-of-the-air part which she feels she must play. Many people who have used the restaurant will regret the decision, as—apart from it's being only a few years old—it is a pleasant building, with a sinuously curving run of windows which enables you to see all that's happening on the airfield as you enjoy your refreshment.

*

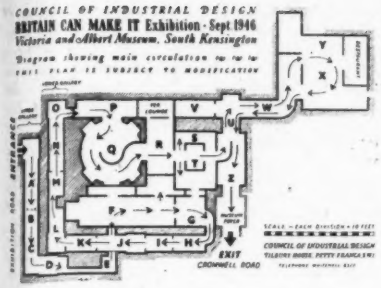
At the moment, Denmark's biggest housing problem is to find accommodation for the thousands of refugees who fled into the country from Germany just before the collapse. Temporarily, they are living in schools, museums and even in the big General Motors factories.

BIGGER AND BETTER BUSES?

Architects are well aware of the many archaic laws that hamper them in the application of modern building techniques—and it seems that the designers of things other than buildings are hampered by similar laws. For instance, in the past the width of buses in this country has been limited to a maximum of 7 feet 6 inches—by a forty-year-old regulation. British bus manfacturers and operators, however, united in demanding that the limit be raised to eight feet, with the result that the Minister of War Transport has announced in Parliament that vehicles of this width are to be allowed to operate on roads approved for the purpose.

*

The odd six inches may not at first seem much to make a fuss about, but the demand is supported by some pretty cogent arguments. First, export trade. Most overseas countries prefer the eight-foot bus and at present the British manufacturer wishing to sell buses abroad has to duplicate all his models—narrow for home, wide for overseas—which sends up prices in both markets. Second, the slight extra width could make a world of difference to the passenger's comfort, both when he is sitting down and when he (or the conductor, or his fellow-passenger with the large shopping-basket) is making his



way along the gangway. Third, the engineers claim that greater width will give greater stability and allow the fitting of bigger tyres and bigger brake-drums, thus increasing safety.

*

The obvious counter-argument, that buses eight feet wide will be *too* wide for English roads, is weakened by the fact that there is no ban on lorries which, with their loads, exceed this width. Moreover, 81 eight-foot buses originally designed for overseas were put into service in this country as a wartime expedient; they have been running in dense traffic but not one of them has been involved in an accident because of its extra width.

BRITAIN CAN SNAKE IT

Reproduced on this page is the preliminary plan for the "Britain Can Make It" exhibition proposed in September next for the Victoria and Albert Museum. It is, of course, unfair to judge the merits of a plan which is tentative only and is anyway vigorously controlled by the existing structure.

But at first glance it seems (*a*) poor policy to enter by the side door and exit by the front door: (*b*) to provide such a limited range of contrasting room shapes. [The first half mile or so is through a succession of constant widths]: (*c*) to fill the corridor galleries with furniture and equipment and the large gallery [F] with pottery and clocks. Also, while it is a relief to get away from the familiar free-shape plan looking like a Jacqmar scarf, the circulation *appears* to be a little tortuous—Britons, in fact, will have to snake it.

*

Finally the plan, as an example of typography and presentation, is a sorry muddle doing no credit to the CID. They haven't even spelled their own address right.

PLASTICS AND YOUR GRATUITY

A month ago I suggested that it is not a cheap business to get started in the plastics industry and I quoted figures about the cost of presses and dies.

*

You buy your raw material from the same manufacturers as your competitor and you can cut your price only by reducing production costs. The easiest way to do this is to cut down the amount of plastic binder and increase the percentage of sawdust, wood flour or whatever other filler you use. Your competitor is doing this too, of course, and you end up with a month's output coming back because the eggs fall straight through the bottom of your eggcups. The moral of this, of course, is that the cheapest product is almost certainly the worst.

ASTRAGAL

Top, plan of the Britain Can Make It Exhibition. *Bottom, Birmingham Street Scene, left, a bus of the new permitted width; right, a bus of the old width. See Astragal's comments.*

LETTERS

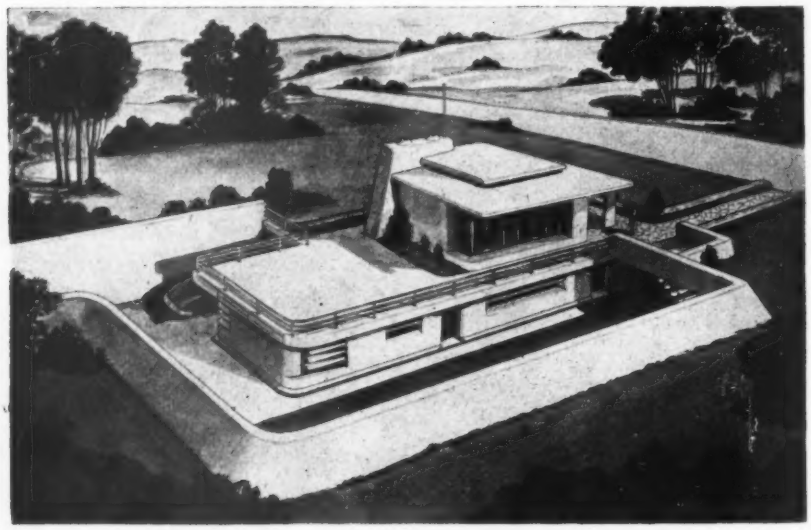
C. A. V. Smith,
A.R.I.B.A.

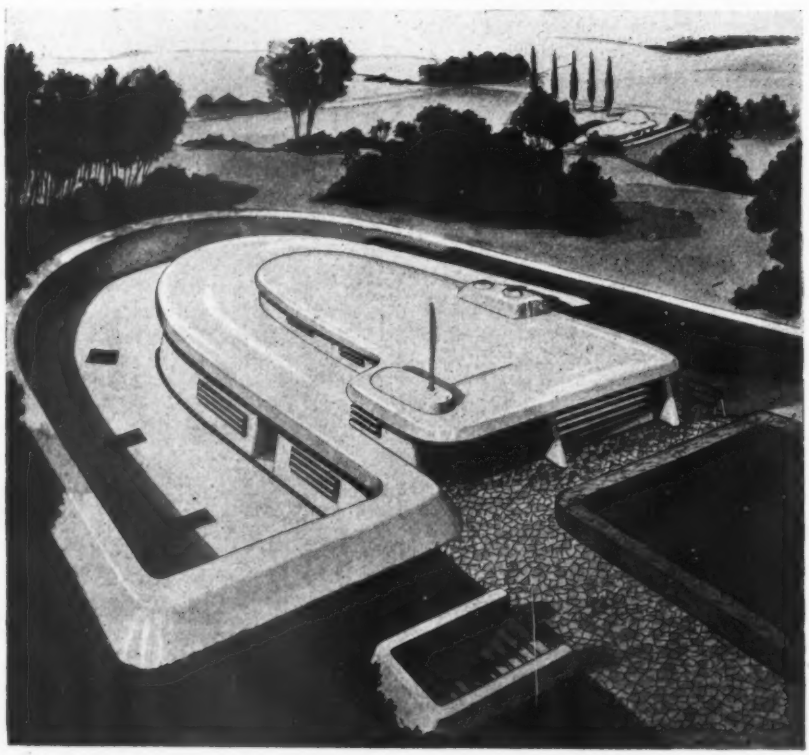
The Ministry of Works and a New Shop Front

SIR,—I recently applied to the Ministry of Works for a licence to carry out certain alterations and repairs to a small restaurant in London. The majority of this work, which included the provision of adequate mechanical ventilation in the basement where the cooking is done, and which is very stuffy, was required by the medical officer of health of the district concerned. In addition, I included for the provision of a new shop front, as the old one had been destroyed by bomb damage, and in any case the upper louvre part and the lower stall boards were necessary to the ventilating scheme. The original application was modified by us to what the Ministry's own technical officers considered necessary and reasonable.

Negotiations with the Ministry, occupying our time in the preparation of revised drawings and specifications, have been in progress since last October, and we were assured by the technical department that we would receive a licence for the scheme as finally submitted. To-day (February 7) I telephoned the Ministry to ascertain the position, and was told by one of the chief licensing officers that he had no intention of issuing a licence for anything like the figure required, but would consider a licence for £750. This figure would cover the whole of the building

ATOM BOMB HOUSE





One of the effects of the atom bomb has been to provide—at last after a quarter of a century—modern architecture with a pretext for accepting streamlining as a design motif. This home is alleged to be the forerunner of the atomic age. It is conceived by Jacques Martial and Robert C. Scull, industrial designers of New York, and members of the American Rocket Society. Walls are built of concrete and intense-heat-resisting material used for the construction of blast furnaces. The inner walls are lined with a layer of compound of asbestos and lead to prevent the harmful effects of heat and the gamma ray. The walls and roof have rounded surfaces to offer the least resistance to air pressure. All openings can be shut tight by concrete shutters of the venetian blind type. The sunken opening around the home is used for a driveway to the sunken garage which is isolated from the house. This opening also permits light and sunshine into the home. Below this level is an air-tight cellar which has another compartment for emergencies. It includes sleeping quarters, wash-room and toilet, a unit for current electricity, water and a reserve of enough compressed air for the inhabitants to live on for several days. Martial and Scull also suggest that each individual in the house should be provided with an asbestos suit lined with a lead compound.

work required, but means the elimination of the ventilation scheme and the shop front, which, to save further ultimate expense both to the client and the War Damage Commission, should be carried out at one and the same time as all the other building work, and not at a considerably later date. The Officer concerned said that his reason was that the ventilation and the shopfitting firms concerned could be better employed in building houses, and told me that he had heard of one firm of shopfitters employing 200 carpenters. This latter remark seemed so unlikely to me that I got in touch with one of the firms of shopfitters who were quoting for this job, and as the result of their information I wrote a letter to the Ministry of Works, which I quote below:—

"Re: ——— St.

"I was very interested to hear your views this morning regarding the need for cutting down on the issuing of licences in respect of the provision of new shop fronts on the grounds that such firms could be more usefully employed providing houses, and your remark that you were aware of one firm of shopfitters employing 200 carpenters on shopfitting who could be more usefully employed on the housing drive.

"I have since spoken to the Works Manager of a firm whom we have asked to quote for the shop front at the above premises, and he told me that 200 carpenters, or for that matter a thousand of the type normally used in modern building could not turn out one decent shopfront, as this could only be done by experts with many years of training and experience behind them, whose skill would be completely wasted in doing the elementary carpentry work needed for war damage repairs and modern house building, such as cutting and fixing rafters.

"I further understand that there is a firm of shopfitters down in Wallington who are also building houses, and it would seem to me quite possible that your information as to a firm of shopfitters employing 200 carpenters is correct, but that these carpenters have been specially taken on by that firm because in fact, apart from doing shopfitting, they have undertaken house building, and have accordingly taken on the appropriate type of labour necessary for this latter work.

"I have thought that it might be of some interest to you to have this information, as being useful to you in your work."

If the desire for housing is as sincere as we are led to believe, it is extraordinary that many architects whose names are on the Ministry of Health's list as willing to help local authorities, are never approached on the subject, but are left to deal with new housing schemes on their own initiative, while Ministry officials—who are apparently not technical men—are allowed to waste the time of such architects in revising schemes to suit Ministry requirements apparently dictated by information inaccurately applied by the non-technical branches of the Ministry.

Always being inquisitive as to the underlying reason for otherwise illogical actions, I suggested to the officer concerned that I understood the Ministry had come in for some criticism for licensing extensive external work to a certain cinema which, to the many passers-by, was obviously unnecessary and was of a class that would employ the type of operative who would be better employed on housing, and that this was the real reason for curtailing any outwardly visible work such as a shopfront, even though it would result in little benefit to the housing situation. His reply, though evasive, led me to believe that this was so.

If recovery is to be left to scared officials to whom a little quickly acquired knowledge must, like the old adage, be a dangerous thing, we will have to agree with the pessimists whose outlook on the future is so full of forebodings, and drop the optimistic viewpoint which in the past has always brought this country through every crisis.

London C. A. V. SMITH

In prefabricated buildings efficient jointing between large units has been found impossible with traditional methods. Even in stone and brick houses, such methods have produced serious failures. A material is needed to maintain a perfect seal, even though the shape or size of the joint it fills does change. Materials claiming to perform this function are described in the following article.

CAULKING METHODS

[*by R. G. H. Salmon*]

The great interest now being aroused in new forms of building construction has focused the attention of building technicians more keenly on the problem of efficient jointing. It has been found quite impossible to seal the joints between the large units used in prefabricated building by any of the traditional methods, and a study of this particular work has brought the realization that much of the jointing even in ordinary stone and brick houses has, in the past, given rise to many serious, if not such obvious, failures. Even in fields far removed from the housing industry—ship and coach building, plant erection, etc.—jointing problems have never been treated with the importance they deserve.

TRADITIONAL JOINTING COMPOUNDS

The traditional jointing compounds are putty, mortar and cement. These materials are applied in a soft and malleable condition, but in time they set hard; joints in which they are used are therefore filled with rigid substance. It is perfectly obvious that a rigid filler can never maintain a satisfactory seal in joints which are not themselves rigid, but which may be subject to movement or vibration; and such non-rigid or expansion joints occur more widely than is perhaps realized.

Consider, for example, the joints between a window or door frame and the surrounding masonry in normal building construction. The movement of the frame due to weathering, settling and seasonal change of temperature will not only cause the size of the joint to vary, but will cause it to vary from month to month and prevent its ever attaining a fixed and definite width. It is a common experience to find that, when hard setting sealing agents are used to fill them, such joints crack and ultimately fall out. Even the laborious and expensive job of cleaning out and re-sealing the joints with a similar filler can effect no more than a temporary remedy.

This is perhaps the type of expansion joint most often encountered, but others are found in floors, chimneys, roofs, roof lights, swinging transoms and pavements. Even joints and cracks which do not vary very appreciably in size may, by the vibration caused around them either by the proximity of traffic or working machinery, require the same sort of treatment as expansion joints.

The problem calls for a material which will maintain a perfect seal, even though the shape or size of the joint it fills *does* change. Materials which claim to perform such a function are, in this article, described as Caulking Compounds.

WHAT CAULKING MEANS

The fundamental difference between traditional jointing materials and caulking compounds is quite clear. The former are intended to set hard and fill the space jointed with matter comparable in load bearing characteristics with the materials jointed; the latter should be formulated so that they do not set hard, but retain sufficient plasticity, elasticity and adhesion to enable them to breathe with the movement of the joint, and, despite this movement, to maintain a weather-tight seal.

This simple comparison should be borne in mind. There still exists a good deal of confusion on the subject. Caulking compounds are not intended to take the place of mortar, putty and cement; nor should they be regarded as particular types of putty. Their function is different. They are not load bearing. Their duty is merely to give a perfect seal. Sometimes, indeed, traditional jointing materials and caulking compounds can, with advantage, be used in conjunction. While a caulking compound could not be used to fix blocks of artificial stone together, it is good practice to ensure that the joints between such blocks are weather-tight by pointing them with an efficient caulking compound *after* they have been fixed in position.

In America, for many years now, caulking compounds have been appreciated and used with great success. The National Bureau of Standards—a fact finding, public institution—summarizes their importance as follows:—

"Plastic caulking compounds have come into extensive use for filling certain joints in masonry as well as in some other types of construction. They are intended to remain sufficiently pliable to yield and maintain a seal in joints that vary in width to such an extent as to render the use of mortar or other rigid joint fillers impracticable. Although the cost of caulking is reasonably small, the failure to properly maintain a seal may result in costly repairs."

The significance of the last sentence in this quotation would repay some thought.

METAL WINDOWS IN THIN REINFORCED CONCRETE

In Britain, although, as has been stated, general interest has only recently been kindled, the need for caulking compounds at least for particular jobs has been pointed out. R. Fitz Maurice, in *Principles of Modern Building*, discussing the failure of cement mortar for setting steel window frames in thin re-inforced concrete, says:

"(The manufacturers of metal windows) . . . show a fillet which is indicated as Mastic Pointing, but without giving a specification as to composition. Presumably the term Mastic implies a material which is soft and capable of sticking to two dissimilar materials, and accommodating itself to small movements. There are various combinations of substances which comply with these requirements when freshly compounded, but it is very difficult indeed to find any which will remain plastic after prolonged exposure to light and heat. When the mastic loses its plasticity it will usually be found that the fine crack in the bedding extends through to the face, and rain enters at the head or joints of the window openings . . . a surprising amount may enter through what is apparently a very fine crack."

WHY DISSATISFACTION ARISES

In the same book Fitz Maurice stresses the dissatisfaction arising from the use of unimaginatively formulated caulking compounds; that is, those designed as though their makers were obsessed by the idea of putty, instead of striking out boldly for formulations giving quite different properties.

"The majority of traditional jointing materials termed Mastics employ finely powdered fillers with linseed oil, white lead and litharge. They possess, therefore, characteristics very similar to glazier's putties, will harden on exposure until, ultimately, they will be too hard to fulfil the requirements here. There is also a number of plastic materials consisting of emulsions of bitumen with fillers. These should harden comparatively slowly, but in time will probably be ineffective."

Indeed the sad truth must be faced that not all caulking compounds advertised as permanently plastic have much chance of remaining pliable for more than a matter of weeks. Of the 72 commercial compounds tested by the American National Bureau of Standards (Report BMS 33) only a few gave satisfaction; and when it is pointed out that most of them were compounded of linseed, soyabean or fish oils (tung, rapeseed and cottonseed being used in a few instances), the fact is not surprising.

It is not, of course, easy to manufacture a first-rate caulking compound; a consideration of the properties it should have will leave this in no doubt.

PROPERTIES OF A FIRST-RATE CAULKING COMPOUND

(1) We have seen that the compound must retain excellent adhesion, plasticity and elasticity.

(2) It should obviously be capable of being painted; that is it should take a surface skin.

(3) Building materials vary greatly in type and therefore the caulking compounds must be resistant to such things as alkalis (from cement, asbestos, etc.) and different metals. It is also important that it should not stain whatever building material (from plaster to marble) to which it is applied.

(4) The caulking compound must hold its place and retain its desirable properties in a joint at the different extremes of temperature. No matter how effective it may be in cold weather a caulking compound which is in danger of running out of a vertical joint in midsummer is useless.

(5) The caulking compound must be easy to apply and at all normal temperatures.

The chemist may doubt that a material can be made which will meet all these, to some extent contradictory, claims. Retention of plasticity hardly seems compatible with rapid skin formation, for example. The practical builder, too, may doubt whether a compound which will stick to anything is capable of being applied easily.

Yet effective compounds of this type are known. Not many, it is true, but the good ones repay their use a thousand-fold.

The surprising fact about the report of the National Bureau of Standards was not that most of the compounds tested were unsatisfactory, but that a few of them—even when made with drying or semi-drying oils—were quite efficient. One linseed oil caulking compound out of twelve tested gave good results.

It was found that pre-treatment of the oils used was of first importance. The fillers used call for careful selection and must contain some fibrous substance, like asbestos, so that the caulking compound will have enough "ropiness" to resist the tendency to slump in a vertical joint. Mixing or grinding of the caulking compound during manufacture, naturally, greatly influences its final properties.

Below are quoted (from BMS 33) unsatisfactory commercial and satisfactory experimental caulking compounds made from similar materials.

A satisfactory linseed oil caulking compound was made up of:—

50, pptd. whiting 25, asbestone. 15, lithopone. 10, asbestos (7M)	Filler 59%.
Linseed blown at 120° C. 0.24% Pb and 0.03% Mn added as driers.	Vehicle 36%.
Mineral Spirits.	Thinner 5%.

PERFECT AFTER MORE THAN TEN YEARS' EXPOSURE

Now it may be argued that it is not saying a great deal for the relatively good caulking compounds quoted to state merely that they remained satisfactorily soft on limestone for periods of the order of one year. But commercial compounds have been officially tested after upwards of ten years exposure and found to be performing their function perfectly. Furthermore even the good caulking compounds mentioned are not by any means the best available.

Naturally the manufacturers of superior products cannot be expected to rush into print with their formulations. It can be taken that the vehicle of such compounds consists of specially treated viscous non-drying oils or resins, and the filler probably does not differ much from the examples given.

The need for caulking compounds is obvious; good caulking compounds are on the market. What is lacking is understanding on the part of the consumers of these products. They must make up their minds about what exactly they require of the caulking compounds they use.

Very crude caulking compounds are appreciated in this country for such jobs as sealing tanks, etc. Ward, in *Cements Used in Chemical Plant Construction*, quotes an example of these Lutes.

A. 1 part china clay 1 part asbestos fibre.	to 2 parts of mineral jelly.
B. 1 part asbestos powder. 1 part china clay 1 part stoneware dust.	to 2 parts of tallow, and 2 parts mineral jelly.

Lutes, of course, would not be suitable as general caulking compounds. They are hardly pliable or adhesive enough, they are not paintable and, above all, they do not admit of easy enough application. It is supremely important that caulking compounds should be easy to apply. Unless it can be demonstrated to builders that they are quick (and therefore cheap) to use they have little chance of winning general acceptance.

One American publication, *Revision of Specification (Proposed) for Putty and Elastic Compounds for Metal Sash Glazing*, which seems to attempt the impossible by including setting and non-setting jointing agents in the same specification, says of them, in something approaching panic: "(They) should have good plasticity after working by hand but not sliminess or stickiness." How such compounds are yet expected to adhere strongly to every conceivable kind of building material is not explained. It is not particularly easy even to knife or trowel a particularly pliable mastic.

BEST METHOD OF APPLICATION

The best method of application is by means of a hand pressure gun of some sort. These are shaped something like grease guns, but the compound is ejected by the action of a piston, worked from a trigger mechanism. Using a caulking gun a fairly competent workman can do the whole wall of a house almost in a matter of minutes. It has been usual to fill these guns by unscrewing the cap and nozzle and sucking up the caulking compound from a large container, by pulling back the tight fitting piston. The disadvantages in this are that time is wasted in cleaning and filling the guns and the material in the large container often degenerates by being left for long periods with the lid off and exposed to the weather. One firm of manufacturers of caulking compound is now sending out its products in sealed double walled cellophane bags which can be slipped into the barrel of a gun. All that is then necessary is to snip off the end of the cellophane bag nearest the nozzle of the gun, replace the nozzle and the gun is filled and ready for use.

Certainly it will add greatly to the comfort and wearing properties of new buildings if efficient caulking compounds are brought into more extensive use.

FISH OIL CAULKING COMPOUNDS :

	Commercial	Experimental
Composition ..	Calcite .. .. } Filler Amphibole .. .. } 76 per cent. Lithopone .. .. } Apparently blown fish oil } Vehicle 16 per cent. Thinner 8 per cent.	35 pptd. whiting .. } 30 talc .. .. } Filler 30 lithopone .. } 68 per cent. 5 asbestos (7M) .. } Fish oil blown with small amount of commercial drier } Vehicle 32 per cent. Thinner Nil.
Behaviour	Hard throughout after one year on limestone, fairly considerable shrinkage and seepage.	Satisfactorily soft after 13 months on limestone, showed medium shrinkage, no seepage and smooth skin.

SOYA BEAN CAULKING COMPOUNDS :

	Commercial	Experimental
Composition ..	Lithopone .. } Filler Amphibole .. } 60 per cent. Chrysotile .. } Apparently blown soya bean } Vehicle 27 per cent. Thinner 13 per cent.	50 ppt. whiting .. } 25 talc .. .. } Filler 15 lithopone .. } 58 per cent. 10 asbestos (70) .. } Soya bean blown at 120° C. ; 0·01 per cent. drier ; varnish 2 per cent. } Vehicle 38 per cent. Thinner 4 per cent.
Behav.our	Very hard after one year on limestone, showed fairly considerable shrinkage and seepage, and a thick wrinkled skin.	Satisfactorily soft after 9 months on limestone, showed medium shrinkage, no seepage and a slightly wrinkled skin.

The south side with its new porch and 18-ft. high living room window.

REMODELLED WEEK-END

HOUSE IN USA

DESIGNED BY HENRY WRIGHT

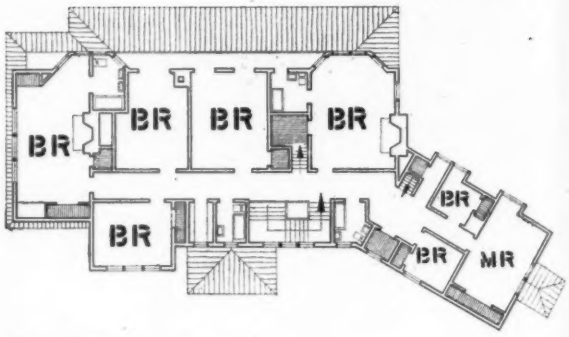
These photographs and plans illustrate how an ungainly and rambling Victorian summer home has been drastically converted, simplified and completely altered in character so that it appears newly built. The house stands on a hill overlooking one of Pennsylvania's loveliest river valleys.

The first floor has been virtually eliminated and a new roof has been added, but the changes are fewer than might at first appear and nearly all the existing materials have been reused.

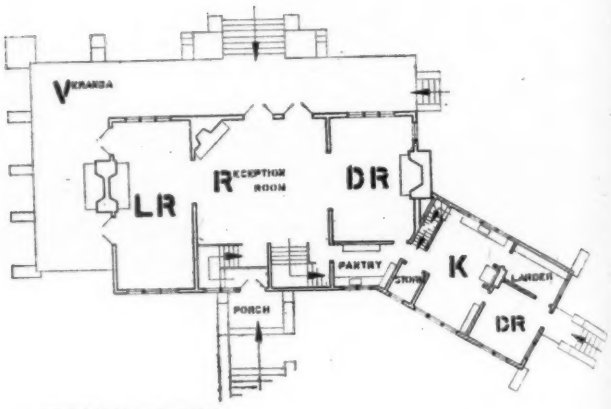
The servants' quarters have been modernized and the pantry transformed into a small kitchen. Dining room and reception hall have been thrown together into a large living room rising two storeys. A corner has been cut off this space to make a porch, two useless chimneys have been removed, and bedrooms added on the ground floor.

The main new feature is an 18-ft. high window serving both living room and bedroom on the south side. This window has double glazing with sealed air space for its full height, and a removable winter window has been installed 8 in. behind the bottom half forming a trough into which cold air descends behind the radiators. Radiators under the north clerestory

BEFORE ALTERATION



FIRST FLOOR

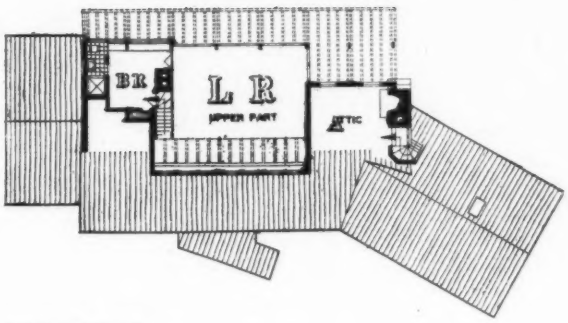


GROUND FLOOR

[Scale : $\frac{1}{32}$" = 1' 0"

Top, the old house, large and awkward, before conversion, viewed from the north side. Above, the north (entrance) side after conversion with garage added in the hill slope, first floor virtually removed and new roof added. Below, view from the remodelled building from the south.

AFTER ALTERATION



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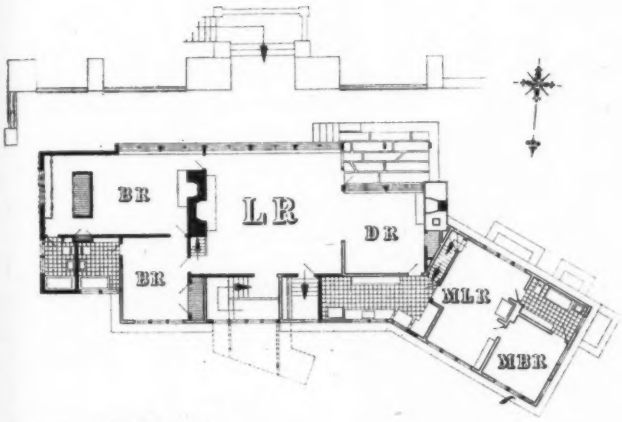
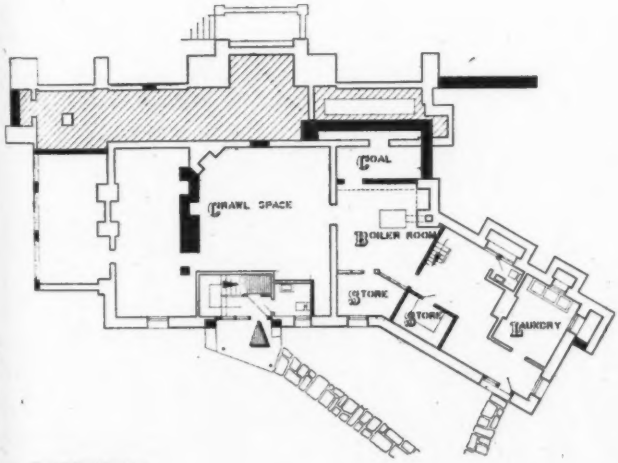
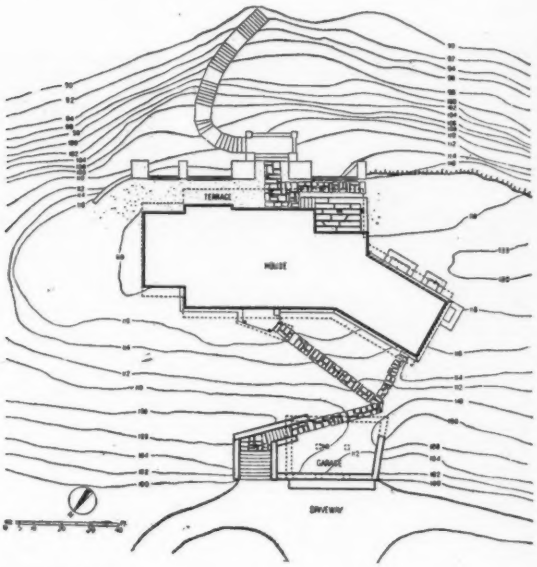


GROUND FLOOR



BASEMENT

[Scale : $\frac{1}{16}$" = 1' 0"



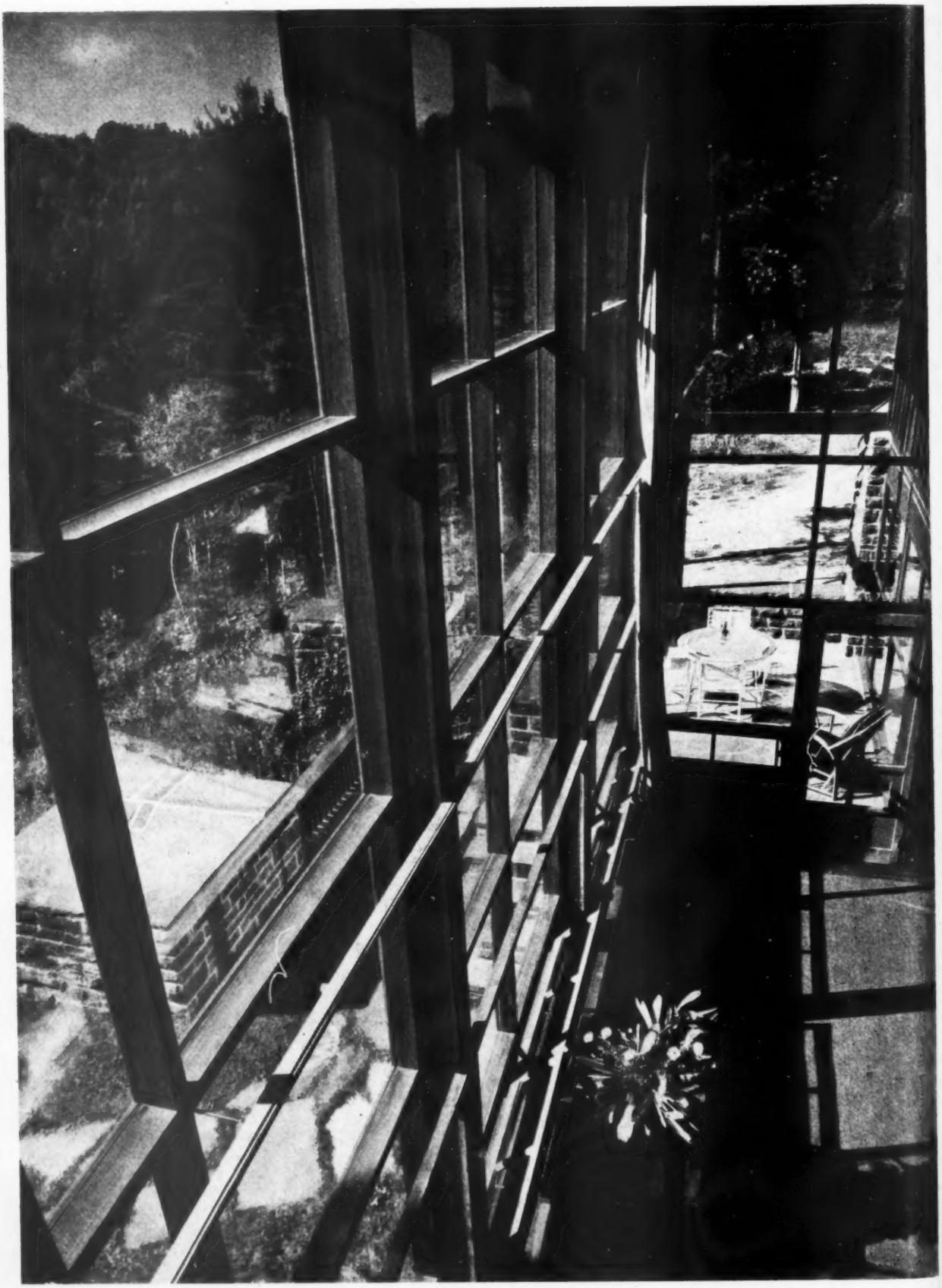
SITE PLAN

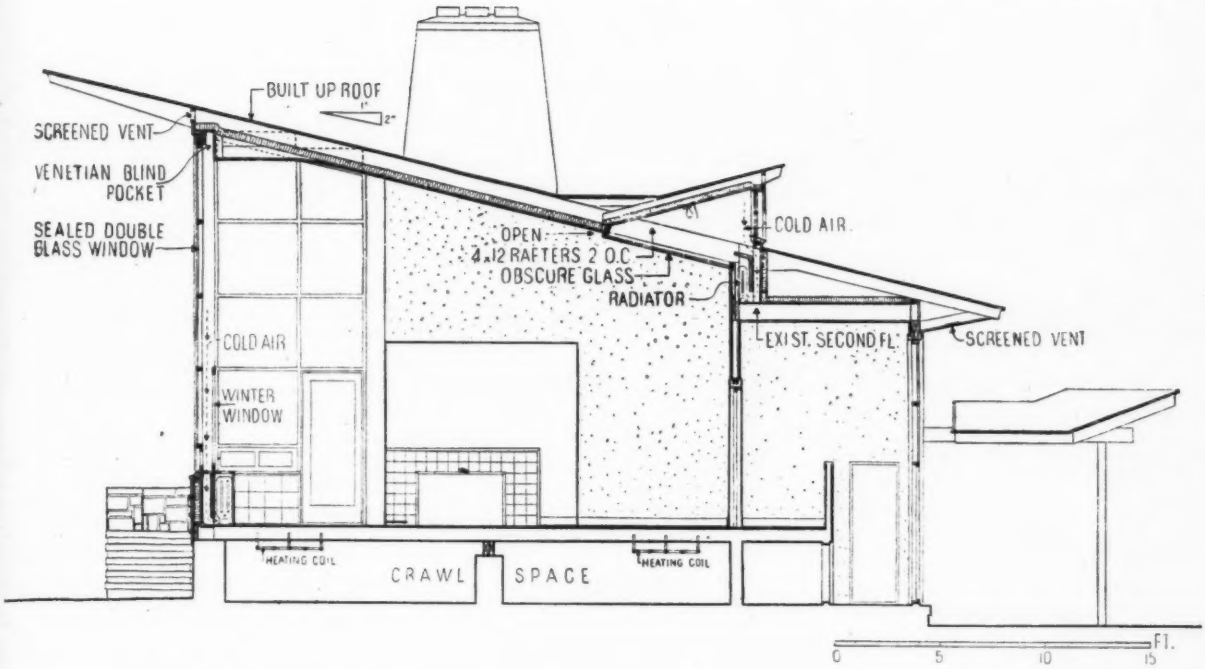
windows handle cold air in a similar way. The steam boiler for the heating system was retained in the original basement.

On the site of the new terrace, an old verandah with heavy stone piers and dark overhanging eaves obscured the view of the living room. Its roof and wood floor were removed and the piers cut off flush with the old porch floor to form a new enclosure.

On the north side an elaborate flight of stone steps formerly led down to the driveway. The steps have been partly removed and replaced by a ramp, and a new garage has been built under the slope.

REMODELLED WEEK-END HOUSE IN USA





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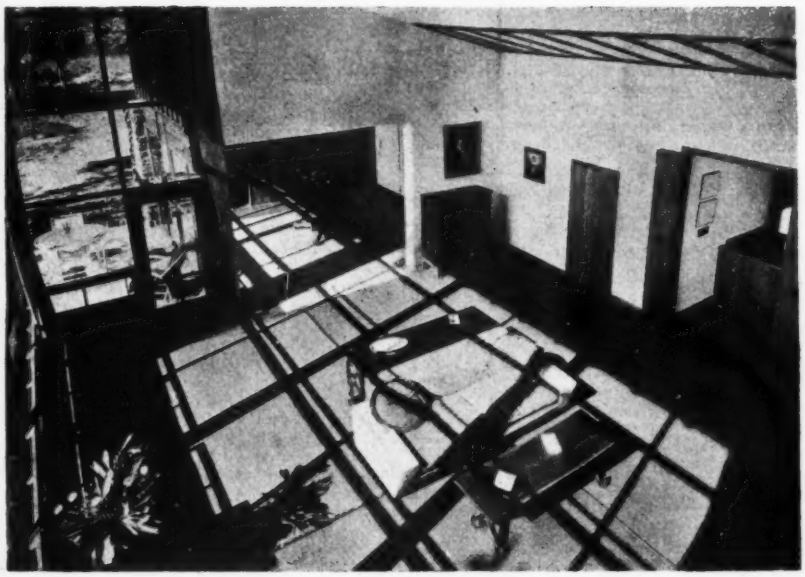
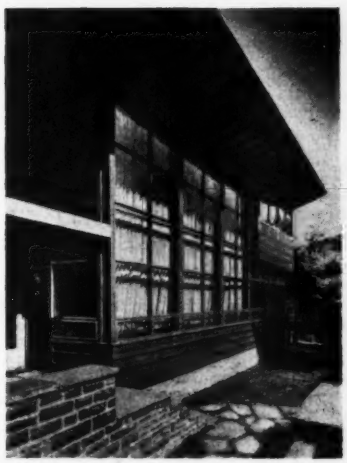




On facing page, the 18-ft. high living room window with its double, sealed glazing and removable internal winter glazing over the lower half. Top, section through living room showing how the air circulates behind this winter glazing. Above, the living room showing the clerestory lighting along the ceiling at the back. Right, another exterior view of the south side; the wide overhang keeps out the summer sun; in the winter sun pours through the large window and warms the room on the solar heating principle.

REMODELLED WEEK-END HOUSE IN USA

INFORMATION CENTRE

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

STRUCTURE

2403 *Paris Bridges*

FRANCE BEGINS BRIDGE RECONSTRUCTION ON SEINE AND MARNE AT PARIS. *Waldo G. Bowman.* (*Engineering News-Record, November* 1, 1945, *pp.* 572-579.) Biggest initial effort of reconstruction of bridges concentrated in Paris region. Bridges and their reconstruction described.

None of the two dozen bridges that cross the Seine along the eight mile arc across the City of Paris suffered any war damage. Almost everywhere else in the country, including the nearest surroundings of the capital, the destruction is very great. Estimates place the number of "cut" bridges in France at 5,000, as compared with 2,000 in 1918. All but 4 of 45 bridges over the Seine between Paris and Le Havre are down. Destruction is practically as complete on the 50 crossings of the Loire between Orleans and the sea, and few of the important crossings of the Oise, Marne, Meuse and Moselle have escaped.

The article describes seven bridges over the Seine (six west of Paris, *i.e.*, downstream, one east of the city) and three bridges over the Marne. Most of these reflect the policy of the Ponts et Chaussées organization to keep alive the French reputation for progressive structural design and are of technical interest.

The new bridge at Neuilly, completed after the German occupation, consists of two steel arches over two arms of the Seine, which are connected by a concrete arch on an island. Each arch contains 12 two-hinged, welded box section ribs built up of high strength chrome-copper steel plates. In the longer arch, said to be the longest welded arch in the world, the span is 269 ft., the rise $\frac{1}{7\frac{1}{2}}$, and the ribs 2 by 5 ft. in cross section. The steel has an ultimate strength of 77,000 to 90,000 lb./sq. in., its yield point is about 57,000 lb./sq. in. The elevation of the bridge is devoid of ornament, making a very impressive structure. The deck is 116 ft. wide.

Another notable bridge, finished early in the war, is the one at St. Cloud. It consists of five 100 ft. welded girder spans arranged in two continuous units of two and three spans respectively. This structure also was built of high strength chrome-copper steel. Two outstanding features are the corrugated copper sheets covering the exterior girders and the use of exposed varicoloured aggregates in all pier, abutment, and retaining wall surfaces. The long retaining walls, which line the quayside roads that pass under each end of the bridge, are divided into full-height panels, the surfaces of which are made concave.

Between St. Cloud and Neuilly is the Suresnes Bridge, begun in 1937, but discontinued in 1942. It will be a reinforced concrete cantilever of 259 ft. span, with 130 ft. anchor spans reaching to either bank and distinguished by the use of welded structural steel reinforcement that was erected first, so as to provide a support for the shuttering.

Further downstream the bridge at Epinay will be replaced by a continuous reinforced concrete beam in three spans: 82, 133 and 82 ft. Next downstream is the new Argenteuil bridge, begun in 1939 and abandoned in 1942. The bridge is destined to consist of three steel deck arches of chrome copper steel. The third of the damaged bridges below Paris requiring replacement is at Bezons. The new bridge will be in reinforced concrete: a central span of 310 ft. (two-hinged arch) and two side-spans of 180 ft.

Of the bridges above Paris, two are still in the design stage. The new Marne bridge at Joinville-le-Pont, begun before the war and completed in 1942, is of two-hinged concrete arch type and has two spans of 248 and 121 ft. respectively. It escaped serious damage. The bridge at Bry-sur-Marne, a reinforced concrete cantilever with the unusually large clear span of 220 ft., was destroyed in 1940 by engineers of the French army. The crossing is so important that a temporary bridge was erected in 1941. The reconstruction of the permanent bridge is scheduled to be completed by October, 1946.

2404 *Welded Stirrups*

AN INVESTIGATION OF THE STRENGTH OF WELDED STIRRUPS IN REINFORCED CONCRETE BEAMS. *O. Moretto.* (*Journal of the American Concrete Institute, November,* 1945, *pp.* 141-162.) Results of tests on 44 beams of reinforced concrete with stirrups welded to the longitudinal reinforcement.

Very few of the beams tested in shear in the past have actually failed in diagonal tension. The present series was so designed that the majority of the beams failed by diagonal tension. The author has established a new formula for assessing the shear resistance of reinforced concrete beams, and has come to the conclusion that bars inclined at 67.5 deg. have the greatest efficiency. He expects that welded stirrups are, on the average, 20 per cent. stronger than similar loose stirrups. This expectation, however, has not yet been confirmed by tests.

2405 *Corrosion*

RECOMMENDATIONS ON METHODS OF PROTECTION AGAINST CORROSION FOR LIGHT GAUGE STEEL AND WROUGHT IRON USED IN PERMANENT BUILDING CONSTRUCTION. *P.D.* 420, *November,* 1945. (*British Standards Institution,* 1*s.* 0*d.*) Applies particularly to houses. Painting and Coating.

This document is not a specification, but a reasoned statement of recommended procedure for the protection of light gauge wrought iron or steel sections or sheets as used in building construction, particularly in dwelling houses. The difficulty of making more precise specifications at the moment for the standards of protection required arises from the fact that insufficient experimental data and experience are available.

In most cases the best procedure will consist in applying the protective scheme to finished parts, *i.e.*, after all drilling, riveting, etc., processes have been completed. All parts used outdoors should be protected by means of a combination of a metallic coating and at least two coats of suitable paint. Parts used inside in dry positions should be phosphated by a suitable process and given two coats of suitable paints.

The Recommendations describe details of various types of metallic coatings, with suggested minimum film thicknesses, and draw attention to a number of other protective coatings which have been used with success.

2406 *BCCF Bungalow*

BCCF BUNGALOW IN PRECAST CONCRETE UNITS. (*The Builder, December* 7, 1945, *pp.* 456-8.) Framed outer structural shell of precast columns and beams with precast concrete infilling panels. Internal wall linings and partitions of lightweight concrete, hollow blocks, etc. Flexible layout, easy erection with light mobile hoist.

2407 *Building Materials*

WHAT TO EXPECT IN NEW BUILDING MATERIAL AND EQUIPMENT. (*Engineering News-Record, October* 18, 1945, *pp.* 539-542.) Survey of materials and equipment recently developed in USA. Building boards, floor, wall and roof materials, insulating materials, glass.

ENR invited 550 manufacturers of building materials and installed equipment to submit data on any new products that they might have. Only a little more than 5 per cent. reported that they were marketing anything new, or considerably redesigned, or for which a new use had been found.

By far the greatest number of products for which a new claim is made find their place in floors, roofs, walls and partitions. There are several types of building boards available both for external and internal use. Two flooring materials of interest are an open steel flooring and a checkered plate. Development in board form of thermal insulating materials is Fiberglass PF consisting of white glass wool compressed and bonded with an organic binding agent. It is available in thicknesses from $\frac{1}{2}$ to 3 in. and in four densities from $2\frac{1}{2}$ to 6 lb. per cub. ft. For roof and side walls, a sheet steel has been developed to which asphalt-impregnated asbestos felt is fused so firmly that the material can be worked like unprotected metal.

Much is heard of new glass products. One that has received considerable attention is Thermopane, a product of the Libbey-Owens Ford Glass Co., Toledo, Ohio, which is composed of two or more lights of glass separated by $\frac{1}{4}$ or $\frac{1}{2}$ in. of dehydrated air space and hermetically sealed around the edges. Thermopane is available for use in conventional window size or in larger units, where it is desired to make the entire wall of glass. Another glass product of interest is corrugated glass. (See No. 2134:4.8.45.)

Significant changes have been recorded in the fields of concrete making, mainly in highways, by the use of air-entraining cements. (See Nos. 1675:16.11.44 and 2228:29.11.45.)

A number of new developments in wood treatment have been announced.

PLUMBING and Sanitation

2408 *Water Service Pipes*

LEAD AND LEAD ALLOY WATER SERVICE PIPES BELOW GROUND. (*Bulletin issued by the Lead Industries Development Council.*) Causes of failure in Service Pipes. Specification of material. Practical points in installation. British Standard Specifications.

This Bulletin is a useful and comprehensive guide to good practice in the provision of lead water service pipes to domestic buildings. Causes of failure of lead water services are classified as follows:—

(i) Stresses produced by water pressures beyond those for which the pipe has been designed. The important point is made that these may be cumulative in effect over a long period, so that failures begin to occur only some time after the pipes have been laid.

(ii) Corrosion by soils in which the pipes are laid.

(iii) Internal corrosion of the pipe by the water being conveyed.

(iv) Stresses caused by the manner or conditions under which the pipe has been laid.

Specification by British Standard for the existing local pressure is recommended, and will ensure that suitable pipe is obtained, which will give trouble-free service even against a combination of detrimental influences. The relevant British Standards are:

BS 602 Lead Pipes (non-alloy).
BS 603 BNF Ternary Alloy No. 2.
BS 1085 Siver/Copper/Lead.

A point worth noting is that the alloys specified are stronger than the ordinary lead in BS 602, and therefore there is a saving in weight on the pipe required to withstand a given pressure. This saving can be up to 25 per cent. for certain diameters and pressures. On the other hand the alloy pipes to BSS 603 and 1085 may be somewhat more expensive. BS 1085 was originally produced as a War Emergency Specification.

In the existing state of knowledge it is impossible to do other than generalise on the question of the external corrosion of buried metal pipes, but the Bulletin points out that lead is not commonly subject to such corrosion. It goes on to recommend a suitable method of protection for lead pipes, where local conditions are known to be unfavourable, as a continuous wrapping of bitumen impregnated felt, which should give adequate protection even in the most dangerous soils.

As for internal corrosion, waters that are likely to give trouble with lead pipes are those of a very soft and acid nature (such as some moorland supplies), and also hard waters with a high free carbon and chlorine content, more particularly where the hardness is permanent and not due to carbonates. It would be unwise to use lead service pipes where such waters constitute the local supply, but in some cases the BNF Ternary Alloy to BS 603 will give a higher resistance to corrosion than ordinary lead.

In laying lead service pipes a good level bottom for the trench is necessary, and it is pointed out that a frequent cause of excessive stress on the pipes is the unequal settlement of made-up ground. Pipes should be laid with a slight snake, and not in absolutely straight lines, so as to allow for slight soil subsidence, and also for thermal movement. Such movement is cumulative in long lengths of pipe, and may cause excessive stress at fixed points, such as bends. Some form of permanent bridging should be provided where the trench crosses another and deeper trench, to prevent settlement of the upper pipe.

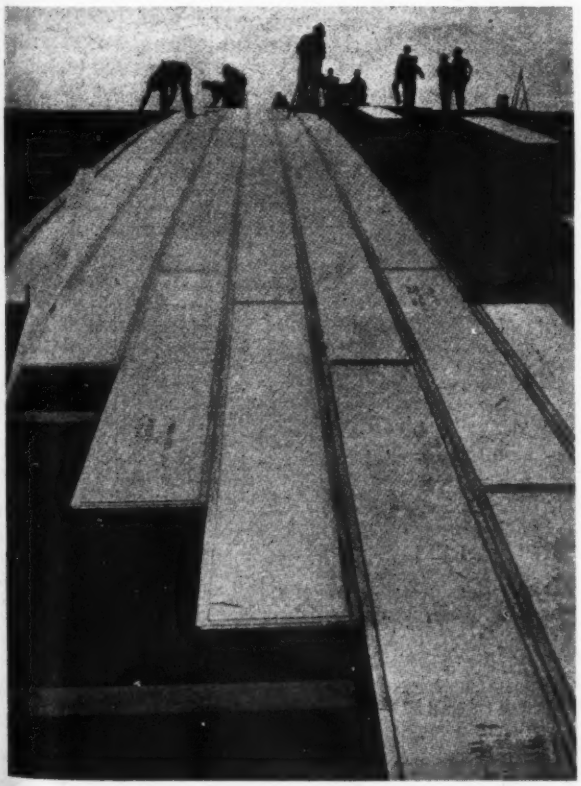
In heavy clay soils, lead pipes should be laid in a bed of sand or top spit. This prevents the clay from adhering to the pipe, and subjecting it to stresses and continual movement as the clay itself moves with changes of moisture content.

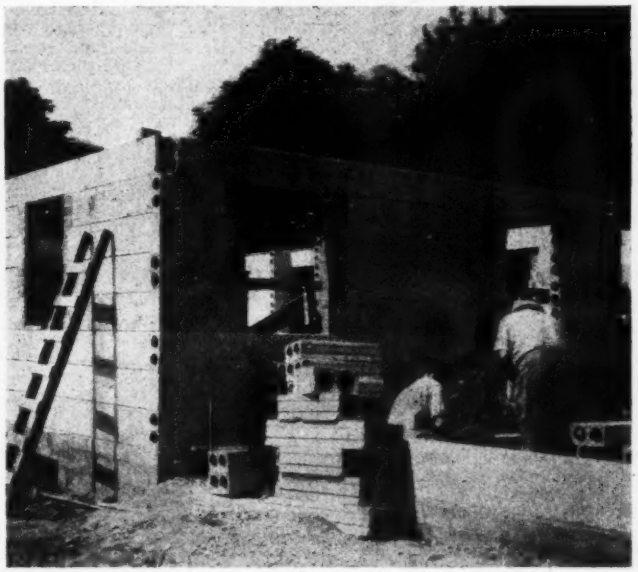
Lead pipes should not be embedded in concrete unless they are continuously wrapped with light building paper or felt. This allows the pipe free movement, and protects the metal from corrosion, particularly during the setting period of the concrete. If laid under concrete roads, lead pipes should be placed at least 6 in. below the underside of the slab, and either laid in sand or wrapped in building paper or felt to protect them from vibration.

For protection against frost a minimum cover of 2 ft. 6 in. over the pipe is recommended. (It should be noted that some Water Companies may require a greater depth.)

Important recommendations are those for the method of bringing the water service into the house. Traditional practice has usually been to bring the service pipe out of the ground where it reaches the external wall of the building, and take it in at about ground level. In such a situation it is particularly liable to frost action at this point, even if insulated. It is recommended that the water service should be taken to a suitable point within the building before bringing it up to ground level and through the floor. The difficulty of subsequent access to the service pipe, if laid in this way, can be overcome by laying it in a duct formed of glazed ware pipes (or such offcuts of drain pipe as may be available). If access is provided at the point where the service turns upwards through the floor, the lead pipe will be sufficiently flexible to be withdrawn if necessary. There is much to be said in favour of this recommendation, which has the further advantage that the frost-vulnerable length of service pipe below the main stopcock (which cannot be drained when the water is turned off) can be removed from its usual position against an outside wall.

The Bulletin includes some information on methods of mechanical trench excavation, and claims that the flexibility of lead pipe makes it particularly suitable for use in combination with such methods. It is suggested that water service pipe lengths in lead could be prepared off the site, with the required connectors for connection to the main and house supply, and delivered coiled ready for rapid running out on the site.





Right: Precast hollow concrete units, 6 by 12 in. in section and up to 22 ft. 6 in. long, generally used for roofs and floors, may also be used in wall construction. In manufacturing process, concrete is placed around inflated rubber tubes to form two circular cells. Weight of unit varies from 30 to 40 psf. Left: Gypsum plank with steel bound edges, 2 in. thick and 15 in. wide, in lengths of 8 or 10 ft., can be laid with joints at random, regardless of purlin spacing. *See No.* 2407.

QUESTIONS and Answers

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

2409 Rendering

Q *I have been called in to advise in the matter of faulty external cement rendering on a considerable number of houses situated on one site. The bricks used were of exceedingly bad composition and the rendering is pulling off to a depth of about 1 in. from the face of the bricks and in very large areas, leaving cracks about ½ in wide. In some cases the rendering is very loose and can easily be removed but generally it is firm, although it sounds "hollow" when tapped. Do you consider that it would be possible to grout the cavities which have been formed behind the rendering, and can you advise me as to the cement mixture to be used?*

A From the description which you give of the faulty rendering, it would appear that the bricks contain a considerable proportion of calcium sulphate.

Any water reaching the bricks causes crystal growth and this pushes off the rendering. It seems possible that the original rendering mix may have contained too much concrete and may therefore be too dense. Grouting with a rich cement mix would merely aggravate the trouble and we see no alternative but to re-render with a porous mix of one part cement, one part lime and about 6 parts of sand, or even 9 parts of sand, if this can be managed.

You will, of course, appreciate that a long range diagnosis of this kind may quite well be wrong. If you wish for further information, we suggest that you send a sample of the rendering and of the brick work to the Building Research Station, Bucknalls Lane, Garston, Watford, Herts.

2410 Floor Finish

Q *Can you suggest a floor finish suitable for a small dwelling house as an alternative to the usual timber, one which would compare favourably with it in price, durability, etc? (Structural floor would be reinforced concrete.)*

A You might be interested in the Fleximer floor made by Messrs. Semtex, Ltd., 91, Regent Street, London, W.1. This is a mastic floor which can be polished up to give quite a pleasing surface and it has been used in a number of prototype houses, though the reason for this may be merely the difficulty of obtaining carpets.

Owing to the recent regulation whereby only two standards of timber per house are allowed for each 1,000 sq. ft. of floor area, you might be interested in a new type of suspended concrete floor which has been evolved by Twisteel Reinforcement, Ltd., Alma Street, Smethwick, Staffs. This was originally used in small slabs about 2 ft. 6 in. sq. for the ground floor of Mr. Gibson's experimental Coventry houses. Recently, however, a 12 ft. span unit has been produced and we understand that the cost of this works out at about 15s. per yd. super. The trussed reinforcement is exposed beneath a thin floor slab and battons are wired to this reinforcement to take a wall board or plaster board ceiling. Some form of finish, such as the Fleximer floor, would, of course, be necessary.

2411 Horticultural Building

Q *I contemplate setting up business as a private concern in the name of Ellis Horticultural and Agricultural Construction and Building Service to carry out the design, manufacture and erection of every type of building in connection with the above industries. My questions are:*

(1) Do I have to register the business under the Business Names Act?

(2) Have I to obtain registration through the Ministry of Works or the Ministry of Agriculture to carry on such a business?

(3) Whatever the authority, will that body be the authority to grant licences for me to obtain factory space, materials, labour and machinery, and what support?

(4) Will it be necessary for me to contact any other Government departments or bodies?

(5) I shall be glad of any other advice, suggestions or information you may care to offer.

A Dealing with your questions in order.

1.—Yes. The business must be registered under the Business Name Act.

2.—You must obtain permission to carry out building work from The Registrar, Building & Civil Engineering Contractors, Ministry of Works, Sanctuary Buildings, Great Smith Street, London, S.W.1.

3.—For factory space you will have to apply to the Board of Trade or to the local Ministry of Labour, and for machinery to the Ministry of Supply.

4.—It should not be necessary for you to approach any other Government departments.

5.—While new building firms are not actually discouraged, we believe that the Ministry of Works are somewhat reluctant to grant registration unless they are satisfied that either there is need for more building firms in the district or that you were running a building business of some sort before the war. As a preliminary step, we suggest that you might write to the National Federation of Building Trade Employers, 82, New Cavendish Street, London, W.1. They will certainly be able to give you full and up-to-date information.

2412 Stairway Treads

Q *At our store we have a teak stairway the treads of which have worn to a depth of ½ in. in places. The treads (there are 100 of them) are 4 ft. x 2 in. thick. Can you suggest how they could be repaired?*

A Teak is, at the moment, virtually impossible to obtain and we suggest that a possible solution might be to cut the treads back to the necessary depth and use a filling piece of maple, Canadian birch or home grown beech. Maple would be best, but is difficult to obtain, Canadian birch should be less difficult.

There may be some difficulty over the difference in colour between the two woods, but if the replacement strips run right across the tread and are needed on all treads, the appearance might be quite satisfactory. We do not think it is worth trying to stain the replacement strips to match the teak, as the rather heavy wear to which your stair-case seems to be subjected would soon work through to the unstained portion.

SOCIETIES AND INSTITUTIONS

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

RIBA

Sir Leonard Woolley

At the RIBA. Work of the Monuments, Fine Arts and Archives Branch of the Army to protect OBJECTS OF ARTISTIC OR HISTORIC VALUE IN THE WAR ZONES. By Lieut.-Colonel Sir Leonard Woolley. (See also page 172.)

Sir Leonard Woolley The creation of a branch of the Army Staff to deal with the protection of Monuments, Fine Arts and Archives is something which has no precise precedent in the annals of the British Army. The need to protect objects of artistic or historic value has not been unrecognized in the past, but never before had a special organization been formed to secure such protection.

It must be emphasized that the organization which I have to describe was essentially Anglo-American, dependent on the Supreme Command of the Allied Forces. Before that joint Command was realized, in North Africa special officers had been told off to safeguard the archæological interests of a country which could boast the ruins of Cyrene, of Leptis Magna and Sabratha, and that was a unilateral British act. But in Italy, in France and the Low Countries and in Germany until SHAEF was replaced by the present quadripartite Command, Monuments, Fine Arts and Archives was a joint affair; in Italy, for the most part of the time, an American Director and in N.W. Europe a British Director had under him a staff on which the two Allied Countries were more or less equally represented.

As the title of the Branch shows, the work has been fairly catholic—buildings, sculpture, pictures, historic documents and the records of Government departments, municipal offices and even trading concerns have come

within its purview. The Army had to enlist the services of architects having a special knowledge of the architecture of ancient Rome, of Italy, or of France, a knowledge of the country and the spoken language, and a readiness to work at Army pay and within the limitations imposed by Army conditions. I applied to the RIBA and received from the secretaries the most willing and the most fruitful help. There was not a British architect enrolled for work in N. Africa, in Italy or N.W. Europe who had not been suggested and sponsored by the Institute.

The work of the Branch, as regards architectural monuments, was threefold.

Buildings still in enemy hands, and therefore liable to attack by the Allied Forces, had to be protected so far as was possible from war damage. Buildings which had fallen into our hands and had suffered war damage had to be protected by emergency repairs against any subsequent deterioration. Buildings within our lines had to be protected against damage which might be done to them by the ignorance, the carelessness or even the deliberate vandalism of Allied soldiers.

Now one thing is abundantly clear: none of these objectives could be secured by an extraneous body of experts, whether civilian or military. Civilian experts could not accompany the armed forces in the field and, if they had done so, could not give orders to the troops. Officer experts could accompany the forces, but, being necessarily few in number, could not be present everywhere where an historic building stood in peril, and if they were there they could not, as non-combatants, issue orders to the troops or, as junior officers, instruct the senior commanders on their duties. If the monuments of art were to be protected by the Army, then their protection must be an Army responsibility—the duty of the expert was not to give orders, but to help the forces to carry out the orders issued by the military High Command. The basis of the organization, therefore, was a special order by the Supreme Commander-in-Chief to his subordinates.

An order, to be effective, must be definite. Hence the lists of monuments whose protection was demanded of the troops. These lists are of prime importance and their compilation was a matter of some difficulty. In the USA the Roberts Commission had elaborated magnificent lists for all the countries concerned; but they were so long that the Army would not agree to them, seeing that they were likely to hamper military operations. The English lists were too short to satisfy the lovers of art. In the case of Allied territories, local sentiment as well as unbiased æsthetic judgment had to be consulted. Consequently new lists were made by and for the Army, and these, prepared by the Commander-in-Chief's order, were circulated down to battalion Commanders. Thus we had officers in the field technically qualified for the work of advice and direction; operationally, we had the authority of orders from the High Command, and we had a perfectly clear and understandable definition of the scope of those orders. How far, then, did all this work? To what extent did the monuments profit by this machinery of protection?

In the first place, due credit must be given, in the case of Italy especially, for the protective measures adopted in advance by the native authorities.

In Italy practically all movable works of art of any importance were removed to places of safety. Those which could not be moved were shielded in the most elaborate fashion.

Naturally, there were failures. In the early days protective screens were often constructed of heavy timbering and sandbags—in the church of Sta. Chiara at Naples, as in our own Temple church, this was found to be a disastrous method, for the timber caught fire and the heat calcined the monuments which it was supposed to protect. But an immense amount of precious things, and sculptured decoration in particular, was saved by the Italian ARP from the effects of air bombing and of artillery fire.

The Allied forces did their best to minimise the damage they might do to historic buildings; but damage was inevitable. Air bombing was responsible for much. The airmen were briefed about the targets which they were to avoid as well as those at which they were to aim—they were furnished with elaborate town plans showing the exact positions of monuments (these had been drawn up by the Roberts Commission) and they had air photographs on which the same monuments were marked. Such precautions explain the immunity of, for instance, the two great Norman Minsters at Caen and the Cathedral at Coutances, when the greater part of the town was ruined. But with air bombing, especially with night bombing, absolute accuracy of aim cannot be expected. That in the badly ruined town of Ravenna only one of the listed monuments suffered serious injury is perhaps due more to good fortune than to superhuman skill—though the intention to spare them was there. It was bad fortune which caused one stick of bombs to fall on the Eremitani Church at Padua when every other missile hit its target squarely, the railway station and marshalling yard 400 yards away. It was a definite mistake—a failure in recognition—that led to the destruction of the Cathedral of Benevento. Such things are inevitable and no precautions can prevent them; but there are innumerable cases—the Cathedral at Aachen, the whole artistic centre of Bologna, where damage was limited to the Palazzo dell' Archiginnasio, the church tower of Hoogstratin are the first that come to my mind—where the safety of the monuments was secured by the deliberate action of the Allied armies. It is worth putting on record the fact that abbreviated lists of the most essential monuments along the northern coast of Normandy, and again of those immediately within the Western German frontier, were supplied to the front-line gunners at the special request of the Royal Artillery.

It was in connection with the second objective—the conservation of buildings after they had fallen into our hands—that the technical knowledge of our architects was essential.

On entering a captured town, the Monuments Officer had first of all to ascertain the condition of the listed monuments. A preliminary report had to be drawn up for the information of HQ. Where a building was damaged, a more detailed examination had to be made to decide whether emergency repairs were called for, and, if so, of what nature. Sometimes, of course, immediate action was required, and for this the aid of the Senior Civil Affairs officer on the spot had to be invoked. If possible, the examination would be made in collaboration with the Italian authorities, the town architect or the local Inspector of Antiquities, and a detailed project drawn out together with an estimate of costs. Small jobs might be met by the funds at the disposal of the local government, the Genio Civile, or of church officials; for larger and more expensive jobs the estimate had to be submitted to the Finance Department of Civil Affairs and the execution of them would be entrusted to the Italians under the supervision of the Monuments and Fine Arts branch. All the work was done at Italian expense, but the scope of the work was defined, the programme approved and the credits granted by the Allied military administration. Since the Italians were for the most part very ready to undertake the repair of their monuments when once their apathy had been overcome by the instigation of the Allied Monuments officer, the position of the latter tended to become that of an adviser rather than of a dictator; in France, of course, and in Belgium and in Holland, he was primarily an adviser and a colleague and all the practical side was left to the French, Belgian or Dutch authorities. In Italy, as a conquered country, the Monuments Officer was ultimately responsible for whatever work was done. Lastly, there was the protection of buildings from damage at the hands of our own people.

In Italy, in the regions of Apulia, Calabria and Lucania six buildings were destroyed or seriously damaged out of a total listed of about 170. In Tuscany, perhaps the most hard-hit of all the Regions, of 792 listed monuments, 488 are intact; 304 are described as requiring help from the Allied Military Administration or from the Italian Government; of these, most had suffered roof and window damage only; 72 of them are described as destroyed or seriously damaged, but even so repairs have been, or are being, executed in the majority of cases so that at least part of the building can be salved. While only a detailed description of each can give a fair estimate of what has been lost and what survives, it is perhaps not unduly optimistic to say that less than 5 per cent. of the listed monuments in Tuscany have perished utterly or been so far destroyed as to have lost their character and their interest.

What has suffered most has been the baroque architecture. Owing to its nature, the elaborate decoration and so on, it has suffered a great deal. In quite a number of cases the baroque façade has given way and has exposed the Gothic architecture underneath. I remember one church in Palermo where a magnificent and solid pillar of the main structure had fallen down and exposed the old round Norman column. Now the whole architecture can be restored to its original Normanesque form. That is not at all an uncommon thing. It is satisfactory to know that of all the classical monuments in Italy, not one has suffered any serious damage; most of them are absolutely intact.

TCPA

R. Nicholas

At the Town and Country Planning Association, 28, King Streeet, W.C.2. Lecture by R. Nicholas on THE MANCHESTER PLAN. Chairman: R. L. Reiss.

R. Nicholas: Most of Manchester has been built or rebuilt in the last half-century; but, because the process went on unplanned, the city is not a great improvement on the Manchester of 50 years ago. With or without a plan, most of Manchester will again be gradually rebuilt in the course of the next half-century. If at every stage this process of reconstruction is made to conform with a master pattern, the Manchester of the future will be a city transformed; if not, it will still be as ugly, dirty and congested as it is to-day.

In defining the categories of housing needs, the Corporation's decision, in principle, that all families with children under 14 should have dwelling houses, was taken as a starting point. Further, it was accepted that childless married couples in the lower age-groups should be accommodated mainly in houses; that parents with children over 14 should have houses, cottage flats or flats; that elderly couples without children will increasingly prefer flats or old people's cottages; that widows, especially those with one or two young children, will generally like cottage flats; and that single persons not in lodgings, widows with older children, and other adult family units will predominantly want to live in flats or maisonettes.

The Plan proposes that residential neighbourhoods should in general be developed in conformity with one or other of three main standards—designated as "maximum," "close" and "normal." A fourth standard, "open," has been adopted for use in special circumstances. Dwelling houses should be available in all neighbourhoods for all families with young children. In the case of old people's cottages and single persons' flats, the proportions suggested are

materially the same in each of the three main standards. These standards differ only in respect of the proportions of the other family groups to be accommodated in houses and in other types of dwelling which are considered appropriate to their particular needs.

The "maximum" standard is intended to be applied to the development of the inner congested residential areas of the city, and the choice for other family groups is largely limited to flats. The "close" standard is intended for application to the outer congested residential areas which will be undertaken at a later date, and here a wider choice of houses or flats for the other family groups is available. The "normal" standard is applicable to new development and is predominantly in the form of houses. The "open" standard is intended for application in the ultimate redevelopment of some parts of the city at present occupied by large old houses, including two areas specially zoned for low-density development. It should also be adopted in small sections of new development neighbourhoods in order to make them fully representative of all income groups in the community. The approximate proportions of dwellings in each of the three main standards are as follows:

Type of Dwelling.	Maximum %age.	Close %age.	Normal %age.
Houses	64	71	80
Flats and Maisonettes	23	16	7

Cottage flats, single persons' flats and old people's cottages make up the balance.

The residential zones can be divided into inner and outer, the former comprising three districts and the latter five districts (excluding Wythenshawe).

The industrial zones are divided into four categories—general, special, light, and domestic, the latter being provided adjoining those district centres which have no industrial zones in which these industries might be located.

Other zones include the commercial zone, comprising the city centre, and the cultural, educational and hospital precinct.

AA Scholarships

The Council of the Architectural Association offers the following Scholarships in Architecture:—

Entrance Scholarships.

The Leverhulme Scholarship, value £200 per annum; the Minter Open Entrance Scholarship, value £75; the Sir Walter Lawrence Open Entrance Scholarship, value £75; the Metal Window Scholarship (presented by the British Metal Window Manufacturers' Association, Ltd.), value £75 per annum; the Pilkington Scholarship (presented by Messrs. Pilkington Bros., Ltd.), value £75 per annum; the Cement and Concrete Association Scholarship (presented by Cement and Concrete Association), value £75 per annum; the Natural Asphalte Council Scholarship (presented by the Natural Asphalte Mine-Owners' and Manufacturers' Council), value £50 per annum; the Northern Aluminium Scholarship (presented by the Northern Aluminium Company), value £50 per annum; the Patent Glazing Scholarship (presented by the Patent Glazing Conference), value £50 per annum.

These scholarships, which are tenable for five years at the AA School of Architecture, will be available to students of British nationality. They will be awarded for one year, with the intention that they shall be renewed from year to year until the student has completed the course; renewal being subject to a satisfactory report of the student's progress, and to proof of the continued need for such assistance.

Senior Entrance Scholarships

The Metal Window Senior Scholarship (presented by the British Metal Window Manufacturers' Association, Ltd.), value £50 per annum; the British Plywoods Scholarship (presented by the Association of British Plywood Manufacturers), value £50 per annum.

These scholarships, which are tenable for two years at the AA School of Architecture, are open to students of British nationality, who have passed the Intermediate Examination of the RIBA, either externally, or at another recognized school of architecture, and are for entry to the fourth year of the course, and subject to satisfactory progress by the student, will be renewed for the fifth year.

Full particulars and forms of application may be obtained from the Secretary of the Architectural Association, 36, Bedford Square, London, W.C.1, and forms of application should be received not later than April 1, 1946, for all except the Leverhulme Scholarship (June 1, 1946).

Announcements

An indication that the technical development work of Messrs. De La Rue Gas Development, Ltd., is nearing completion, is given by the announcement that Mr. L. Van de Velde, a name well known in the gas industry and to architects, has been appointed as the company's Sales Executive. Mr. Van de Velde will be located at the head office at Imperial House, 84-86, Regent Street, London, W.1 (telephone, Regent 2901), where he will be pleased to deal with all inquiries relating to the work and productions of the company.

Messrs. C. H. Parsons, Ltd., have set up a separate organization for the sale and distribution of Britmac electrical accessories, which have been manufactured and marketed by the firm for twenty-five years. The new organization, called the Britmac Electrical Company, Ltd., and formed within the parent company, Messrs. C. H. Parsons, Ltd., will make no change in the sales policy throughout the trade, namely, that Britmac electrical accessories are distributed through the recognized electrical wholesalers.

The Northern Aluminium Company, Ltd., of Banbury, Oxon, announces that its alloys will henceforth be designated by the name of Noral, thus identifying the company's trade mark with the materials which it produces.

Mr. D. Plaskett Marshall, L.R.I.B.A., M.INST.R.A., chartered architect, has changed his London address to 59, Gordon Square, London, W.C.1. (Telephone: Museum 7176/7177), where he will be pleased to receive trade catalogues, etc. Representatives seen by appointment only.

Mr. Norman Westwood, A.R.I.B.A., has now been released from the R.A.F., and Mr. Bryan Westwood, A.R.I.B.A., will shortly be released from the Navy. Both will be practising with their father under the title of P. J. Westwood & Sons, Nutfield, Heath Road, Weybridge, Surrey. Telephone Weybridge 182. Trade catalogues will be appreciated.

Mr. Ernest A. Newton, F.R.I.B.A., F.R.S.A., after 20 years practice in Manchester, has joined Messrs. Gallaher, Limited, the Tobacco Manufacturers, of London and Belfast, and his practice will, in future, be continued by his Partners under the title of Ernest A. Newton, Leach & Booker, F. & A.R.I.B.A., at 28, Kennedy Street, Manchester.

The practice of Harold S. Scott, A./A.R.I.B.A., architects, whose senior partner, Mr. Harold S. Scott, died recently, is now being carried on at the same address, Kings Court, 115-117, Colmore Row, Birmingham 3, by Mr. John S. Scott, the other partner, who was recently demobilised from the Forces.

Lt.-Col. E. Allan Heppenstall, R.E., A.R.I.B.A., A.M.T.P.I., has been released from the Army to take up his appointment as Borough Architect, Macclesfield. He would be glad to receive trade catalogues, etc., particularly in relation to housing, at the Borough Architect's Office, 3, Jordangate, Macclesfield, Cheshire.

Mr. Clifford S. Jaques, A.R.I.B.A., is gaining release from the Royal Navy to continue his late father's practice, from 16, King Street, Cheapside, E.C.2 (Monarch 5896), under the title of Sydney Jaques & Son, Chartered Architects, and would be glad to receive trade catalogues.

Mr. E. Grosvenor Lewis has joined the Orlit organisation—which is rapidly developing the Orlit system of construction for houses, factories, schools, hospitals, etc. Mr. Lewis was at the Ministry of Supply during the heaviest part of that department's wartime programme, when he held a key job in work which involved every kind of construction from workers' houses and hostels to secret factories planned for the most intricate chemical processes. Previously he had been with Messrs. Howard & Scuster, playing a large part in the construction of many large buildings.

Mr. L. G. D. Ogden has been released from his war duties and is re-establishing the practice of Cecil Ogden & Son, architects and surveyors, late of Pocklingtons Walk, Leicester, at Lutterworth Road, Ullesthorpe, nr. Rugby. Trade catalogues and literature will be welcomed.

Colas Products Limited report the safe return of the following members of the staff serving with His Majesty's Forces: Major C. N. Jenkins, R.A., from Burma, appointed Sales Manager; Major T. B. O'Mear, R.E., from Middle East, appointed Technical Manager; Lt.-Cdr. A. R. Patton, R.N.V.R., from convoying duties in the Western Approaches, Area Manager, West Country; Major A. E. Creber, R.A., from Middle East, Sales Representative; Major J. M. Leech, R.A., from Middle East, Sales Representative; Capt. J. Button, R.A., from Middle East, Sales Representative. Major J. W. D. Norman, R.A.S.C., who had the misfortune to lose a leg whilst serving with His Majesty's Forces, is expected to resume work as a Sales Representative in the near future. During the war over 38 per cent. of the staff served with H.M. Forces, and no fewer than nine reached field rank. The company gratefully pays tribute to the eight members of the staff who paid the supreme sacrifice.

Messrs. Crickmay & Sons have recommenced practice at 23, St. Thomas Street, Weymouth, and would be glad to receive trade catalogues, etc.

The London Office address of The Brightside Foundry & Engineering Company, Limited, is now Craven House, Northumberland Avenue, London, W.C.2. The telephone number (Abbey 3811) remains unchanged.

Mr. Dennis Osman, P.A.S.I., has joined partnership with Mr. E. G. Underwood, F.S.I., of the firm of W. E. Underwood & Son, chartered quantity surveyors. The practice will continue at 1, Northumberland Buildings, Queen Square, Bath, under the same title.

Mr. E. Howard Sadler, A.R.I.B.A., A.M.I.STRUCT.E., would be pleased to receive trade catalogues and structural data, at 14, Hadley Road, New Barnet, Herts.

Messrs. Saurin & Brennan, engineers and architects (Michael Saurin, B.E., A.M.I.C.E., James M. Brennan, B.ARCH., M.R.I.A.I.) would be glad to receive trade catalogues at 48, Trimgate Street, Navan, County Meath.

Mr. E. R. Chilton, A.R.I.B.A., A.M.T.P.I., has taken up planning duties in North Oxon, address 26, Church Green, Witney, Oxon.

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Messrs. S. J. Stephenson & Gillis, architects and surveyors, have resumed practice at 2, Saville Chambers, North Street, Newcastle-on-Tyne, 1, where they will be pleased to receive trade catalogues and information.

Mr. Paul Gilbert, O.B.E., has been appointed Managing Director of Messrs. Bovis, Limited.

Mr. F. H. K. Henrion, M.S.I.A., who has during the past three years worked exclusively for the War Office, the Ministry of Information, and the U.S. Office of War Information, is now working again as a consulting designer at 132, Sloane Street, London, S.W.1; Sloane 2764.

The sole licence for Chisarc and Shell D Reinforced Concrete System of Construction, British Letters Patent No. 362473, held by Mr. Ernest A. Newton, has been vested in the new company formed to develop the system and provide service to architects using the method illustrated in Information Sheets Nos. 815, 817 and 820. In future, therefore, enquiries should be addressed to Messrs. Chisarc & Shell D, Limited, 19, Old Hall Street, Liverpool, 3.

Major J. T. Lynch, R.E., A.R.I.B.A., is now released from the services, and will be pleased to receive trade catalogues at 36, Burns Lane, Dudley, Worcester.

The Essex County Architect would be glad to receive new copies of all trade catalogues as soon as possible addressed to him at the County Hall, Chelmsford.

Mr. Sydney Clough, F.R.I.B.A., is now practising from 115, Park Street, Park Lane, London, W.1, in partnership with Mr. D. M. Clough and Mr. S. H. Statham, A.R.I.B.A., F.I.C.D. The firm is now known as Sydney Clough, Son & Partners.

Mr. R. V. Crowe, A.R.I.B.A., recently released from the Forces, would be pleased to receive trade catalogues, etc., c/o Messrs. Stanley Ramsey, Murray and White, FF./R.I.B.A., 32, Wigmore Street, W.1.

The normal practice of Messrs. W. Forbes Campbell & Partners (W. Forbes Campbell, F.R.S.A., F.I.A.S., A. V. Pembroke, F.I.A.A., and A. E. Terry, F.I.A.A., architects and surveyors, temporarily suspended during the war in order to deal with work of national importance, has now recommenced, operating from 307, West George Street, Blythswood Square, Glasgow, C.2 (telephone, City 6816) and 36, Victoria Street, Westminster, S.W.1 (telephone, Abbey 3346).

Mr. E. Goldfinger, D.P.L.G., has moved his office from 2, Willow Road, N.W.3, to 69-70, Piccadilly, W.1, where he will be pleased to receive catalogues on housing and printing works. Telephone, Regent 5210.

Mr. J. P. Tingay, A.R.I.B.A., A.A.HON.DIP., is now in practice at Broughton House, 6, 7, 8, Sackville Street, London, W.1. Trade catalogues will be appreciated.

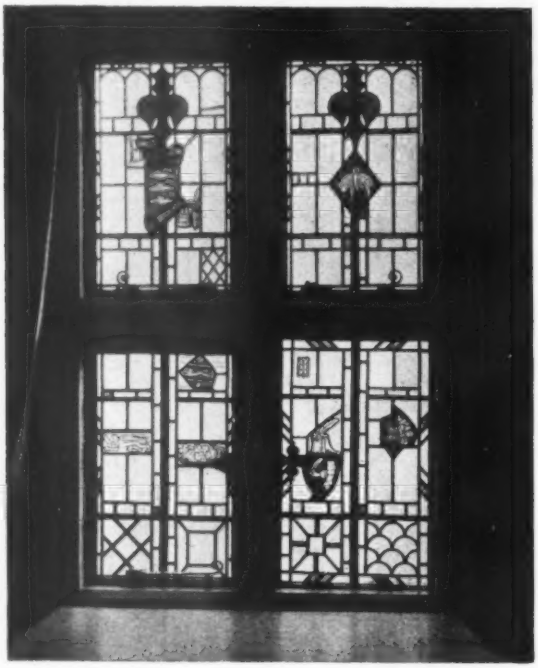
The Ministry of Supply announces that the Technical Plywood Section of the Timber Control has moved to The Guards Boat Club, Maidenhead, Berks. The telephone number is unchanged—Maidenhead 2480.

Mr. G. Norman Middleton, A.R.I.B.A., is now established in practice at 71c, Widmore Road, Bromley, Kent, where he would be glad to receive trade catalogues, etc.

The Ruberoid Company, Limited, ask us to announce to architects who are either forming, or reforming their libraries, that they will be pleased to forward on application complete sets of catalogues and samples, also models of built-up roofing specifications.

Messrs. Sam Bunton, L.R.I.B.A., A.R.I.A.S., and Associates, 87, West Regent Street, Glasgow, announce that their London branch is situated at 54, Warwick Square, S.W.1. Telephone: Victoria 6020.

Mr. Daniel B. Connal, P.A.S.I., A.I.A.S., chartered quantity surveyor, has commenced practice at 13, Christopher Street, Finsbury Square, London, E.C.2. (Telephone: Bishopsgate 8655.)



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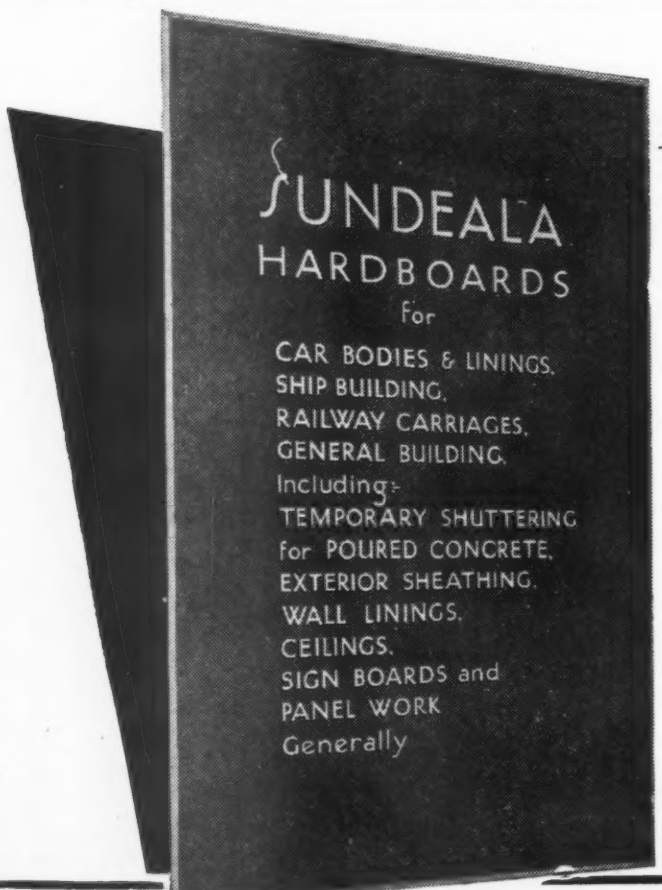

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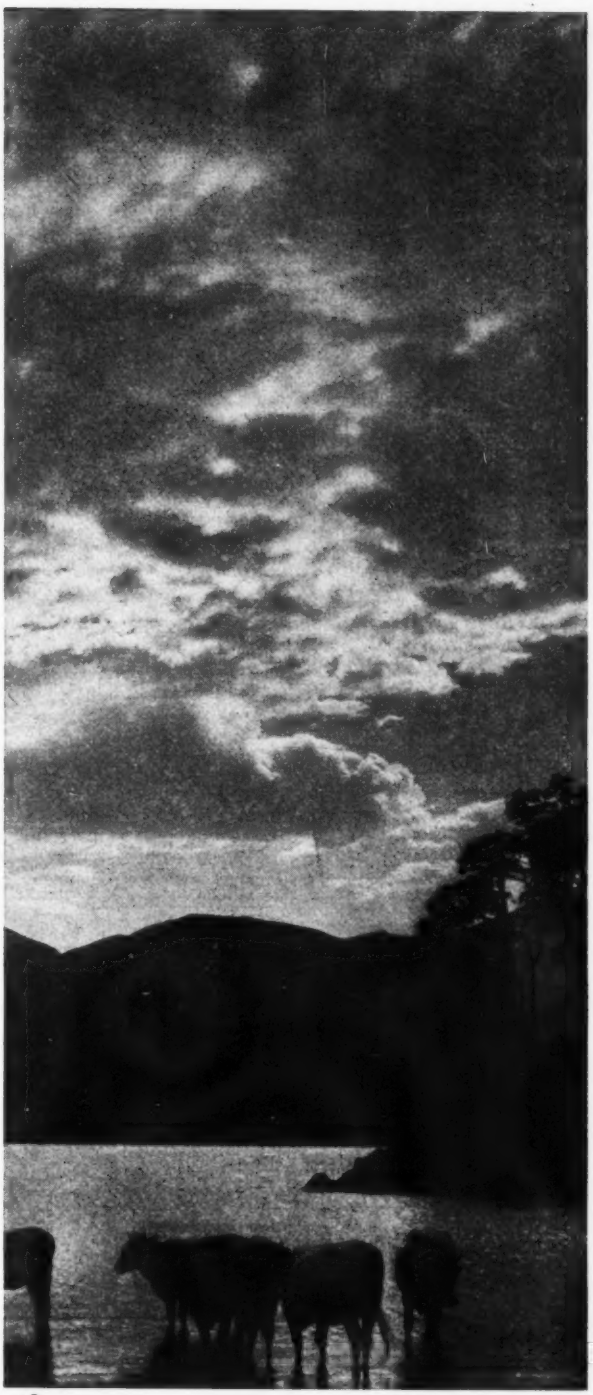

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Advertisements should be addressed to the Advt. Manager, "The Architects' Journal." War Address: 45 the Avenue, Cheam, Surrey, and should reach there by first post on Friday morning for inclusion in the following Thursday's paper.

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

Public and Official Announcements

Six lines or under, 8s.; each additional line, 1s.

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

CITY OF PLYMOUTH.

CITY ARCHITECT'S DEPARTMENT.

APPOINTMENT OF DEPUTY CITY ARCHITECT.

Applications are invited for the above appointment, at a salary of £700, rising by £50 per annum to £800 per annum. No war bonus is payable.

Applicants should hold an appropriate professional qualification, and previous experience with a Local Authority is desirable.

The apointment (which is a permanent one) will be subject to three months' notice on either side, and the provisions of the Local Government Superannuation Act, 1937, will apply. The person appointed will be required to pass a medical examination.

Forms of application may be obtained from the undersigned, and must be returned so as to be received by him not later than 20th March, 1946.

COLIN CAMPBELL,
Town Clerk.

Pounds House, Peverell, Plymouth.
February, 1946. 722

SOUTH DEVON REGIONAL PLANNING COMMITTEE.

APPOINTMENT OF PLANNING ASSISTANT.

Applications are invited for the above appointment, at a salary of £375 per annum, rising by three annual increments of £15 to £420 per annum, with war bonus (at present £59 16s. per annum) in addition.

Candidates must have had experience in a planning office, and membership of the Town Planning Institute or possession of a recognized qualification in architecture, engineering, or surveying will be an advantage. The appointment is subject to one month's notice on either side, to the Committee's Sick Pay Scheme, and to the successful candidate contributing to the County Council's Superannuation Scheme. The selected candidate may be required to pass a medical examination before the appointment is confirmed. The candidate will be required to carry out such duties as may from time to time be assigned to him by the Committee or the Planning Officer, and to reside within 5 miles of Torquay

Applications, stating date of birth, full details of education, qualifications and experience, details of present and previous appointments, and accompanied by the names of two referees or copies of two recent testimonials, to be sent to the undersigned, endorsed on the envelope "Planning Assistant," not later than the 7th day of March, 1946. Applicants at present serving in H.M. Forces should state the probable date of their release.

HERBERT A. HIELD,
Secretary.

Castle Circus House, Torquay.
February, 1946. 737

CITY OF PORTSMOUTH EDUCATION COMMITTEE.

COLLEGE OF ARTS AND CRAFTS.

Principal: MEREDITH W. HAWES, A.R.C.A.

SCHOOL OF ARCHITECTURE.

Applications are invited for the post of LECTURER AND STUDIO INSTRUCTOR. Applicants should be Fellows or Associates of the Royal Institute of British Architects, preferably trained in a recognised school of architecture, with some professional experience. Salary will be in accordance with the new Burnham scale. Increments may be allowed for approved time spent in industry or professional work. Teaching experience would be an advantage, but is not essential. Last date for receipt of applications, 9th March, 1946. Further particulars and forms of application may be obtained from the Registrar, Offices of the College Governors, The Municipal College, Portsmouth.

E. G. BARNARD, M.A.,
Chief Educational Officer.
744

CORNWALL COUNTY COUNCIL.

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

(*a*) COUNTY BUILDING INSPECTOR, on a salary scale of £535, rising by two annual increments of £20 and a further increment of £25 to a maximum salary of £600, plus a travelling and subsistence allowance. The initial salary will be determined according to qualifications and experience.

Applicants should be between 35-45 years of age, with Local Government experience, and should have held a similar appointment.

The position entails responsibility for maintenance repairs to all Schools and other County Buildings, including the levelling, grading and tar spraying of school playgrounds.

Applicants should have administrative ability, a sound knowledge of builder's quantities, and experience in the preparation of detailed specifications, reports, and estimates.

(*b*) ASSISTANT BUILDING INSPECTOR, at a salary of £360, rising, subject to satisfactory service, by annual increments of £15 to £405 per annum, plus a travelling and subsistence allowance.

Applicants should have held a similar appointment and possess practical experience of the building trade, be thoroughly competent in the preparation of specifications, detailed estimates and reports, and in the supervision of maintenance works and improvements to buildings.

The salaries above-mentioned are subject to the addition of war bonus—at present £59 16s. per annum.

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

Forms of application may be obtained from the County Architect, County Hall, Truro, to whom applications must be sent not later than Saturday, the 16th March, 1946, accompanied by copies of three recent testimonials

L. P. NEW,
Clerk of the County Council.

County Hall, Truro.
13th February, 1946. 758

CAMBRIDGESHIRE COUNTY COUNCIL.

COUNTY ARCHITECT'S DEPARTMENT.

Applications are invited for the temporary appointment of an ASSISTANT QUANTITY SURVEYOR.

The salary to be at the rate of £450—£25—£550 per annum, plus variable bonus, at present £59 16s., and the selected candidate will be placed on the scale according to age and experience.

The selected candidate will be required to pass a medical examination.

Applications, giving particulars of age, training, experience, and qualifications, should be forwarded to the undersigned not later than 7th March, 1946.

CHARLES PHYTHIAN,
Clerk of the County Council.

Shire Hall, Cambridge.
18th February, 1946. 769

SURREY COUNTY COUNCIL.

Applications are invited for the following appointments:—

(*a*) ASSISTANT ARCHITECT, Class I:—

Salary £600, rising by annual increments of £25 to a maximum of £700 per annum.

Applicants should either hold a degree in Architecture or be an Associate Member of the Royal Institute of British Architects, and should have had good training and an adequate experience in the design and construction of modern buildings.

(*b*) ASSISTANT QUANTITY SURVEYOR, Class I:—

Salary £600, rising by annual increments of £25 to a maximum of £700 per annum.

Applicants should be members of the Surveyors' Institute (Quantities Section), and should have had an adequate experience in taking off quantities for all trades, and have also had good experience in measuring up and in preparing final bills. A practical experience in estimating would be an advantage.

(*c*) ASSISTANT QUANTITY SURVEYOR, Class II:—

Salary £500, rising by annual increments of £20 to a maximum of £600 per annum.

Applicants should be members of the Surveyors' Institute (Quantities Section), and should have had an adequate experience in taking off quantities for all trades, and have also had good experience in measuring up and in preparing final bills.

(*d*) MAINTENANCE SURVEYOR, Class III:—

Salary £400, rising by annual increments of £20 to a maximum of £500 per annum.

Applicants must have a thorough knowledge of building construction, and adequate experience in the maintenance of all classes of buildings. A technical qualification will be required, and applicants should give full particulars of their experience, training, and qualifications.

In addition to the salaries stated above, a bonus (at present £59 16s. per annum) is payable in each case.

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

Applications, stating age, qualifications, and detailed experience, accompanied by three recent testimonials, should be sent to the County Architect, Surrey County Council, County Hall, Kingston-on-Thames, not later than Friday, 8th March, 1946.

Applicants should state clearly in their applications for which appointment they are applying.

Applicants who are members of H.M. Forces and serving abroad are requested to cable the date of the dispatch of their applications. Telegraphic address: "County—Kingston-upon-Thames." 739

MINISTRY OF HEALTH.

The Minister of Health invites applications for appointment as:—

(i) ARCHITECTS. £800-£1,050. Plus war bonus consolidation addition.

(ii) ASSISTANT ARCHITECT (Grade I). £650-£850. Plus war bonus consolidation addition.

(iii) ASSISTANT ARCHITECT (Grade II). £350-£575. Plus war bonus consolidation addition.

(The above rates apply to London. In the provinces the rates are slightly lower.)

The appointments will be made on a temporary basis in the first instance, but candidates found suitable will be considered for permanent pensionable posts at an early date.

Candidates should hold the Associateship of the Royal Institute of British Architects or other recognised qualification. Preference will be given to applicants having experience in housing, estate development, and with new forms of construction.

The age of candidates for Architect and Assistant Architect, Grade I, should normally be between 30 and 45 years, and for Assistant Architect, Grade II, 26 to 30 years.

The vacancies to be filled are in London and in the Regional Offices of the Department in the Provinces, and candidates will be required to devote their whole time to the Public Service.

Candidates who appear to be suitable will be invited to attend for interview by a Selection Board.

Forms of application may be obtained from the Director of Establishments, Ministry of Health, Whitehall, S.W.1.

No application can be considered unless received on the prescribed form not later than the 25th March, 1946. 768

BURGH OF MILNGAVIE.

HOUSING DEPARTMENT.

Applications are invited for the appointment of an ARCHITECTURAL ASSISTANT in the Burgh Surveyor's Department, at a salary of £350 per annum. Applicants should state professional qualifications and experience, and enclose copies of three recent testimonials. Applications, in writing, should be addressed to the undersigned, and should state when applicant may be available.

FRANK A. B. PRESTON,
Burgh Engineer and Architect.

6, Buchanan Street, Milngavie. 777

CITY OF MANCHESTER.

Appointment of (a) SENIOR PLANNING ASSISTANT; (b) GENERAL PLANNING ASSISTANT, City Surveyor and Engineer's Department.

Applications are invited for the position of:—

(a) Senior Planning Assistant, at a salary of £625 per annum, rising by annual increments of £25 to a maximum of £700 per annum, plus cost-of-living bonus, at present amounting to £60 per annum.

The applicants should have had a wide experience in the design and layout of new development and large areas of redevelopment. The successful candidate will be required to take control of an engineering, planning and architectural staff employed on the detailed development proposals for the remainder of the Wythenshawe satellite, and on redevelopment proposals covering large areas of present congested residential development.

(b) General Planning Assistant, at a salary of £480 per annum, rising by an annual increment of £30 to a maximum of £480 per annum, plus cost-of-living bonus, at present amounting to £60 per annum.

The applicants should have had a good general planning experience, with emphasis on the architectural aspect of development and redevelopment.

The candidates selected will be required to pass a medical examination before the appointments are confirmed, to contribute to the Corporation superannuation fund, and to execute the Corporation's Deed of Service.

Applications must be made on the appropriate form, which can be obtained at my office, and must be returned (together with copies of not more than three recent testimonials) to me not later than 10 a.m. on Monday, the 11th March, 1946, and be endorsed "Senior Planning Assistant" or "General Planning Assistant," as may be appropriate.

Canvassing in any form, oral or written, direct or indirect, is prohibited, and will be regarded as a disqualification.

PHILIP B. DINGLE,
Town Clerk.

Town Hall, Manchester, 2. 773

CITY OF MANCHESTER HOUSING COMMITTEE.

Applications are invited for the appointment under the Housing Committee of the following posts for Technical Assistants:—

TWO ASSISTANT ARCHITECTS, at £400-£425 per annum.

TWO ASSISTANT ARCHITECTS, at £380 per annum.

ONE QUANTITY SURVEYOR'S ASSISTANT, at £340 per annum.

ONE QUANTITY SURVEYOR'S ASSISTANT, at £325 per annum.

The above amounts are supplemented by a cost-of-living bonus, which at present amounts to £60 per annum.

In the case of the Assistant Architects, applicants must be registered architects, and generally preference will be given to applicants who are members of the Royal Institute of British Architects.

After six months' service, the successful candidate will be required to contribute to the Corporation Superannuation Fund, and if under the age of 30 years will be required compulsorily to contribute to the Manchester Municipal Officers', Widows' and Orphans' Pensions Fund.

Applications, stating age and experience, together with copies of two testimonials, must be submitted to Mr. John Hughes, B.Arch., F.R.I.B.A., Director of Housing, Town Hall, Manchester, 2, not later than Saturday, 9th March, 1946.

Canvassing in any form, oral or written, direct or indirect, is prohibited.

PHILIP B. DINGLE,
Town Clerk.

Town Hall, Manchester, 2.
February, 1946. 787

ESSEX EDUCATION COMMITTEE.

SOUTH-WEST ESSEX TECHNICAL COLLEGE AND SCHOOL OF ART, FOREST ROAD, WALTHAMSTOW, E.17.

Applications are invited from Fellow or Associate Members of the Royal Institute of British Architects for a full-time permanent post of STUDIO MASTER AND LECTURER in Architectural Design and Technique of Presentation. Ability to lecture in History and Architecture will be an advantage.

Salary: Burnham Scale (London allowance), with increments where applicable for professional experience, approved training and graduation.

Applications (no forms), giving full particulars of training, qualifications and experience, with copies of three recent testimonials and names of three referees, should reach the Clerk to the Governors at the College by 5th March.

B. E. LAWRENCE,
Chief Education Officer.

County Offices, Chelmsford. 771

HERTFORDSHIRE COUNTY COUNCIL.

COUNTY ARCHITECT'S DEPARTMENT.

APPOINTMENT OF ASSISTANT ARCHITECTS.

Applications are invited for the following appointments:—

(a) SENIOR ASSISTANT ARCHITECTS (TWO). Salary, £575-£650 per annum by £25 annual increments.

(b) ASSISTANT ARCHITECTS (THREE). Salary, £420-£465 per annum by £15 annual increments.

(c) JUNIOR ASSISTANT ARCHITECTS (THREE). Salary, £360-£405 per annum by £15 annual increments.

A cost-of-living bonus, at present £59 16s. per annum, is to be added to the salary in each case.

The commencing salary for each of the appointments will depend on the qualifications of the applicant, and be at the discretion of the appointing Committee.

Candidates for each post must be members of the R.I.B.A., and in the case of (a) successful candidates must provide and maintain a motor car, in respect of which a car allowance will be paid on a scale approved by the County Council from time to time.

The appointments will be subject to the Local Government Officers' Superannuation Act, 1937, and successful applicants will be required to pass a medical examination.

Applications, stating age, training, experience and qualifications, together with three references, should reach the undersigned not later than 18th March, 1946.

Applications from ex-Service men and those now in the Forces will be welcomed, and in the latter category the position with regard to demobilisation should be stated.

Canvassing will be a disqualification.

ELTON LONGMORE,
Clerk of the County Council.

County Hall, Hertford, Herts.
19th February, 1946. 772

COUNTY BOROUGH OF BIRKENHEAD.

APPOINTMENT OF PERMANENT SENIOR ARCHITECTURAL ASSISTANT FOR EDUCATIONAL WORK.

Applications are invited for the above appointment on the Borough Surveyor's staff, at a salary of £500 per annum, plus bonus, at present £59 16s. per annum, and members of H.M. Forces will be eligible to apply for the position.

Candidates should be A.R.I.B.A. or hold equivalent qualifications, and should have had experience in the design of school buildings and of light construction, and have a knowledge of the regulations of the Ministry of Education with regard to school buildings.

The above post is subject to the Local Government Superannuation Act, 1937, and the persons appointed will be required to contribute the appropriate percentage of his salary to the Corporation's superannuation scheme.

The appointment will be subject to one month's notice on either side, and to the successful candidate passing a medical examination.

Applications, endorsed "Architectural Assistant," which must be in accordance with particulars, to be obtained from Mr. B. Robinson, M.Inst.M. & Cy.E., Borough Engineer and Surveyor, Town Hall, Birkenhead, to be sent with copies of three recent testimonials to the undersigned not later than the 14th March, 1946.

E. W. TAME,
Town Clerk.

Town Hall, Birkenhead.
February, 1946. 779

THE NORTHAMPTON ELECTRIC LIGHT & POWER CO., LTD.

ARCHITECTURAL DRAUGHTSMAN and GENERAL ASSISTANT (permanent) required, to prepare working drawings and details under supervision, and assist with quantities, specifications, and estimates for showrooms, offices, sub-stations and workshops. Commencing salary about £375 a year, plus current war adjustment. Applications to reach here not later than first post on Monday, 11th March.

25, Bridge Street, Northampton. 782

LYDNEY RURAL DISTRICT COUNCIL.

ARCHITECTURAL ASSISTANT.

Applications are invited for the temporary appointment of Architectural Assistant in the Engineer and Surveyor's Department, at a salary of £350 per annum, plus cost-of-living bonus, at present £59 16s.

Applicants must possess an Architectural qualification and have had experience in the preparation of plans, working drawings, specifications, and lay-outs of modern housing estates, including surveying and levelling.

Applications, stating age, qualifications, and experience, together with copies of three recent testimonials, must be delivered to the undersigned not later than Monday, the 4th March, 1946.

G. D. SPEARING,
Clerk of the Council.

R.D.C. Offices, Chepstow.
20th February, 1946. 783

Partnerships

Six lines or under, 8s.; each additional line, 1s.

PARTNERSHIP required with Architect; preferably in North Midland area.—Box 780.

A. R.I.B.A. (ex-Major R.E.), age 31, seeks Partnership with provincial Architect; preferably South Coast or South-West England; 8 years' general civil experience; capital available. Box 781.

Architectural Appointments Vacant

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

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

QUALIFIED ARCHITECT/SURVEYOR required by East Midland's Brewery; wide experience of licensed premises design, alterations, modernising, maintenance, and general routine essential; post-war expansion and reconstruction being planned for near future; permanent position for suitable man. Please state age, experience, salary required, and when available, to Box 695.

ARCHITECTURAL ASSISTANT required, in office of Chartered Architects and Town Planning Consultants, in the West of England; commencing salary £300 per annum, plus travelling and subsistence allowance, plus share in profits; good knowledge of construction essential; preferably some knowledge of quantities. Apply Box 736.

REQUIRED, immediately, qualified Assistant Architects; preferably school trained; at least 3 years' office experience, industrial and housing. Apply, stating salary, to Grenfell Baines Group, 12-24, Guildhall Street, Preston, Lancs. 748

REQUIRED, immediately, Junior Assistant Architects; inter. R.I.B.A.; at least 3 years' office experience. Apply, stating salary, to Grenfell Baines Group, 12-24, Guildhall Street, Preston, Lancs. 749

EXPERIENCED ASSISTANT for General Provincial Practice; commencing salary £260 per annum; S.E. Coast; working drawings, surveys, specifications, schedules of condition, etc. Box 761.

COMPETENT ARCHITECT'S ASSISTANT required in the Birmingham office of a Multiple Company. Apply, stating experience, age, salary required, to Box 762.

JUNIOR ASSISTANT required by busy firm of London Architects; must be accurate draughtsman, with good knowledge of construction, detailing, surveys, and measured drawings. Apply, by letter only, stating age, training, experience, and salary required, to Thompson, Walford & Fielder, F/A.R.I.B.A., Leadenhall Buildings, E.C.3. 764

WANTED, in South Wales area, a qualified Surveyor, with experience of brewery properties; permanent position with good salary for suitable man. Box 765.

ARCHITECTURAL ASSISTANT required at once; experienced and reliable, for surveys, working drawings, specifications, supervision, etc.; general work, but experience of licensed premises an advantage. Write fully, stating age, experience, salary, and whether free now, to J. S. Thomson, F.R.I.B.A., 68, Wimbledon Hill Road, S.W.19. 766

ASSISTANT ARCHITECT required immediately. Apply, stating qualifications and experience, to Herring, 21, Milton Road, Harpenden. 760

SURVEYING ASSISTANT required in Architect's office, Maidenhead; one studying for S.I. examinations preferred; excellent opportunities for ambitious young man. Full particulars to Box 767.

JUNIOR DRAUGHTSMAN, gifted in free hand drawing and working drawings, required by Designers and Manufacturers of high-class electric light fittings and architectural metal work. Apply New Light Fittings, Ltd., 20-21, Tottenham Mews, Tottenham Street, Tottenham Court Road, W.1. 774

SENIOR and JUNIOR ASSISTANT required; state age, experience, and salary required. Box 775.

ARCHITECTURAL ASSISTANTS, trained and experienced, required immediately for various large scale works; good salaries and prospects. Apply, giving full particulars, to Anthony Steel & Owen, A/A.R.I.B.A., Cogan Chambers, Bowlalley Lane, Kingston-upon-Hull. 776

FIRST-CLASS ASSISTANT required by Architects in South Yorkshire; fully experienced in design, construction, supervision of works, and knowledge of quantities; permanent position. Write, stating age, experience, and salary required, to Box 778.

ASSISTANT QUANTITY SURVEYOR and two additional Architectural Assistants required on priority work; salaries £350 per annum and upwards. Full details from D. C. Denton-Smith, L.R.I.B.A., 40, Regent Street, Cambridge. 786

SENIOR ASSISTANT required in important London office; qualified either A.R.I.B.A. or P.A.S.I. (Building); sound knowledge of surveys, working drawings, details, specifications, new buildings, alterations and additions, supervision of contracts, etc.; salary offered, £500-£600 per annum; present appointment temporary, but possibility of permanency with superannuation. Apply Box No. 71, c/o Mather & Crowther, Ltd., Brettenham House, Lancaster Place, W.C.2. 786

Architectural Appointments Wanted

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

SENIOR ASSISTANT, 20 years' experience, requires three full days' work per week, in London; plans, details, surveys, etc.; rate £4 per day. Box 299.

ARCHITECTURAL DRAUGHTSMAN requires spare-time work. Box 300.

YOUNG Lady, aged 20, 4 years drawing office, experienced tracer, seeks progressive post as Junior Draughtswoman; London or south suburbs. Box 301.

YOUNG qualified Architect seeks a progressive position, preferably in the North-West or Midland areas; 9 years' practical experience in domestic, industrial, and licensed housing work, from initial stages to working drawings, specifications and quantities; salary by arrangement. Box 302.

B. ARCH., A.R.I.B.A., A.M.T.P.I. (32), 11 years' experience, including T. & C. planning, requires temporary full-time post, in London or S.E. Box 305.

A.R.I.B.A. (female, 26), school trained, 3 years in Government office, 8 months in private office, seeks position in Architect's office; preference for Manchester, Liverpool, Leeds, or Sheffield districts; salary by arrangements. Box 306.

MANCHESTER DISTRICT. — Architectural Assistant offers spare-time services; extensive experience, particularly industrial work. Box 307.

L.R.I.B.A. (35), at present in London, desires responsible appointment with Architect in West Country; able to take complete charge of all types of contracts; salary, £600 per annum. Box 308.

REGISTERED ARCHITECT (34) offers part-time assistance busy Architect as post-war refreshed; London or South London. Box 303.

A.R.I.B.A. requires Senior temporary post in Birmingham; all-round experience; excellent draughtsman Box 304.

ENTHUSIASTIC young man requires position in Architect's office, where he will be able to develop his initiative, and gain experience. Box 309.

ARCHITECT and Engineer, senior professional man, seeks leading position. Write Robert Stirling, F.R.S.A., A.S.T.A.A., A.E.J.D., "Brooklyn," 73, Osborne Avenue, Jesmond, Newcastle-upon-Tyne. 310

Other Appointments Vacant

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

PART-TIME ASSISTANT EDITOR, interested in Town and Country Planning, wanted urgently by Architectural Paper. Write, with full particulars of qualifications, salary required, etc., to Box 286.

SALES REPRESENTATIVE required in London for Architectural Metalwork, Light Fitting, Shop-fronts, Bronze and General Metalwork; knowledge of the trade and personal contacts with Architects, Ministries, Borough Councils, etc.; first-class man will receive good salary and commission. Box 734.

Other Appointments Wanted

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

RAPID Comptometer Calculations; dimension books, bills, abstracts, wages sheets, dilapidations, etc., accurately and speedily calculated; inquiries invited. Box 759.

ARCHITECTURAL Storefitting Draughtsman offers spare-time service to Architects; wide experience in all services; moderate fees. Box 770.

For Sale

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

ELECTRICITY FOR COUNTRY HOUSE.—Complete equipment for Sale, including 20 h.p. Oil Engine, Electric Generator and Booster Set, Switchboard, Battery and Motors, 200 volts supply; in good running order; inspection.—Apply Bally, Grundy & Barrett, Ltd., Electrical Engineers, Cambridge. 685

OIL-FIRING Apparatus, 5 units, for Sale; reasonable price; good condition; each set includes burner, transformer, thermostat, and automatic control; 230 volts, 50 cycles. Busbys (Bradford), Ltd., Manningham Lane, Bradford. 757

Miscellaneous

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

A. J. BINNS, LTD., specialists in the supply and fixing of all types of fencing, tubular guard rail, factory partitions and gates. 53, Gt. Marlborough St., W.1. Gerrard 4223-4224-4225.

F. J. BAYNES, LTD., established over 100 years. Heating, Ventilating and Sanitary Engineers. 99/101, St. Paul's Road, N.1. Canonbury 2552. 584

FENCING AND GATES of every type, supplied and erected. Specialists in chain link. Boulton & Paul, Limited, Norwich. 662

BUILDING ESTATE DEVELOPMENT.—Ample funds available; liberal advance on cost of land; then building finance; then up to 90 per cent. long term mortgages to owner-occupiers, free of brokerage; low interest rates and charges. Chas. B. Buxton, Ltd., Local Authorities Loans Brokers, 9, Clements Lane, Lombard Street, E.C.4. 588

MODELS of Town Planning Schemes and Buildings of all types; built by experts, and accurate in every detail. Box 673.

WANTED.—Copy of "The Architectural Review" for February, 1945. Box 284.

WANTED.—One set of "Arts Et Matiers Graphiques." Please reply to Box 5.

M. & E. EQUIPMENT (CONSTRUCTIONS), LTD., 71, Lots Road, Chelsea, S.W.10 (Tel. No. Flax 1423), are prepared to accept work for :—
SPRAYING.—Cinemas and Hotels our speciality. We have expert spraying operatives, with the latest plant and equipment.
PLANTS FOR HIRE.—We can supply petrol and electric compressors; £5 weekly.
STEEL ERECTION.—We have trained specialists in light steel erection, sheeting, metal lathing, steel rope and tube construction, etc. 753

ARCHITECT would like to share his Office in Hampstead with other Architect, Surveyor or Structural Engineer. Box 763.

A NEW SERVICE.—Parliamentary Reports, issued fortnightly, provide excerpts from the Official Reports of Parliamentary proceedings dealing with Housing and Building; subscription rates, £2 2s. per annum. Full particulars from Secretarial Services, 25, Haymarket, London, S.W.1. Tel. : ABBey 6283. 784

CENTRAL HEATING OIL BURNERS.—Insist on the British-made Parwinac—no stoking, clean, trouble free; no waiting for coal or coke deliveries; available now if oil permit obtainable. Parker, Winder & Achurch, Ltd., Makers, 80, Broad Street, Birmingham, 1. 992

Educational Announcements

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

R.I.B.A. QUALIFYING EXAMINATIONS. Mr. C. W. Box, F.R.I.B.A., M.R.San.I. Courses of Correspondence and Personal in Studio. 115, Gower St., London, W.C.1 (Tel. : Euston 3906), and at 23, St. James's St., Derby (Tel. : 45648).

R.I.B.A. and T.P. INST. EXAMS. Private Courses of Tuition by correspondence arranged by Mr. L. Stuart Stanley, M.A., F.R.I.B.A., M.T.P.I. Tutor, 161, West Heath Road, N.W.3. Tel : SPE 5319. 415

Alphabetical Index to Advertisers

For Appointments (Wanted or Vacant), Competitions Open, Drawings, Tracings, etc., Educational, Legal Notices, Miscellaneous Property and Land Sales—see pages lvi, lvii, lviii and lix.