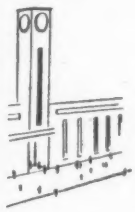
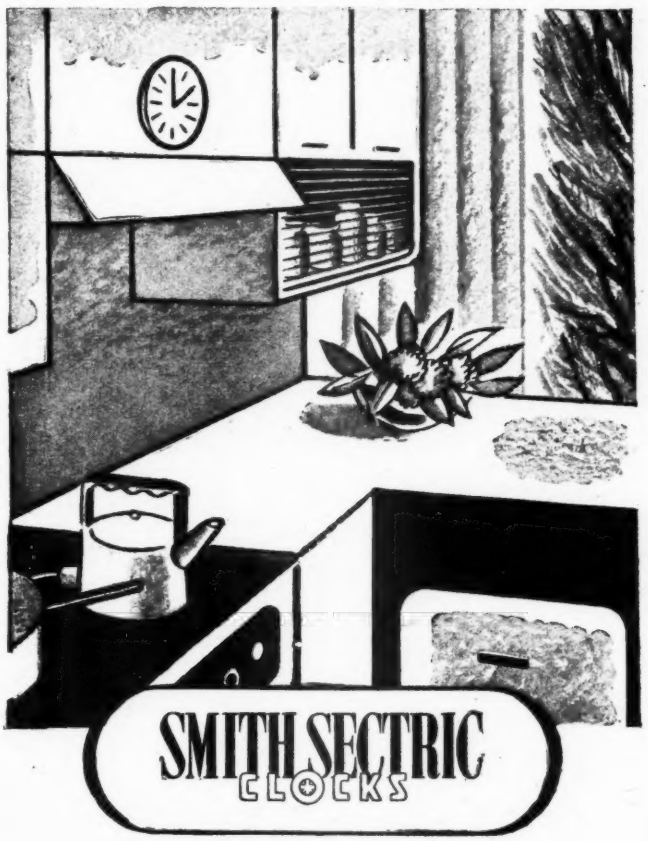
Dont Forget the CLOCK PLUG POINTS

IN THE KITCHEN

The average woman in the average home spends much of her day in the kitchen. It is there that she specially needs an ever accurate A.C. mains time service. Provision for such a service can best be made by specifying a Smith "Sectric" Clock Connector in every kitchen you plan. Whether or not is included a standard Smith "Sectric" Wall Clock, or one built in to wall or cabinet in your own design, this type of clock plug point is the neatest and most efficient available. Your enquiry is invited.

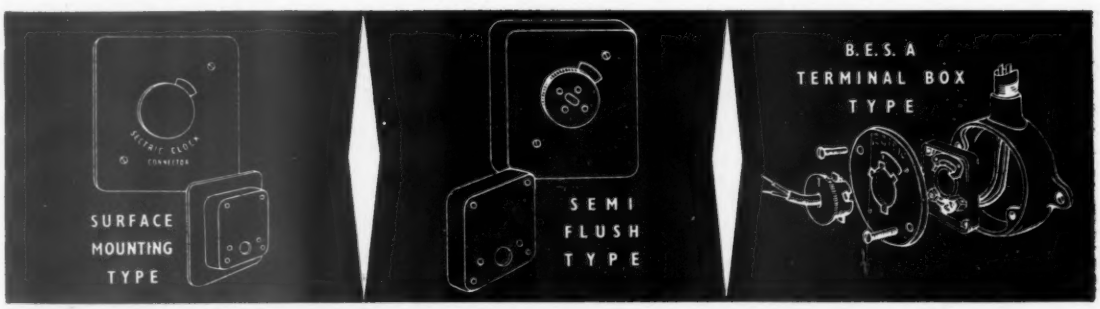


Smith "Sectric" Commercial Clocks are available for all conceivable interior and exterior purposes, in standard designs or to architects' specifications, from small office clocks to large turret structures.



plug in to Greenwich time

& "Sectric" Clock Connectors



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The Clock and Watch Division of S. Smith & Sons (England) Ltd.

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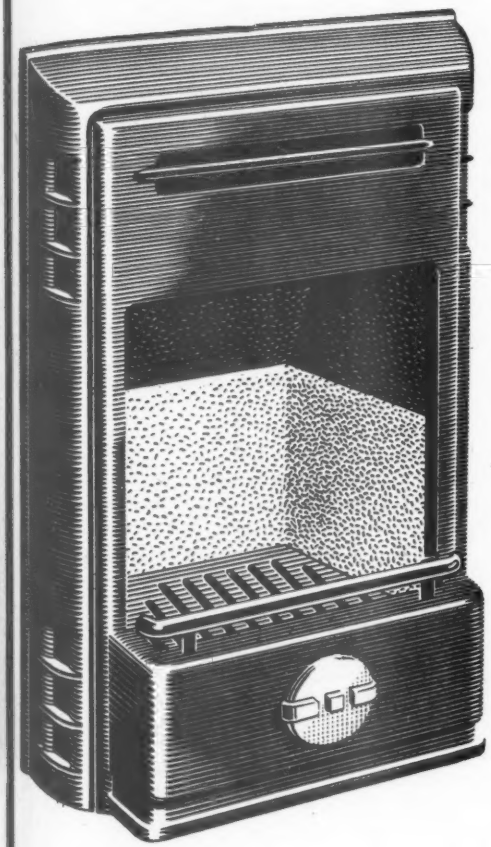
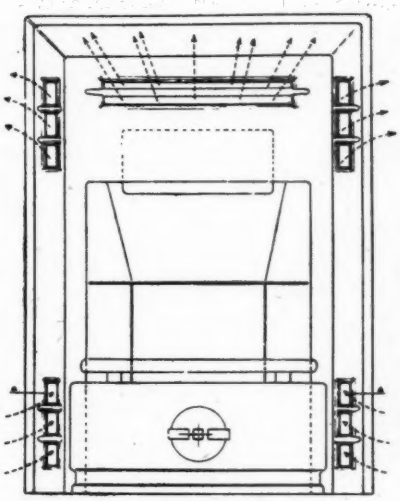
NEW-FASHIONED VISIBLE HEAT

EXAMPLE

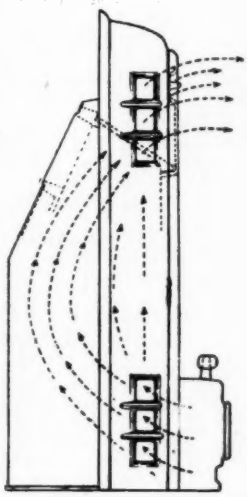
A.I "PROJECTOR" HEATING UNIT



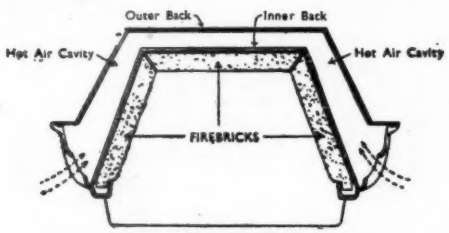
SPECIFICATION: This is a self-contained interior grate, with double casing, which gives warmth on the convection principle. By carefully arranged air inlets in the sides and top of the unit, the heat from the fire is projected over the whole area of the room. The path of this heated air is indicated by dotted lines in the accompanying diagrams.



FRONT ELEVATION



SIDE ELEVATION



SECTIONAL PLAN A.A.
with bottom grate & fret removed

SIZES: Overall sizes: 25½" high x 18½" wide x 12" fire. Minimum size of existing fire opening required: 22" high x 16" wide.
Clearance from underside of projecting lintel (if any) over fire opening to level of hearth must be at least 26".

FINISHES: Ebony black or coloured vitreous enamel, or "Alisheen" de Luxe enamel.

ADVANTAGES: The unit can be fitted to most existing fireplaces. It gives more heat per unit of fuel, and cuts down fuel consumption by approximately 40% over the ordinary coal fire.

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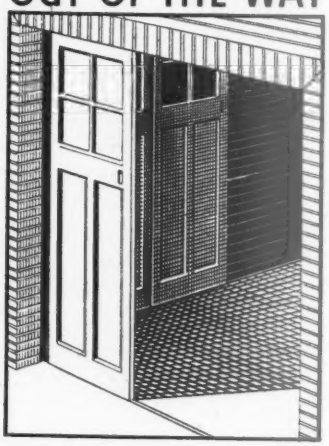
THE VALUE OF SLIDING

OUT OF THE WAY



In these days, to slide on a banana skin can be considered as something approaching a luxury. But that, of course, is only one way of sliding—and not very pleasant. The real pleasure of sliding comes from a sense of travelling swiftly and smoothly between one place and another with rare economy of time and effort. Now apply this perfect principle to doors and what do we find? Without a doubt we should be led to consider a door fitted with King Sliding Door Gear—and it is worth considering. A door that's hinged is a door that needs a lot of room; but with a sliding door it's different. If it's fitted with King Door Gear a touch of the hand takes it out of the way, gliding easily and quickly to nestle snugly against the wall, completely and unobtrusively out of the way. Doors that slide mean doorways that allow free passage all around them.

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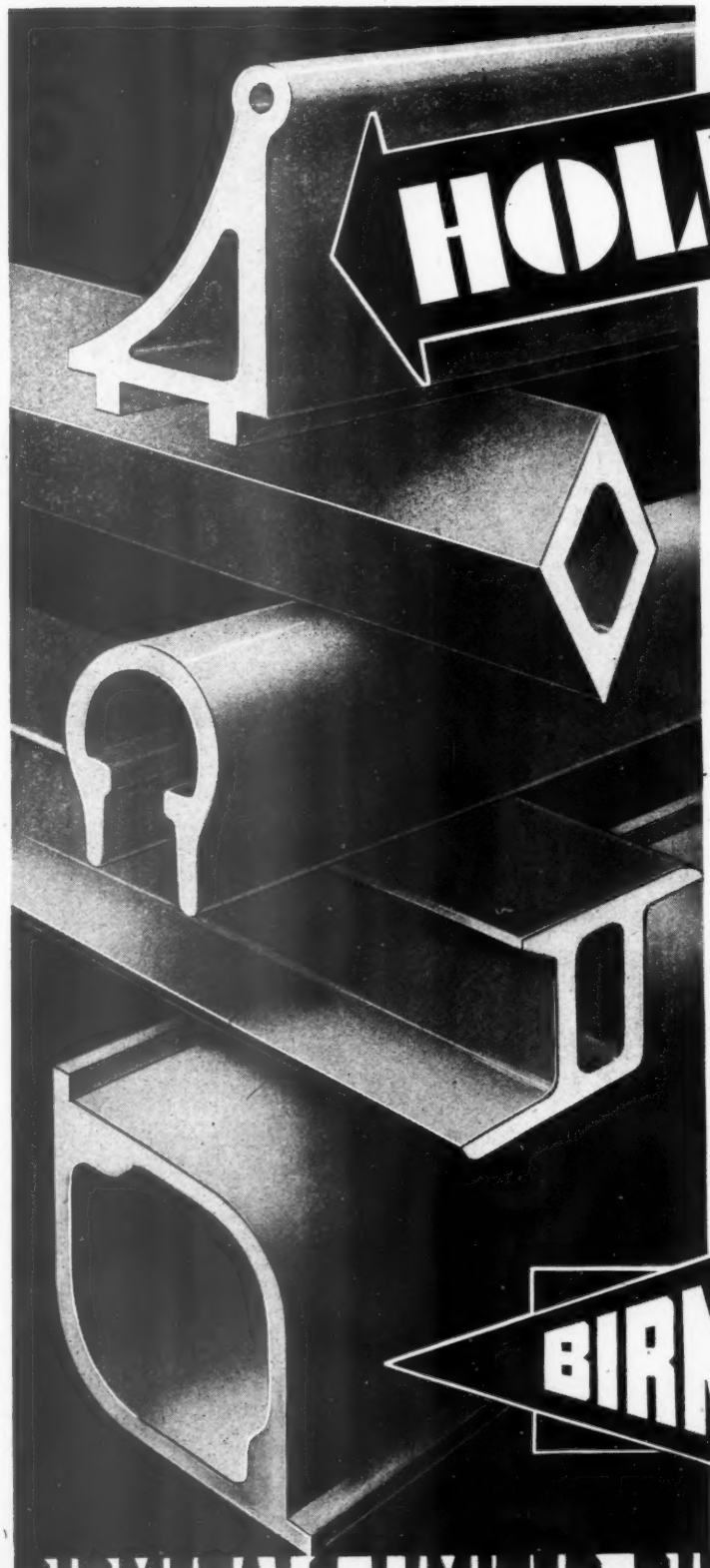

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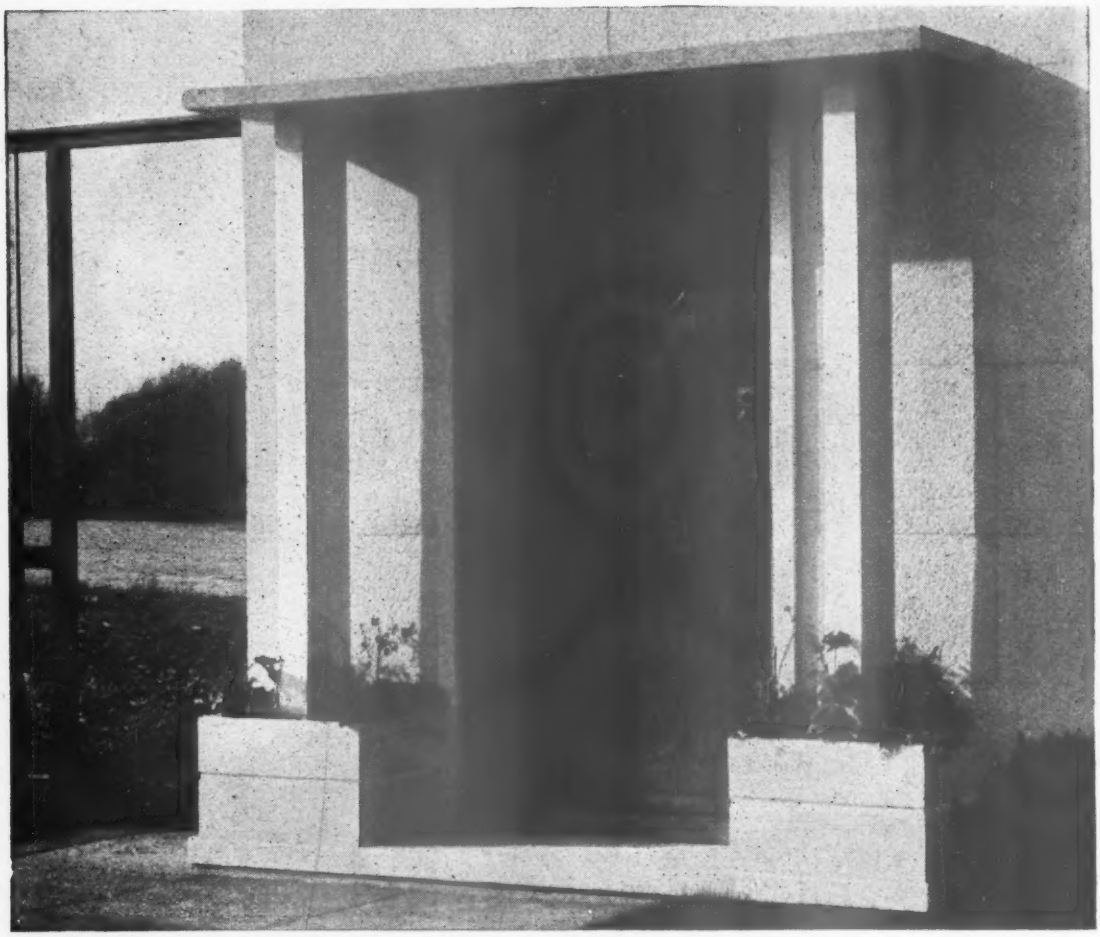

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The Orlit method of house construction is based on the use of "traditional" indigenous materials which do not have to be imported from abroad. The heavy demands on shipping space and on foreign currency will not therefore restrict the development of Orlit.

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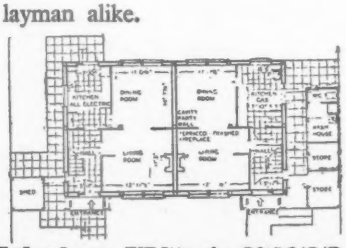
ORLIT



ORLIT LTD., 18, BUCKINGHAM GATE, LONDON, S.W.1. Telephone VICtoria 6701/2/3

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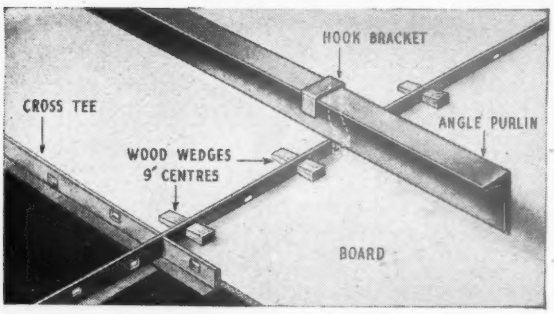
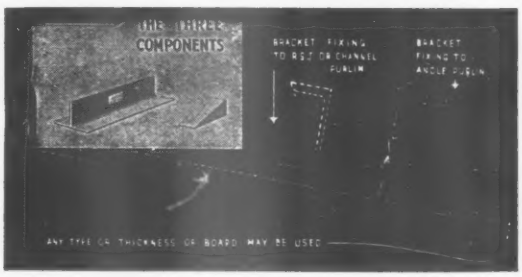
The Wallboard is secured to sherardised, pressed steel, slotted T-section by wedges. Below are shown the methods of attaching the support to various forms of purlin.

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





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1. Fixed to UNDERSIDE of purlins—steel or wood—covering unsightly hook bolts, clips, etc.
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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.

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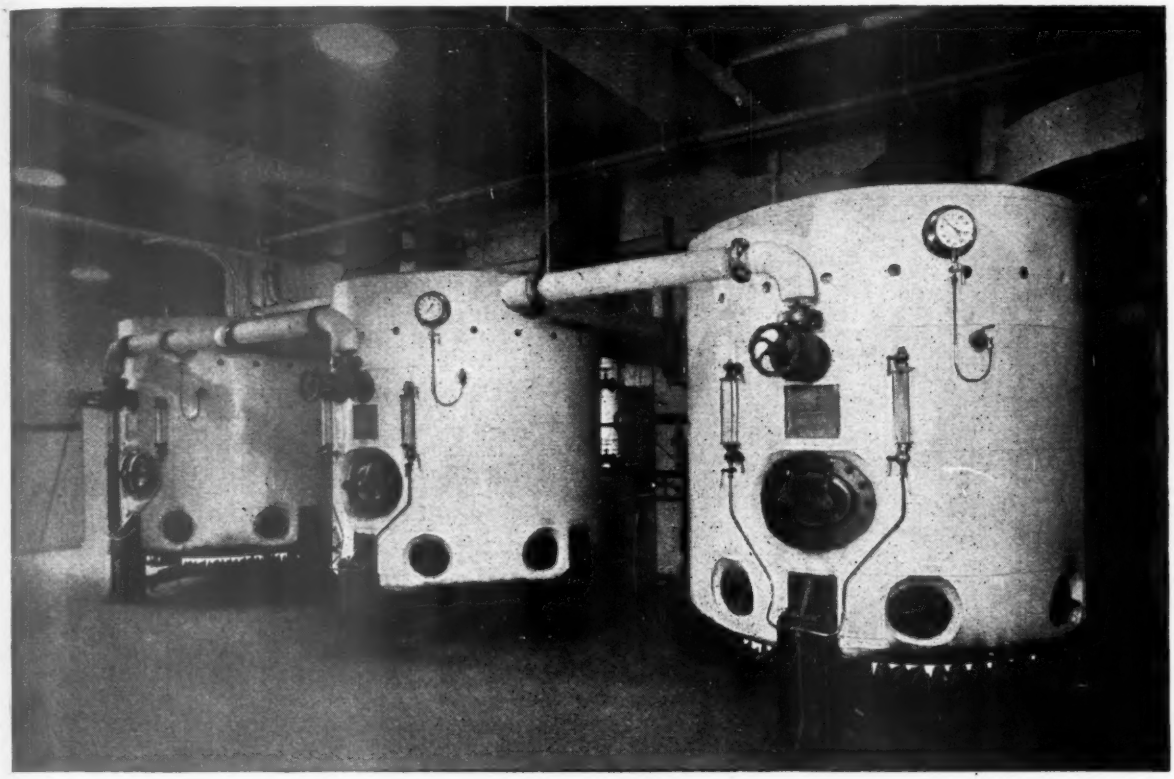

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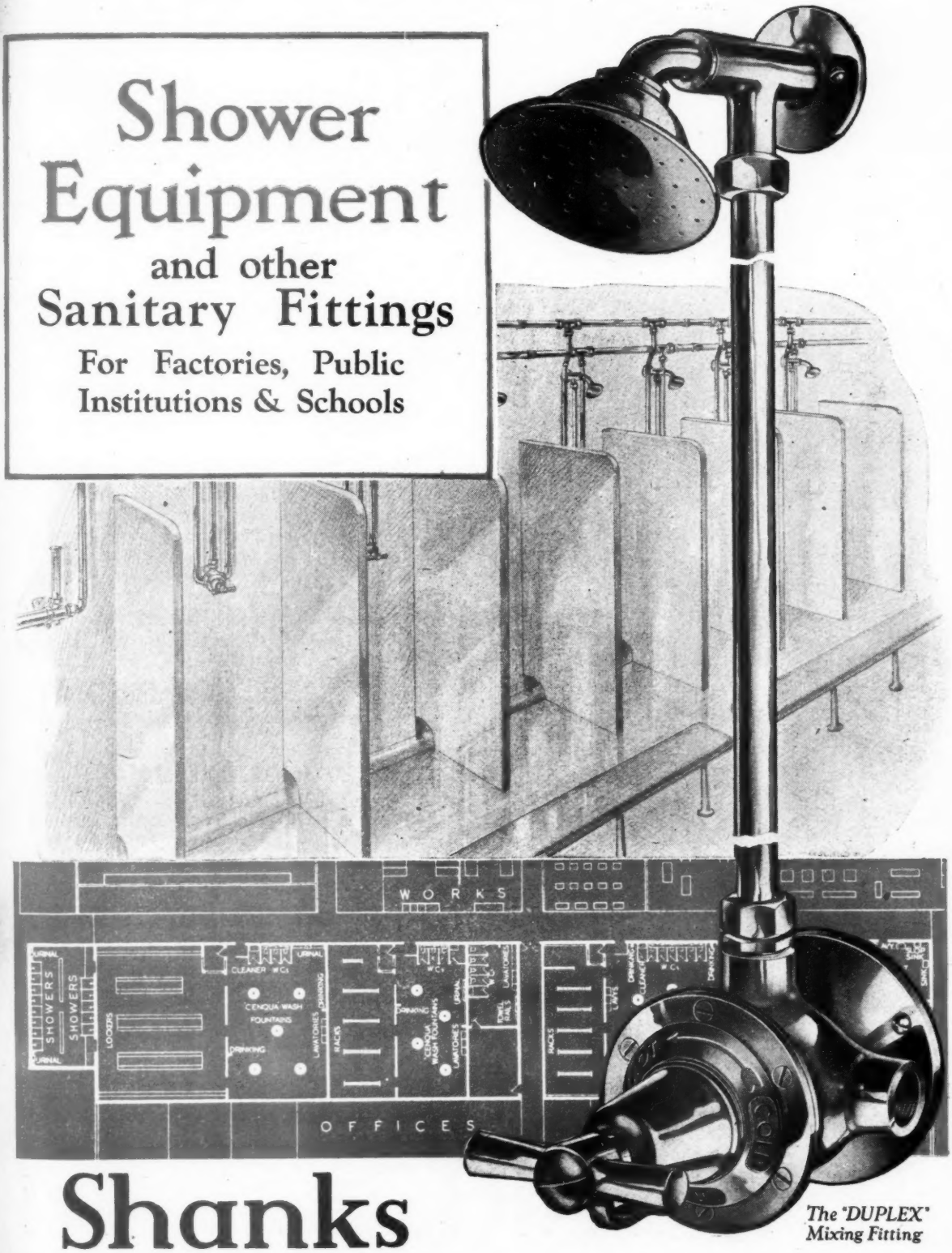

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In common with every other periodical this JOURNAL *is rationed to a small part of its pre-war needs of paper. Thus a balance has to be struck between circulation and number of pages. We regret that unless a reader is a subscriber we cannot guarantee 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 DECEMBER JANUARY AND FEBRUARY

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

BIRMINGHAM. *Permanent House Plans.* Exhibition at the Art Gallery, New Street. The plans were selected in a National Competition organised by The House Building Industries Standing Committee. DEC. 13-22

EDINBURGH. *Exhibition of Designs submitted in the competition promoted by the Thistle Foundation, for the Proposed Buildings at Edinburgh for the Foundation.* At the Royal Scottish Academy, Princes Street. (Sponsor, the Thistle Foundation.) Weekdays, 10 a.m. to 5 p.m. Sundays, 2 p.m. to 5 p.m. DEC. 13-16

GLASGOW. *Other People's Jobs.* Exhibition at the Scottish Building Centre, 425, Sauchiehall Street, Glasgow, C.2. Designed to emphasise the importance of coal in industry, transport and home, and to remind the public of the need for the efficient and careful use of every type of fuel; the exhibition will include a number of up-to-date domestic appliances, including open coal fires, solid fuel cookers and stoves, as well as some of the latest designs of gas and electric cookers and other domestic appliances. (Sponsor, Ministry of Fuel and Power.) DEC. 13-29

LEICESTER. *Country Life and Country Needs.* Exhibition at the Museum and Art Gallery. (Sponsor, BIAE.) DEC. 13-30

LIVERPOOL. *Architectural Students Association Annual Conference.* To be opened by the Lord Mayor of Liverpool, Alderman Luke Hogan, at the Students Union. DEC. 17-21

LLANELLY. *NALGO Exhibition* at the Public Library. (Sponsor, BIAE.) DEC. 17-25

LONDON. Winter Exhibition of Water Colour Drawings and Paintings. By Henry S. Merritt and Laurence Clarke. At the Batsford Gallery, 15, North Audley Street, W.1. (Sponsor, B. T. Batsford, Limited.) 10 a.m. to 4 p.m. Saturdays 10 a.m. to 12 noon. DEC. 13-22

NALGO Exhibition. At the Geffrye Museum, Kingsland Road, E. (Sponsor, BIAE.) DEC. 13-15

Exhibition of Hampstead Artists, Past and Present. At Studio House, Haverstock Hill, N.W.3. Works are being lent by Messrs. Colnaghi, Agnews, Lefevre, Frost and Reed, as well as private collectors and public galleries. Many of the pictures in the historical section have never before been exhibited. (Sponsor, Hampstead Artists' Council.) DEC. 16 onwards.

J. F. Eccles. *The Creation of a New Town.* At the Livingstone Hall, Broadway, Westminster, S.W.1. (Sponsor, TPI.) 6 p.m. DEC. 20

Dr. H. Andrew of the Building Research Station. *Plastering.* ASB Lecture at The RIBA, 66, Portland Place, W.1. (Sponsor, RIBA.) 5.45 p.m. JAN. 2

Schools. Speakers, J. H. Newsom, County Education Officer of Hertfordshire, and others, and showing a film *Children's Charter.* At the AA, 34-36, Bedford Square. W.C.1. (Sponsor, AA.) 6 p.m. JAN. 8

Richard H. Sheppard, J. H. Newsom, Hertfordshire County Education Officer and others. Talk on *Schools* and showing of the film *Children's Charter.* At the AA, 34-36, Bedford Square, W.C.1. (Sponsor, AA.) 6 p.m. JAN. 8

S. C. Mount. *A Factory in a Railway Tunnel.* At the Institution of Heating and Ventilating Engineers, 72-74, Victoria Street, S.W.1. (Sponsor, IHVE.) JAN. 9

W. R. Watson. *The Control of Electrical Installation Work.* At the Institution of Electrical Engineers, Savoy Place, Victoria Embankment, W.C.2. (Sponsor, IEE.) 5 p.m. JAN. 10

Country Road Lighting. Discussion opened by C. R. Bicknell at the Institution of Electrical Engineers, Savoy Place, Victoria Embankment, W.C.2. (Sponsor, IEE.) 5 p.m. JAN. 14

1945 AA Students Panto. *It's Out of All Proportion.* At the AA, 36, Bedford Square, W.C.1. December 11, 12 and 13, 7.30 p.m. December 14, 6.30 p.m. Tickets 5s., 3s. 6d. and 2s. 6d., must be booked in advance from Miss I. L. E. Griessmann, Panto Secretary. Cheques made payable to AA Students' Club. DEC. 13-14

A. Ramsay Moon. *Shop and Site Welding.* At the Institution of Civil Engineers, Great George Street, S.W.1. (Sponsor, ICE.) 5.30 p.m. JAN. 15

National Federation of Building Trades Employers' Dinner. At The Dorchester Hotel. Guest of honour, Mr. Aneurin Bevan, Minister of Health. JAN. 30

Kenneth Holmes, Principal of the Leicester College of Arts and Crafts. *The Place of The Art School in The Life of the Community.* At the Royal Society of Arts, John Adam Street, W.C.2. (Sponsor, RSA.) 1.45 p.m. JAN. 30

Professor G. I. Finch, Scientific Adviser to the Ministry of Home Security. *The Need for Scientific Research into the Prevention and Extinction of Fires.* At the Royal Society of Arts, John Adam Street, W.C.2. (Sponsor, RSA.) 1.45 p.m. FEB. 13

NEWS

THURSDAY, DECEMBER 13, 1945
No. 2655. VOL. 102

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.

On thirteen sites in England DEMONSTRATION PERMANENT HOUSES are under construction from plans selected in the national competition organized by the House-Building Industries Standing Committee.

Sites where the houses are under construction are as follow:—*Northern Area*—Handforth, near Manchester; Sale Moor, near Manchester; Wakefield; Morley, near Leeds. Building on three other pairs of houses (at Liverpool, Wythenshaw and Sale) will start shortly. *Midlands Area*—Walsall; Coventry; Leicester; Cardiff. Building on five other pairs of houses (at Hanley, Birmingham, Norwich, Chesham and Oxford) will start shortly. London and Southern Area—Ardingly, Sussex; Letchworth; Hayes Middx.; Eastcote; Northwood. Building on seven other pairs of houses (at Hornchurch, Hythe, Purley, Brighton, Hove, Orpington and Plymouth) will start shortly. It is anticipated that the first pairs of houses will be completed, furnished and open for exhibition before Christmas.

★

Sir William Douglas, K.C.B., K.B.E., Permanent Secretary of the Ministry of Supply since 1942, has now taken up his duties as PERMANENT SECRETARY OF THE MINISTRY OF HEALTH, on the retirement of Sir John Maude, K.C.E., K.B.E.

The large distribution and control panel through which programmes pass to subscribers and which is constantly manned by a Rediffusion engineer.

Radio Listening to be clearer and simpler in the future

IN the future, radio entertainment will develop more and more on a system already bringing new reception experience to thousands of fortunate listeners in certain areas. They have no hunting for stations, no hair's breadth adjustments of the tuning dial to cut out unwanted stations, no irritating crackling and distortion to interfere with their listening. Just a simple movement of a switch from one position to another gives them the programmes they require.

This is not yet a feasible proposition for listeners everywhere, but Broadcast Relay Service Ltd. are already operating a service which brings radio into the home by private direct lines from the B.B.C. studios.

Subscribers to this service are thus sure of the best reception of radio. They can select the Home or Light programme, confident that the reproduction will be the exact counterpart of the studio performance. And selected programmes from world radio stations are also available to them.

Rediffusion also equips factories for announcements and music

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BY BROADCAST RELAY SERVICE LTD.

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serves the following areas:

BANGOR (CO. DOWN), BARGOED, BARROW, BLACKPOOL, BROADSTAIRS, DARLINGTON, EXETER, GATESHEAD, HULL, KENDAL, LANCASTER, MAIDSTONE, MARGATE, MERTHYR, MORECAMBE, NEWCASTLE, NEWPORT (MON.), NORTH AND SOUTH SHIELDS, NOTTINGHAM, PLYMOUTH, PONTYPRIDD, RAMSGATE, RHONDDA VALLEY, ROCHDALE, ROTHERHAM, ST. HELENS, STRETFORD, SUNDERLAND, SWANSEA, WALLASEY, WALLSEND, WHITLEY BAY, WOLVERHAMPTON, and also in MALTA and TRINIDAD.

From AN ARCHITECT'S *Commonplace Book*

A HOT MUSEUM PIECE OF THE NINETIES. [*From* Dr. Philligo : His Journal and Opinions, *by C. E. Vulliamy* (*Michael Joseph*).] Lucy is anxious to have our drawing-room decorated and equipped in the fashionable style. Whether I shall be able to afford this I cannot say. She has been reading a volume in the Victoria Library for Gentlewomen and has been inspired, perhaps unfortunately, by its elaborate descriptions. (This refers to *The Gentlewoman at Home*, by Mrs. Talbot Coke). It is a most remarkable period piece. The ideal home, we read, ought to be " just like the woman who owns it." The dining-room walls are " covered with a rich red-and-gold Tynecastle tapestry, which forms an excellent background for divers old portraits. The cornice is dark carved oak, as is the mantelpiece, reaching nearly to the ceiling and laden with beaten copper, blue-and-white Nankin jars, and here and there a touch of yellow pottery. The carpet is of rich Turkey pile, in oriental colours . . . The curtains are of dull red cut velvet, the chairs covered with the same material in ruddy gold "—and then a broad frieze of gold leather paper " leads pleasantly to a yellow ceiling paper," and somewhere or other there is " a bold design of large storks flying across a rich red background." But this is not all by any means. You must have Mushrabeyah arches and mirror and screen, Eastern rugs, oddities from Gibraltar, Mooltan, Tangier and China, and " grotesque little brass gods from India." This hot abomination, all blood and mustard, was known as " a colour scheme," and it was, pray remember, " just like the woman who owns it." She lingers, even now, in the memory's museum of horrors. Her red and leathery face is not unlike the dull anchovy coverings of her chairs.

★★

The Ministry of Health has decided upon the maximum amounts of TIMBER TO BE USED FOR NEW DWELLINGS erected by local authorities.

The Ministry of Health has decided that, except as regards softwood for multiple tenement flats, the maximum amounts of timber for all purposes which can be allowed for new dwellings erected by local authorities should be as follows:—(*a*) Softwood: 2 standards per 1,000 superficial feet floor area. (*b*) Plywood: 450 square feet per dwelling. (*c*) Hardwood: 10 cu. ft. per dwelling. The Minister is satisfied that it will often be possible to use less than the permitted amounts of timber without detriment to sound and efficient building, *e.g.*, in connection with special methods of construction in floors and roofs; and savings should be effected wherever possible. The softwood requirements for multiple tenement flats will be dealt with on the merits of each particular scheme. As regards hardwood, sufficient home-grown hardwood for a 10-ft. length per house of close boarded fencing, not exceeding 6 ft. in height, may be allowed, as an extra to the amount specified in paragraph 2(*c*) in special cases, to give privacy. Home-grown hardwood fence posts for site enclosure are also permissible, and these can be obtained on application to the Timber Control Area Officer without a certificate to purchase.

★

The President of the Board of Trade has appointed Mr. Percy Thomas, P.R.I.B.A., TO BE CHAIRMAN OF THE WALES REGIONAL BOARD FOR INDUSTRY.

The Board of Trade has recently announced that the war-time Regional Production Boards, which were answerable to the Minister of Production, are being converted into Regional Boards for Industry, and the President of the Board of Trade has appointed Mr. Percy Thomas, President, RIBA, to be Chairman of the Wales Regional Board and a member of the National Production Advisory Council. Mr. Thomas was appointed Area Officer for Wales, under the Ministry of Supply, in 1940, and since the formation of the Ministry of Production in 1942, has been Regional Controller and Chairman of the Wales Regional Board. During the war the Boards were chiefly concerned with the production of munitions, and their interest was mainly in the engineering and allied industries. In future they will exercise their activity over the whole field of productive industry. Under their terms of reference the Boards " will advise Ministers upon industrial conditions within the regions and upon steps which may be necessary to bring regional resources in productive capacity or labour into fuller use." They will keep local industry advised of Government policy in relation to industry and keep headquarters informed of the views of local industry.

The Governors are to press on with the plans for the REBUILDING OF GUY'S HOSPITAL.

At the annual meeting of the Court of Governors of Guy's Hospital it was agreed to press on with the plans for the rebuilding. A tribute was paid to the Bermondsey Borough Council's assistance in the acquisition of the site. The hospital when completed will have 1,000 beds. Arrangements were made for a joint meeting between representatives of the Kent County Council and the governors of the hospital so that plans for closer co-operation between the two bodies in connection with the treatment of cancer might be discussed. The purchase of an additional deep X-ray therapy plant, costing £2,000, was approved.

Mr. Victor Watlington, Director of the British Electrical and Allied Manufacturers' Association, who is retiring in 1946 after fifty years service in the electrical industry.

★★

The RIBA Distinction in Town Planning is OBTAINABLE BY FELLOWS, Associates (who are not less than 26 years of age) and Licentiates.

The test by means of which this Distinction is awarded is conducted by special Examiners appointed by the Council of the RIBA. This award does not take the place of the RIBA Diploma in Town Planning, which is obtainable by Fellows, Associates and Licentiates of the RIBA without any minimum age limit. The primary purpose of the Distinction is to satisfy a demand from senior architects to take a qualifying test in town planning suited to their age and existing attainments. The Examiners will meet three times a year—in February, May and October. Applications should be submitted to the Secretary of the RIBA by January 1, April 1 and September 1 annually. Copies of the form of application containing the procedure, regulations, general scope of study and bibliography may be obtained, free, on application to the Secretary, RIBA.

Dr. J. A. Ringers, Minister of Public Works and Reconstruction at The Hague, addressing the Institution of Civil Engineers : the temporary bridge that served Londoners during the rebuilding of Waterloo bridge is now TO SPAN THE RIVER AT ARNHEM.

The New County Architect for Westmorland

Lieut. R. H. Crompton, R.N.V.R., has recently been released from the Navy to take up his duties in Kendal. An Associate of the RIBA and an Associate Member of the Town Planning Institute, he was trained in Manchester, and before the war held architectural appointments with Torquay Corporation, Cheshire County Council and Dorset County Council. During the war years he served mostly in H.M. Light Coastal Forces. It is noteworthy that Westmorland County Council has appointed a comparatively young architect (he is thirty-three) directly from the Forces, to set up and control their new Architects' Department. His planning knowledge should be a source of help to him and satisfaction to his Council in an area which recent National Park suggestions have had under close review.

★

The President of the Board of Trade (Sir Stafford Cripps) announced that the Government has accepted a proposal from the Council of Industrial Design to hold in the summer of next year a NATIONAL EXHIBITION OF DESIGN.

The exhibition will cover all the main ranges of consumer goods—clothing, household furnishings and equipment, office equipment and civil transport. It will be held in London, will open not later than July 1, and will be on a considerable scale. It will not be anything so vast or all-inclusive as a commercial exhibition or Trade Fair, and space will not be sold, said Sir S. Cripps. It will represent the best and only the best that modern British industry can produce, largely the new post-war designs, but not excluding those good designs of the years immediately before the war which will be going into production again. "I look to manufacturers in their own and the national interest to do everything they can to provide the Council of Industrial Design with plenty to choose from. The more good designs available, the more will be shown. I know that the Council means to keep its standards of selection high, but whatever reaches those standards will be chosen. No bad designs will be accepted, whatever happens, but no good ones will be crowded out. And no goods will be excluded on the ground that they are not yet on general sale or in quantity production. The public and observers from the world overseas will not be put off by the fact that at this very early stage a certain number of advance models may be shown. One main purpose of the exhibition is to enable our industries to give a lead at home and abroad; it would be a mistake to wait too long. In 1947 the British Industries Fair will take up the running, performing its normal function as a trade exhibition." Mr. S. C. Leslie, Director of the Council of Industrial Design, said that the detailed plans were being worked out as quickly as possible and would be laid before industry at an early date. It was hoped that each industry would co-operate with the Council by collecting the full range of its own goods and making them available to the Council's selectors. Within a short time the Council would approach the various representative trade associations concerned, to seek their help and discuss ways and means with them.

Work has begun on the replacement of THE STAINED GLASS WINDOWS OF CANTERBURY CATHEDRAL, which were stored for safety during the war.

Three tiers of figures and shields at the top of the west window of the nave are already in place. It may take two years to replace all the glass, and before each piece is put back it is being photographed for a book to be published in the spring of 1947, which will be a complete record of all the 61 windows, with 20 plates in full colour and 80 other plates. The edition will be limited to 960 copies, and the probable cost will be 12 guineas a volume. The author is Mr. Bernard Rackham, formerly Keeper of the Department of Ceramics at the Victoria and Albert Museum. Concrete slabs and sandbags covering the ancient tombs have been removed, and restoration of the cathedral organ will begin at the end of this month. By next Easter a large part of the organ should be in use.

PREFABRICATION
I: A DEFINITION

THE word Prefabrication and what it implies still appears to be misunderstood, not merely by the lay public, but too often within the industry itself. Let us try to clarify the word and the issues involved. To begin with a definition: Prefabrication is the devolution of building processes from the site into the factory.

Obviously, processed clay walling is not prefabrication, but when we have moulded the clay and burned it in the kiln to produce a brick, we have, strictly speaking, prefabricated. Some have distinguished between preforming and prefabrication. The distinction is invalid; it is immaterial to the process. Clearly, the ordinary building job comprises a mass of elements fabricated or part fabricated in the factory before arriving at the site—bricks, joists, floor boards, windows, doors, ironmongery, linoleum, baths and wash-hand basins. It would be hard to find a product that had not, on arrival, already been processed in some way; even cement and sand are processed materials. A brick wall, though built of prefabricated elements, still absorbs a good deal of site labour in its erection. As a finished article it is only partly prefabricated. A wall can be built entire at the factory in brick, concrete or steel and delivered in one piece. The house itself can be delivered in half a dozen finished sections, or in one unit completed under the fathering roof of the fabricator's shed, even down to the laying of the table napkins.

We are obviously dealing with different degrees of the same process—the elimination of sitework—the haphazard, the slow, the subject to interruption by weather, the inaccurate. We seek to supercede this by exact control in the factory, by the mass production belt, rationalization, precision and quantity. Prefabrication springs from technological advances and the development of new materials. Where, before, we had only half a dozen methods of building a wall we have now a hundred. We can build thick walls or thin walls, walls which will keep out the weather, keep in the heat, be good or bad sound insulators, use whatever materials are in supply at the moment. The house, a 2,000 site man-hour project, can be reduced to 300 or less. We have not found how to cut down cost, but the total man-hours per house are substantially less than before. A reduction in cost only awaits better organization and grasp of the matter.

The prevailing view is that prefabrication is an entirely new thing to be treated almost as a separate industry. On the contrary, prefabrication is best looked at as an addition to technique. We retain the old techniques where we want them; we graft on the new. It is of small consequence, in the long run, if much of the extant prefabricated work is of poor quality and weak design. What matters is the new opportunity. In due time we shall learn how to use these new techniques to advantage.

Protagonists of the old ways will deplore their passing. The well-bui t brick or stone house, made to last centuries is to be admired but no longer copied. The cold fact is that we cannot provide the necessary man power and skill to build enough houses of traditional construction to keep all our population adequately housed. Prefabrication—speeding up building by calling in the machine—offers us a chance, at last, to cope with this problem and to provide everybody with reasonable living accommodation within measurable time. On this ground alone its coming must be welcomed.

The traditional builder and the production engineer must cease to regard each other as natural enemies, and must now co-operate for their mutual benefit as well as the benefit of the community as a whole. The struggle is an unreal one partly the result of misunderstanding of what precisely this word Prefabrication implies.

The Architects' Journal

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NOTES & TOPICS

LEICESTER SQUARE TO OXFORD STREET

Successor to Jolly Alice [or Half a Ton of Love] at the Oxford Street showroom of Mr. Charles Stafford, is Epstein's four-and-a-half-ton Jacob and the Angel. First exhibited in the more conventional surroundings of the Leicester Galleries, it is now the centre-piece of what is perhaps the strangest show in London—not forgetting that stamp-covered room in Leicester Square.

*

Outside in the window beneath the lurid neon lights a wax female torso slowly revolves, while through a loud-speaker the recorded voice of Mr. Stafford [self-styled Director of Supreme Arts] cajoles the public with promises of unparalleled sensation—or your money back. Astragal, bent as usual with his load of responsibility to the readers of the A.J., never able to resist temptation, paid his sixpence and passed beyond the screen into the main hall.

*

In one corner sits Madame Berth, Clairvoyante, "born on Blackpool Sands." In another is a photographer ["Be photographed with Jacob and the Angel"]. In the third is an artist ["Novelty portraits 2s. 6d."]. Round the walls is a miscellaneous collection of vaguely rude exhibits, including gilded Egyptian chairs, bronze busts, marble statues, nude paintings (including "an original Van Dyck") and—here's a puzzle for the psychologist—small shrubs in boxes. Against one wall stand two radio gramophone cases ingeniously converted into peepshows—shrunken heads from the Amazon and the Siamese Twins. ["They're human," says the placard, and adds reassuringly, "They're naked."]

*

In the centre stands Jacob and the Angel, splendidly aloof in the spot-lights. Behind it—to extract for the prurient the ultimate thrill—is a delicately adjusted mirror. ["Take a good look," says the placard, "and then look again."] Round it revolves slowly the British public—over 50,000 of them have already seen it—silent for the most part, the women gripping their shopping bags defiantly, the men dislodging their embarrassment with facetiousness.

The most violent reactions witnessed during my visit were those of a tot in a porridge-coloured tweed ensemble who burst into tears, and the giggles of some teen-age girls in sateen blouses, which were quelled by a dominating type with an 18-inch high coiffure, who said, "I don't see anything to *laugh* at."

*

"Is it beautiful," croons Mr. Stafford over and over again through the loud-speaker, "or is it shocking?" Frankly, Mr. Stafford, with all deference to your motives, the show is neither. It is just very, very nasty—whether a fair-booth like this one is preferable to the whispering galleries of Bond Street in public display of art is, of course, open to interminable argument, but it is at least a tribute to Epstein's integrity and strength that even in such a furtive and amateurishly arranged erotic setting, his work still has the power to lift the heart.

*

Ever since the days of Rhodesia House Epstein has been haunted by sensationalism, and if he has not sought it—and many say that he has—he must by now be used to it. Rima's green-daubed semitic profile, Adam with the Rector of Stiffkey at Blackpool, Genesis brooding in the moonlit drawing room of Finella (floor specially strengthened) in aid of the Cambridge Preservation Society. It has been a melancholy and sometimes degrading progress. Let's hope Oxford Street is the bottom.

DESIGN IN THE WAKE OF THE HUN

Opposite are some examples of recent German industrial design. They have been culled from ex-occupied territory in which the Germans left them—no doubt unintentionally. The strange object which looks like a model helicopter or a surrealist table decoration is a stand for a German officer's hat, an ingenious piece of specialized design, in springy wire and curved plates of a lightweight alloy.

*

Even though Nazism preferred the nationalistic Gothic to the international Roman typefaces for its printed words, it did not kill the German typographer's ability to produce clean, logical layouts—still seen in such utilitarian wartime printing as field post-cards and teleprinter message-forms

(many of which, in the later years of the war, were printed on the back of German maps of England and Russia, no longer useful). German books of 1942-43 show less austerity than British books of the same period. Margins are comparatively broad and some bindings are decorated with gold-leaf.

*

Packages for various branded products used by the German Forces as welfare goods sompare favourably with most pre-war packaging. Note how the Auxol hair-tonic bottle, plastic cap, labels and cartons have obviously been designed *together*. These are the work of Professor O. W. Hadank, whose pre-war designs were internationally known. He even signed his work as a package designer; the name Hadank is unobtrusively worked into the pattern of the carton.

PRICE OF MANUFACTURING PLASTICS

Some months ago one of the bigger plastic manufacturers published a series of advertisements pointing out that the plastics industry was *not* a sure-fire method of getting rich quick. Partly no doubt the advertisement was an astute method of self-defence, but at the same time it gave a very sound warning to would-be speculators in the industry.

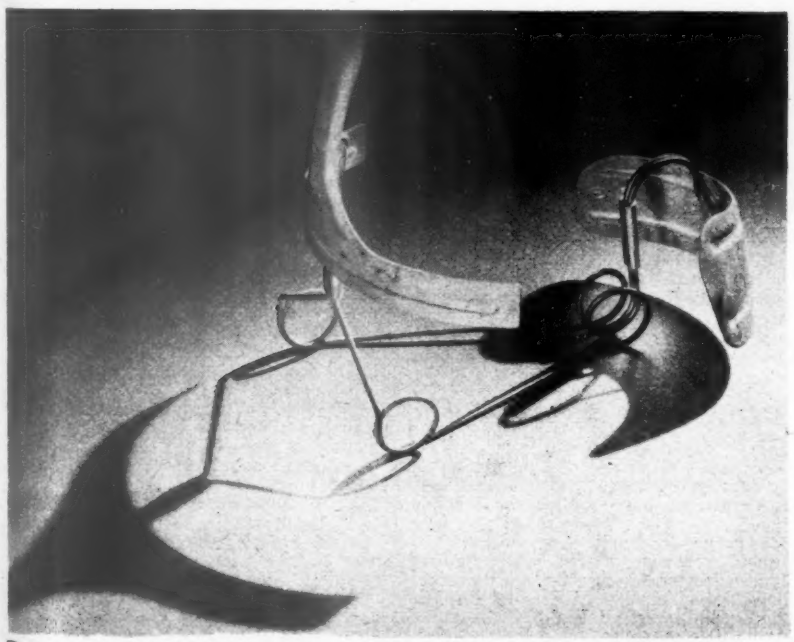
*

Any ex-Service man wondering how to invest his gratuity, and not already warned by that advertisement, should find food for thought in some figures which were quoted to me the other day by a manufacturer who *has* started in the plastics industry recently. Even a modest line in plastic-moulding presses may cost about £5,750. The smallest and simplest-looking steel mould will set you back another hundred pounds, and if you fancy trying your hand at anything so ambitious as an eggcup, you will find the mould costs a good thousand.

*

On the whole it costs a lot less (even at present prices) to buy a second-hand typewriter and churn out those glamorous articles on *The Plastic World of To-morrow*.

ASTRAGAL



Two examples of industrial design seen recently in Germany. Top, a hair tonic bottle and box by Professor Hadank. Below, a gadget whose mysterious use is revealed by Astragal this week.

LETTERS

Ronald Chapman

Hjalmar Cederstrom

Housing Architects without Detailed Knowledge

SIR,—The numbers of architects and other designers preparing drawings for the construction of small houses must now be considerable. It will, I think, be agreed that to a very great extent they are working without that detailed knowledge of the requirements, particularly from the point of view of compliance with Government regulations and policy, and the availability of materials, which is necessary if delay and expense is to be avoided at a later date through variations and revisions.

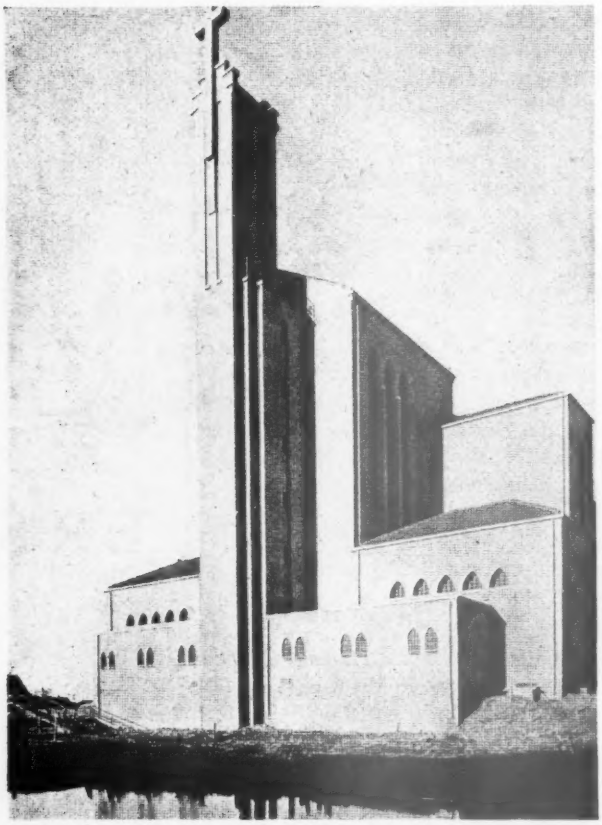
This extra expense is also greatly aggravated where the system of construction is designed for quantity or mass production.

My own experience, and a file showing most of the small house plans published within recent yeaers, shows that while type plans appear to reduce themselves to a fairly small number, variety of planning grids leads to infinite variation.

Now, the Ministry of Works has sponsored the manufacture of unit domestic equipment to a standard width of 1 ft. 9 in. which suggests a planning grid of 3 ft. 6 in. Most board materials, however, such as plasterboard, plywood, wallboard, are not available in this width, nor has the Ministry given any indication of the manner in which clearances are to be allowed in order to provide a tolerance sufficient to take up variations in size within normal commercial limits (in this case probably plus or minus ¼ in.). In practice this makes it impossible to fit a range of equipment to the "spot on" dimensions of a pre-arranged planning grid.

Among the grids being used by designers are 3 ft., 3 ft. 4 in., 3 ft. 6 in., 3 ft. 9 in. and 4 ft., but only two of these are related to the production sizes of wall lining

RECENT ARCHITECTURE IN HOLLAND



Top left, St. Augustinus Church at Amsterdam-West by K. Tholens (1940). *Top right, the Dutch Reformed Church, Haarlem by B. T. Boeyinga* (1940). *Below left, week-end house at Loosdrecht by Paul Bromberg. Below right, country house at Tongeren by G. Rietveld* (1940). *The illustrations come from* Architecture in the Netherlands *by Paul Bromberg, published by the Netherlands Information Bureau in New York. Some facts on reconstruction in Holland appear on page* 432.

materials, and in no case does any method exist for dealing with the question of tolerances.

What is needed is: First, a very rapid and detailed information service from the Government Departments concerned to architects and other designers setting out Government regulations and policy as they affect housing; secondly, either these Departments or the professional or trade union bodies, or all of them together, should set about reducing the numbers of dimensional grids being used, and relate them to the production sizes of building materials, making due allowance for satisfactory clearances.

Once machinery has been set up for the production of a building material, or the tools made for the manufacture of equipment, alterations in size are virtually impossible.

Therefore, if the designers fail to achieve this co-ordination during the design stage of our post-war housing proposals, we shall be prevented from bringing about any dimensional relationship between planning, equipment, and materials, for many years to come.

London. RONALD CHAPMAN

Swedish Beveridge

SIR,—ASTRAGAL in his note entitled *Swedish Beveridge* ends his description of my social proposals in a manner that indicates that he has totally misunderstood them.

My proposals simply mean to create a hospital treatment that with all resources of medicine, technology and science might allow the citizens of a country to live longer with preserved health. To make this possible, however, social security must necessarily be created. This problem cannot be solved solely by legislation and statutes based on theoretical speculations. The way to a solution leads *via* research and practical tests of proposed reform measures applied on a clientéle, limited in number, within a certain experimental district. We must always bear in mind that all technical, scientific and industrial evolution has been effected by research and experiments.

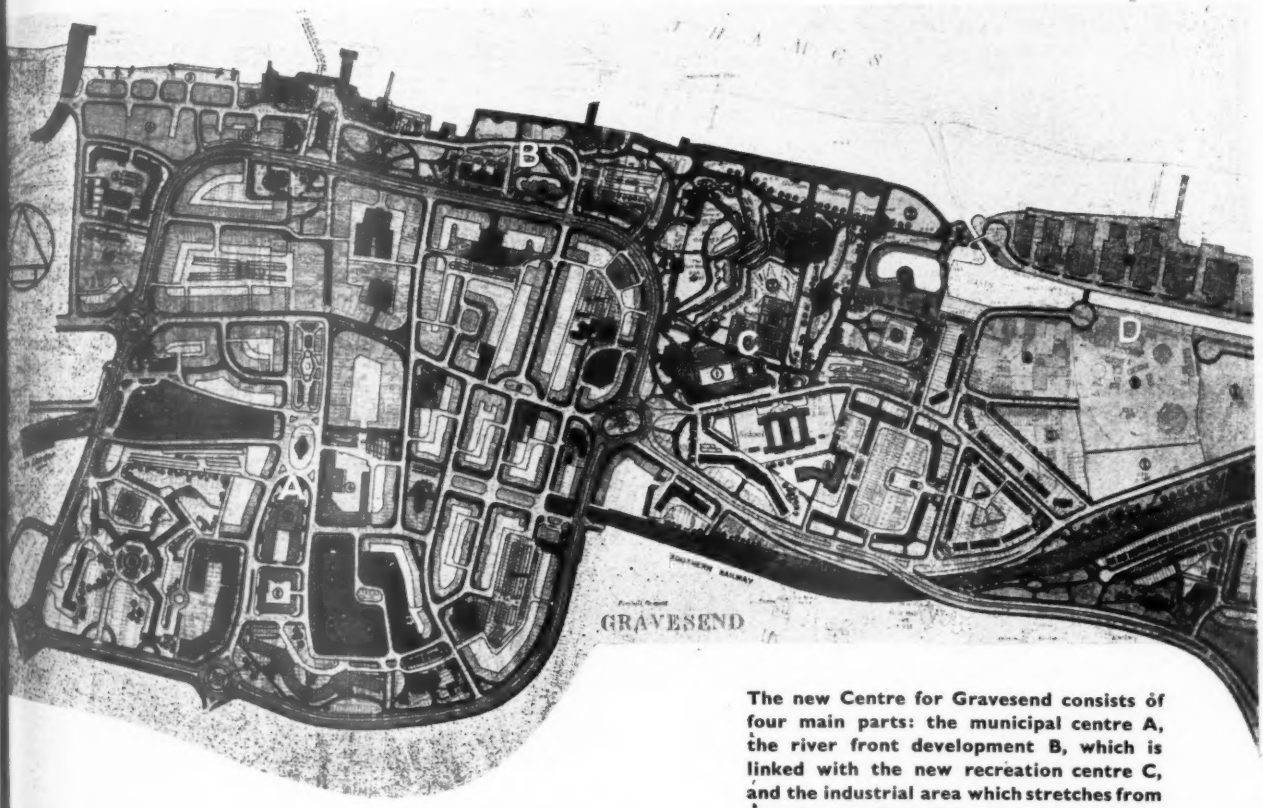
Now the moment has come when this course of action has to be applied to social matters as well.

The immense reconstruction work now begun must also result in social security. But reconstructive activity in this domain as well, can only be exercised by positively minded persons who, besides their readiness to test every alternative, have the necessary experience to give a final judgment on different proposals and who are guided by the main object of bringing about a social order that offers the citizens social security without forcing them back into the old treadmill.

Stockholm HJALMAR CEDERSTROM

PHYSICAL PLANNING SUPPLEMENT

GRAVESEND REPLANNED



The new Centre for Gravesend consists of four main parts: the municipal centre A, the river front development B, which is linked with the new recreation centre C, and the industrial area which stretches from the river and canal basin to the railway. The centre, around which a ring road is laid, is divided into six sections each serviced with adequate transport and parking facilities. An independent pedestrian network is provided.

The Gravesend Corporation's redevelopment plans were put to the public in an exhibition opened by the Minister of Town and Country Planning on October 29, 1945. The planning suggestions, so far only for the town centre and in draft form, are prior to a final report to be published in full detail at a later date. The authors of the plan are George E. Hill, Borough Engineer and Planning Officer, Maurice Fuller, Deputy Engineer and Planning Officer, and Douglas H. E. Hockley, Senior Planning Assistant.

general characteristics

Gravesend, chartered as a Borough in 1562, is built where the first area of high ground meets the south bank of the Thames estuary, which here is about half a mile wide. This mound of chalk and hard sand rises in the middle of the town to 160 feet above sea level. To East and West it is flanked by low-lying marshes, and continues to the South to become part of the chalk lands of the North Downs.

The growth of the town was determined by its dependence on the river, being a River and Sea Pilotage Station, half a mile from Tilbury Docks. Lately it has developed as a commercial centre and dormitory serving a considerable area of North Kent and part of Essex. Other factors of importance

to the life of Gravesend are its associations with the Services, possessing military barracks, aerodrome and Merchant Service training centre with an ever-changing population. The promenade and beach are the only ones of their size on the South bank of the Thames.

The problems the planners of Gravesend have to face are provision of up-to-date housing, the majority of the houses in the town centre being sub-standard, especially so in the South and East of the town; reorganization of the badly congested transport net; development and extension of already existing amenities on the river front and at the centre; and enlargement of the town's general facilities for commerce, administration and recreation.

road plan

The radial pattern of the road system, which has resulted in congestion at the centre, has been remedied by a ring road around the centre, joined at properly considered junctions by the existing radial roads. The ring road is provided with pedestrian subways, and follows wherever possible the line of existing streets or of property which is ripe for demolition. Private vehicles will be allowed into the centre on the radial roads, whilst through traffic will be confined to the ring road.

Provisions are made for the three Public Service systems which convey people to the town, the railway, buses and river ferry. A considerable number of people cross the river each day by ferry and, because the ferry service is suspended in adverse weather, it is felt that it should be supplemented by means of a passenger foot tunnel under the chalk river bed with approach near the town pier by means of a passenger lift. A quay and suitable approach to the river bank which the watermen could use in connection with their boats is to be developed between St. Andrew's Church and the town pier, which would also provide facilities for the local rowing and sailing clubs.

commercial, administrative, and industrial development.

The town centre inside the ring road is subdivided into six sections, each with their own car park, from which every building of the area it serves can be reached by a three-minute walk. A commercial frontage of 21,000 feet has been made available in the present plan. It will not be wholly used for this purpose in the immediate future and will remain in residential usage as long as this is practicable. Special areas have been set aside for professional use in quieter positions. The market facilities, needed by Gravesend as the commercial centre of the adjoining agricultural region, are given better access. For industrial development two areas are proposed in the West adjoining the Southern Railway line, and on the canal basin. This development is of considerable importance, for 60 per cent. of the Borough's and of the neighbouring towns' coal supplies and a number

An aerial view of the central district and the new recreational centre in the east, which incorporates the already existing ornamental gardens and contains new amenities; e.g. an open air theatre for 3,000 people and sports facilities.

The river front developed for recreational use, including the existing promenade and a proposed car park.

of other seaborne imports are discharged at the already existing wharves. The Corporation Depot and Stores are placed in the same area. Engineering Works occupy the area adjoining the Canal Basin and the usefulness of this site is increased by the construction of an access road adjoining the Basin and Canal and the incorporation of the present Albion Parade with the factory sites. New and improved access roads to the industrial area form part of the plan.

residential development

The construction of modern houses to the South of the Borough has resulted in a movement of population from the houses in the town centre, which are well below modern standards. This trend, it is anticipated, will continue. To meet the demand for new housing in the vicinity of the commercial centre, housing development is planned to the South of the Central Station and to the East. The Housing areas are to be grouped in self-contained units with their own communal facilities. Special emphasis is laid on provision for single persons, such as seafarers' wives, and childless couples in blocks of flats, and on communal facilities such as the Veterans' Club, with its club building sited near the town's recreation centre. Reference is made in the Plan to certain Religious Buildings in the town which must be related to residential development. Some of these buildings will, no doubt, be moved as the people they serve move to new housing areas, some, because those who use them are scattered throughout the Borough will wish to remain in the Central Area where Public Service Transport makes them accessible. For these reasons, only one new site for a Religious Building is suggested in the town centre, this to the South as part of the Local Government Centre for the district.

recreation and open spaces

Gravesend possesses unique opportunities for leisure amenities in its river front, which is unrivalled in the Thames estuary. In the plan, the river front is developed as a promenade and gardens, continuous from the Canal Basin on the East to the Town Pier on the West, from which unequalled views of the Estuary and the largest concentration of shipping in the world could be obtained. In the East a recreational centre is developed with a bathing pool, already existing ornamental gardens, tennis courts, putting green, band enclosure, a bowling green and a pavilion, and an open-air theatre seating 3,000 people. It is proposed that Canal Basin should be divided into two and that in the Western half should be constructed a children's boating lake and fitted children's playground. This would be properly screened from the other half of the basin which would continue as a lay-up for yachts and a supply and repair basin for the industries which adjoin it.

There is a great need in the Borough for both a theatre and a large Public Hall and Assembly Rooms. It is felt that both these should in their setting be related to the River and Recreational Area adjoining the Promenade and have access off the distributive ring road; this is fulfilled in the position chosen which has the additional advantage of being near the Central Bus Station. Within the town centre open space and rest gardens have been provided. The municipal and Government Offices are sited in Public Gardens, bringing a large open space to the southern part of the town. A large area is cleared and laid out as a garden in front of the Civic Hall and Public Administration Buildings.

The civic centre showing the open space in front of municipal offices.

civic design

In contrast to the general planning approach, which is gratifyingly progressive, especially in the provision of generous communal amenities, the look of the scheme, like most contemporary plans, leaves much to be desired.

Although there exists on the river front, in the parks and civic buildings, ample material for the visual planner, little use is made of these opportunities. The buildings, as shown in the preliminary perspective sketches, though modern, or at least not revivalist, are so only in the negative, characterless sense. The grouping is undistinguished (in the main civic square of a painful and insipid monumentality) which seems to be the unfortunate idiom of modern municipal architecture.

It is in these visual respects that the plan needs revising most, and it is to be hoped that, before finalised plans are made, the Gravesend planners will reconsider the general disposition of building groups in relation to planting and natural features in the light of contemporary ideas on civic design.

PLANNERS' NOTEBOOK

TOWN PLANNING IN THE NETHERLANDS

The following article, which describes the progress of reconstruction work in the Netherlands, is condensed from a lecture which was given recently at The Institution of Civil Engineers by Dr. J. A. Ringers, Minister of Public Works and Reconstruction, the Hague, and President of the Dutch Institute of Engineers.

Dr. J. A. Ringers stated that he proposed to deal with the reconstruction works in the Netherlands from a wider point of view than merely the technical aspects. He would include problems of organization and also describe the connection between the reconstruction work proper and the condition of the Dutch people during the five long years of German domination and its present condition.

Where any figures were mentioned it was necessary to remember that when comparing them with similar figures in this country they should be multiplied by five or six, in view of the difference in the population of the two countries. Thus, the fact that 200 churches had been completely destroyed and about 300 badly damaged meant for the Netherlands the same loss as about 1,000-1,200 churches completely destroyed and about 1,600-1,800 badly damaged in this country.

War damage in the Netherlands fell into three main periods: firstly, the hostilities in May, 1940, in the northern part of the country and the province of Zeeland, when very serious devastation occurred only in a small number of towns and villages, but upwards of 32,000 houses were destroyed and more than 27,000 in Rotterdam alone. In addition, the Dutch themselves rendered bridges, railways and canals useless on a large scale. After about two years, however, most of the damage had been put right.

The second period started with the damage caused necessarily by the RAF in view of the fact that the Germans had lodged themselves in Dutch towns. During that period the possibilities of reconstruction became less and less as the war progressed.

The third period began during the gradual liberation of the southern provinces, when fighting at places like Arnhem entailed an enormous number of victims. Devastation on a large scale of numerous costly technical installations was also carried out by the Germans which could not be justified on strategical grounds. Harbour cranes, wharves and other installations which require costly and intricate foundations in the soft soil of the Low Countries were destroyed by heavy explosive charges.

From time immemorial the flooding of land in low-lying country had been a strategic means of defence of the first order in the Netherlands. Among the largest areas flooded during the war was Wieringermeer polder, covering 50,000 acres. It lay from six to fifteen feet below sea level. Another inundation, necessary as a war measure, was that of the island of Walcheren. Although steps have now been taken to close the gaps, the eastern part of Walcheren island is still flooded, but it is hoped that before the end of the year it will be entirely dry again.

In those flooded areas the houses are undermined to such an extent that they have to be demolished, the trees have been killed by the salt water and everything is covered with a thick layer of clay and silt. After the civil engineers have finished their job of stopping the gaps in the dykes, the agriculturists will set to work to render the soil suitable again by a judicious treatment and a systematic planting programme of crops suited to the purpose.

The organization and reconstruction work came into being in May, 1940, just after hostilities had ceased. At the beginning few obstacles were placed in the way by the Germans who hoped to win over the Dutch by their attitude. They found, in due course, that such an attitude was not effective and from that time on life in Holland became one continuous, sometimes open, but in the majority of cases, secret battle against the intentions and methods of the occupiers.

Dr. Ringer then described how a case of war damage was dealt with from the time when the bomb had been dropped, the first aid men had attended to help the injured and steps had been taken to supply food, clothing and shelter for the homeless.

The removal of debris had to be taken in hand, but increasing difficulties arose from lack of materials, labour and means of transport. Owners of destroyed buildings and houses had to consider how they were to rebuild their property. They were entitled to compensation, taking as a basis the value of the destroyed premises on the day just before the war. That was not nearly sufficient to pay for the building cost of the new premises and so a series of allowances and, if necessary, interest-free mortgages had to be arranged.

It was considered that only compensation on this basis was fair as otherwise all those who had suffered in their businesses might have put forward claims with equal justice. The compensation for buildings was linked up with the reconstruction of the building itself so as to prevent the money being used for other purposes. At the same time opportunities were taken to carry out the replanning of towns and villages so that on occasions the owner had to rebuild on a different site and in accordance with architectural standards laid down.

Before the war about 40,000 new houses were built in Holland every year of which 34,000 were for the normal increase in population and about 6,000 to replace condemned old houses or slums. In spite of the difficulties between 1940 and 1945, 60,000 houses were built but that left arrears of about 300,000 houses. Holland had for many years paid particular attention to good housing for the people, and Public Health and Housing Acts were passed. Under the Housing Act of 1902, the Municipal Authorities were given the right to make bye-laws as regards the requirements which houses and other buildings had to meet. These covered not only the location of buildings in respect to the road and from each other, but also their height, size of rooms and landings, with regulations of a hygienic nature to allow free admittance of air and light. There were a number of regional inspectors, whose duty it was to supervise the fulfilment of the regulations.

The Housing Act also had a social aspect as it was appreciated that the housing problem was rightly called the "heart of the social problem." That led to a general improvement in the standard of the houses built not only in the working-class districts of the cities, but also in the smaller town.

Under the Housing Act, the initiative for the building of houses was for the greater part left to the local authorities, but it was now being considered whether the government's house-building policy should not take a different course, the building programme being drawn up by government authorities in accordance with the various requirements which might be laid down for every township in the country.

Great importance is being paid to the aesthetic and architectural side of the problem. When a reconstruction project is lodged for which financial support is desired, it is first ascertained who is to act as architect, as architects have to be approved by a Committee of experts appointed for the purpose. It is also necessary to ensure that an individual building is in harmony with the whole framework, and that part is entrusted to supervisors who are specially selected architects considered to have the necessary qualifications for this task. At the same time, town plans are being drawn up so that both in cities and villages there shall be a pleasing arrangement of the whole.

The main entrance with its canopy of reinforced concrete pierced by a row of circular pavement lights. The front curve of the canopy takes up the curve of the drive.

DRAWING OFFICES

FOR THE BRISTOL AEROPLANE CO.

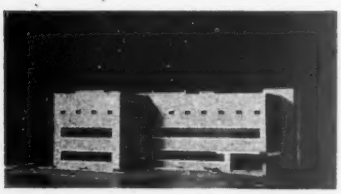
DESIGNED BY ERIC ROSS

GENERAL—This building was recently completed for the Bristol Aeroplane Company at Filton, near Bristol, to accommodate aircraft design, executive and technical drawing office personnel. The offices are in a built-up area of the works and form part of a long-term replanning scheme to bring the works up to date.

PLANNING—The plan was developed to take full advantage of the fine view to the East, and of orientation, while preserving a maximum of openness between the building and the works road which runs along the north side. The ground floor is given up to entrance hall, reception, general and technical drawing offices, a small cleaner's room and switch room.

The first floor is allocated to administrative and executive staff, while the second floor forms one large drawing office with top lighting.

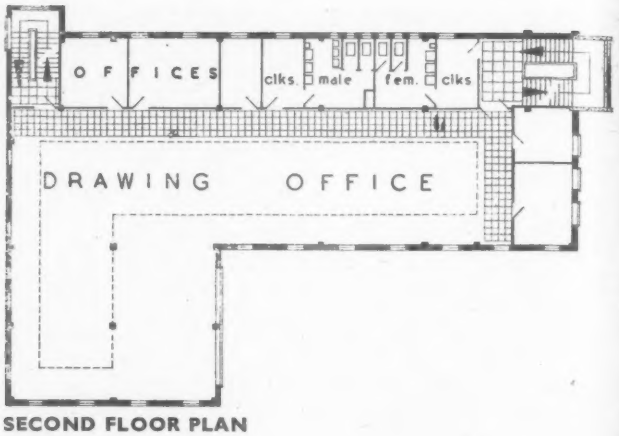
There are toilet rooms on each floor and separate cloak rooms on the second floor. Another



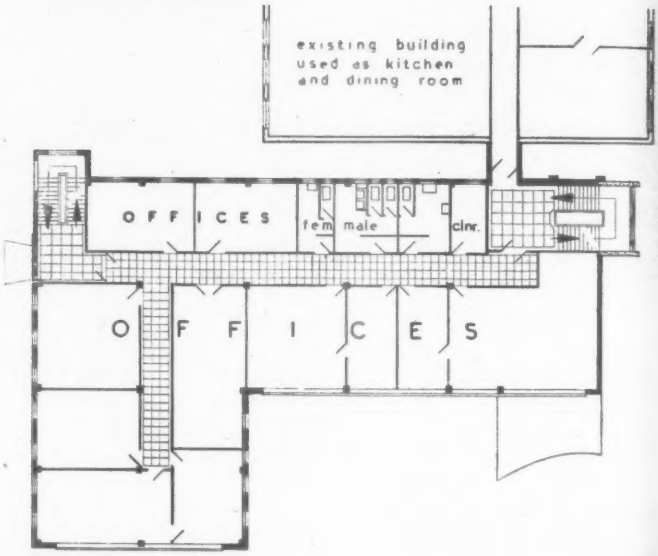
A model of the job. The main entrance faces east.

small cleaner's room is provided on the second floor.
Continuous windows have been designed in the two lower floors to give freedom and flexibility in partitioning of offices by readily removable glazed screens.
At roof level a small dining room for senior staff has been planned, while a link to the west gives access to a general staff dining room in an existing building.

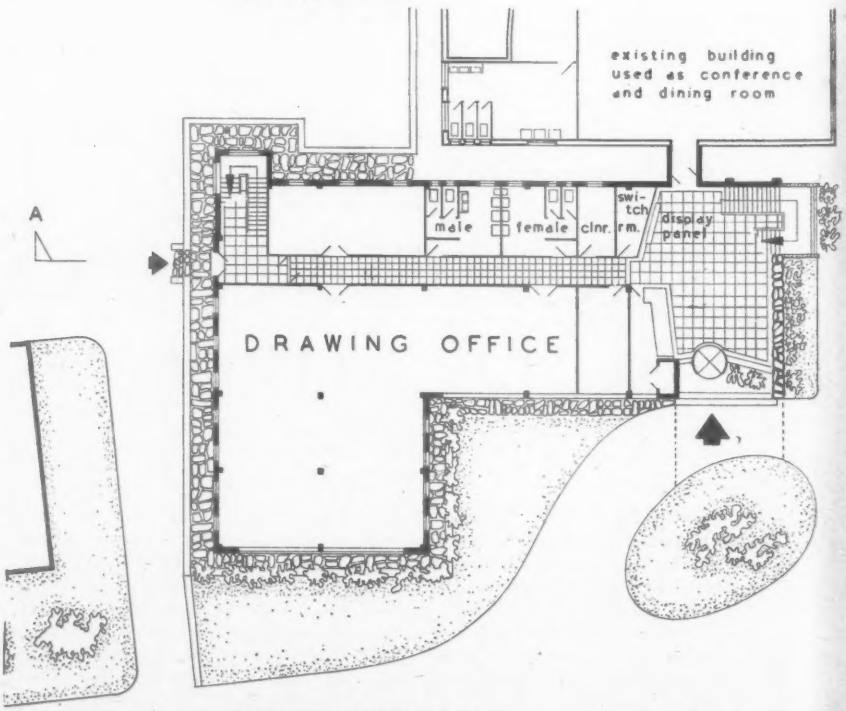
CONSTRUCTION—The building is of steel frame construction with 11-in. cavity brick walls. Monolithic reinforced concrete has been used for the staircases, check walls and canopies.
The roof dining room has a reinforced concrete barrel type roof.
The drawing office on the top floor has a continuous Lenscrete roof.
Along the north side of the entrance hall runs a rubble stone wall.
A list of general contractor and sub-contractors is given on page xliv.



SECOND FLOOR PLAN

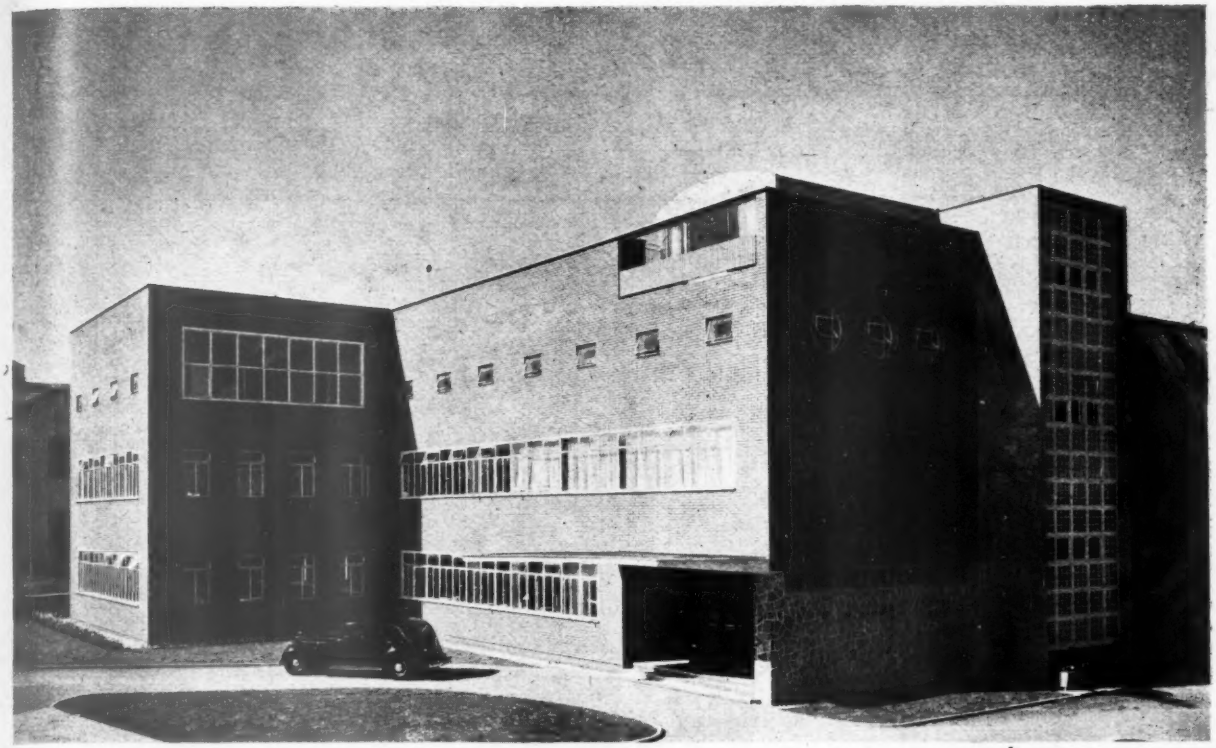


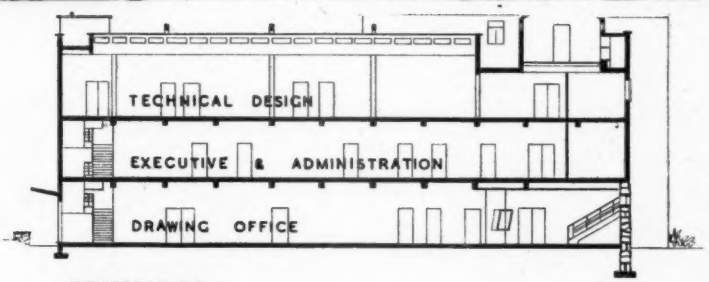
FIRST FLOOR PLAN



GROUND FLOOR PLAN [Scale: $\frac{1}{16}$" = 1'0"]

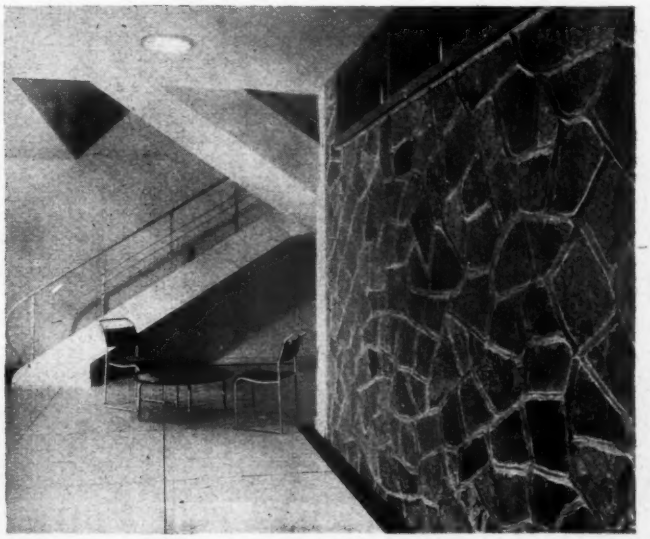
DRAWING OFFICES FOR THE BRISTOL AEROPLANE COMPANY





SECTION AA

Above, the building from the east; on the roof above the main entrance is the dining room for senior staff members with its curved barrel roof and view of a fine landscape to the east. Left top, the secondary entrance and staircase on the north-west corner. Left below, Lenscrete exterior of the main staircase at night. Below, the main entrance hall with its rubble stone wall.



DESIGNED BY ERIC ROSS

Above, the main staircase. Right, the small dining room on the roof. Below, the main drawing office on the second floor with its Lenscrete roof.

DRAWING OFFICES FOR THE BRISTOL AEROPLANE CO.

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.

PHYSICAL PLANNING

2253 **TVA**

PLANNING FOR ACTION. *Gordon Stephenson.* (*Architects' Journal, March* 29, 1945, *Physical Planning Supplement, pp.* 241-244.) *TVA: Democracy on the March,* by D. E. Lilienthal (Penguin Books, 1944, 9d.), reviewed together with extracts from a paper by Lilienthal read at meeting of American Society of Planning Officials. Creation of TVA in 1933. TVA finance and returns. Local participation. Planning for action. Technical teamwork. Lessons of TVA. New VAs.

2254 **TVA**

TVA: 1944-1945 PROGRESS REPORT. *Extracts from the TVA* 1944-45 *Report to Congress.* (*Architects' Journal, October* 11, 1945, *Physical Planning Supplement, pp.* 259-262.) Survey of TVA activities under wartime conditions. Production of agricultural fertilizers. New methods of food preservation. Increased power for war production. Land acquisition. Population redistribution. Research progress.

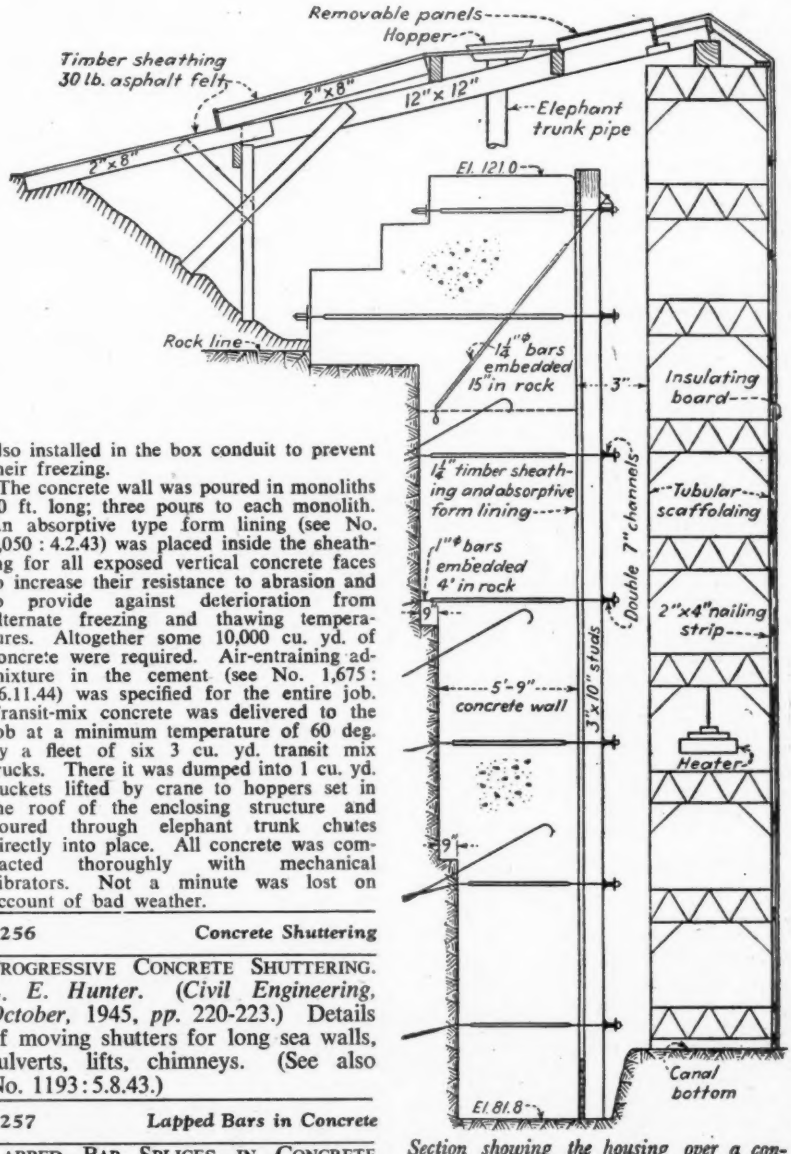
STRUCTURE

2255 **Concreting in Winter**

WINTERTIME CONCRETING AT THE SOO. (*Engineering News-Record, July* 26, 1945, *pp.* 94-99.) Modern methods of cold weather concreting in construction of 878-ft. long concrete facing wall along approach canal.

The job involved the construction of a concrete facing wall, 39 ft. high and from 5 to 6½ ft. thick. The work had to be carried out in winter, when temperatures ranged to 24 deg. below zero and the snowfall aggregated some 90 in. Unlike many construction jobs where each concrete pour is housed and heated only during the curing period, with the housing being moved and re-used, this project involved completely housing the entire length of the wall. It was necessary to erect 900 lin. ft. of self-supporting steel tubular scaffolding about 40 ft. high along the face of the wall to support the insulating board enclosing the work and to serve as a working scaffold. A timber roof was built over the entire length of new wall. Removable sections in the roof permitted panel forms to be lifted out by derrick and moved forward as the work progressed. A saw-dust filled timber box containing a 6 in. steam line for heating the concrete extended the full length of the job. A 2-in. water line and a 6 in. compressed air line required on the job were also installed in the box conduit to prevent their freezing.

The concrete wall was poured in monoliths 30 ft. long; three pours to each monolith. An absorptive type form lining (see No. 1,050 : 4.2.43) was placed inside the sheathing for all exposed vertical concrete faces to increase their resistance to abrasion and to provide against deterioration from alternate freezing and thawing temperatures. Altogether some 10,000 cu. yd. of concrete were required. Air-entraining admixture in the cement (see No. 1,675 : 16.11.44) was specified for the entire job. Transit-mix concrete was delivered to the job at a minimum temperature of 60 deg. by a fleet of six 3 cu. yd. transit mix trucks. There it was dumped into 1 cu. yd. buckets lifted by crane to hoppers set in the roof of the enclosing structure and poured through elephant trunk chutes directly into place. All concrete was compacted thoroughly with mechanical vibrators. Not a minute was lost on account of bad weather.



Section showing the housing over a concrete wall which allowed concreting in 24 deg. below zero. Tubular steel scaffolding served a triple purpose—continuous support for the timber framed roof, working platform for erecting concrete forms and framework for mounting the insulating board housing. ***See No.*** *2255.*

2256 **Concrete Shuttering**

PROGRESSIVE CONCRETE SHUTTERING. *L. E. Hunter.* (*Civil Engineering, October,* 1945, *pp.* 220-223.) Details of moving shutters for long sea walls, culverts, lifts, chimneys. (See also No. 1193 : 5.8.43.)

2257 **Lapped Bars in Concrete**

LAPPED BAR SPLICES IN CONCRETE BEAMS. *R. W. Kluge and E. C. Tuma.* (*Journal of the American Concrete Institute, September,* 1945, *pp.* 13-33.) Tests to determine behaviour and strength of lapped bar splices varied in length and method of splicing.

The tests were made with two types of deformed bars, both considered to be among the best available regarding bonding properties; ½ in. and 1 in. diameter bars were used; the length of the splice varied from 10- to 50-bar diameters. The lapped bars were either in contact with each other or spaced 1½ bar diameters apart. The concrete had an average cylinder strength of 4,700 lb./sq. in. at 28 days. The yield point of the steel varied between 45,000 and 61,800 lb./sq. in. The bars lapped 30-bar diameters or more developed, at the limits of the splice, the yield strength of the steel. There was little difference in the behaviour of splices containing bars spaced 1½ bar diameters compared with the lapped bars in contact.

It should be noted that the bars used in these tests contained a type of lug pattern superior to many commercial bars, particularly to plain bars.

2258 *BISF Houses*

PAIR OF BISF PROTOTYPE HOUSES AT NORTHOLT. *Designed by Frederick Gibberd.* (*The Architects' Journal, September* 20, 1945, *pp.* 205-213, *and other journals.*) Third in series of steel house types produced by British Iron and Steel Federation.

The walls are composed of two-storey panels, one module wide, providing both the structural frame and external finishes, with incorporated metal windows and door frames. After experiment with a 3 ft. 6 in. module on the previous houses and 3 ft. 9 in. on this, the Federation have standardized all their plans to a module of 3 ft. 6 in. External cladding: steel sheet, welded to light gauge steel frame, finished with paint harling applied in the factory. The vertical joints are covered by a fillet. The roof consists of light steel trusses and purlins supporting a covering of protected steel sheeting. The first floor beams are of twin cold-formed steel sections incorporating timber nailing strips for ceiling boards. The floor finish is of ¼ in. tongued and grooved timber on battens, fabricated in large units. Ceilings and internal surfaces: fibreboard or plasterboard. The party wall is of double leaf construction.

2259 *Lamella House*

LAMELLA HOUSE WITH TRUSSLESS WOOD ROOF. (*The Architects' Journal, September* 6, 1945, *pp.* 175-176, *and other journals.*) Lamella trussless timber roof, system suitable for covering large spans without intermediate support, applied to house construction. Maximum length of component timber pieces 4 ft.

PLUMBING and Sanitation

2260 *Water and Health*

THE WATER UNDERTAKING AND ITS CONTRIBUTION TO THE NATION'S HEALTH. *Donald Whiteley.* (*Journal of the Royal Sanitary Institute, October,* 1945.) General discussion of waterborne diseases. Summary of main points of 1945 Water Bill.

2261 *Durham Water Supplies*

WATER SUPPLIES IN THE COUNTY OF DURHAM. *J. Arthur Rodwall.* (*Journal of the Royal Sanitary Institute, October,* 1945.) Meeting demand. Preservation of purity. Afforestation as means of conservation, as purifying medium and as profitable investment. Government aid for afforestation. Æsthetic value. Progressive planting of catchment areas. Problems of distribution, particularly failures in mains and reservoirs due to colliery operations.

2262 *Durham Water Supplies*

WATER SUPPLIES IN THE COUNTY OF DURHAM. *W. Gordon Carey.* (*Journal of the Royal Sanitary Institute, October,* 1945.) Deep well water supplies. Purity of supply. Value of fluorine in water in preventing decay of teeth. Unlikelihood of hard water being responsible for various diseases. Surface water supplies. Need for, and methods of, purification. Chlorination.

2263 *Durham Water Supplies*

WATER SUPPLIES IN THE COUNTY OF DURHAM. *Alfred B. E. Blackburn.* (*Journal of the Royal Sanitary Institute, October,* 1945.) Some results of 1939 survey of water supplies. Figures of water supply companies in County of Durham. Future sources. The 1945 Water Act. Public relations as aid to preventing water waste.

2264 *Copper Tube Fittings*

CAPILLARY FITTINGS AND COMPRESSION FITTINGS FOR LIGHT GAUGE COPPER TUBE. *BS* 864:1945. (*British Standards Institution,* 2*s.* 0*d.*) Specification for two types of fittings for use with light gauge copper tubing. (1) By flow of solder by capillary action. (2) By compression either of a ring or sleeve or part of the fitting on to the tube or by compression of flared end of tube against true face of fitting. Working pressures defined. Method of designation of sizes of fittings and dimensional specification for each type which will enable interchange of fittings on any one type even though differing in design.

2265 *Book on Plumbing*

THE PRACTICAL PLUMBER AND SANITARY ENGINEER. *Edited by W. J. Woolgar.* (*Odhams Press,* 8*s.* 6*d.*) Eight authors contribute to book. While intended for students of plumbing, is in parts useful to other students, including architects. Simple explanations of all aspects of plumbing. Many diagrams.

Any book with eight authors is bound to be better in some parts than others. The general level in this case is high. In particular the first chapter on Working Principles is a simple and sound explanation of principles. Some of the material, for example the chapters on metals and alloys and that on tools, is too detailed for any but plumbing students. Information is up to date to the extent of including a chapter on duct and unit plumbing in which there are descriptions and illustrations of a number of prefabricated plumbing units. A useful book for the architectural student to know, though hardly one he will wish to read in full.

2266 *Dirt and Vermin*

DIRT AND VERMIN. *Draft British Standard Code of Practice* (*Chapter X*). (*HMSO,* 1*s.* 0*d.*) Description of habits of vermin. Constructional precautions.

This Code deals with bed-bugs, rats and mice, cockroaches and black beetles, flies and other insects, and with the general problem of dirt. Emphasis throughout is laid on cleanliness and need for precautions in construction to avoid provision of places of harbourage. Some of the suggestions seem likely to raise difficulties for the architect. Disinfestation is referred to and the new insecticide DDT mentioned. Evidence on the duration of usefulness of this is not yet available.

2267 *Manhole Step Irons*

MANHOLE STEP IRONS. *BS* 1,247: 1945 (*British Standards Institution,* 2*s.*). Design, material and dimensions. Type 1, general purpose pattern, and type 2, pre-cast concrete manhole pattern. Method of test.

2268 *Sewage Treatment*

A SURVEY OF SEWAGE TREATMENT AND SEWAGE TREATMENT WORKS. *J. Campbell Riddell.* (*Journal of the Royal Sanitary Institute, October,* 1945.) General description of method and sewage treatment.

HEATING and Ventilation

2269 *Radio Heating*

RADIO HEATING. *Exhibition.* (*Descriptive pamphlet available from Redifusion, Ltd.*) Recent exhibition at Dorland Hall, London, showed how Radio Heating works and what it could do for industry, including pre-heating of plastics, drying of materials, glueing of wood, welding of thermoplastics, and case hardening.

EQUIPMENT

2270 *Kitchen Equipment*

KITCHEN EQUIPMENT. NO. 3, LAUNDRY AND WASHING-UP EQUIPMENT. (*Architectural Design and Construction, August,* 1945.) Some illustrations of stainless steel sinks, various wash boilers and washing machines, two water softeners, two drying cabinets, and two dish washing machines. Generally dimensions given. Notes and comments. (See also Nos. 2213, 2214: 22.11.45.)

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.*

2271 *Wooden Houses*

Q *I would be much obliged to you if you would give me an address to where I could write for information concerning the purchase of a wooden châlet from either Norway or Sweden?*

A We assume that your query is based on the recent Press reports of Swedish houses being sent to this country.

TWO AGES OF TIMBER

By Courtesy of the Victoria and Albert Museum.

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All these houses are being supplied to Government order and are being allocated to various local authorities throughout the country. If your local council has applied for them they should before long be available in your district, and the best way to find this out would be to apply to the Town Hall.

If, however, you wish to purchase one of these houses as a private individual, you would have first of all to obtain permission from the Bank of England, and we think it very unlikely that this permission would be given.

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.

AA

William Allen

At 36, Bedford Square, W.C.1. Talk to the Architectural Association on SCIENCE IN THE CONSTRUCTION OF HOUSES, by William Allen, B.ARCH., A.R.I.B.A., of the Building Research Station.

W. Allen : Organised building research has an established position in the scientific life of this country, and my main purpose tonight is to describe how it is being marshalled behind the efforts to work out good alternative forms of house construction in the present post-war period.

First, however, a word about "organised building research," for the term itself has a special significance to which I should draw your attention.

In the ordinary course of free scientific activity, many investigators have examined building problems. Mostly, they were, of course, isolated studies—especially in the very early days of research—and they had no profound effect upon practice. That is only natural, since, even quite simple items of building may have to be examined from several angles to get an answer that means anything in general practice. For instance, studies of sound insulation made twenty years ago or more gave some useful pointers on how to improve party walls, but they did not, and indeed could not, have much effect upon practice until associated with studies of fire protection (the other main function of a party wall) and until, also, we had some idea of what standards of insulation and fire protection to aim for. Thus, building research, to be fruitful, must be carried on under conditions where problems will be seen as a whole, and researches can be planned to cover all essential points.

That is what is meant by the term "organised building research," and emphasis is laid upon it here because it so happens that this country was the first to organise its building research along those lines, and is still the only country with a comprehensive organisation in full working order, though similar steps are now being taken in some of the Dominions. The initial step here was taken about twenty-five years ago, just after the last war, when the Government set up under the Department of Scientific and Industrial Research a unit which was called the Building Research Station. In the first instance it was intended to study building materials and methods of construction, and was composed of elements of physics, chemistry, and engineering in association with architects, builders and so on to represent the "user" side. Naturally, there have been many extensions to the central idea, with particular trends recently towards the study of human needs in building; but the main effort of building research has been upon materials and methods of construction, and it is the intention here to show how we are making use of what has been done along this line in the past twenty-five years.

STANDARDS

When orthodox building forms have to be supplemented by alternatives, the first question which arises is this—to what standards are they to be built?

At the end of the last war, when there was also an urgent need for alternative house types, this question could not be answered, and there is every reason to believe that the inability to do so was a principal cause of the unpopularity of some of the post-last-war houses. In fact, many of them had good features, which might have been better appreciated had there not been less satisfactory points giving irritation. Some evidence about the technical performance of alternative house types built in the 1920's was collected by the Station during the inter-war period, and during the past three years a more comprehensive and detailed survey was carried out the results of which were published in the first report of the Burt Committee on *House Construction* last year.

Thus, the critical importance of standards of performance was realised from the outset this time; and as soon as it became possible to divert time from war programmes for the purpose, work was put in hand to draw together the relevant researches and, on that foundation, to formulate the standards. In some cases, this part of the work was done in association with the Study Committees on Post-War Building, and they formed a valuable link in the chain of development. The circumstances were a little less propitious than could be wished, of course: the standards had to represent adequacy (there is no point in them otherwise) but without avoidable excess. It was not possible to say:—"If you go for such-and-such a figure you will be on the safe side," because we cannot now afford waste. But to strike a high target and not overshoot it implies a refined state of knowledge, and it had to be admitted that some of the standards would probably need revision as we acquired experience in trying to reach them, as indeed has been the case. However, the work went on, and early in 1944, it was possible to publish definite standards for:—(*a*) Strength and stability; (*b*) thermal insulation; (*c*) sound insulation; (*d*) fire hazard; and also to give close guidance on the following:—(*a*) moisture penetration and condensation; (*b*) maintenance and durability; (*c*) vermin infestation. These were published as a group in Post-War Building Studies No. 1, *House Construction.*

A little later, standards of natural and artificial lighting were added to the lists by publication in Post-War Building Studies No. 12. There remains yet to come the recommendations for the heating of houses and flats in the same series.

Read together as a group, it will be seen that the scope of the standards is comprehensive, and so far as is known, they form a more advanced statement of criteria than has previously appeared. Comment in other countries seems to confirm this.

One last point about standards ought to be mentioned. The idea that they at once become necessary when alternative constructions have to be considered begs the question—why do they differ from those of othodox construction? Are the standards of the orthodox house not satisfactory? The answer is, of course, that the normal pre-war house was partly shaped by tradition, and otherwise was a compromise between what seemed desirable and what was practicable when built in brick. Thus the 11-in. cavity wall has more strength than necessary, but less thermal insulation than is economically justified. Obviously, it is not a sound idea to use it as a guide. The new standards were determined independently, therefore, upon the basis of all the information available, including experience with orthodox houses.

ORGANISATION OF STUDIES

It is, of course, one thing to recommend standards, and another to attain them on the huge scale now envisaged—in, moreover, times of great difficulty. In the normal course of events, a considerable period would probably have elapsed between the publication of recommendations and their general attainment, this time being necessary for the general diffusion of the knowledge on which they are based. Had this been allowed to occur now, the opportunity to influence the rehousing programme at a vital stage would have been lost.

The danger was circumvented by introducing a procedure for licensing and development which enabled designs to be brought under review by those concerned with research at certain important stages. The procedure is roughly as follows:—(1) The promoter of an alternative form of construction puts forward his scheme in the form of an application for a licence to erect a prototype. (2) The design is considered on technical grounds, and if the design is regarded as promising, a licence is granted. (3) When the prototype is erected, it is examined, and usually subjected to tests on doubtful points, after which a Report goes forward to the Burt Committee.

There are subsequent stages when the best schemes go forward for pre-production trials, and technical consultations are often carried along at the same time. We can leave these for the moment, however, and concentrate on what is the important factor in the arrangement—that at an early stage, while the design is still in some degree fluid, the designer and the research side are brought together; and that they remain in touch over the vital period of the construction and study of the prototype.

This has proved of the very highest value. The new standards are founded on information not yet common knowledge to the building industry, and it was impossible to hope they could be attained widely and quickly without the combined efforts of designers and the research side. Indeed, it stretched the available information up to and beyond every reasonable limit even to make a rough guess at some of the characteristics of the new systems put forward; and to a greater or lesser extent, it became necessary to treat the construction and design of most of the prototypes as part of

the general research programme which has developed around the housing work.

This, of course, has been the most interesting part of the work, and a few moments may be well spent on illustrating it.

Let us take first the studies of strength and stability, where some very awkward problems presented themselves. The central difficulty was the fact that very little was known about the behaviour and requirements of framed structures for houses. The orthodox pre-war house had been so amply satisfactory in respect of strength that there had been no incentive to study the problem generally, and it was impossible when we came to deal with the post-war houses either to state comprehensive standards or to criticise new designs closely. The most important point was that no one could say what proportion of the total strength in a frame system comes from the cladding, the partitions, the stairs, the chimney and so on. Normally, they are neglected and the frame is assumed to take all the load; but they all play a part and cannot be neglected without waste.

In the circumstances, there was obviously no alternative but to study the prototypes in the field, and accordingly a new research team was built up for the purpose. This was two years ago, and since then they have examined a total of some thirty or forty houses, on all of which deflection measurements have been made and on quite a few of which stress studies have also been carried out. This will give some idea of the magnitude of the task, though not of its difficulty. The stress studies in particular have been troublesome, because they demand a degree of refinement not easily obtained outside the laboratory, and also because special instruments have had to be designed and made at the Station for the work. Lately, we have taken delivery of a new and excellently equipped mobile electrical laboratory which should ease and improve this side of the work a great deal.

In addition to these field studies, special laboratory work has had to be undertaken at the Building Research Station also. In addition to the special facilities, the older-established part of the Engineering laboratories provides a third major branch of the structural studies, but that side of the work is, no doubt, sufficiently familiar to need no elaboration here.

It does not seem desirable in a sketch of this kind to describe in detail the research findings that are coming out of the programme, but we may note in passing at least two major points to date: first, it has been observed that the measured stress is always smaller than was calculated, which indicates that the basis of design is conservative even after due allowance has been made for the normal factor of safety; and second, that before the loads approach the point of failure, deflections reach a point which should not be exceeded for other reasons. Deflection therefore is the important factor, and in this respect we have at last been able to establish a group of what seem to be reasonable acceptance criteria.

If we take the sound transmission studies as a second illustration of this part of the story, we will see other aspects of the organisation at work.

Many people will recall that only just before the war did the obscurity in which this subject had been clouded begin to roll away. From the multitude of measurements that had been done, we at last began to see something of the principles which lay behind them; it was the first real turn in a road along which a generation of research people had travelled. But though we had confidence, we had time to make only one or two applications in practice before the war came on, and we had to buoy our hopes for a few years with the knowledge that they at least had been successful.

The Station resumed an active interest in the work when it was asked to convene a Committee on Acoustics in the Ministry of Works' series of post-war building studies. The most urgent questions before the Committee naturally concerned noise in dwellings, and more particularly the problem of the party wall. There has been plenty of evidence now for nearly a century that 9-in. brickwork provides inadequate insulation between houses, and it was not so much a question of whether a higher standard should be set—that was certainly desirable—but whether there was any hope of reaching it on present knowledge, and without unreasonable cost. It was finally decided to attempt it, and the standard was set at 55 db., which is appreciably above what the 9-in. wall can provide, and generally demands, in fact, some measure of discontinuous treatment. The value of 55 db. was based both on calculations and on pre-war experience, and is believed to be the minimum which will deal with normal domestic noise. It is a higher target than is believed to exist among housing authorities elsewhere in the world at present, and reflects our confidence in the present research position here.

The field tests on sound transmission are in the hands of the National Physical Laboratory, which is jointly responsible with the Station for the general conduct of acoustics researches. To date some 30 measurements on prototypes have been made, and the work is only now getting into full swing. Unfortunately, the first tests were unsatisfactory; 11-in. cavity party walls yielded no worse insulation than 9-in. solid constructions, which was a disappointment. It is believed that the cause of the loss lay in certain faulty details which introduced indirect paths for sound; discontinuous construction is, of course, hyper-sensitive to things of this sort, rather in the same way that an electrical system is sensitive to a single short-circuit. However, better results began to come in before long, and now the evidence at last exists that we can reach our target without difficulty or exceptional expense. For instance, a prototype was recently examined where the party wall consisted of two 3-in. leaves of breeze-concrete cast *in situ;* it gave the desired standard of 55 db. reduction, nicely and without excess. Such a wall involves no unfamiliar techniques or materials, and if anything it is less expensive than 9-in. brickwork. Evidence of this kind justifies the claim that building research is passing its milestones steadily.

As with the studies of structural stability, the great variety of prototypes has provided the research side with a concentration of full-scale experience such as in normal times would not have come our way in several years. In fact, nothing could have been better in the way of development studies, for we have been forced at every turn to devise new examples of discontinuous treatment, and then to measure their effect in the prototype. But at the same time, emphasis has been thrown on laboratory studies to supplement the field work, and virtually the whole of the testing capacity has been taken for housing studies. Often it has been to give information on some new proposal prior to building the prototype, but a general programme of related studies is being carried along and is itself a contributor of important practical information. For instance, within very recent weeks a new, thin, double-leaf construction, with dry sand in each leaf, has shown itself able to exceed the requirement of 55 db. The efficiency of this unit is markedly greater than in previous constructions. The overall thickness is only 4½ in. and the idea appears to be a most promising material for a new and simpler form of party wall. Further studies will be made at once and also some investigations on the fire-risk side to make sure that this is cleared up at the same time.

CONCLUSION

Examples of this kind could be continued—for instance, nothing adequate has been said of the fire protection studies—where great advances have been made, nor has the thermal insulation work been described, though it is another of the points where a real advance on pre-war practice has been made. Then there is the work on lighting, where this country has now a leading position, and on heating appliances, where some most interesting developments are expected. The catalogue is an extensive one, and perhaps can be best summarised by saying that practically the whole of the Station's laboratory capacity is now marshalled behind the housing work, and that there are major efforts also in other Establishments of the Department.

Probably, the main period of novelty is behind us—some 70 or 80 different proposals for complete house types have been examined—and for good or ill the broad character of Britain's alternative house construction is now fixed; but before us lies immediately a second stage in the programme, when the most promising of the alternatives pass into pre-production trials in their final form (this is being dealt with at the Ministry of Works), and beyond that there lies a time when the immediate emergency has passed and even better houses can be built. All this work too will call heavily upon organised building research, because it will continually demand refinement; and ultimately we can be confident that if we keep our present lead we can have the technically finest housing in the world. As it is, we can be reasonably certain now that the alternative construction of the next two or three years will far surpass in quality the effort after the last war, and in some respects will surpass even very good pre-war houses.

AA

Nikolaus Pevsner

At 36, Bedford Square, W.C.1. Talk to the Architectural Association on VISUAL PLANNING AND THE CITY OF LONDON by Dr. Nikolaus Pevsner. Chairman: Graham Dawbarn, F.R.I.B.A., President of the AA.

N. Pevsner: The Industrial Revolution has almost completely submerged this country, and not much has been left of buildings that preceded it. The colleges at Oxford and Cambridge are examples of early work yet remaining. Such work is intricate and varied, and the variety extends both to the planning and the individual building and it is incongruous to place Gothic buildings in contrast with Classic but in this case the effect is pleasing. Compare the university colleges with the Ecole Militaire in Paris, formally logical and with spectacular wings on both sides. The Champs Elysées is another example of the French, as distinguished from the informal English plan. Wren tried to impose a formal plan on the City of London. That plan would have broken away from the tradition of this country. Wren came to see this, and in his later work showed a very sensitive feeling for the London which he had to plan; and built in a free and varied way. Forms of all kinds are to be found in his church spires, ranging from severe Classic to Gothic. This free mixing of contrasts was carried further by Vanbrugh, in whom it became almost irritating. Vanbrugh began landscape gardening. His

building might be as formal as a Palladian mansion, but by placing it in front of an undulating piece of water he created a sense of informality.

This sort of contrast appears in English towns. The most striking piece of planning in London is that of the Inns of Court. These, like the colleges at Oxford and Cambridge, are groups of buildings around grass. The main contribution of London to European town planning is the square. This began with Inigo Jones's Covent Garden and was followed by other squares throughout the West End. Each such square is a unit in itself, but within it the houses are not necessarily of one shape. They are similar but not identical as are those in the Place Vendôme; and such things as the three large open spaces in Nancy following one axis is not to be found in London. Regent Street corresponded to the Champs Elysées. Its buildings were classical, but the individual blocks had individual character and there was a good deal of deliberate contrast between them.

Bath is the best surviving example of civic planning in this country, but even there the planned groups of buildings do not follow one axis as would be expected in classic planning. In Bath, Brighton, Cheltenham or anywhere else you find the deliberate grouping of Nature and architecture. Usuallly you also find that the houses, although of one type are not exactly similar.

Two movements that originated in this country have influenced the whole world. One is the picturesque or landscape movement of the Eighteenth Century, and the other the Garden City or Garden Suburb movement of forty years ago. In the Eighteenth Century movement the attempt was made to apply to the town Uvedale Price's dogma that the great point was to mix what was striking with what was pleasing. The garden city idea introduces the picturesque into the town. The square introduces a hedgehog of picturesque planning, but otherwise leaves the town to itself; in the later movement the town was left alone while garden cities or garden suburbs were made outside it.

There is the possibility of applying this informal planning to the City of London. Metropolitan planning is primarily social planning but the best social planning may not secure æsthetic results, and while we want a healthy city we also want something for the eye to enjoy. In the Royal Academy plan there has been too much regard for symmetry. It is not in accord with English tradition and, moreover, it has not the right functional approach. Modern architecture confronts the architect with a different problem from the one which confronted the architect of the Nineteenth Century. It is now necessary to consider the use of the building, not merely to design facades; and the outcome of this has been the predominance of informal asymmetrical planning. If we ask what is the City, what happens around the Bank, we find that most of the business is transacted by people walking short distances to meet each other, standing about or meeting in pubs and at lunch. This is a pedestrian system of contact, and the right functional approach is to keep fast traffic away, have service roads inside and precincts with pedestrian links connecting them. Even before the war the City was losing trade after trade. These are going to the West End. The reason for their going is the sheer grimness, blackness and bleakness of the City as it has been and will still be if the original plan for the City of London is carried out, even with the improvements suggested. A very complete scheme will be necessary to give a new lease of life to the City of London, and the appointment of Mr. William Holford seems to indicate that the stars are favourable.

Buildings Illustrated

Aircraft Design Drawing Office for Bristol Aeroplane Co. Eric Ross, architect (pages 433 to 436). Wm. Cowlin & Son, Ltd., Bristol, general contractors; R. Watson & Co. (C.E.), Ltd., Bolton, structural steelwork; Concrete, Ltd., Hounslow, precast reinforced concrete floors and flat roofs; A. Scull & Sons, Ltd., Bristol, heating, plumbing and ventilating; Gardiner Sons & Co., Ltd., Bristol, metal doors and windows; steel doors and gates; staircase balustrade, door furniture and sanitary fittings; Cattybrook Brick Co., Ltd., Bristol, bricks; General Asphalte Co., Ltd., London, asphalte roofs and approach roads; British Reinforced Concrete Co., Ltd., Stafford, reinforcement to staircases, window heads, canopies, etc.; Roneo, Ltd., Romford, Essex, steel partitioning to offices; Colston Electric Co., Ltd., Bristol, electric light and power; George Parnall & Co., Ltd., Bristol, revolving doors and screens; Marble Mosaic Co., Ltd., Bristol, terrazzo floors; Pickerings, Ltd., Stockton-on-Tees, service lifts; W. A. Telling & Co., Bristol, plastering and granolithic floors; A. Bagnall & Sons, Bristol, painting and decorating; Lenscrete, Ltd., glass brick windows, glass and concrete roofs.

ANNOUNCEMENT

The Home Information Centre, organised by the Women's Gas Council in co-operation with the Housing Centre, is being held at 169, Regent Street, W.1, by courtesy of Messrs. Ewart & Son, Ltd., manufacturers of Ewart Gas Water Heaters.

CLASSIFIED ADVERTISEMENTS

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

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

Public and Official Announcements

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

ROBERT GORDON'S TECHNICAL COLLEGE, ABERDEEN.

SCHOOL OF ARCHITECTURE AND DEPARTMENT OF BUILDING.

Head: E. F. DAVIES, B.Arch.(Lvpl.), F.R.I.B.A., F.R.I.A.S.

LECTURER AND STUDIO INSTRUCTOR IN CONSTRUCTION.

Applications are invited for the post of Full-time Lecturer and Studio Instructor in Constructional Subjects, including Steel and Reinforced Concrete.

The School is recognised for purposes of exemption from the R.I.B.A. Intermediate and Final Examinations.

Candidates must be Fellows or Associates of the Royal Institute of British Architects, and should possess the Degree or Diploma of a recognised School of Architecture. Teaching and professional experience are desirable qualifications.

The commencing salary will be determined, according to the experience of the successful candidate. The salary scales are under review at the present time.

Conditions of appointment and forms of application may be obtained from the undersigned, to whom completed applications should be returned by Monday, 7th January, 1946.

A. C. WEST,
Director.

951

EBBW VALE URBAN DISTRICT COUNCIL.

APPOINTMENT OF TEMPORARY ARCHITECTURAL ASSISTANT.

Applications are invited for the appointment of a Temporary Architectural Assistant, in the Engineer and Surveyor's Department of the Council, at a commencing salary of £350 per annum, rising by annual increments of £25 to a maximum of £400, plus cost-of-living bonus, at present £59 16s. per annum.

Applicants must be Registered Architects, experienced in land surveying and levelling, building inspection, and the preparation of working and detail drawings, specifications and quantities for housing and other public buildings, and preference will be given to candidates who are members of the Royal Institute of British Architects.

The appointment will be terminable by one month's notice in writing on either side, and will be subject to the Council's Regulations and Conditions of Service for the time being in operation.

Applications, stating age, qualifications, with full particulars of experience, and endorsed "Architectural Assistant," must be received by the undersigned not later than the 22nd December, 1945, and should be accompanied by not more than three copies of recent testimonials.

R. E. HERBERT,
Clerk of the Council.

Council Offices, Ebbw Vale, Mon.
28th November, 1945. 950

WEST SUFFOLK COUNTY COUNCIL.

Applications are invited for the undermentioned appointments in the County Architect's Department:—

(1) ARCHITECTURAL ASSISTANT. Salary £310—£15—£355 per annum, plus cost-of-living bonus (at present £60 per annum).

(2) BUILDINGS' INSPECTOR. Salary, £240—£15—£300 per annum, plus cost-of-living bonus (at present £60 per annum). Successful candidate will be required to provide a motor cycle, or car not exceeding 8 h.p. Travelling allowance in accordance with County Scale.

Both appointments will be on non-established staff, but may become permanent.

Forms of application may be obtained from the undersigned, by whom applications, accompanied by three recent testimonials, should be received not later than 21st December, 1945.

L. G. H. MUNSEY,
Clerk to the County Council.

Shire Hall, Bury St. Edmunds.
27th November, 1945. 947

COUNTY OF KINCARDINE.

COUNTY ARCHITECT AND PLANNING OFFICER.

Applications are invited for the post of County Architect and Planning Officer. Applicants should be architects, preferably with a planning qualification, and should have had practical experience in the whole-time service of a Local Authority.

Salary will be on a scale rising from £600 to £850 per annum by annual increments of £50, plus J.I.C. war bonus. Placing on this scale may be granted in accordance with qualifications and experience. The post is superannuable, and medical examination will be required. A house will be available.

A statement of the duties, terms, and conditions of appointment, etc., may be obtained from the undersigned, with whom applications (35 copies, including copies of not more than three testimonials) should be lodged not later than 5th January, 1946.

JOHN SLEVIN,
County Clerk.

33, Evan Street, Stonehaven.
26th November, 1945. 939

TENDRING RURAL DISTRICT COUNCIL.

APPOINTMENT OF ARCHITECTURAL ASSISTANT.

Applications are invited for the appointment of an Architectural Assistant on the staff of the Engineer and Surveyor's Department, at a salary of £400 per annum, rising by two annual increments of £25 each to £450 per annum.

Candidates should hold a recognized Architectural Qualification and have had experience in the preparation of Municipal Housing Schemes.

The appointment will be terminable by one month's notice on either side, and will be subject to the Local Government Superannuation Act, 1937, and the successful candidate will be required to pass a medical examination.

Applications, stating age, qualifications, and experience, endorsed "Architectural Assistant," and accompanied by the names and addresses of two references, must reach the undersigned not later than 29th December, 1945.

H. M. A. WARD,
Clerk to the Council.

Council Offices, Weeley, near Clacton-on-Sea, Essex. 956

THE UNIVERSITY OF LIVERPOOL.

LIVERPOOL SCHOOL OF ARCHITECTURE.

Applications are invited for the full-time post of UNGRADED LECTURER and STUDIO INSTRUCTOR, in the School of Architecture, at a salary of £500 per annum, with child allowances.

Applications, accompanied if possible by drawings or photographs of work, two testimonials, and the names of two referees, should be received not later than 11th February, 1946, by the undersigned, from whom further particulars may be obtained.

STANLEY DUMBELL,
Registrar.

November, 1945. 964

BOROUGH OF LUTON.

BOROUGH ENGINEER'S DEPARTMENT—APPOINTMENT OF TECHNICAL STAFF.

Applications are invited for the following appointments:—

(1) CHIEF PLANNING ASSISTANT. Salary £500 per annum, rising by annual increments of £25 to £600.

(2) TWO PLANNING ASSISTANTS. Salary £310 per annum, rising by annual increments of £15 to £355.

(3) ESTATES AND MAINTENANCE ASSISTANT. Salary £420 per annum, rising by annual increments of £20 to £460.

(4) TWO JUNIOR ENGINEERING ASSISTANTS. Salary £240 per annum, rising by annual increments of £15 to £300.

(5) BUILDING INSPECTOR. Salary £310 per annum, rising by annual increments of £15 to £355.

Appointment No. 1 will be on the Council's permanent staff, and the remaining appointments will be temporary in the first instance, with prospect of transfers to the permanent staff. A temporary cost-of-living bonus of £59 16s. per annum will be paid in respect of each appointment, and all appointments will be subject to the provisions of the Local Government Superannuation Act, 1937.

The persons appointed to the vacancies Nos. 1 and 3 will be required to provide and maintain a car, for the use of which an allowance will be paid on the basis of the Ministry of Home Security Scale, or such other scale as may be adopted by the Council.

Applicants for the post of Chief Planning Assistant must have had extensive experience in the preparation and administration of planning schemes, and be suitably qualified; for appointments No. 2, considerable municipal experience and be first-class draughtsmen; appointment No. 3, extensive experience in maintenance of buildings of all descriptions and estate work, including valuations, and be A.R.I.B.A. or P.A.S.I.; appointments No. 4, considerable municipal experience and be first-class draughtsmen; and for appointment No. 5, experience in control of building works and administration of bye-laws.

Applications, stating age, qualifications and experience, together with copies of not more than three recent testimonials, should be delivered, suitably endorsed, to the Borough Engineer, Town Hall, Luton, not later than Monday, 24th December, 1945. Canvassing will be a disqualification.

The Ministry of Labour and National Service have given permission under the Control of Engagement Order, 1945, for the advertisement of the vacancies of Junior Engineering Assistants (E.3049X).

W. H. ROBINSON,
Town Clerk.

Town Hall, Luton.
26th November, 1945. 962

EAST GLAMORGAN JOINT PLANNING COMMITTEE.

DEPUTY PLANNING OFFICER.

Applications are invited for the appointment of Deputy Planning Officer to the above Committee, at a salary of £500, rising an annual increments of £25 to a maximum of £600 per annum, plus bonus.

Applicants must have passed the final examination of the Town Planning Institute or its equivalent, and preference will be given to candidates with qualifications in engineering, architecture or surveying. A wide experience in the preparation of planning schemes and interim development control is essential.

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

Applications, endorsed "Deputy Planning Officer," stating age, qualifications, experience, etc., and containing the names of three persons to whom reference can be made, must be delivered to the undersigned not later than the first post on Thursday, 20th December, 1945.

BERNARD M. MURPHY,
Clerk of the Committee.

Town Hall, Mountain Ash, Glamorgan.
1st December, 1945. 997

ESSEX EDUCATION COMMITTEE.

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

DEPARTMENT OF ARCHITECTURE AND BUILDING.

Applications are invited from suitably qualified men for the post of LECTURER IN ARCHITECTURAL BUILDING CONSTRUCTION AND SPECIFICATION WRITING. Knowledge of surveying an advantage.

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

Applications, giving full particulars of training, qualifications and experience, with copies of three recent testimonials, should reach the Clerk to the Governors at the College by 18th December.

B. E. LAWRENCE,
Chief Education Officer.

County Offices, Chelmsford. 975

BOROUGH OF SOUTHGATE.

TO BUILDERS AND CONTRACTORS.

ERECTION OF NEW HOUSES, BARROWELL GREEN HOUSING SITE, N.21.

The above-mentioned Council invite tenders for the erection of 14 pairs "Duplex" type houses at the Barrowell Green Housing Site, No. 21. Plans can be seen by arrangement with the Borough Engineer and Surveyor, Mr. J. T. W. Post, F.R.I.B.A., at the Town Hall, Palmers Green, N.13.

Contractors wishing to tender should make written application not later than Monday, 17th December, 1945, to the Borough Engineer and Surveyor, enclosing cheque for £2 2s. as deposit for form of tender and Bills of Quantities. This deposit will be returned on receipt of a *bona fide* tender and/or the return of all documents. In the case of the accepted tender, deposit will be retained until the Contract and Bond have been entered into with the Council, and in the event of withdrawal, such deposit will be forfeited.

No tender will be accepted unless submitted in a plain sealed envelope, which shall bear no name or mark indicating the sender, and shall be endorsed "Tender for 'Duplex' Houses," and addressed to the Town Clerk, Southgate Town Hall, London, N.13.

The Council do not bind themselves to accept the lowest or any tender, and the acceptance of any tender will be subject to the approval of the Ministry of Health.

GORDON H. TAYLOR,
Town Clerk.

Southgate, Town Hall, Palmers Green, N.13.
7th December, 1945. 971

CITY OF NORWICH.

CITY ENGINEER'S DEPARTMENT—TOWN PLANNING SECTION.

SENIOR PLANNING ASSISTANT.

Applications are invited for the above permanent appointment, at a salary commencing at £365 per annum, plus cost-of-living bonus, at present £59 19s. per annum, and rising subject to satisfactory service by annual increments of £15 and one of £10 to a maximum of £420 per annum.

Candidates must have had experience in the preparation and administration of planning schemes, and the control of interim development. Preference will be given to applicants capable of preparing alternative designs for the reconstruction of war damaged and built-up areas.

The appointment will be terminable by a month's notice on either side, and be subject to the provisions of the Local Government Superannuation Act, 1937. The successful candidate will, therefore, be required to pass a medical examination.

Relationship to members of the Council or their staff must be declared in the application. Canvassing, directly or indirectly, will be a disqualification.

Applications stating age, qualifications, experience and present position, accompanied by copies of not more than three recent testimonials, must be received by the City Engineer, City Hall, Norwich, not later than first post on Tuesday, 15th January, 1946. 974

NORTHERN POLYTECHNIC, HOLLOWAY, N.7.

Applications are invited for appointment as PART-TIME LECTURER (Evenings) in the Department of Architecture, Surveying and Building on Properties and Uses of Building Materials. Applicants should in the first instance submit written particulars of training and professional experience. Details of salary and times of classes will be sent to suitable applicants.

R. H. CURRELL,
Clerk.

969

URBAN DISTRICT COUNCIL OF FELTHAM.

APPOINTMENT OF ARCHITECTURAL ASSISTANT.

Applications are invited for the appointment of Architectural Assistant on the permanent staff of the Engineer and Surveyor's Department in Grade D of the Council's grading scheme, at a commencing salary at the rate of £440 per annum, rising, subject to satisfactory service, by annual increments of £20 per annum, to a maximum of £500 per annum, plus cost-of-living bonus (at present £59 16s. per annum).

Applicants should be qualified architects, and have had experience in the preparation of plans, specifications, and quantities for public and domestic buildings, and preference will be given to persons with experience in the preparation of housing schemes.

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

Forms of application may be obtained from the undersigned, and should be returned, accompanied by copies of not more than three testimonials, not later than Tuesday, the 1st January, 1946.

Canvassing will disqualify, and applicants must disclose, in writing, whether, to their knowledge, they are related to any member of or the holder of any senior office under the Council.

J. S. SYRETT,
Clerk of the Council.

Council Offices, Feltham, Middlesex.
7th December, 1945. 980

BOROUGH OF CLITHEROE.

BOROUGH SURVEYOR'S DEPARTMENT.

APPOINTMENT OF ARCHITECTURAL ASSISTANT.

Applications are invited from Registered Architects for the above appointment, at a salary of £325 per annum, plus war bonus (at present £59 16s.).

The appointment will be subject to one month's notice in writing on either side, and the successful candidate will be required to pass a medical examination for superannuation purposes, and to contribute to the Superannuation Fund.

Applications, stating age, qualifications, previous experience and position in relation to National Service, and accompanied by copies of three recent testimonials, must be delivered to the undersigned in a plain sealed envelope, endorsed "Architectural Assistant," not later than 12 noon on Saturday, 29th December, 1945.

G. HETHERINGTON,
Town Clerk.

The Castle, Clitheroe, Lancs.
4th December, 1945. 976

WOMBWELL URBAN DISTRICT COUNCIL.

APPOINTMENT OF ARCHITECTURAL ASSISTANT.

Applications are invited for the above appointment on the staff of the Housing Architect and Surveyor, at a salary of £400 per annum, plus cost-of-living bonus, at present £59 16s. per annum.

Applicants must be Registered Architects, and must have considerable experience in the preparation of drawings, etc., for local authority works and housing in particular.

The appointment will be subject to the Council's regulations and conditions of service.

Applications, stating age, professional qualifications and experience, and date upon which duties can be commenced, together with the names and addresses of three persons to whom reference may be made, should be delivered to the undersigned not later than the 31st December, 1945, and endorsed "Architectural Assistant."

BURY & WALKERS,
Acting Clerks of the Council.

Town Hall, Wombwell.
5th December, 1945. 982

Tenders

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

CITY OF WINCHESTER.

HOUSING.

Drawings, Specifications, and Bills of Quantities will shortly be available for the erection of up to 150 permanent houses (first instalment).

Persons wishing to tender are invited to submit their names in writing to Mr. H. S. Sawyer and Mr. A. E. T. Mort, of High Street, Winchester, and to enclose a cheque value £2 2s., payable to the Winchester Corporation, which will be returned on receipt of a *bona fide* tender and the return of all documents.

Applications should be received not later than 31st December, 1945.

F. W. KEMPTON,
Town Clerk.

Guildhall, Winchester.
5th December, 1945. 978

Partnership

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

CHARTERED ARCHITECT and SURVEYOR requires Partnership with progressive Architect; ex-officer, just released; excellent experience in G.P. work; preferably in South of England, or would take appointment with partnership in view.—Box 928

Architectural Appointments Vacant

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

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

ASSISTANT QUANTITY SURVEYORS required by Midland Brewery Co.; all-round experience essential.—Apply, stating experience, age, salary required, to Box 930.

JUNIOR ARCHITECTURAL ASSISTANT required immediately in well-known East Midlands office. Box 927.

ARCHITECT'S ASSISTANT required. Apply, stating age, experience, and salary, to Henry C. Smart & Partners, Architects and Surveyors, 251-3, Finsbury Pavement House, 120, Moorgate, E.C.2. 942

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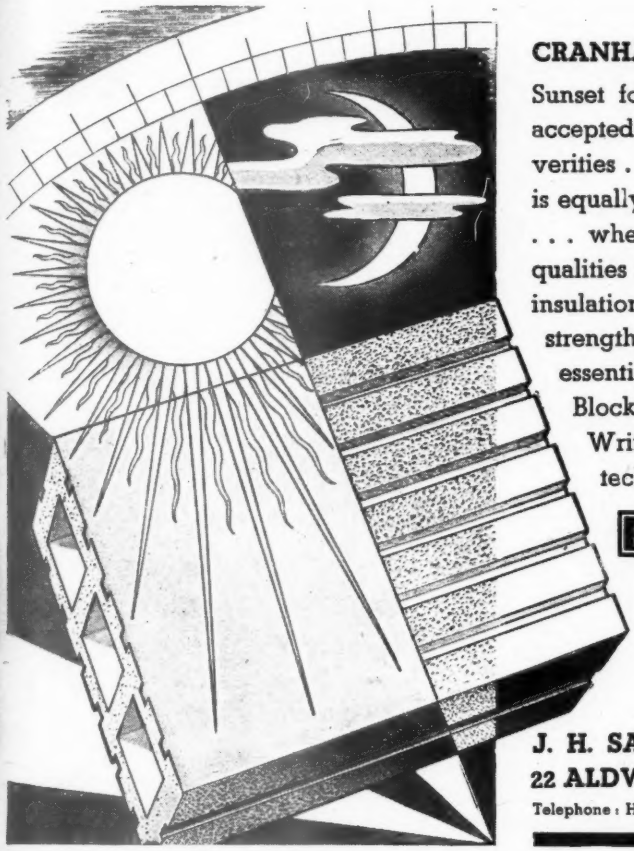

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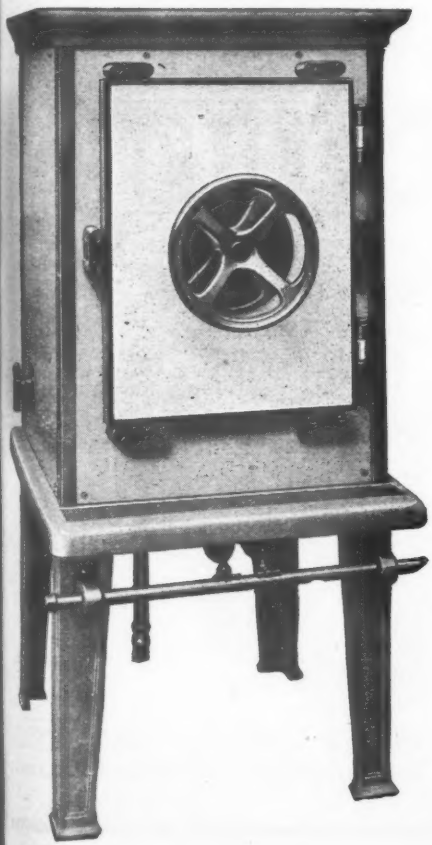

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