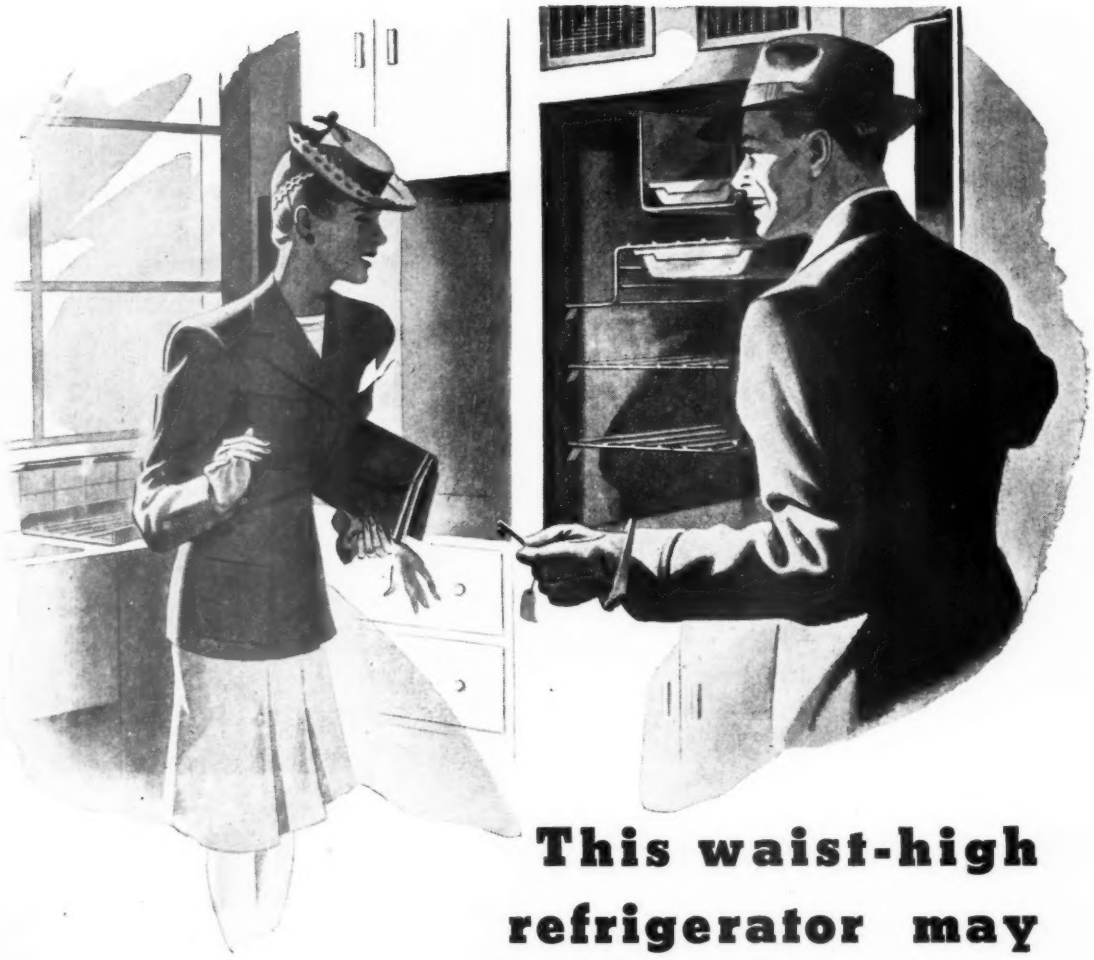
Alphabetical Index to Advertisers

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



This waist-high refrigerator may sell the house . . .

War-gained experience of ways to improve industrial refrigeration, to lower cost of production, and to make the most economical use of vital materials will be used by Prestcold engineers to the great benefit of the kitchen of the future. They will be able to take the lead in making refrigerators at low cost for every type of home.

For the future health of the Nation a refrigerator is a desirable addition to every home. For the "quick-frozen" foods which will be available after the war refrigerators will become an absolute *necessity* to all.

Prestcold have designed a model of 4½ cubic feet capacity for mass production at a popular price. It presents the following advantages which are well worth noting:

Storage capacity of approximately 4½ cubic feet, which will hold all the perishable foodstuffs for a family of four.

Larder space rendered unnecessary. Dry goods and non-perishable foodstuffs would be kept in kitchen cupboards.

Waist-high refrigerator door, allowing access to interior without stooping.

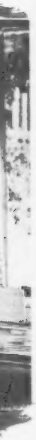
Height adaptable by varying position of supporting frames.

Refrigerator can be built into kitchen fitments with cupboard space above and below it.

Design provides for adequate ventilation of mechanism without the necessity for special air-bricks or ducting.

PRESTCOLD *Refrigeration*

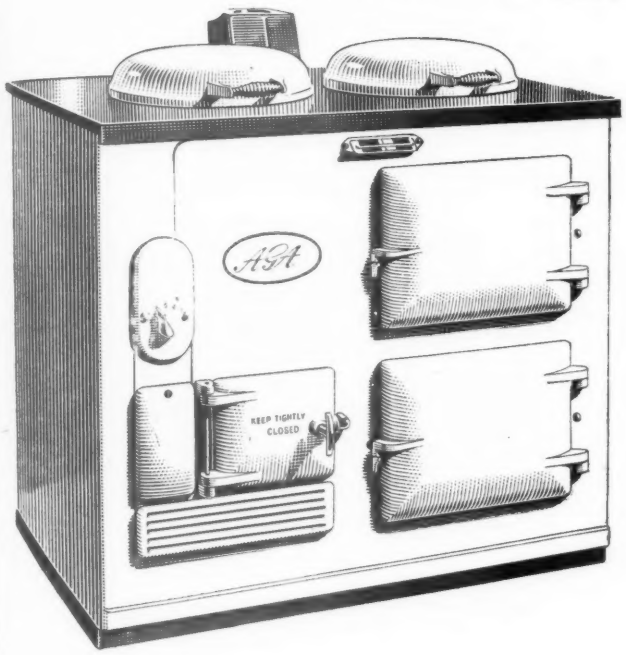
A PRODUCT OF THE PRESSED STEEL COMPANY LIMITED



HEAT STORAGE COOKING

EXAMPLE

THE AGA COOKER

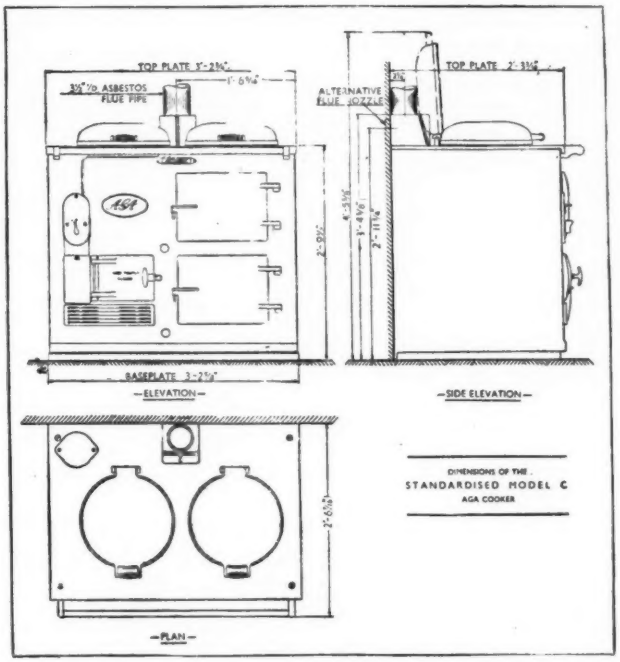


SPECIFICATION FOR MODEL C:

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

WEIGHT: Approximately 10½ cwt.

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



For the post-war house . . . . . .
The M.15 Electrolux Refrigerator can be built into a kitchen fitment at any height, and will hold all the perishable food of the average small family. It can be seen at The Building Centre, London, and in many experimental post-war houses and kitchens. Write for our "Better Kitchens" leaflet.

Is noiseless and without moving parts.

ELECTROLUX LIMITED

Works: **LUTON, BEDFORDSHIRE** *Tel:* **LUTON 4020**

Stoneham & Kirk

EJMA
CERTIFICATION TRADE MARK

STANDARD WOOD CASEMENTS
are based on
SOUND LIGHTING PRINCIPLES

Sheet Seven

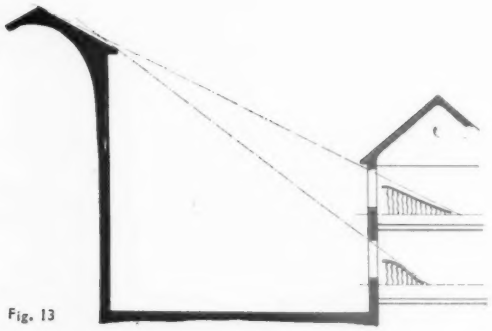


Fig. 13

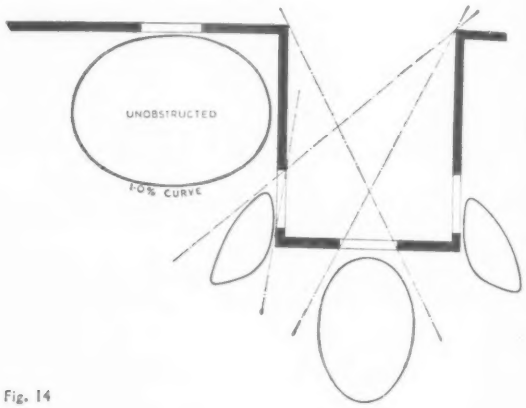
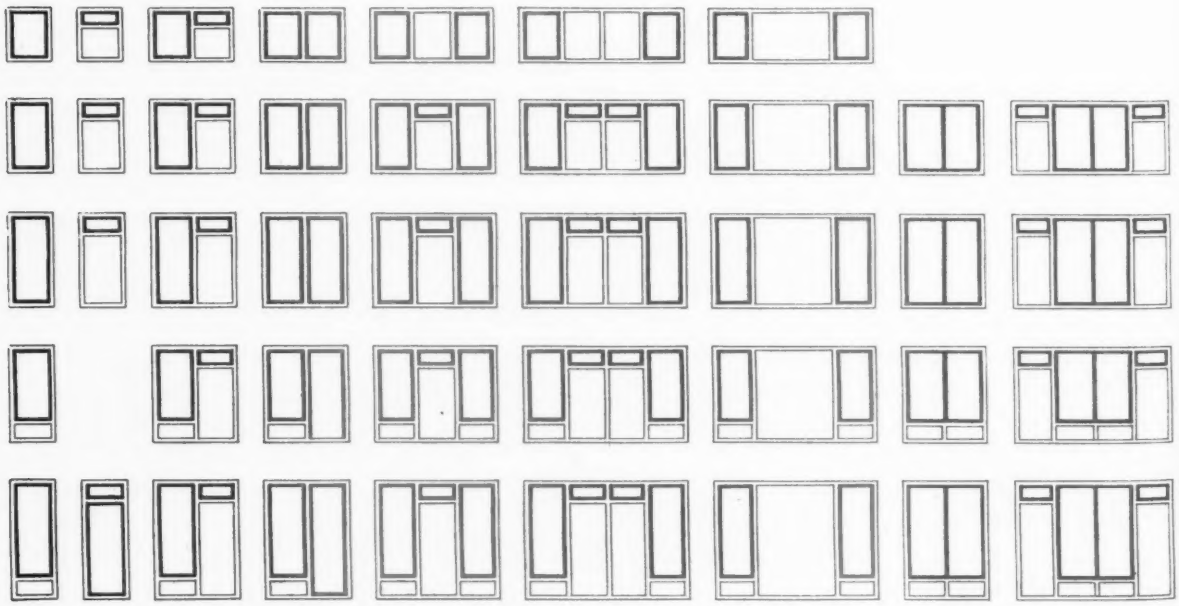


Fig. 14

The same window may give totally different lighting values, depending upon its position. Fig. 13 shows the same window at two floor levels, with a vertical obstruction cutting considerably less daylight from the upper than the lower floor, which obviously requires a taller window. Fig. 14 shows how the daylight factor curve changes when the same window is used in the same horizontal plane but with varying obstructions.

The EJMA range of Standard Wood Casements provides the right shape and size for all normal needs—EJMA windows have been designed to give good daylighting as well as good appearance.

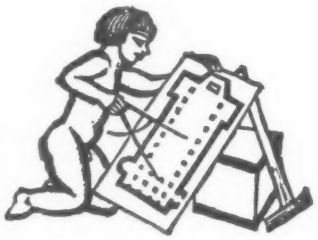


For other sheets of this series and for full particulars of the EJMA range of Standard Wood Casements apply to:—

THE ENGLISH JOINERY MANUFACTURERS ASSOCIATION
SACKVILLE HOUSE, 40, PICCADILLY, W.1. REGENT 4448. [INCORPORATED]

Stoneham & Kirk

In common with every other periodical this JOURNAL *is rationed to a small part of its peacetime 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 APRIL MAY AND JUNE

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. *Homes They Come From Exhibition.* (Sponsor, HC.) APRIL 27-28

DARLINGTON. *Royal Sanitary Institute Sessional Meeting.* 10.30 a.m. At the Town Hall, Darlington. Welcome by the Mayor. *Housing and Town Planning*, by Mr. Ernest Minors, Borough Engineer and Surveyor, Darlington. Discussion opened by the Town Clerk, Mr. Henry Hopkins. Darlington's colour film, *Health Services.* 1.0 p.m. Luncheon by invitation of the Mayor and Corporation at Spark's Café, Northgate, Darlington. 2.30 p.m. Visit to Greenbank Health Centre, including Maternity Hospital (36 beds), and the Memorial Voluntary Hospital (240 beds); or to Infectious Diseases Hospital (160 beds) and Hunden's Lane War-time Nursery (80 places), open 24 hours. APRIL 29

GLOUCESTER. *Rebuilding Britain Exhibition.* At Gloucester Technical College. Guide lecturer: Miss Henry. (Sponsor, BIAE.) APRIL 27-MAY 6

GT. YELDHAM. *Twenty Women at Home Exhibition.* (Sponsor, HC.) APRIL 27-28

HYDE. *Living In Cities Exhibition.* At Bayley Hall, Hyde. (Sponsor, BIAE.) APRIL 27-MAY 6

Twenty Women at Home Exhibition. At Leigh Street Senior School. (Sponsor, HC.) APRIL 27-28

ISLE OF WIGHT. *Homes to Live In Exhibition.* Accompanying CEMA Design Exhibition. (Sponsor BIAE) APRIL 27—MAY 23

KIDDERMINSTER. *Homes to Live In Exhibition.* At Kidderminster Public Library, Museum and Art Gallery. Guide lecturer, Miss Kapp. (Sponsor, BIAE.) APRIL 27-29

LONDON. *MOW Building Mission to USA Exhibition.* At 5, Old Palace Yard, Westminster. Selected photographs, architectural drawings, tools and other material collected in the United States by the mission appointed by the Minister of Works. Exhibits include illustrations of methods of obtaining speed in building, including information given to contractors before tendering, time and progress schedules, building methods and architectural drawings, district heating, plant and tools. American methods for providing incentives to output are illustrated, including news sheets and certificates and badges awarded to craftsmen. Details of American methods of standardization (including modular design) and the use of various materials such as timber, wall, ceiling and roof linings, composite walling material and tiles are shown. APRIL 27-28

The Town House Exhibition. At the Housing Centre, 13, Suffolk Street, S.W.1. APRIL 27-30

E. G. Carter. *Design for Living.* Third lecture on the Artist and Reconstruction. Under the auspices of the Artists' International Association. At the National Gallery, Trafalgar Square, W.C.2. Admission 1s., members 6d. 3 p.m. APRIL 30

W. N. C. Clinch and F. Lynn. *The Design and Performance of Domestic Electric Appliances.* At the Institution of Electrical Engineers, Savoy Place, Victoria Embankment, W.C.2. 5 p.m. MAY 4

George Laws. Chief Sanitary Inspector to the Richmond Corporation. *A Hundred Years of Sanitary Progress.* At the Royal Sanitary Institute, 90, Buckingham Palace Road, S.W.1. Chairman, Kenneth R. Hay. 2.30 p.m. MAY 9

AA Election of Officers and Council for Session 1944-45. At ordinary general meeting at 34-36, Bedford Square, W.C.1. 6 p.m. MAY 16

NEWTON ABBOT. *Colour Exhibition.* At Newton Abbot School of Art. (Sponsor, CEMA.) APRIL 29-MAY 13

SHEFFIELD. *Rebuilding Britain Exhibition.* At the Graves Art Gallery, Sheffield. (Sponsor, CEMA). APRIL 27-MAY 2

SMETHWICK. *The Englishman Builds Exhibition.* At Holly Lodge High School for Girls, Smethwick. (Sponsor, BIAE.) APRIL 27-MAY 11

SOUTHEND. *Rebuilding Britain Exhibition.* At Southend Municipal College. (Sponsor, CEMA). APRIL 27-MAY 5

THRAPSTON. *Homes to Live In Exhibition.* (Sponsor, CEMA.) APRIL 27-MAY 2

WEST HARTLEPOOL. *Rebuilding Britain Exhibition.* At West Hartlepool School of Art. (Sponsor, BIAE.) APRIL 27-MAY 1

NEWS

THURSDAY, APRIL 27, 1944
No. 2570. VOL. 99

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.

★

An exhibition of the PLAN FOR PLYMOUTH, prepared by Mr. J. Paton Watson, the City Engineer, with Professor Abercrombie as Consulting Planner, opened at the Plymouth Municipal Art Gallery yesterday.

The plan, which assumes co-operation with the neighbouring Rural and County Councils, provides for a post-war population of 172,000 within the present city boundaries, as against the normal population of 220,000. It is hoped to provide for the resulting overspill by expanding certain neighbouring towns and villages within the Plymouth region. These will be developed as self-contained communities to include every factor except industry, which it is not proposed to decentralize. The main civic and shopping centre of Plymouth is planned as a great Way, stretching from the main railway station right through the city centre to the Hoe.

The RIBA with the active help of the Housing Centre, and the aid of a grant from CEMA is making a COLLECTION OF PHOTOGRAPHS of topical architectural subjects.

The collection of photographs is designed to meet the demand for background illustrations to lectures and discussions. Photographs are full plate size, 8 in. by 6 in., mounted on card with eyelet holes for drawing pins. They are available for hire from The Housing Centre or the RIBA at a service charge of 5s. on all loans of up to 50 prints, and an additional rent charge of 1d. per print per week. An additional service charge of 2s. 6d. will be made for each additional 25 prints over 50, and the rent charge of 1d. per week will apply to each week or part of a week for which the prints are loaned.

"Revolutionary" is a much abused word in advertising terminology, but it may be said with truth that the introduction and development of the tubular steel section revolutionised scaffolding technique and constructional method. As the inventors and pioneers we have been primarily concerned in all the stages of progress and development, and we are the largest and most experienced scaffolding organisation in the country.

SCAFFOLDING (GREAT BRITAIN) LTD

SAUNDERTON · PRINCES RISBOROUGH · BUCKS

LONDON OFFICE: PLOUGH LANE · S.W.17

BRANCHES AND DEPOTS THROUGHOUT THE COUNTRY

from AN ARCHITECT'S *Commonplace Book*

DIGNITY OF THE VICTORIAN WATER-CLOSET. [*From* Cleanliness and Godliness, *by Reginald Reynolds* (*Allen and Unwin*)]. In the Health Exhibition held at that time many models of water-closets were shewn, of which a most notable example was the *Pedestal Vase* of George Jennings. A likeness of this *Pedestal Vase* is to be found among the illustrations to Mr. Lamb's article in the ARCHITECTS' JOURNAL (March 4, 1937), to which we have already made reference, and it appears as an elegant and decorated fixture. Of its name Mr. Lamb says that at this period *the W.C. was cloaked with a certain amount of dignity*, and he reminds us of the platforms upon which such thrones were not uncommonly mounted, in a carpeted room. Thus the Victorian sense of *dignity* could find its place even in a closet. This *Pedestal Vase* was beautified with the famous *willow pattern*, and its cisterns covered in carved woodwork, whilst another product of the firm had a seat of red mahogany, with a silent flush that functioned discreetly from behind the wall.

Last Friday was published THE WILL OF SIR EDWIN LUTYENS, President of the Royal Academy. ¶ *He left £42,271 ; net personalty £34,272.*

Ross and Cromarty County Council Highways Committee is to urge the Minister of Transport to construct a THROUGH ROAD FROM DINGWALL TO KYLE, and to widen the Garve-Ullapool road.
The general feeling is that the Garve-Ullapool road will open the way for a trunk road to Cape Wrath, a necessary improvement if tourist traffic is to be attracted to the Highlands. It was said at the Highways Committee that the Ministry proposes to take over as a trunk road the road from Kyle of Lochalsh over Dornie Bridge to Shiel and then to Invergarry, and also from Mallaig to Invergarry.

On June 14 Bilsdale, a famous dale of 12,325 acres in North Yorkshire is TO BE SOLD BY AUCTION at Helmsley.
The estate formerly belonged to the first Duke of Buckingham, favourite of James I, and ultimately passed into the hands of the Earls of Feversham. It includes three villages, 105 farms and small holdings, and two old inns. The dale will be offered as one lot, in the hope that a purchaser will be found to maintain the estate in its entirety as it has existed for nearly 900 years.

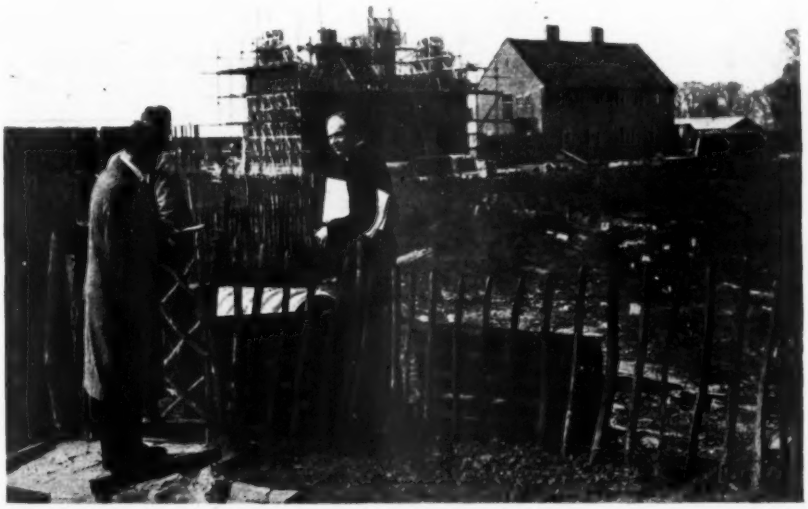
★

A suggestion that the building of the new LCC satellite town at Oxhey, near Watford, will be AN ACT OF VANDALISM was made at a Ministry of Health inquiry held into the proposal to acquire the site.
Mr. H. G. Robertson, of the LCC, said that the Council estimates that it will require not less than 100,000 new houses. It is proposed to start on 16,000 during the first year after the war for which the Council already has sites. We have nothing like enough sites available to go on with, he said. This is one of the most suitable. The site will be developed as a cottage estate and the Ministry of Transport proposes to construct a trunk road—the Harrow-Watford by-pass—through the estate. 870 of the 920 acres are the freehold of the Blackwell Trustees and 50 acres of the Artisans and General Dwellings Company. Included in the estate is Oxhey golf course, woodlands, farm land and buildings and a church. The LCC is prepared to have the site of the church and its burial ground left out of the order. Mr. Herbert Westwood, valuer of the LCC, said this is the closest to the ideal site that can be obtained in the district. He thought the woodland part of the estate would fit in with a green belt scheme. Mr. Sydney Turner, K.C., for the Blackwell Trustees: Would not the whole of the estate be a very fine one to convey to the National Trust? Mr. Westwood: I don't think I can answer that. There are many beautiful spots in Hertfordshire and I think that the lower part of this estate ought to be built upon.

Plans have been made for NEW BUILDINGS FOR THE UNIVERSITY OF WALES at Aberystwyth costing nearly £1,000,000.
The Vice Principal, Prof. Campbell James, told the Old Students' Association that the buildings will be erected on a commanding site overlooking the town and the National Library of Wales. He said that £96,000 has been already spent. The old students have raised £10,000 and so can claim the gift of a further £10,000 promised by Lord Davies.

★

There is in this country AMPLE WATER FOR ALL NEEDS. The problem is not one of total resources but one of organization and of distribution.
This statement is made in a White Paper on the Government's proposals for ensuring that all reasonable needs for water by householders, industry and agriculture can in future be met—and met speedily and without avoidable waste—presented to Parliament by the Minister of Health (Mr. Henry Willink), the Minister of Agriculture and Fisheries (Mr. Robert Hudson), and the Secretary of State for Scotland (Mr. Tom Johnston). The object of the Government's proposals is therefore the shaping of a national water policy which will ensure a planned and economical use of the resources of the country and efficient administration of supply services. The main proposals are summarized as follows: The Health Ministers, whose powers are at present vague and ill-defined, to be given the express statutory duty of promoting the provision of adequate water supplies and the conservation of water resources. Central planning of water policy to be the function of Health Ministers; to be based on comprehensive information, systematically collected and assessed (through the Inland Water Survey, Regional Advisory Water Committees and otherwise), regarding water resources and needs; and to be applied by a simplified system of Ministerial orders. Interested parties to have full opportunity to put their views before the Minister; Orders on certain matters to be subject to review by Parliament by reason of their intrinsic import-



Left, one of the foamed slag demonstration houses at Northolt, Middlesex, now nearing completion for the Ministry of Works. In the foreground are the site architect and the clerk of works.

Daylight in Pipes

This picture shows how an efficient drawing office looks in America, with its parallel strips of fluorescent lighting. Fluorescent lamps are in great vogue especially in the USA, and though opinions vary as to their ultimate value compared with the ordinary incandescent lamps, it is clear that they have certain definite advantages over other forms of lighting. By distributing light over a wide area in factory or office they eliminate both shadow and glare over the working plane. Since they remain cool they can be placed a few inches over the heads of the workers. By giving a close approximation to daylight they also allow flaws in workmanship which would otherwise go unnoticed to be easily detected. Fluorescent light is generated in long glass tubes through which electric current is conveyed by mercury vapour, as well as by argon and other inert gases. Invisible ultra-violet rays are given off which excite the thin coating of fluorescent powders lining the insides of the tubes. The molecular make-up of these powders, called phosphors, is such that they emit visible light as soon as they are jostled by ultra-violet rays. (See items Nos. 1172, 1266-1269, 1271, 1349, 1350, 1363, 1449; and this week, Nos. 1465-1467, in the Information Centre.

ance or because of their effect on the interests of the general public or of individuals. The Government's Central Advisory Water Committee to be reconstituted as a statutory body. It will advise not only on matters referred to it by any Government Department but also on its own initiative on any question within its ambit. A somewhat similar body to be set up for Scotland. Surveys of the efficiency of water supply services to be carried out regularly by expert central staffs. General framework of existing local organization to be retained, but default and directing powers of the Minister of Health to be strengthened, and amalgamation of undertakings to be encouraged and, if necessary, enforced to secure efficiency and economy. Special steps to be taken to protect water resources, especially underground water, against misuse, waste and pollution. Industry and agriculture to be given right to obtain water on reasonable terms and conditions. Provision of Exchequer grants totalling £15,000,000 for England and Wales, and £6,375,000 for Scotland, for extension of piped water supplies and sewerage in rural areas. This programme means new legislation. In advance of general legislation, a Bill is to be presented to Parliament this session authorizing the grants for water supply and sewerage in rural areas, as part of the general reconstruction programme. The Government's proposals, as affecting the Scottish service, are described in a separate section of the White Paper. The Government's proposals—based for the most part on the reports of the Central Advisory Water Committee under the chairmanship of Field-Marshal Lord Milne—are presented in the White Paper with a view to discussion in Parliament and with the various interests concerned before the precise form of the general legislation is determined. The White Paper, *A National Water Policy*, can be obtained from H.M. Stationery Office, 7d. post free. (See Leading Article.)

We must be very careful that the COUNTY OF LONDON PLAN does not get too highly fastened round our necks, says Sir Harold Webbe.

Sir Harold Webbe, Leader of the LCC Opposition, who was proposing at the meeting of the LCC a resolution welcoming Mr. Churchill's statement on housing policy, and pledged all possible assistance, said: The Prime Minister's statement shows that the Government are fully alive to the fact that rehousing the people will be the most urgent and probably the most difficult post-war problem. It is a welcome contradiction to the airy speculation of learned gentlemen who stump the country with their heads in the clouds and very often in the fog. We have a plan for the London we would like to see, but we must be very careful that that

plan does not get too highly fastened round our necks like some old man of the seas, so that we are doing nothing while we are planning to do everything. Already there are in London properties standing empty because our town planning department, on the ground that the County of London plan is not settled, are refusing to grant licences for more than three years' use. If that kind of thing persists, and if we become not the masters of our plan but its slaves, we are going to see throughout London a sort of stagnation developing. Speaking of rehabilitating houses, he said that in Pimlico, Paddington and Bloomsbury there are rows and rows of obsolete or obsolescent houses, many of them empty, which can be adapted by the provision of extra baths and kitchen equipment. Lord Latham, Leader of the Council, moved an amendment pointing out the urgency for comprehensive legislation dealing with the acquisition of land, compensation and betterment and other related problems. He said Mr. Churchill's statement was made with a petulance and testiness which does little credit to the Prime Minister. The Government could feel more satisfaction if they had done as much proportionately in their sphere as we have done in ours. The amendment and the resolution were carried.

In America house or apartment rent usually includes payment for all essential equipment for GOOD HOME-MAKING — cupboarding, washing machine, washing-up machine, refrigerator, stove, says Miss Jane Drew.

By turning one dial one can regulate the heat of a room, another controls the pressure and temperature of water from the hot tap, a third operates the washing-up machine, yet another washes clothes. Miss Jane Drew, who has just returned from America, wants British women to have all these labour-saving devices. Especially she wants the washing machines and refrigerators, and plenty of cheap hot water. In America up to 25 per cent. of the cost of the house is often spent on equipment; they would rather have less space and more equipment to save labour and give a good life to the housewife. Miss Drew went to America to study kitchen planning and space and heating requirements for post-war homes.

Miss Jane Drew, who has just returned from America, where she has been studying kitchen planning and space, and heating requirements for the post-war home for the Domestic Heat Services Committee of the Gas Industry. (See news note above).

NEW WATER POLICY

A NEW POLICY on national water supplies is to be debated in the House during the present session. Bills will be introduced by the Ministers of Health and Agriculture and the Secretary of State for Scotland to ensure that almost every group of houses in country districts, as well as isolated farmsteads and cottages, in England, Wales and Scotland will get a piped water supply. The programme, which also includes the improvement of sewerage, would be completed between five to ten years after the end of the war in Europe. Government expenditure would be in the form of grants towards local schemes.

These plans are outlined in a White Paper published last week called *A National Water Policy* (HMSO, 6d.), which is both short and readable. The cost of carrying out the schemes is estimated to be £15 million in England and Wales and over £6 million in Scotland. "Yet," says the White Paper, "the cost of a piped supply of water to the householder of an average small house, for all the use of a household for a week, is seldom more than the cost of a single glass of beer."

Three or four main proposals stand out in the report. The Minister of Health and the Secretary of State for Scotland, working through existing local authorities, will be responsible for providing adequate supplies and conserving resources. Central control is to be strengthened through a Central Advisory Committee and Regional Committees, and, to enable a sound policy to be followed, it is urged that more attention shall be paid to obtaining information about sources, uses, problems and needs under changing circumstances.

The Paper makes it clear that there are too many bodies supplying water and that fewer but larger authorities are needed—say 100. At present there are over 1,000 undertakings in England and Wales of which 26 serve half the population. "Sectional interests," says the report, "must be subordinate to the national interest," but appeal against Government decisions must also be possible. An important point is that the cost of the schemes, although partly to be borne by the Exchequer, is to fall more fairly than previously on the *district* rather than the parish. This is a step in the right direction, but one wonders if even the district is a large enough area, and more than that, if the time has not come for water supply to be a free service, subsidised entirely by the Government.

Our rainfall is more than adequate to cover needs. Allowing for a loss of 40% by evaporation, the quantity of water which could be made available probably amounts to some 15 times the present total consumption. Nevertheless, in spite of the many water-supply concerns, there are in England and Wales alone some 4,000 rural parishes without a public water supply; 1,258 of them lack even modern private supplies. A new water policy under national control is long overdue, a fact which may become painfully obvious this summer, unless the Spring rainfall is well above the average.

As *Cavalcade* points out, "It is an ironic comment on the capacity and foresight of a long series of Governments that this small island, blessed with abundant water, should be short of it at a critical time." The trouble, of course, lies in a lack of proper national and regional co-ordination, and the dominion, in too many cases, of uneconomic sectional interests in a realm where state control is clearly essential. The new Bill, if it becomes law, would be a progressive step in remedying this trouble, and is a sign of the growing and inevitable tendency towards centralised government control in all matters affecting the general welfare. Yet it is only a step. There is much milling around isolated planning problems by various ministries and other groups, but "more water glideth by the mill than wots the miller of." That water supply is not an isolated problem, but one which should form an integral part of a comprehensive national plan has yet to be realised by our bureaucrats. There is still no sign that the Government intends to tackle planning seriously and as a whole. Once again the question must be asked, "Where is that Central Planning Authority?"

The Architects' Journal

War Address: 45, The Avenue, Cheam, Surrey

Telephone: Vigilant 0087-9

NOTES & TOPICS

GLOAG-AL STRATEGY

By now most people are pretty tired of listening to architects representing themselves as experts—presumably intuitive—on every subject from world-planning to child psychology, and it is unusual and refreshing to have the case for employing architects presented by a man who is not of their number.

★

Mr. John Gloag is, of course, almost an architect—and is a great deal more knowledgeable about architecture than many of our profession—but he is perhaps better known as an author and expert on industrial design. In his latest and brilliantly titled book, *The Missing Technician*,* he discusses the problem of the industrial designer, his status and relations with the manufacturer, how he is to be employed and when, and what he is to be paid. He comes to the conclusion, in general, that the man with architectural training is likely to make the best industrial designer. (Indeed out of ten designers listed in the book, eight are fully qualified architects).

★

The reasons for this are that the architect (as opposed to the artist) is a technician, accustomed to dealing with a variety of materials and to working with craftsmen. He is probably reasonably businesslike and also holds professional degrees which are to a nervous industrialist some guarantee of ability. Any architect, however, who thinks from this that he has only to brandish his piece of parchment from Portland Place to get a job designing railway engines or refrigerators will not be welcomed by Mr. Gloag. Industrial designing needs more than degrees and self-confidence.

★

Mr. Gloag is well aware of the shortcomings of British industry—its lack of imagination in design ("The British," said Kipling, "think weight's strength"), and the take-it-or-leave-it attitude of many British manufacturers. But—and this is where architects should listen—practical experience has disclosed that, contrary to the Holy Writ of our profession, the designer is *not* always right, and often he lets the manufacturer down badly.

★

To avoid this, Mr. Gloag has devised the idea of the Design Research Committee, on which sit beneath an impartial chairman representatives of the manufacturers, technical and executive, and the consultant designer or designers. He maps out the procedure for such committees in detail, and discusses problems of costs and organization, of copyright, royalties and fees. He advises on the selection of designers—still more frequently found, as he points out, in the distribution rather than production side of industry—and warns us against the slick "stylists," the backroom boys sponsored by unscrupulous impressarios cashing in on the rising tide of industrial design.

★

He puts forward the claims of the advertising profession as liaison agents between industry and the designer, and throws in a couple of chapters on new materials and their future possibilities. He is, as usual, practical, provocative and clear-headed, and you could safely place *The Missing Technician* in the hands of any business man. (What industrialist could resist the eloquent figures quoted by Mr. Raymond Loewy, the American industrial designer, to support the claim that design pays. After Mr. Loewy had got to work, Frigidaire sales rose by 25 per cent., Studebakers by 128 per cent. in two years, and passenger traffic on Loewy-styled Pennsylvania railway coaches by 37 per cent.).

★

The illustrations are not all well chosen. They include some horrid little plastic greenhouses, a modernistic plastic toilet-roll holder, and an LNER engine which looks like a badly-bent tin meringue. But to compensate for these, Mr. Gloag gives us some London Transport rolling stock, some exquisitely detailed work by R. D. Russell, and

*Published by Allen & Unwin, 7s. 6d.

the famous HMV iron, designed by Christian, " ex - ARCHITECTS' - JOURNAL-editor " Barman.

★

This is an enthusiastically written little book, from which every architect can learn a lot. Why not use up that old Christmas book token before it expires ?

CANTEENS AND RATES

I rarely read the Law Reports without deriving some experience of pleasure and surprise. Who would have thought that, at this late date, it would be still necessary to obtain a judicial decision on whether a works canteen was part of a factory or not ? True, this canteen was 260 feet from the nearest section of the factory, but it would have been a little peculiar, to say the least of it, if the point had been rendered uncertain on geographical grounds alone.

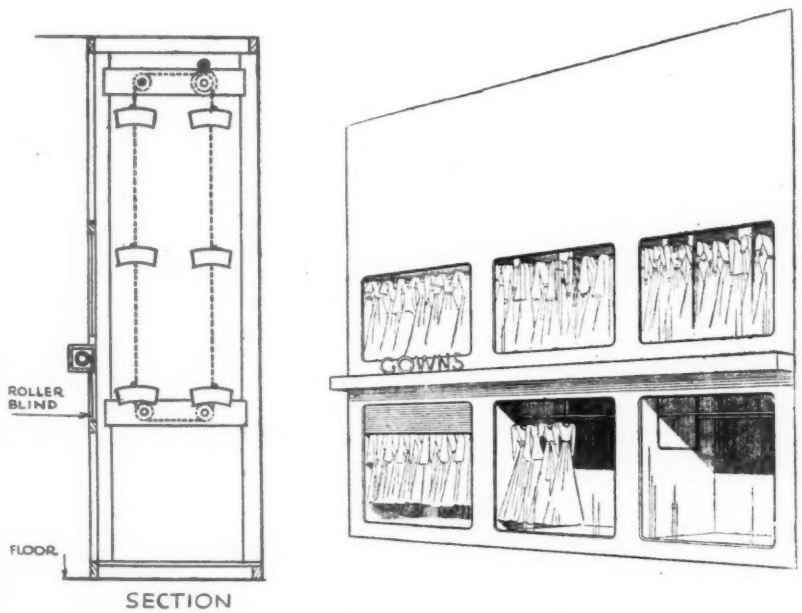
★

The issue in this case affected the question of rating. If the canteen was part of the factory, it was derated under the Rating and Valuation (Apportionment) Act, 1928. If not, then presumably the employees would have found their midday dinners slightly more expensive. Even so, the canteen only scraped into the derated class because the preparations of the raw materials for a dinner are sufficiently extensive to make the building in which the process is carried on a factory or workshop in itself. Architects may, however, be glad to note that a detached canteen is not going to cause their clients the expense of having to pay rates on the building if the main factory is free.

UTILITY JEWELLERY

How often people who try to write about design succeed in writing what the Army calls Waffle. As evidence, here's a quotation from a recent newspaper advertisement by the Goldsmiths and Silversmiths Company : " What is the future of jewellery ? . . . Will the conception of jewellery be based upon decorative qualities rather than upon intrinsic value ? Will ostentation give place to good taste plus *utility ?* " The italics are mine.

ASTRAGAL



An illustration from The Missing Technician, *by John Gloag, reviewed by Astragal on the facing page. It is an example of the work of a design research committee—a space-saving display unit for shops consisting of a series of six rails carried on an endless chain operated by a small electric motor which can be worked by a press button. Thus any section can be directed to the sales floor, while the layer above is visible. This allows two sets of clothes to be displayed simultaneously. The unit was designed by a design research committee appointed by Messrs. Harris and Sheldon, whose members were Christian Barman, Brian O'Rorke, Grace Lovat Fraser, Jane Drew and R. D. Russell, the technical members being E. C. Stewart and A. W. Shearer.*

LETTERS

Alfred Bossom, M.P.
Sir George Burt
Sir James West, F.R.I.B.A.
Kenneth J. Lindy, F.I.A.A.
E. S. W. Atherton, A.R.I.B.A., A.M.T.P.I.

Building Methods in USA.

SIR,—In some of the letters you recently printed upon the American practice of tendering for building work without having bills of quantities supplied by the building owner, we notice a suggestion that Lord Portal's Mission recommended the adoption of the practice in this country. The suggestion is incorrect.

Readers of our Report will have noticed how careful we were to distinguish between those recommendations which call for positive action and those which call for study and enquiry. In this particular matter we went out of our way to stress the good points of the British system. In paragraph 48 we pointed out that :

" The British practice whereby the building owner supplies bills of quantities to contractors is bound up with the existing structure of the building industry. It has produced a type of professional quantity surveyor whose experience and skill are well known and appreciated by the industry in the USA." The Report continues :

" In view of the general complexity of the situation and of the important issues involved, we are of opinion that practice in the two countries should be more fully investigated so that it may be seen whether modifications of existing British practice would be of advantage."

The proposal for an investigation could hardly be called a startling one. Our reasons for advancing it will be found briefly stated in our Report : we would mention only one of them here. In our study of speed and economy in building methods we claim to attach great importance to the completion

DISAPPEARING TABLE

This dining-living-room interior was designed just before the war by the architects, H. Pakington and R. E. Enthoven, for a converted mews building at 30, Groom Place, London. As the room was small the dining-table was made to fold back into a cupboard. The fitment as a whole is of cedar and has metal knobs with an anodised copper finish. The facing of the table cupboard is of peach mirror. The table top is veneered in yew, and the chairs in their red upholstery are of mahogany treated to match the cedar fitment. Top, the table hidden in the cupboard. Above, the table in position.

Authority	*Designation of Situation*	*Salary*	*Qualifications Required*
County of Denbigh Town and Country Planning Joint Committee ..	Planning Assistant ..	£325—£350	A.M.T.P.I.
Borough of Chelmsford ..	Planning Assistant ..	£360—£405	Final exam. of T.P.I.
Sierra Leone Government ..	Town Planning Officer..	£475—£840	A.R.I.B.A., A.M.T.P.I.
County Borough of Barnsley	Assistant Architect ..	£350—£400	
Gloucestershire County Council	Senior Planning Assistant	£321 or £364	A.M.T.P.I.
City of Manchester ..	Architectural Assistant	£6 7s. p.w.	Registered Architect.
City of Oxford	Architectural Assistant	£350—£400	Member of R.I.B.A.
City of Coventry	Architectural Assistant	£6 p.w.	" Qualified persons "
City of Portsmouth ..	Senior Assistant ..	£390—£435	Member R.I.B.A. and/or T.P.I.
Ditto	General Assistant ..	£330—£375	Ditto.

Analysis of salaries of architects and town planners by E. S. W. Atherton (see letter on this page).

of working drawings and specifications before a contract is put out to tender; and one of our first and strongest recommendations is that this method should be made standard practice in British building.

Now, existing practice in this country is part of a wider procedure involving building owners, the architect and general contractor as the three principal parties. We believe this procedure, which is dealt with in our Report under the *Preparation of Contract Documents* must be viewed as a whole and we have no reason for thinking that one of its interlink operations could be subjected to radical change without a general review and re-examination.

ALFRED BOSSOM
GEORGE BURT
London JAMES WEST

City of London Sketch Plan

SIR,—I am not surprised that Mr. E. S. W. Atherton expresses his wholehearted agreement with your leader on the City of London Sketch Plan. His own attitude is so remarkably in tune with the critique given in your columns in so far as it deals with vague issues such as architecture of " decadent capitalism " and fails to lay a finger on a single practical point.

Mr. Atherton should also listen to a warning. He should not imagine that young men who may have acquired special qualifications round about the outbreak of this War and who have enjoyed a total experience of perhaps seven years as assistants are, *ipso facto*, in the position to criticize the work of men who have more years experience behind them and a good many of them in successful private practice.

His sneers at decadent capitalism indicate a dissatisfaction with the system, under which he lives. While agreeing that the present system leaves much to be desired, may one ask if he is quite sure that any other would allow him the freedom of conscience and expression he now enjoys and of which he apparently takes full advantage.

London KENNETH J. LINDY

Salaries

SIR,—From time to time there have been sporadic outbursts in protest of the inadequate salaries paid to architects employed by local authorities.

I have analysed a number of local authority advertisements published in the *Architects' Journal* and the *Builder* during the last 6—9 months, in which it was stated that condition of employment was " that the applicant must be a qualified architect and/or town planner " with the result shown on the attached schedule.

It appears from the schedule that the meagre sum of £350 p.a. is the average salary offered to start with, rising to the princely sum of £400 p.a. after 4—5 years' service.

The " magnificent " salary of £350 p.a. is the most that can be expected after having studied for 6—7 years to qualify as an architect and town planner, at a probable cost of well over £1,000.

Is it not about time that the RIBA and the TPI got together and agreed and enforced a minimum scale of salaries to be paid to qualified architects and town planners?

There is a very strong feeling among the younger members of the architectural and town planning professions that the institutes to which they subscribe are giving them a raw deal, with the consequent effect that neither the RIBA nor TPI get the support that they should command as the leading institutes of the professions.

The Boss Architect who is a member of the RIBA has his interests looked after in the provision of a minimum scale of charges—but the assistant whether in private or public employment has no such charter.

The institutes concerned should forthwith lay down minimum scales of salaries for assistants, and should insist upon compliance both by employers and employees.

Harrow-on-the-Hill E. S. W. ATHERTON

PHYSICAL PLANNING

34 index

The Job

This week's article, which is written under a nom de plume, *deals with the most important of the physical planning jobs, the ways to realize the plans. No. 35, which will be in the form of a special issue, will deal with one of the least considered of the jobs, the technique of landscape design. Nos. 33 and 37 which close this series will provide a summary of The Jobs and an outline for a policy respectively*

THE JOBS TO BE DONE

Planning is all very well so long as we are clear about what we are planning for. We have made great progress recently with the development of planning techniques, but decisions on planning aims are lagging dangerously far behind. These aims should form part of a national policy, which must be outlined and backed up by legislation at the national level. So far no such policy has been forthcoming, and we are therefore faced with two big dangers. Either an absence of the stimulus to public support that such a policy would give will cause our plans to be filed away, while buildings are once more just allowed to crop up, or else if political or economic necessity make planning inevitable, techniques may become ends in themselves, with results which will probably be efficient but which will exhibit all the disadvantages of the scheme illustrated on p. 316. The only way to escape these pitfalls is to urge the formulation of our post-war planning aims now, as part of a national reconstruction policy. For, as the author of this week's article points out, there is no hope of realizing plans within a democracy while technique and policy are kept separate.

WE MUST MAKE CERTAIN THE PLANS ARE REALIZED

by David Brookes

the realization of plans

A justification often put forward for the regulatory planning that was in force between the wars, is that the country would have been worse off without it. Now that plans, official and unofficial, are being prepared for every unit or combination of units of land area in England and Wales, one is tempted to ask the same question: what will be their fate in the years that lie ahead, and will the justification for all this creative thought, and this administrative labour, be nothing more than a confession of the 'seventies and the 'eighties that the country might have been worse off without it? No one, looking back to the estate planning and town development of the eighteenth century, when the speculative builders took as much trouble over the designs of their houses as the tailors did over the cut of their coats, and landowners planted young avenues in open fields that became parkland for their descendants, can accuse those generations of leaving behind them a negligible contribution to our town and landscape. True, there were slums and overcrowded alleys, some neglected villages, and a low standard of public health. But the visible achievements remain, while the legendary disorders have vanished with the populations that suffered from them. *Si monumentum requiris. . . .* But what monument marks the early years of the struggle for the control of land since the passing of the Act of 1909; and what will be the outward symbol, thirty years hence, that all the land of England and Wales was brought under planning control in 1943?

planning and development

Already, of course, there are parts of plans—usually called developments or development areas—whose realization has been comparatively quick and predictable. It was true of suburban areas of rapidly expanding towns zoned for residential development at 4, 6, 8, 10 or 12 houses to the

acre. Builders, architects, and sometimes the local authority itself would, in such cases, produce " estate plans " which would have to pass the planning office under interim development powers or under the powers given by an operative scheme. In approving the plans something could be done to satisfy the letter of the model clauses, but little to create the spirit of architecture. The estates were as good as their designers ; no more.

It was true also of the later redevelopment schemes, in which a clearance area presented the housing director of a local authority with the opportunity to create an architectural, if not a social, composition within the limits of the area. But more often than not the powers used were not " planning " powers, and the procedure of rebuilding did not follow—except in the purely architectural sense—a " planning " process. No preliminary survey showed, in comprehensive fashion, what areas in the town would become progressively due for redevelopment, and how the different schemes might fall into a general plan of town improvement, comprising not only houses but roads, open spaces, public and community buildings, and—most important of all—places of employment.

It was true, finally, of those scarce examples of urban or suburban development where the initiative was taken by a private owner or a company on a scale that made the estate plan and the town plan one thing. This happened in the Hampstead Garden Suburb and again at Welwyn Garden City ; and in these, as in other examples of the same sort, " planning " was introduced in the wake of development.

ideal plans of the past

For each town plan that found its way to execution there were a hundred that remained on paper. To say this is not to underrate their value. One of the earliest ideal plans for an English town, namely Wren's plan for the City of London, was realized only in St. Paul's and in a number of unrelated items —the City Churches. But its influence as a crystallization of theory, and as an instrument for the comparative measurement of subsequent projects, is still considerable. All the great town planning theorists—Greek, Roman, Mediæval, Renaissance, Romantic, Humanitarian, or Functional ; from Plato to Le Corbusier—have left plans on paper, which in course of time have conditioned the public attitude towards the day-to-day growth of towns, as well as towards the occasional features of town embellishment, such as an Acropolis, an Avenue de l'Opera, a Regent Street, a remodelled centre for Coventry. The ideas and the impressions they create in the minds of artists and of philosophers, eventually form part of the general consciousness, and take political form, and become a programme. When Lord Reith in 1941, as Minister of Works, spoke of reconstruction in terms of " no longer tolerating the intolerable," he was voicing the inexact but widely-held thought of a great mass of people, that the environment of our towns could be not only more pleasant but more efficient if it were consciously shaped by a plan.

The question remained: what sort of a plan ? Down from the shelf, and out of the plan chests, could be brought the handsome volumes and the dusty drawings of the grandiose, hopeful, experimental, magnificently-blinkered plans of the past. Most of them have little but historical value ; most of them have strong leanings towards matters which have ceased to be of first importance now ; and many have been by-passed by the march of events. Only a few—such as Abercrombie's prize-winning scheme for Dublin in 1914—have a permanent value because of the vigour and freshness of their attack, even when the details are partly inapplicable. Big international competitions, such as those for Valetta, and more recently for the new Antwerp on the left bank of the Scheldt, have not been carried in the smallest degree into execution ; and even the many regional plans for England and Wales, which were drawn in longer perspective, have produced results negligible in comparison to the expectations aroused at first.

conditions of success

In general, the more comprehensive the plan the more difficult to determine the part it plays in subsequent events. The S.W. Lancashire Regional Report of 1930 may be said to have failed, in that hardly any of its proposals were directly implemented. But some of them may reappear, amended or otherwise, in subsequent plans for the region, such as that at present being prepared in Merseyside for the Minister of Town and Country Planning. The initial failure to be translated into action may have a practical, a political, or a philosophical cause at bottom ; and may appear as lack of finance, or lack of powers, or lack of administration. The plan itself may be unreasonable, or even unnecessary ; it may be so timid and uncompromising as not to find anyone to fight for it, or so obscure as to lack public support ; it may be both lucid and practical and yet fail because there is no particular urgency in its recommendations, and no momentum to start the wheels moving.

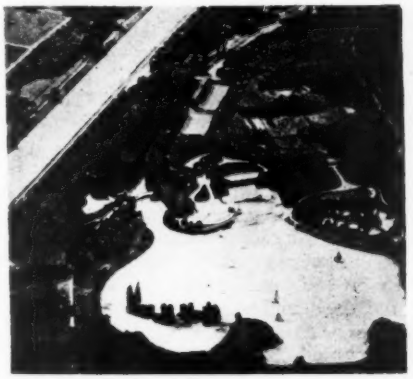
It is worth while, therefore, to consider the reasons for the realization of those projects whose scale is sufficiently wider than the purely architectural to deserve the word *Planning*.

The most obvious are those arising out of an urgent traffic problem. *Slüssen*, and the replanning of the Old Town of Stockholm, are one example ; the Westside Highway and the park system of New York, are another. Many a town-planning scheme in this country has boasted as its dominant feature the by-pass road, intended to relieve the through road of a heavy burden, and too often, unhappily, being carried into immediate effect without achieving the desired result. The difference between the former examples and the latter is, of course, one of powers and finance ; for the new road must be protected, and those affected compensated, in just the same way as the railways were brought into being in the mid-nineteenth century. The Americans, in fact, have introduced the term " railroading " into their expressive vocabulary, to fit just such operations as these.

Quieter and more long-term projects, too, may be carried out according to plan, if the need is there and public or private means at hand to satisfy it. The early town planning schemes of Birmingham, for example, set the

PARTIAL PLANNING

Above is the West Side development, New York, including the Henry Hudson Parkway, 1934-37. The Henry Hudson Parkway leads down from the northern suburbs as a continuation of the Westchester park system and follows the Hudson River side of Manhattan almost to the tip of the island. This is an example of partial planning, as the illustration so well shows, arising out of the overriding demands of New York traffic. As such it is both efficient and imaginative.



THE HARD WAY

On the left is the Master Plan for Amsterdam South 1934. *Above is a model of part of the proposed Amsterdam Park. "The general extension plan of Amsterdam is a collective achievement carried out by the Department of Public Works. It represents the close-knit collaboration of an entire staff of specialists. . . . It is based on a careful correlation of all those factors which determine the social make-up of the community. All measures proposed have their foundation in the figures that come under the heading of vital statistics. . . . The focal point . . . is the single inhabitant and the interrelation of his activities with the total life of the city."*—Siegfried Giedion in *Space, Time & Architecture*

stage for the comfortable suburban houses which were built in large numbers at that time. In other instances building followed so close on planning, or planning so close on building, that like the chicken and the egg there is always a doubt as to which was precedent. It is in fact a criticism of many planning schemes in the period after the 1925 Act, that they were drawn up to comply with a recommended procedure, rather than as a means to an end. In other words they tended to establish in legal form developments which had already largely taken place. Too often the harassed Surveyor to a small Authority produced a Draft Scheme in which "zoning" consisted of giving a schedule of land uses which were in fact existing uses, and "road improvements" consisted of a projected by-pass route and several roundabouts. Looking back, it is hard to discover any genuine contribution to urban or rural life which is clearly attributable to these planning schemes, useful though they may have been in preserving the *status quo*.

A more complete realization and a much clearer link between initial planning and subsequent development, is brought about when the finance and administration of a scheme are set up parallel with its physical layout. Planning consists essentially of the two elements—technique and policy; and only when the technical and the administrative planners are working together, within the same terms of reference, will the results be in any way notable. This principle is a very obvious one when stated in general terms, but its application to typical town and country planning schemes has not yet been properly considered. What does it mean in practice?

physical and fiscal plans

It means that effective planning must be a preparation for action. "Whatever you do," said Disraeli, "give up dreams. . . . Action may not always be happiness, but there is no happiness without action." Nor is there any real planning unless imagination is harnessed to the commonplace vehicle that is known as a budget; which it must draw along with it wherever it goes. The average local authority, bearing a great number of different responsibilities for physical development, whether in the shape of houses, streets, schools, sewers, water mains, land reclamation schemes, or airports, has in its annual budget an opportunity to review together and in the light of its financial prospects, all the proposals for its growth and redevelopment during the ensuing year. Instead of having, in a safe in the Valuer's office, a map of the best available bargains in land to be secured for the Corporation's building purposes, while there are displayed in the Committee Rooms a resplendently coloured series of drawings showing what the Borough might look like in 50 years if money and powers were unlimited, and every one did what was expected of them—instead of all this there should be a working plan of all the proposed public works improvements and developments for the next ten years. The working plan should then be welded by the planning officer into a master plan which could be laid on the table when the financial survey is being made. This plan would, in its early stages, be experimental. It would be shaped by the officials, and perhaps altered by them, and would be presented to the Council along with the estimates. The ratepayers' representatives would see for themselves the whole picture of the physical services for which the authority is responsible, brought up to date, co-ordinated, setting a target for the year's achievement.

Annually, or perhaps biennially, a somewhat simplified version of this picture would be presented for public enquiry, when the objections of all interested parties might be considered. Only then would the plan have any binding force, and be ready to be framed as a legal document for the approval of the Government Departments and the central Planning Authority.

public participation—the hard way

This is the hard way, the democratic way, to the realization of plans. It can only be done by a co-operative job of technical research and presentation, followed by public understanding and acceptance. The greater the skill of the planners, the more immediate the public response. Experience may show that it takes more than two years to establish public confidence and participation in a large-scale planning project. But fast or slow, no plan prepared by a public authority has any hope of success without popular support. A good example of the right kind of presentation was that of the plan for Amsterdam—particularly in its amenity aspects. The most recent advances in this technique have been made in the USA; as anyone who studies the organization of the New York or the Chicago Planning Commissions will realize. City Planning, as it is called, has come alive in America, and is well on the way to becoming a recognized system and a recognized part of the process

of local and regional government. In England and Wales, perhaps because of the pioneer work which was carried on under almost impossible conditions of compensation, land-tenure and finance in the years between the wars, we have not yet abandoned the slow, restrictive, piecemeal, local system of cautious zoning and limited reservation, which marked the schemes prepared under the Planning Acts. These schemes were more suited to preservation than to development. And aerial bombardment has loosened the bolts that kept them together.

What sort of schemes will be prepared now and after the war it is impossible to say. But it is safe to prophesy already that statutory planning as it was under the 1932 Act is dead, and cannot be brought to life again. When the system itself is under revision the golden opportunity occurs for revising also the technique by which planning is carved out by the local authority machine; and it is very much to be hoped that the three essential elements —planning (technique), policy, and public relations—will in future be represented as they should be.

the special project

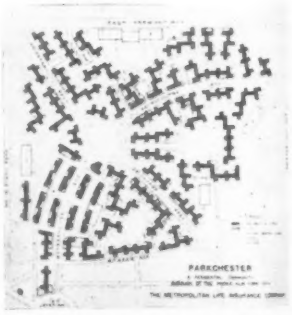
In addition to the day-to-day or year-to-year planning of a growing or transforming community, there are bound to be periodic and out-of-the-ordinary developments projected by private companies and corporations or by special organizations sponsored by the Government. The characteristic of these forms of development is that they are speedy and self-contained. The Estate Company set up by the Commissioner for the Special Areas planned and brought into production the big industrial layout at Team Valley in less than four years. The far greater Tennessee Valley development in the USA made headway in an amazingly short space of time. In both cases the organization of policy and planning went hand in hand.

centralization — the easy way

Recently have come to hand illustrations of an even more rapid and complete development by a private company; namely, the erection, in something over two years, of the Parkchester estate in the Bronx, by the Metropolitan Life Insurance Company of New York City. This "apartment town" of some 35,000 inhabitants, on about 130 acres of land, is at the same time fascinating and horrifying. It is fascinating in its efficiency, its completeness, its almost ruthless overthrow of all small obstacles in the way of its execution. All the big problems are solved in the simplest and most direct way: there is unified ownership, unified control, unified financial direction, unified management. No questions of irreconcilable demands between flats and houses arises; only flats are provided. No compensation difficulties remain; the land is bought and owned by the Estate, and the rents are fixed. It is a case of "take it or leave it," and also of "good value for money." But it is not, of course, *planning* in the complete and social sense of the word. It is *development* in one of its most striking forms; meeting an immediate need, and presumably with profit to its promoters. Transport, recreation, retail distribution, even district heating are, so to speak, laid on. The only things that appear to be missing are the only things which seem worth while to the planners of residential neighbourhoods —room for the individual, homes for families, and a self-created setting for the community. Here is an example of autocratic planning, with the main advantages accruing to the tenants through increased efficiency and the owners through profits. The general impression, and that overpowering, is of the machine untrammelled and the joint stock company. The easy way, perhaps, but not the way for those whose aim it is, through planning, to satisfy the diversity of individual needs and to provide a human setting for community life.

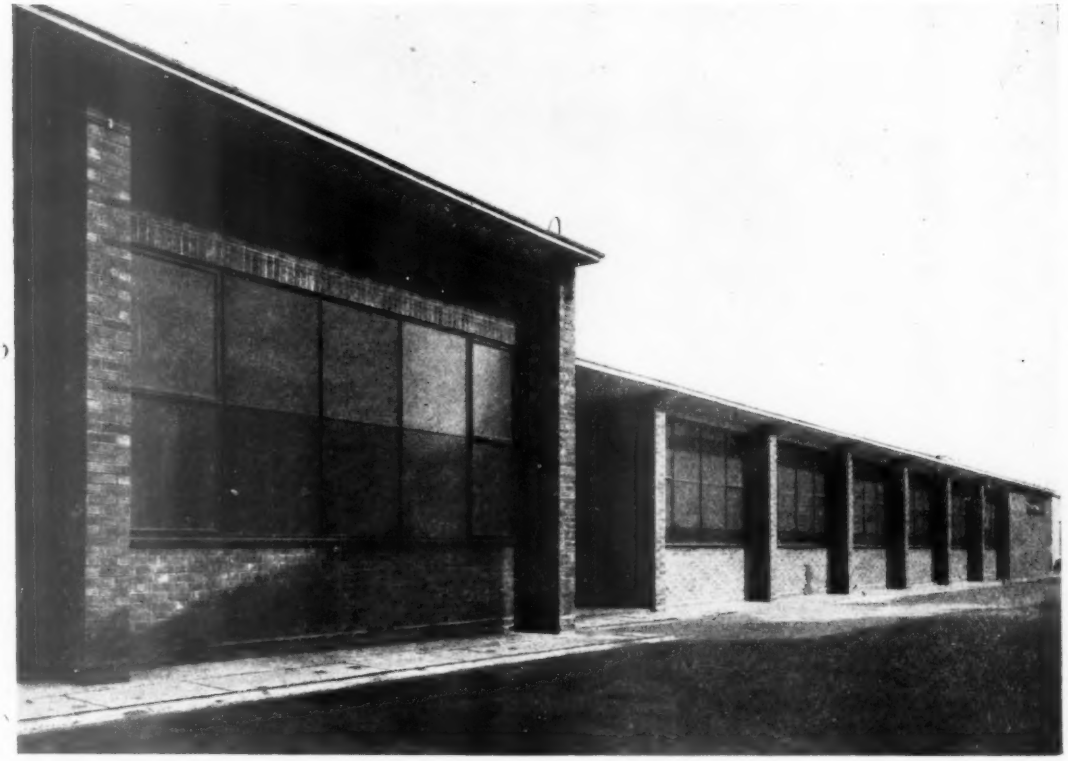
conclusions

It seems, then, that there need be no fears that planning is too slow and gradual a process to bring results. Given organization and finance, marvels of quick construction are possible. The key to the realization of plans lies in the formulation of the programme, so that the man who surveys does so with a purpose, and the man who plans does so within a policy. The type of policy evolved will determine the very pattern of our lives. If the aim is only for material efficiency and high financial profits, advances in modern technics and organization make it fairly certain that we shall achieve both, and in the shortest possible time. However, the illustration below makes it clear that we are unlikely to achieve much else. If, on the other hand, the aim is that to which we, in this country, adhere—an aim which includes equal respect for the wants of every individual—then our policy must include something more. The sort of work this extra factor will entail in the physical planning field has been shown throughout this series of articles. It is the slower way, the way of survey, diagnosis and planning through public participation. It is based on full use of our resources of scientific and technical skill, with solutions worked out at the national, regional and local levels, and arrived at by democratic consent. The formulation of a national planning policy along these lines is the only way to arouse both the enthusiasm of the planner and the public, and to justify the excellent groundwork for reconstruction which is now being carried out by so many planners. It is for such policy decisions that all are looking to the Government at the present time. Without them the best of our plans will remain so much paper.



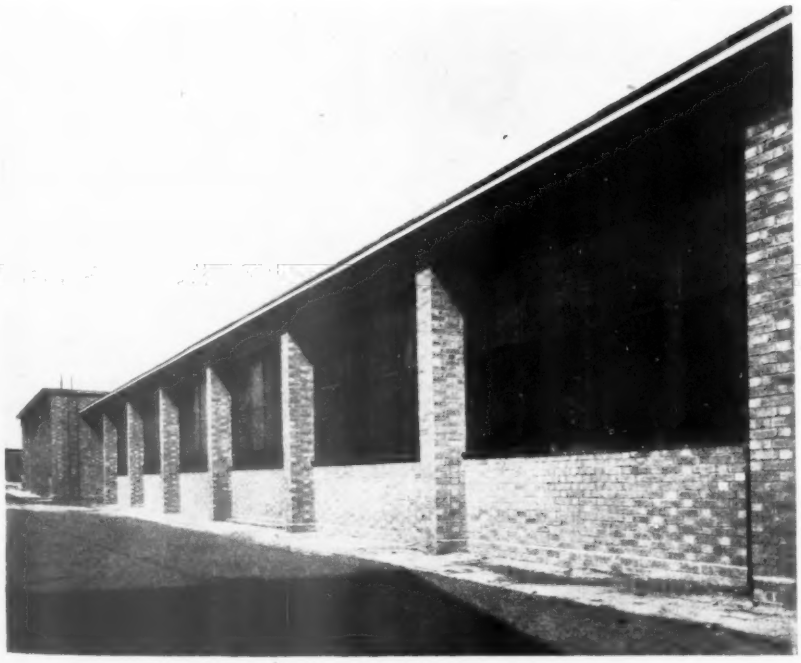
THE EASY WAY

The plan above and illustration on the left show the apartment town for 35,000 at Parkchester, New York. Big problems are solved in the simplest and most direct way by unified control, unified financial direction, unified management; in other words, Live in Our Flats and Like it. The easy way, perhaps, but not for those who put the satisfaction of individual needs and the provision of a human setting before quick financial returns.



CANTEEN

DESIGNED BY RUDOLF FRANKEL



GENERAL—This recent English job is near the works entrance on a narrow strip of land between the factory road and the railway siding. It contains a canteen with entrance hall, kitchen, larder and scullery, and offices for the administration with separate entrance. Space is provided in the scullery for a number of trolleys which are used to carry tea to the various shops.

CONSTRUCTION — Walls are 14 in. brick work, faced with rustic bricks; floors and roof are reinforced concrete. The roof over the offices is designed to carry a second storey when required. Metal windows are painted battle-ship grey and the cornices are rendered in white concrete. Central heating is provided and connected with the installation of the plant.

INTERNAL FINISH—*Canteen:* The canteen is approached through an entrance hall. The wall opposite

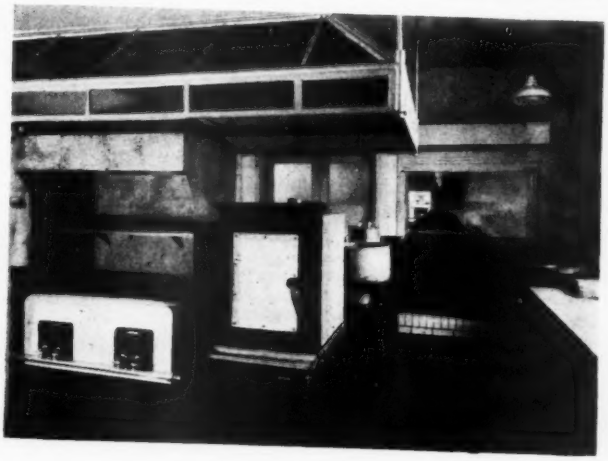
Top, entrance to offices, and hall to canteen. Above, the plan : 1, offices, 2, hall, 3, canteen for 200 persons, 4, kitchen, 5, larder, 6, scullery and tea trolleys. Below, an office. Facing page, entrance to canteen, interior of canteen, and kitchen.

the entrance doors is formed by a glass screen underneath which a large flower box is built in blue bricks and drained to the yard. The floor of the hall is covered with large blue quarries, walls and ceiling are rendered and painted off-white. So are the walls and ceiling in the canteen. Here the walls have dadoes of ivory tiles and the floor is covered with red floor tiles. Black-out curtains are of blue material and the table tops are metal enamelled in ivory.

INTERNAL FINISH — *Offices :* Walls and ceiling are rendered and distempered in off-white. The concrete floors are covered with brown corbulin and plain sand coloured carpets. The furniture is made of light oak; chairs and settees are covered with blue hide. Blue is also the colour of the black-out curtains. The lighting fittings for fluorescent tubes are of bronze glazed with opal glass.

For names of contractors and sub-contractors see page xxxiv.

CANTEEN



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.

MATERIALS

1464 Book on British Timbers

BRITISH TIMBERS: THEIR PROPERTIES, USES AND IDENTIFICATION. With Notes on the Growth and Cultivation of the Trees. *E. H. B. Boulton and B. Alwyn Jay.* (*A. & C. Black, London*, 1944, *price* 12*s.* 6*d.*) Reference book in which user of timber will find all facts of practical value to him regarding any individual timber. Description of individual timbers.

The timbers are divided into hardwoods and softwoods, and these again sub-divided into main timbers and those of minor importance. The latter category includes some species that will probably be used on a much larger scale when their useful properties are better known. The individual timbers are described under the following headings: Family, common names, distribution, the tree, soil and situation, sylvicultural characteristics, cultivation, diseases, the timber, durability, seasoning, workability, size and availability, use. The introductory chapters provide the reader with a background of general principles regarding the properties of wood and its utilization. The most important chapter deals with the structure of timber. It is by a close examination of their structure only that timbers can be identified with any degree of certainty. To simplify such identification the structure of timbers is described in the present work by means of notes and semi-diagrammatic drawings which should be used in conjunction with the general description of the wood and the photographs. These 60 diagrams together with the descriptions and 30 large-scale plates of typical specimens provide extremely interesting and stimulating material for any student of timber. The Appendix: List of of Trees Suitable for Varying Conditions of Soil, Aspect, Frost, Shade and Wind; Bibliography, and Index will also be very useful to him.

LIGHTING

1465 Cold Cathode Fluorescent

COLD CATHODE FLUORESCENT. *Architectural Forum, p.* 6, *November*, 1943). Description of cold cathode fluorescent lighting and comparison with other illuminants, particularly hot cathode fluorescent.

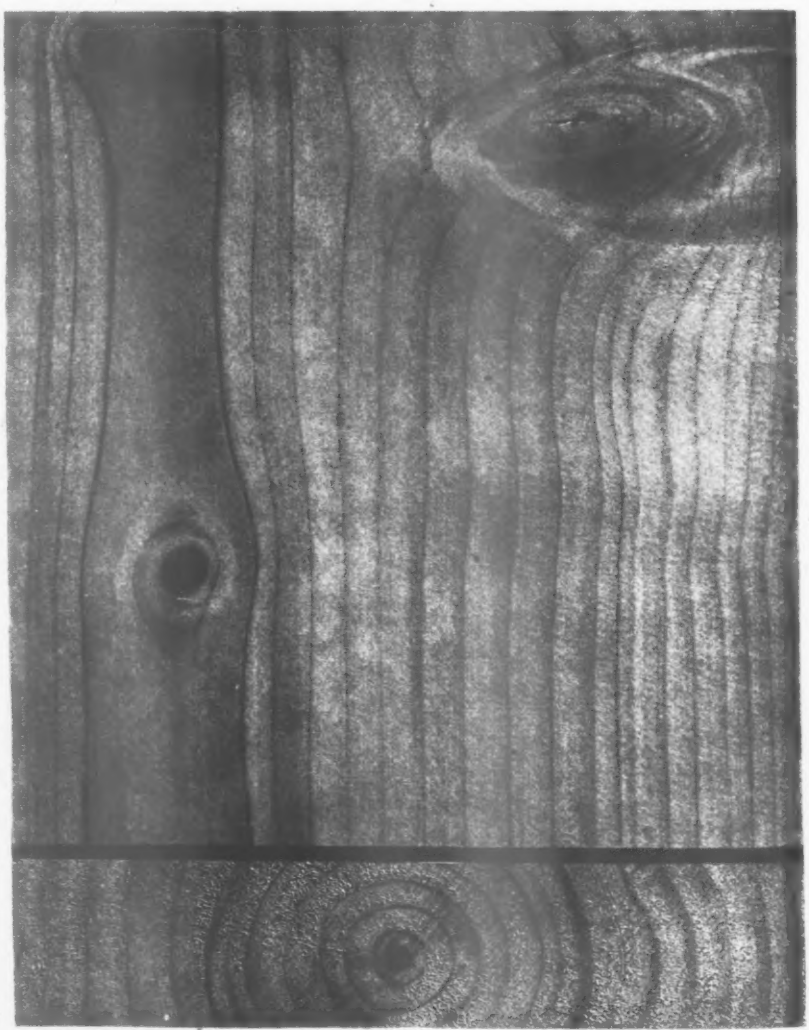
Unfortunately, the term Fluorescent Lighting in this country has been tied so closely to the familiar 5-foot daylight colour tube that many people think it is the only kind of fluorescent made. But there is another type, also important, and the two are distinguished technically by the terms Hot and Cold cathode. The familiar 5-foot tube is an example of the hot cathode fluorescent. Lately there have been several articles on cold cathode lighting in American journals (see items Nos. 1172, 1266, 1267 and 1349 in these columns) which show a rapidly increasing interest in this form of fluorescent.

The present article is an excellent one, setting out clearly the advantages and disadvantages of both hot and cold cathode, and describing also the technical difference between the two types.

The differences are less than might be imagined. Both tubes produce light in the same way. An electrical discharge of mercury suspended in a rare gas radiates ultra-violet light, and this in turn excites a phosphor coating on the inside of the tube, emitting more than twice as much visible light as an incandescent lamp with the same current input. The electrodes are of course different; the hot cathode type has a coated tungsten electrode at each end, whereas the other employs a coated pure iron shell. The hot cathode operates on ordinary low voltage, but requires a special starting switch to build up voltage to start, while the cold cathode operates directly on high voltage.

These apparently slight distinctions provide some striking differences in practice. For one thing, the fact that cold cathode operates directly on high voltage means that it lights instantaneously instead of with the familiar flicker of the other, and also that it needs auxiliary gear. Instead of the starter and reactor required for each hot cathode tube there is only the transformer, and it can serve many tubes at once. Another remarkable difference is in the length of life, 8,000 to 20,000 hours for cold cathode as compared with 2,000 to 2,500 hours for hot cathode (common experience runs to 3,000 hours or more), and there is less darkening of the lamps. Incidentally, normal domestic living-rooms operate lamps about 1,000 hours per year. There are two or three less important items of comparison; for instance, cold cathode is less sensitive to the room temperature than the hot cathode, and there is less stroboscopic (flicker) effect. Also the cold cathode light can be dimmed while the other has a fixed output.

In this catalogue one cannot help feeling some surprise at the success of the hot cathode type, the main and almost sole advantage of which seems to be that it operates on mains



One of the many fine plates in British Timbers; *Western Hemlock Wood. See No. 1464.*

voltage—if you put in all the auxiliary gear. The Americans seem to feel some surprise too, on looking back, for there is no doubt they are now turning seriously to a study of cold cathode. Since this is a field where the American lead is very influential in England, one supposes it is being studied here too, though evidence is scanty. Naturally cold cathode is initially the more costly at the moment because the production bias is all on the hot cathode. But unless re-lamping and maintenance costs for hot cathode are drastically reduced in this country after the war, the economics of cold cathode might ultimately appear as favourable by comparison as some of the other items.

1466 *Fluorescent Lamps*

LOW VOLTAGE COLD CATHODE FLUORESCENT LAMPS. *R. Hultgren.* (*Lighting and Lamps, November*, 1943, *p.* 11). New type of cold cathode lamp and circuit to overcome certain disadvantages in present practice.

There have been several references in these columns to cold cathode lamps (see No. 1465 for refs.). Several substantial advantages have been noted for them as compared with the normal fluorescent type with hot cathodes, but there are often some disadvantages as well; e.g. high voltage, requiring special safety in wiring, and the fact that the lamps usually have to be in series, and when one goes out, all go. The latter is not a very serious point in view of the extraordinary life of the lamps.

The present paper describes a new cold cathode type lamp starting in 600-700 volts and operating at 430-460 volts, so that low voltage wiring can be used. In addition, the units are made up with two tubes in parallel on a duo ballast, so that when one goes out, it will be the only one that fails. The tubes are off phase so that they compensate one another and avoid flicker effects.

1467 *New Types of Lamps*

LAMPS FROM THE LABORATORY SHELVES. *S. G. Hibben.* (*Lighting and Lamps, November*, 1943, *p.* 12). New types of lamps and new ways of lighting.

This is a most interesting preview of some new techniques and lamps just emerging from the laboratory. The article consists of notes describing a lecture and demonstration by the Director of Applied Lighting for Westinghouse, in America.

The lecturer's first demonstration consisted of carrying a series of fluorescent tubes around the room, the tubes being fully lighted, though not connected to any power source. Instead they were harnessed to a beam of radio energy generated in the room by a diathermy set. He showed other shapes of fluorescent lamps than the conventional tube, and spoke also of baby tubes which use so little electricity that they can be kept burning night and day for such jobs as clock faces and house numbers.

Another new development is a lacquer-coated bulb which is very difficult to break. It is made specially for shipyard and aircraft use.

The incandescent lamp, which has reached the practical limit of efficiency as a light source is now being used as a heat source. The ordinary filament is replaced by one which radiates 95 per cent. heat and only 5 per cent. light. This type of lamp radiates infra-red waves which give quick, penetrating heat. Paint on tanks, for instance, is dried in three minutes with it. The lecturer used a lamp to fry eggs and bacon, and mentioned various other home uses for it, such as over beds, to replace heavy bedding.

As a parallel to the infra-red lamp he also demonstrated an ultra-violet sunshine lamp which is like an ordinary lamp and is plugged into an ordinary socket.

Finally, the lecturer displayed high wattage vapour lamps, one of which had a brilliance one-fifth that at the surface of the sun.

It is quite clear that the next few years will have some remarkable developments in lighting in store for us.

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.*

1468 *Qualifications for Planners*

Q *I have noticed with interest articles in the Journal relating to the qualification of planners but have some doubt as to the basic needs, as far as examinations are concerned, for anyone wanting to become a first-class planner.*

I realize the importance of experience but perhaps you could give me your view of the standing of the final of the Town Planning examinations alone. By that I mean, is it adequate if not supplemented by either an architectural or engineering qualification?

Could you also give me information about the Association for Planning and Regional Reconstruction?

A 1. In our opinion the standing of someone who has passed the final examination on Town Planning and who is not possessed of other qualifications is not nearly so high as that of someone who has other qualifications. There may be exceptions but this can be taken as the general rule.

The Town Planning Institute allows unqualified people to sit for examinations but it recognizes the value of other qualifications by:—

(*a*) allowing professional qualifications to exempt a candidate from having to take his intermediate examination;

(*b*) recognizing certain schools of Town Planning whose diploma exempts a student from the final examination of the Town Planning Institute. These schools are only able to accept post-graduate students.

2. Full particulars can be obtained from the Association for Planning and Regional Reconstruction, but briefly the Association is not formed for the purpose of profit and its object is to work with and for individuals and authorities, to serve as a centre for research, to correlate experience and to present information and ideas in a form readily accessible. Broadsheets, reviews and reports are published from time to time.

A new body has been formed to carry on the work of the School of Planning and Research for Regional Development, and a correspondence course in the elements of planning, suitable for those now serving with the Armed Forces and for prisoners of war, has been started.

Applicants should apply to their Education Officer for the necessary enrolment forms, or if they write to the School of Planning and Research for Regional Development, 32, Gordon Square, London, W.C.1, their names will be given to the War Office and the forms sent to them direct from there.

1469 *Village Halls*

Q *Can you supply me with a list of publications in connection with Rural Community Centres or Village Halls?*

A The National Council of Social Service of 26, Bedford Square, London, W.C.1, published a book on *Village Halls* which can be obtained from the Council, price 1s. 3d. The following is a list of publications on Village Halls in the RIBA Library, to which, as a member, you have access.

Village Hall at Old Coulsdon, by R. Gardner-Medwin, THE ARCHITECTS' JOURNAL, Nov. 4, 1937, p. 709.

Extracts from The National Council of Social Service Book, *The Builder*, Oct. 7, 1938.

Harpenden Public Halls, by Yeats and Bull: Two halls with seating for 480 and 135 persons, *The Architect and Building News*, Dec. 23, 1938, p. 326.

Village Halls, article comparing these with village colleges, and giving stage requirements, with diagrams, *The National Builder*, Dec., 1941, pp. 91-93.

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 economise space the bodies concerned are represented by their initials, but a glossary of abbreviations will be found on the front cover. Except where inverted commas are used, the reports are summaries, and not verbatim.

RIBA

Prefabrication Discussion

April 4, at 66, Portland Place, W.1. Discussion at the RIBA on PREFABRICATION. Chief speakers: G. A. Jellicoe, F.R.I.B.A., R. H. Sheppard, A.R.I.B.A., A. Pott, A.R.I.B.A. (Building Research Station). Chairman: A. C. Bunch, Vice-President of RIBA.

G. A. Jellicoe: This is a very important subject, and it is most important that we should determine what part we as a profession are going to play in it. As many of you know, I visited the United States about eighteen months ago, and as a result I became convinced, and have since tried to convince others in this country, that prefabrication is going to come, and that nothing that anyone can do will stop it.

What part is our profession going to play in this question? How will it affect us? The technicians can give us prefabrication, and, as I have said, nothing is going to stop it; and so I want to deal with what I think is the

essential part that our profession, and our profession alone, can play in the life of the nation so far as prefabrication is concerned. It is no use saying that we will not have it. On the last occasion on which I gave a talk on this subject I showed a film of a house designed by a well-known architect working in collaboration with the prefabricators. There was a second film which I did not show you; it related to 6,000 houses constructed by prefabrication methods, soundly constructed but of poor, mean design. The architect obviously has a part to play in this matter.

First of all, we have to design houses which will "pass through the machine." It is interesting in this respect to compare the facade of ICI house in London with the Empire State building in New York. The Empire State building was designed to pass through the machine. It is an interesting example of the relationship of the architect to the contractor. In the original design the window reveals were quite deep; the architect wanted his classic shadows. The contractor, however, said "If you remove the reveals and bring the glass to the front, I can put the whole thing through the machine." That was done, and the result is in fact better from all points of view. The facade of the ICI building, on the other hand, is of the classic type and could not go through the machine. The first point, therefore, is that where machines are going to be used we must design our buildings to pass through the machine.

Secondly, we cannot simply say that with the new use of machines and new designs, everyone must be ready to accept something completely new. If we study history, we find that as a race we like our history to overlap. Somehow or other we have to give the ordinary man a sense of security in his home, and if we do not do it the jerry-builder will do it by sticking on a piece of Tudorbethan. The Americans have had to face that, and some of their prefabrication is in the Renaissance style.

The great thing that we have to do is to establish the supremacy of human values over machine values. We live in a box in the Western world, and we are so completely shut in by it that we do not realize that there is a different life and a different philosophy outside. The Western world has always in its ideals had an urge towards perfection; it is always chasing something. It is based on the Man of Reason who thinks for himself. The Greeks, more than two thousand years ago, evolved a philosophy, and a very sound one, and it is the development of that philosophy, that aim for perfection, which has produced the machine; and the machine, if we are not careful, is going to wipe us out.

On the other side of the world there is a philosophy which is very much older than ours, Chinese philosophy, which says that we are animals, and that our highest perfection in this world is to live in contact with animal and plant life. That means that they have not that urge towards perfection, that desire for change, which we have; they value continuity.

About two hundred years ago it was discovered in the Western world that the mystery of the heavens was all subject to scientific law, and about the same time Eastern ideas began slowly to come into the Western world and it began to be realized, by the spread of Romantic ideas and an interest in landscape and gardens and so on, that man cannot live by the machine alone. The same thing is now happening to the Chinese; they cannot live by their own philosophy alone; they require the machine. I feel that in the philosophy of life which is coming in the future we require something of the philosophy and of the architecture of both the East and the West.

The Man of Reason will make everything smooth and flat and even; he will geometrize the world. He produces the machine. The use of large machinery to-day to flatten out sites is sound—we cannot get away from it—and the machines will get larger and larger and the sites flatter and flatter. We cannot argue against it; it is economically sound. It is the same with prefabrication; we can go further and further with it, and the Chinese will sit back and say "What fools Western people are, losing the very nature of which men are composed."

There is a science which has hardly begun as yet, but which I think is going to affect us very much in the next hundred years. It is based on the fact that we cannot live without animal life; we require to be associated with nature. That, I think, is very fundamental indeed. The man in the street has that urge to be associated with nature; he wants his garden and his plants and so on. I think that our approach to the question of prefabrication must combine the two ideas.

If you turn to the East, you find that this problem of the place of prefabrication has been solved very well. The Japanese house is in a sense prefabricated, but its relation to surrounding nature has been very carefully studied, and is very fine indeed. The Japanese, of course, get their philosophy from the older Chinese, but to my mind they have met the problem well, and it has also been met on the West Coast of America, where you also get the blending of the two ideas.

How are we to put this into operation? The first thing with which we have to deal, I think, is the disposition of the houses on the site. Instead of our profession being paid a few shillings per house for the layout of a housing scheme, we must give the greatest thought to the disposition of the houses on the site and the planting to be done and why the plants are there and what is our relation to them. A science which is beginning to be studied now is that which says that our souls, the soil, vegetation and so on are all in balance, and that if we are not careful we shall upset this balance by the use of the machine. Our object in planning the disposition of the houses on the site must be to retain the balance between nature and the machine. I saw a very fine layout on the West Coast of America, where there were some four hundred houses turned inside out, as it were, and grouped round a central open space which is full of trees and plants, and on to which all the living rooms look, with all the noisy, mechanical world shut out on the outside. The whole of that outside can be machine-made, levelled out flat and produced wholly by prefabrication; and in this way you get the richness of the two lives. In this country you will find something of the same sort in Gray's Inn, where an extremely good balance has been preserved.

R. H. Sheppard: There are three things which occurred to me in dealing with prefabricated methods of building which have some bearing, I think, on the question at issue.

The first of these, which does tie up with what Mr. Jellicoe has been saying, is a social matter. I merely throw this out for discussion, and do not suggest that there is any easy answer to it, because I do not think that there is. Very few of the present systems are likely to be permanent. There is no doubt at all that they are technically successful. Whether they will be technically successful in the sense that they will be able to compete with orthodox methods of building when orthodox methods of building are speeded up scientifically I do not know; but, leaving aside the question of cost, several of them are certainly technically successful.

Secondly, how long will they live? That, I think, is the crux of the question from the social point of view. Obviously such bodies as building societies are not going to be interested in systems of construction which have only a limited life, because the majority of purchasers put their savings into their house. It seems to me, therefore, that some form of State control will be necessary, not only on questions of standards, where I think it will be absolutely essential, but also on questions of cost and the renting of houses.

That does not apply to the structure alone, but also to the equipment. One has seen in the architectural papers recently all sorts of kitchen and bathroom equipment, plumbing units and so on which represent a very efficient solution of a given problem. No-one knows how they are going to work out from the point of view of the local authorities. Local authorities in the past have kept down the amount of equipment which they have put into their houses to a minimum, and very wisely from their point of view, because it has reduced the amount of maintenance which they have had to face. The gas company provided the cooker and took care of the maintenance of that, and so on, and in that way they cut their costs.

The best type of tenant on housing estates, I am told, is the tenant who tries to improve the house in which he lives. Most of the houses provided before the war were so sub-standard in equipment, cupboard accommodation and so on that the tenant has had to be a handyman and provide equipment for himself. In council houses one finds all kinds of things which have been added in this way. That has got to be possible with prefabrication, and it seems to me that we have to devise some means of providing the tenant with facilities for making his own contribution to the way in which he lives. To put it broadly, we must allow flexibility to the human factor, so that a tenant can live even in a standardized house in the way which he prefers. It is possible to provide a great deal of flexibility in the planning of these prefabricated houses—quite as much, in many ways, as with normal methods of construction.

Mr. Jellicoe referred to the question of site layout and the grouping of these houses, and I think that that is of the utmost importance. I believe very firmly that the only way in which we shall get a reasonable social unit is in some way through the neighbourhood unit, by grouping houses of all income types round a social or community centre and providing all the community services with it. That, I think, is generally accepted in town planning to-day, but it is more than ever necessary with prefabricated houses, because something is needed to combat the sense of impermanence, "Here to-day and gone to-morrow," is the feeling. "We are municipal lodgers, and we may live here for five or ten years and then be pushed into another suburb because our family is growing up." I think it will be much easier to combat that feeling if we provide all the apparatus of communal living and group large numbers of prefabricated and normal houses together into a coherent and unified social pattern.

The second point is the standardization of components. I mention that before dealing with the catch-phrase of the prefabricators, dimensional co-ordination, because I think that the standardization of components is very much more important. I think that anybody who is concerned with standardization, whether for normal building or for prefabricated building, has to take this question very seriously indeed. We cannot produce equipment on a mass-production basis for houses, for schools or for other types of building unless an interchange is possible between the various components. Before the war we had scores and scores of firms producing their own particular type of article with its own set of dimensions, based on the methods of manufacture and tooling which happened to be available in the workshops when the design was drawn up. We must try to impose some standard of design not only in appearance but also in dimensions and performance upon the equipment which is going to go into houses generally. For instance, an electric or a gas cooker which is going to be used generally must be equally suitable both for houses of normal construction and for the prefabricated type, and be capable of being fitted into the prefabricated system. That is quite a problem, because with many systems of prefabrication it is very difficult to connect up non-standard or non-proprietary units.

With regard to dimensional co-ordination, I am going to drop a brick. Most people seem to regard dimensional co-ordination as absolutely inherent in prefabrication. I myself

L. E. Walker, Photo

ENTRANCE GATES, ST. MARGARET'S CHURCH, KING'S LYNN.

IN the design of these gates and piers can be traced the striving for elegance which outmoded the robust style of Georgian architecture in the period beforé the Regency. In the distance, the erstwhile tavern had, as its inn sign, a delightfully modelled bunch of grapes and vine leaves but this has now been chiselled off because, presumably, it was incongruous to the present purpose of the building. Purpose, and the inherent qualities of the materials used should, of course, influence design, but there should also be some conscious striving after beauty for its own sake. It would, for instance, be a drab world if every wall made weatherproof with 'PUDLO' Brand waterproofer was faced with cement stucco but, fortunately, the impervious rendering can be applied to the inner surfaces of walls faced with bricks which cannot have their soft texture and varied hues without the porosity that would let through the driving rains.

think that it is of great importance, and I am far from minimizing its importance. It is the theory that since we are going to have standardized components and since we are going to use standardized equipment in the form of windows, doors and so on we should also arrive at a dimensional module which should apply as far as possible throughout the building industry. In my own experience, however, what is an economic dimension in one material is not likely to be economic in another. If you are going to produce 25,000 steel articles, the saving which you might make in steel is not so important as the saving in man-hours; and if you make a component in one material of a certain size, it does not follow that you will want that component of the same size in another material.

To take a definite instance, it does not matter to the manufacturer of building boards, if he has a really big order, whether he has to tool his machinery to produce a board of 4 ft. only or boards of 4 ft. and 3 ft. 10 in. He can have a day's production on 4 ft. and a day's production on 3 ft. 10 in., and the extra cost involved in varying the size of the board in that way is so small that it does not matter. A dimensional unit is a great asset and a great simplification, and I think we shall arrive at it, but I do not think that it is the basis from which to start. Unfortunately, however, I have seen numbers of schemes, particularly those produced by architects, in which the standardization of dimensions is made the starting-point. I have seen plans for producing a standardized house which are simply based on a common dimension which runs all the way through it.

I think that that is rather the weakness of the architect when he comes to design something without full knowledge of the resources of the industry which is going to manufacture any particular type of construction which he uses. Architects cannot, so to speak, design prefabricated systems in a vacuum. In the first place, we do not know enough about it. Successful prefabrication, implying mass production, depends more on the production engineer than on the architect, and more on the production engineer than on the structural engineer; because it is the production engineer who can say whether the design which you make for a given component or for a given method of fixing a material is going to be practicable in the shops where it is manufactured. Unless and until you have at your beck and call a production engineer to whom you can say "Can this be run off easily?" you are not going to get very far. The ideal combination is the architect, the production engineer and the structural engineer working together. I think that that applies not only to the so-called steel houses (whatever they may be) and to stressed skin houses of various types but even to concrete houses. This is a matter where, as in general building practice, the architect has to function with a number of other specialists and has to act in a very controlling way, directing both the structural engineer and the production side as well; but it is a very much closer and more exact process, as I see it, than that which occurs in the normal type of building.

I do not think that the architect working by himself can produce successfully a system of construction, but the architect has to be there. If you saw systems produced by structural engineers or people in factories you would realize that they have no ideas about what constitutes a successful house at all; they simply think in terms of the easy production of a given article in their works, and that is very far from providing a successful house. One has to humanize these houses, as Mr. Jellicoe put it.

Frankly, I do not think that we have gone far yet; I do not think that we have begun to explore this problem thoroughly or begun to get any results. I know of the work done in the United States only by hearsay, but I believe that there is still a great deal to be done before we begin to arrive at a system of construction which is successful from the human point of view.

A minor point which may be mentioned is the type of drawings required. The drawings required are completely different from those which are needed with ordinary building technique. In normal building technique we need to specify large numbers of dimensions, materials and finishes, and give in our drawings the actual design and appearance, to enable the various craftsmen to get on with the job. The architect must remember, in designing prefabricated systems, that there are no craftsmen at all. If you go into prefabrication thinking that you are going to get craft, you will get an awful shock. You must abandon the idea that you are going to get the kind of beauty and appearance that you get with craft; it is not going to be there. There are other kinds of beauty and of appearance for which you must look, and which eventually you will get, but you will not get those associated with craft. If we are going to have inexpensive production, the crafts have to be eliminated from the building industry.

Before the war, several big contractors engaged in housing in London were already working on a system whereby they had one team of men who built the foundations of houses and then moved on to another site, another team who built the bricks up to ground floor level, another team who built the floor, another team who built the walls up to the first floor, and so on, all of them working to certain standards and on a piece-work basis. That gave very good results indeed. It has been tried out in this war. Obviously it is that system of erection which you will get with prefabricated houses, and it will mean the use of skilled teams of erectors rather than of individual craftsmen.

Your drawings will not need any notes or descriptions on them at all. They will not even need any dimensions. All you will have to do is to write in the units, A, B, C, D and so on, upwards and downwards and across, and hand the drawings out, and then the erectors will put A in its place in relation to B and C, and so on. Originally, of course, it is necessary to have very elaborate and precise drawings to enable mass production to go on. These involve a very highly specialized technique. At the other end, however, you simply have these very simple key drawings for putting the thing together.

Lastly, we must ensure that prefabricated houses do reach an efficient standard of performance. They must be warm, dry and moderately soundproof. In the inter-war period we had no standards of any sort for housing except those laid down by the by-laws; sometimes, fortunately, they were successful, and sometimes, unluckily, they were not. We cannot afford to take those risks with hundreds of thousands of prefabricated houses; we must insist that the Government lays down certain minimum standards of performance and see that they are adhered to, and see that prefabrication does not become, as it easily can, a method for a number of firms and individuals to get rich at the expense of the community. I do not think that that is happening at the moment, but it is a danger which we have to face, and it is a danger which may well arise if the process is not efficiently controlled.

A. Pott: I am going to speak for a few minutes on one particular problem, the solution of which will be of great importance if prefabrication is to succeed. It is a problem on which Mr. Sheppard has already touched, the problem of evolving standards by which the efficiency of new methods of construction can be assessed and the reasons for the need of such standards, how they can be evolved, and the part which architects, individually and collectively, should play in that process. Mr. Sheppard referred to the Government laying down standards. Let the Government lay them down, but let the professions concerned and the building industry first of all hammer out what these standards should be.

First of all, let me deal with the reason for the need of standards for assessing the efficiency of new forms of construction, whether they are prefabricated (which I take to mean relying on a high degree of fabrication by machine methods and at least partial shop assembly) or whether the larger proportion of the work is done on the site. The reason is that without such standards the efficiency of new methods can be assessed only by comparison with the performance of traditional methods. This is unsatisfactory, because traditional methods and traditional materials produce more than adequate results in some respects and less than adequate results in others. The designer of a new method of construction will be unduly cramped in his attempt to produce the best solution from all points of view unless the basic requirements have been formulated. Given a statement of these technical requirements, the designer is freer to make the best use of all the available materials and to aim at improvements in the standard of performance over that of the traditional forms of building where the latter are judged to be inadequate.

This problem is not new, and is not necessarily restricted to prefabrication. It has come to light whenever the question of by-laws or other building regulations has been under discussion. In the PEP Report, *Housing England*, published in 1934, it is put in these words:

> "In the main, these regulations were originally drawn up in terms of the then current building practice, with a view to making them easily understood by men with no more than a traditional knowledge of building. Construction is specified not according to minimum requirements of strength but by the materials to be used, and as a result the introduction of new systems unknown at the time the rules were drafted has been greatly hampered."

The same thing applies in America, and I should like to quote an extract from a monograph on Housing published by the U.S. National Economic Committee in 1941:

> "Another deficiency in most building codes is that the requirements are based on methods known at the time the code was written, at which time such provisions were considered fair and adequate. But with the development of new designs and new types of material these requirements work a hardship."

It goes on:

> "It has been recommended, and it seems entirely logical, that building codes should be written in terms of requirements consisting of basic principles only, in terms of accomplishment rather than in terms of specification, and that methods and materials should be illustrative only."

These quotations deal specifically with building regulations, but the same process of thought is liable to be followed in forming any judgment on new methods. The new is compared with the old, and because it is difficult and in some respects impossible in the present state of knowledge to define all aspects of the performance of either the new or the old, the tendency is to compare their forms, and familiarity, conservatism and experience combine to make the verdict usually unfavourable and often unfair to the new forms.

If the architect, either as designer, as a member of a production team, or as adviser, is to take the part which he should in the development of new building techniques, it seems to me that it is essential that he should have a clear idea of the basic technical requirements of the buildings with which he is concerned, and should welcome any attempt to define them.

This subject is very appropriate at the present time, in view of all the activity which is going on in connection with new forms of construction, and especially of house construction, and I want to draw your attention to the preliminary report of the Interdepartmental Committee on House Construction (the so-called Burt Committee) which was published last week. The first section of that report is concerned with the basic technical considerations of house construction, and it makes a

pioneer effort to formulate standards for house construction " in terms of accomplishment rather than in terms of specification," to use the words of the American document from which I quoted.

In the introduction to that part of the report, the Committee give their reasons for attempting this difficult task. Briefly, they are that they felt that it would be useful in three ways: as a standard or measure, as a guide, and as a means of bringing certain information to light—a standard by which to assess new proposals, a guide to designers working on those new proposals, and a means of bringing to the notice of all concerned with house-building some of the results of research during the inter-war period, pending the publication of the reports of the Study Committees appointed at the instance of the Ministry of Works, which are assembling the results of that and other work in much greater detail.

The Committee make it clear that they put forward their proposals as tentative standards and in no sense dogmatically, and that those standards will have to be justified by experience in practice. In another connection, the need for full co-operation between the professions and the industry in the post-war period is emphasized, and it seems to me that it applies equally in this respect. I hope that these proposals will receive the close and critical study of all architects, who can make valuable contributions from their knowledge and judgment, especially in those fields in which theory is not sufficiently developed to provide the full answer.

I think that it is worth quoting another United States document, a monograph on housing prepared by the National Resources Planning Board:

> " The ingredients of good building code requirements are facts, established by research, tests, observation, and judgment as embodied in a consensus of men possessing adequate training, experience and discrimination."

If those in the building industry with these qualifications—headed, I hope, by the architects—will supply this last ingredient, I think that many of the gaps in the first proposals will be filled, and a valuable service rendered to building by guiding new developments of technique in the right direction.

I feel from the tone of their introduction that the Committee would welcome constructive comment, and it seems to me that these are questions of the kind which one might ask oneself:

(1) Are there other qualities besides those chosen by the Committee for the purposes with which they were primarily concerned for which standards should be formulated?
(2) Is it possible to postulate standards for some of the qualities, such as resistance to moisture penetration?
(3) Where numerical values are given, are they fixed at a reasonable level?

In connection with this last point, it is worth quoting the report, which says:

> " It might be thought that some of the standards have been set rather high, but we are of the opinion that where new methods are applied it will not be difficult, nor necessarily more costly, to attain these high standards provided good use is made of the variety of materials likely to be available to promoters of new constructional systems."

Again, with reference to the higher standards, it says:

> " The opportunity to make these improvements while new forms are developing must not be lost."

I think that this is very important, for in the long run prefabrication or any other new method will succeed only if it produces good buildings. In conditions of emergency, they may succeed temporarily by reason of a shortage of shelter of other forms, or by cheapness or by speedy erection; but unless they are good buildings—good enough in performance to overcome popular prejudice—I think that they will fail as a long-term proposition, which, as I believe that a greater degree of prefabrication is a logical trend, and can lead to the solution of many problems, technical and otherwise, I should regret.

Chairman: I should like to thank the three speakers for the interesting manner in which they have introduced this subject to us.

A Member: Apart from plastics, I should like to know what is meant by new materials. I can understand the new use of known materials.

A. Pott: I agree. I think that what we refer to as new materials are to a very large extent new developments of materials which have been known before. There are one or two new materials, and here plastics come up again. I do not think that they have a very great part to play in the near future that they have not played in the past for various small things.

W. Lewis: One thing which it is important to remember is that a nation can always do what it really wants to do, and if it wants to find the necessary finance it can do so. Most things hinge on the question of finance.

G. Grey Wornum: I feel that there is one rather important side to this question which has so far not been mentioned. We are all tending to talk of prefabrication as some kind of stop-gap. We know that after the last war some 10,000 steel houses were put up owing to the shortage of bricklayers, but when the bricklayers were forthcoming the erection of steel houses ceased. It is an open secret that that was partly due to political influence. In America, when the steel industry about 1926 found itself without adequate markets it started making steel houses, and that lasted for a few years and helped to tide the industry over.

As I say, it seems to me that we tend to look on this alternative system merely as a stop-gap, whereas as a profession we should look on it as the possible development of a new kind of building technique, which in my opinion is absolutely necessary if we are not going to make the mistakes of our forefathers and leave a lot of out-of-date buildings as an inheritance to future generations. I think that we as a profession may be accused of a sense of vested interest in not taking up more widely this question of a new building technique. It may affect many of us considerably to use a technique requiring, as Mr. Sheppard suggested, merely drawings with indications for the placing of A, B, C and D, but, after all, our main purpose as a profession is to serve the public and to produce the buildings which the new Britain will require.

Personally, I feel that 20 to 25 years is about as far as we should consider going for the life of a building, because we do not know the requirements of future generations. As Mr. Jellicoe says, we have to have a certain over-lap in history, and that over-lap of 20 to 25 years is, I imagine, quite sufficient.

I agree with Mr. Jellicoe when he talks about our keeping a sense of relationship with nature. We have seen in the past, as examples of so-called new architecture, large blocks of flats in concrete, and the only suggestion of nature about them has generally been the cactus plant on the window-sill, which is the most unfriendly of all the products of nature. There is no reason why, if we approach the matter properly, we should not consider the flowering geranium, or even the aspidistra, if it is going to make people happy, and also the use of friendly materials, as Mr. Jellicoe suggests, and especially wood, the most friendly material that man can use. I can see no reason why there should be any hard and fast rule as to the materials to be used when prefabricated construction is employed.

H. V. Lobb: Mr. Sheppard mentioned that architects should work in collaboration with production engineers. I feel that architects should do rather more than that, and that they should insist on finding out as much about the material in which they are going to work as possible. I believe that in some cases production engineers have been surrounded with their own material for so many years that, to use a well-worn phrase, they cannot see the wood for the trees; and often the architect, with his planning experience, is able to go into the factory and make suggestions which open up possibilities of which the firm, producing something which may be useful for prefabrication, has not thought of.

Both Mr. Sheppard and Mr. Pott used the word standards, but they did not both mean the same thing. One of them had in mind dimensional standards, and in that connection it may be mentioned that the various Study Committees of the Ministry of Works have been at work on the standardization of windows, kitchen fitments and a hundred and one other things. I feel that in the interests of getting a move on with this question of prefabrication that information should be made available to architects, even in a preliminary form, as early as possible, and be the subject of as much discussion as possible.

A. Fejer: I think that we are apt to mix up the various grades of prefabrication, yet there is a fundamental difference between prefabricating the whole house and having, say, half a million houses all alike, and prefabricating certain parts only and retaining freedom to plan according to varied requirements. If we take the term Prefabrication to mean prefabrication of the parts, I think certain objections will be removed, and freedom of choice of various fittings comes in, because instead of a gas cooker you can have an electric cooker of the same size. Replacements and alterations are easier if you think in terms of competitive standardized units rather than of whole houses designed in one piece.

With regard to dimensional co-ordination, I feel strongly that it is an advantage to have things the same size, even if the materials are different. It is easy enough to take off half an ounce of steel during manufacture, and it does not matter so long as it is repeated often enough, but it is a great inconvenience afterwards to try to fit a unit into its place and find that it will not fit. In the case of an electric bulb, for instance, it is certain to have either an Edison or a bayonet fitting, and if you have to replace the bulb you can do so easily; you do not have to sit down and design a fitting to go with that particular bulb. That kind of standardization has come to stay, I think.

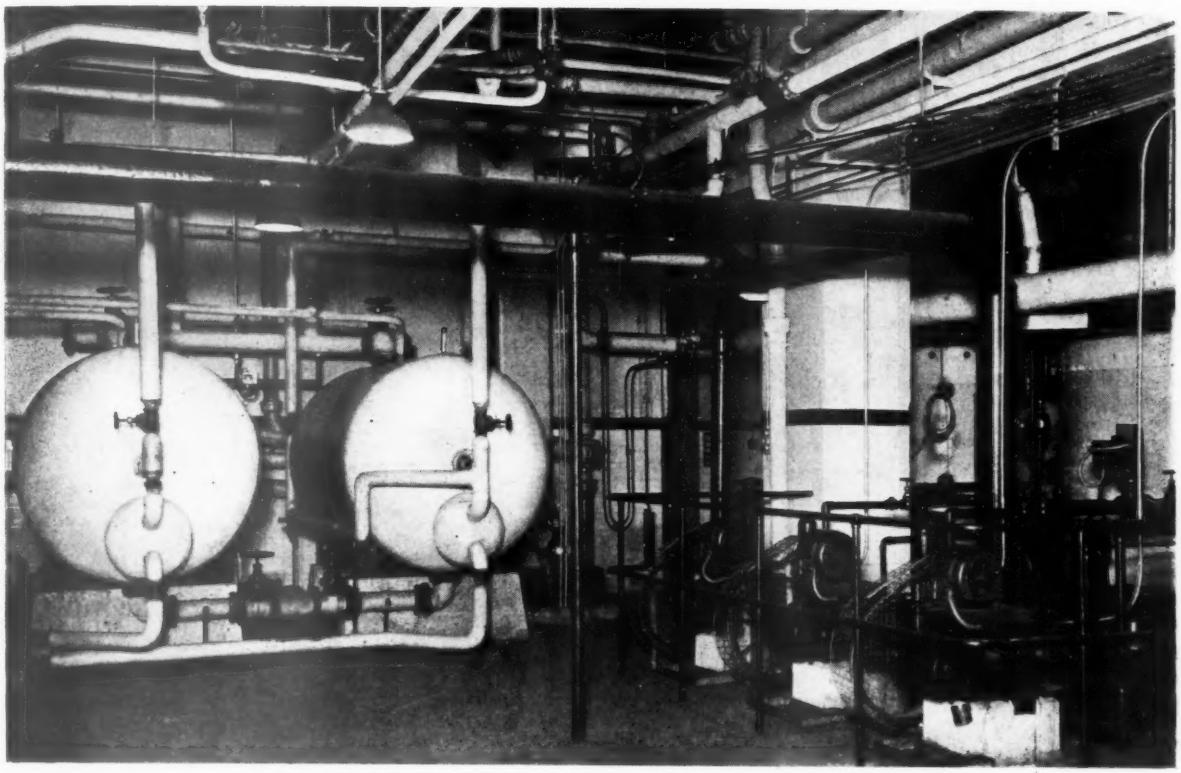
I do not think that craft need be eliminated by the use of machinery; all that the machine does is to replace muscular labour whenever repetition occurs. Where there is no repetition, work can still be done by the craftsman, but anything which has to be repeated should be done by the machine.

R. H. Sheppard: I should hate to define prefabrication, and I tried to avoid using the word. I agree largely with the last speaker about dimensional co-ordination, and I do not want it to be inferred that I am minimizing its importance in any way. I simply want to emphasize that it is something which must not be decided upon beforehand, but must be related to the particular material which one is going to use. I am sorry if I used the term Standards misleadingly; it is unfortunate that the same word should be used both for dimensions and for performance.

R. W. Brown: Mr. Sheppard referred to the architect having to get section A and section B and section C put together, but we want to use our training as architects to be creators, and I feel that this prefabrication will make us stale, and we shall get into a rut. I have had experience of that. I used to be in the Office of Works, and my experience there was that

SERIES No. 17

MODERN ENGINEERING INSTALLATIONS *by* HADENS



CALORIFIER and pump chamber for a municipal bath, by Hadens.

HEATING
BY ALL SYSTEMS
HIGH PRESSURE HOT WATER
SYSTEMS FOR HEATING AND PROCESS WORK
AIR CONDITIONING AND VENTILATION
PLUMBING & SANITATION, ELECTRIC LIGHTING & POWER

IN WAR TIME:
A.R.P. VENTILATION
AND GAS FILTRATION
HOT WATER SUPPLIES
FOR CLEANSING STATIONS
PATENT DEINFESTING APPARATUS FOR CLOTHING, ETC.

G. N. HADEN & SONS LTD

☆ ☆ *Estd. 1816*

MAIN BRANCHES:

Manchester 2, 4 Albert Square - *Blackfriars 6356*
Glasgow C.2, 86 St. Vincent Street - *Central 3196*
Birmingham 3, 45 Great Charles Street - *Central 8391*
Bristol 1, Orchard Street - *Bristol 20286*
Lincoln, Guildhall Street - *Lincoln 993*
Bournemouth, Avon Road - *Boscombe 512*
Torquay, Castle Road - *Torquay 3831*

Sub-Branches:

Newcastle-on-Tyne 1, 13 Mosley Street - *Newcastle-on-Tyne 26780*
York, 39 Micklegate - *York 4255*
Liverpool 1, St. Luke's Chambers, Bold Place - *Royal 5699*
Norwich, City Chambers, Upper King Street - *Norwich 22638*

Evacuated Branches:

Eastbourne, c/o London Office - *Terminus 2877*
Canterbury, c/o London Office - *Terminus 2877*

HADENS ENGINEERING CO. LTD., 199 Pearse Street, Dublin, C.5 *Dublin 43987*

19-29 Woburn Place, LONDON, W.C.1

'Phone: TERminus 2877 (10 lines)
Wires: Warmth, Westcent, London

I had to go to cupboard No. 1 for section B, and so on, and copy something, and I completely lost interest in my work and felt hopeless. To show how hopeless I was, I left.

G. A. Jellicoe : The last speaker has raised an absolutely fundamental point : what is our future as a profession ? He has put his finger on the spot. I do feel that there will be creative work for us to do with prefabrication, but we shall have to reorientate our ideas.

Chairman : I am grateful to Mr. Brown for raising that point, because that is what I have been wondering all the time. I think that all of us architects have come to the point when, whether we are supposed to be traditionalists or not, we realize that we have to accept prefabrication up to a point ; but the fear and the doubt at the back of the minds of many of us is how our profession is to persist in a machine age. If you buy your house as in the past you have bought your motor car, it can be argued that the motor car is a thing of beauty and that a house produced by these methods can be beautiful, though by different standards from those of traditional beauty ; but if your house is to be produced as your motor car is produced and you get with it a book of words showing all the spare parts that you can buy as you need them, where is the architect going to come in ? That, put baldly, is the problem.

I think we can one and all whole-heartedly say that we believe in the standardization of parts and in the use of the machine up to as far as it can be used, and also in the correlation of dimensions, so that we have units which will fit one with the other ; but when we have said all that, are we as an architectural profession going beyond that, and are we going to say that the whole building should be prefabricated, so that all you have to do is to buy the parts you need and fit them together ?

It looks as if we might have to take a decision which on the surface might seem a selfish decision, because of our interest in our profession ; on the other hand, I am not yet satisfied that humanity will bow down and be satisfied with the products of a soulless machine age. If there is to be any real future for the world at all, it will be because humanity will say that men and women and children, flesh and blood, will not bow down before this soulless machine, which often is only the expression of great economic forces which have altogether got out of bounds, and instead of being servants of humanity have become our masters.

I do not think we need be afraid. We have to accept prefabrication, but we must not let it run away with us. I think that we can hold our own, and that there will still be room for the architect. It would be an awful thing for us if our profession disappeared, but I think it would also be an awful thing for the world in which we live.

SBSA

W. S. Allison

March 28, at North British Station Hotel, Edinburgh. Sixteenth annual dinner of the Scottish Building Societies Association. Speaker : William S. Allison, President, on PREFABRICATION.

W. S. Allison : One class of the community is of the opinion that to get temporary houses ready we must have prefabrication, that is to say, factory-made houses. I thoroughly dislike the word prefabrication in its present interpretation. I dislike temporary work as a general policy, but we must face facts. At the present time I am inclined to the view that for temporary houses we should stand by timber if possible.

It is too often overlooked that the apparent saving of time to be achieved by prefabrication methods can be equally achieved without the attendant disadvantages—by better planning and processing of the building development programme.

If bricklayers could increase the number of bricks laid per day, houses could be put up with greater speed and as cheaply as prefabricated houses.

We want to see the number of property owners enormously increased. More and more are we inclined to the opinion that possessions stabilize men and women. Our ideal is to see every workman own a house. House ownership will do more to counteract the demoralizing influences of the post-war economic depression than any other factor in our political economy.

THE BUILDINGS ILLUSTRATED

CANTEEN AND OFFICES (pages 317-319). Architect : Rudolf Frankel. General contractor : Haymills (Contractors) Ltd. Subcontractors : Twisteel Reinforcement Ltd., reinforcement ; London Brick Co., bricks ; The General Asphalte Co., Ltd., roofing felt ; J. Pearson & Sons, glass ; Corbulin Ltd., corbulin flooring ; Ashwell & Nesbit, central heating ; Crittall, casements ; W. H. Telling Ltd., plaster ; H. Newsum, Sons & Co., Ltd., joinery ; Maple & Co., black-out textiles ; Cox & Co., office furniture ; Dolling, canteen furniture.

Flat roof by Briggs...

Hobart House, Grosvenor Place, London, S.W.1
Another fine block of office buildings in London . . . designed by Messrs. Howard and Souster, F.R.I.B.A., F.S.I., and constructed by Messrs. Neal Ltd. . . . crowned by a FLAT ROOF BY BRIGGS.

A flat roof has individuality when it's by Briggs — it has more than that — the durability that defeats the years. Much has happened since a "CHALLENGE" Flat Roof was chosen for Hobart House. But, when normal times return, Briggs will be able to offer you the services of our organisation strengthened by war-time experience and research.

William Briggs & Sons Ltd., DUNDEE

LONDON: VAUXHALL GROVE, SW8 · ALSO AT GLASGOW, EDINBURGH, LIVERPOOL, BRISTOL, ABERDEEN, NORWICH

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 Monday 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

CORNWALL COUNTY COUNCIL.

Applications are invited for the appointment of an Assistant in the Architectural Department, at an annual salary from £300 to £360, according to qualifications and experience.

Forms of application may be obtained from the County Architect, County Hall, Truro, to whom applications must be sent not later than Saturday, the 29th April, 1944, accompanied by copies of three recent testimonials.

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

County Hall, Truro.
6th April, 1944. 605

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.

JUNIOR ARCHITECTURAL ASSISTANT required for West Norfolk. Apply stating experience, age and salary required, to Box 271. Permanent position with good prospects. [Architect and Surveyor].

Architectural Appointments Wanted

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

COST INVESTIGATOR AND MEASURING SURVEYOR, would like situation in Lancashire district. 18 years' experience with contractor and two years' experience with Quantity Surveyors. Box 268.

ARCHITECT, A.R.I.B.A., A.M.T.P.I., would be glad to undertake preparation of drawings in own office in Birmingham district. 15 years' experience in varied high-class work. Box 269.

ARCHITECT, L.R.I.B.A., 33, married, exempt M.S., seeks permanent position in Southern Counties; 15 years' experience in private and public offices; all-round knowledge architectural design and construction; surveying, levelling, estimates, etc. Salary £600. Write Box 274.

ARCHITECTURAL ASSISTANT, A.A.Dip. (25), studying for T.P.I. final exam, wants post with architects and town planning consultants in provinces. Salary £10. Box 281.

PROBATIONER, R.I.B.A., aged 17 years, with matric. and knowledge draughtsmanship, taking recognized evening course, requires permanent position in architect's office; London area. Box 282.

ARCHITECTURAL ASSISTANT, member of the R.I.B.A., requires post with architect or group working on post-war design and planning, preferably in country near London. Experienced in housing, schools, civic buildings. Box 283.

ARCHITECT'S ASSISTANT, age 24, desires progressive post in Midlands; 6 years' experience in all types of work. Salary by arrangement. Only progressive firms need apply. Box 285.

ARCHITECT, SURVEYOR AND CLERK-OF-WORKS, with over 25 years' theoretical and practical experience in all branches of the profession, seeks permanent and responsible position. Experience includes war damage, dilapidations, property management and maintenance, and a sound knowledge of estate agency; not liable for military service, rendered war service during 1914-18. Box 286.

ARCHITECTURAL AND SURVEYING ASSISTANT (26), five years' experience, discharged Army, desires change of appointment with Local Authority or private firm. Full particulars on request. Box 287.

ARCHITECTURAL DRAUGHTSMAN, willing to prepare and draw schemes for an Architect. Able to work week-ends and evenings. Box 289.

ARCHITECT, A.A.Dipl. (28), wants position in South-west London or Surrey. All-round experience. Box 290.

ARCHITECTURAL ASSISTANT, Inter. R.I.B.A., age 21, exempt; four years' architectural training, two-and-a-half years' varied office experience. Seeks post providing experience in design and supervision of work. Box 291.

DIP. ARCH. A.R.I.B.A., 38, exempt, versatile, seeks free lance or part-time work in East London; conversions, estate and post-war development, licensed premises, factories, war damage, prefabrication, and industrial designing. BM/ZTYJ., W.C.1. Box 292

ASSISTANT ARCHITECT, Registered (36), seeks part-time appointment with firm of architects. Special experience in design, construction, heating and electrical services, etc., and specifications for industrial and commercial buildings. Box 293.

SENIOR ASSISTANT, passed A.R.I.B.A., P.A.S.I. exams., urgently requires spare-time work. Surveys, working and detail drawings, specifications, estimates, schedules of condition, war damage or dilapidations prepared at reasonable charges. Box 294.

ASSISTANT, 9 years' experience; exempt military service. Can secure release conditional upon an appointment of National importance. Reconstruction preferred. Salary £450—£500. Box 296.

ARCHITECT (chartered), experienced in carrying through works in London and provinces. Box 297.

Planning

As originators of the Auto-Recorder System of Machine Milking we have had extensive experience of planning layouts to accommodate the new technique. The service of our Technical Department is available to any Architect planning or modifying farm buildings for this purpose. Write in confidence to:—The Planning Dept., Gascoignes (Reading) Ltd., Gascoigne House, Berkeley Avenue, Reading. 603

Other Appointments Vacant

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

ASSISTANT EDITOR wanted for Architectural Paper. Write, with full particulars of qualifications, salary required, &c., to Box 51.

Factories Wanted

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

COMPANY engaged on Essential Engineering Work requires factory with covered area of not less than 10,000 square feet, on site area of at least 2½ acres. Bombed building with sound foundations would be considered, district as near Central London as possible. Immediate post-war possession would be considered. Replies treated in strictest confidence. D. Sebel & Co., Ltd., 55, Lant Street, S.E.1. Hop 3803. 612

Competitions

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

T.D.A.—TIMBER HOUSE COMPETITION.

The Timber Development Association Ltd. are organising a competition with a view to assisting the Nation in finding a suitable design for a timber house such as might be produced in quantities to help in solving the housing problem.

The Assessors are:—
Mr. C. Cowles Voysey, F.R.I.B.A.
Mr. E. Brian O'Rorke, F.R.I.B.A.
Mr. Frederick Macmanus, F.R.I.B.A., Architect to the E.J.M.A.
Mr. Bryan Latham, Vice-President of the Timber Trade Federation.
Mr. G. W. Grosvenor, Chairman of the Timber Building Manufacturers Association.

Premiums to the value of £400, viz.:—

First	£250
Second	£100
Third	£50

Last date for submitting designs, Saturday, 30th September, 1944.

Conditions of the Competition open to Architects of British Nationality, available on 1st May, may be obtained from the Timber Development Association, Ltd., 75, Cannon Street, London, E.C.4.

Questions which Competitors desire to ask must be addressed to the above mentioned, on or before the 1st June, 1944.

Exhibitions of the winning and other commended designs will be held. 613

Miscellaneous

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

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

Classified Advertisements continued on page xl.

SPECIFICATIONS AND BILLS OF QUANTITIES, etc., expeditiously and accurately typed or duplicated. Translations and Facsimile, Typewriting. All work treated confidentially. Miss G. Saunders, Typewriting Bureau, 17, Dacre Street, Westminster, S.W.1. Telephone: Whitehall 2605

MONOMARK service. Permanent London address. Letters redirected immediately. Confidential. 5s. p.a. Royal Patronage. Key tags 3 for 1s. 3d. Write BM/MONO5R, W.C.1. 44

WANTED. The published price will be paid for a copy of *The Architectural Review* for April, 1943. Box 295.

WANTED, a copy of *Ideal Home,* April, 1944; also *New Era,* July and August, 1937. Box 614.

Educational Announcements

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

R.I.B.A. QUALIFYING EXAMINATIONS
Mr. C. W. Box, F.R.I.B.A., M.R.San.I.
Courses by Correspondence and Personal in Studio.
115, Gower St., London, W.C.1.
Telephone: Euston 3305 and 3906.

R.I.B.A. AND T.P. INST. EXAMS. Private Courses of tuition by correspondence arranged by Mr. L. Stuart Stanley, M.A., F.R.I.B.A., M.T.P.I. Tutor, St. Catherine's College, Cambridge. 231