

# SNOWCRETE

## THE BRITISH WHITE PORTLAND CEMENT

Complies in every respect with  
the requirements of the British  
Standard Specification for  
Portland Cement



## SNOWCRETE

*Supplied by*

**THE CEMENT MARKETING COMPANY LIMITED**

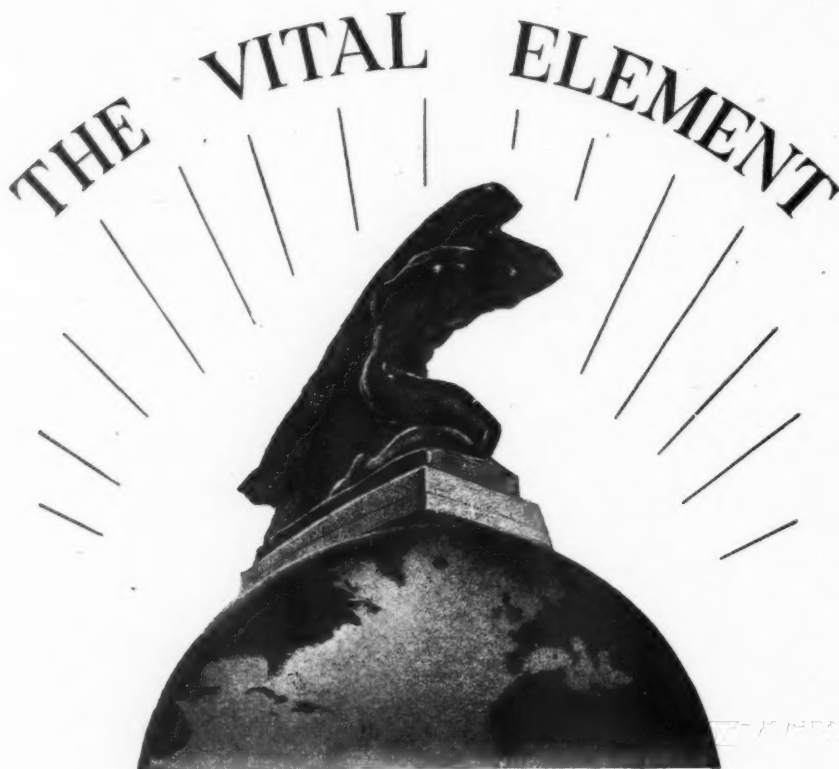
192, Ashley Gardens, London, S.W.1

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*or*

**G. T. EARLE LTD., CEMENT MANUFACTURERS, HULL**

Telephone : HULL 16121



There is  
NO KNOWN METHOD WHEREBY  
TRINIDAD LAKE ASPHALT  
CAN BE ARTIFICIALLY PRODUCED  
it is  
STANDARDISED BY NATURE

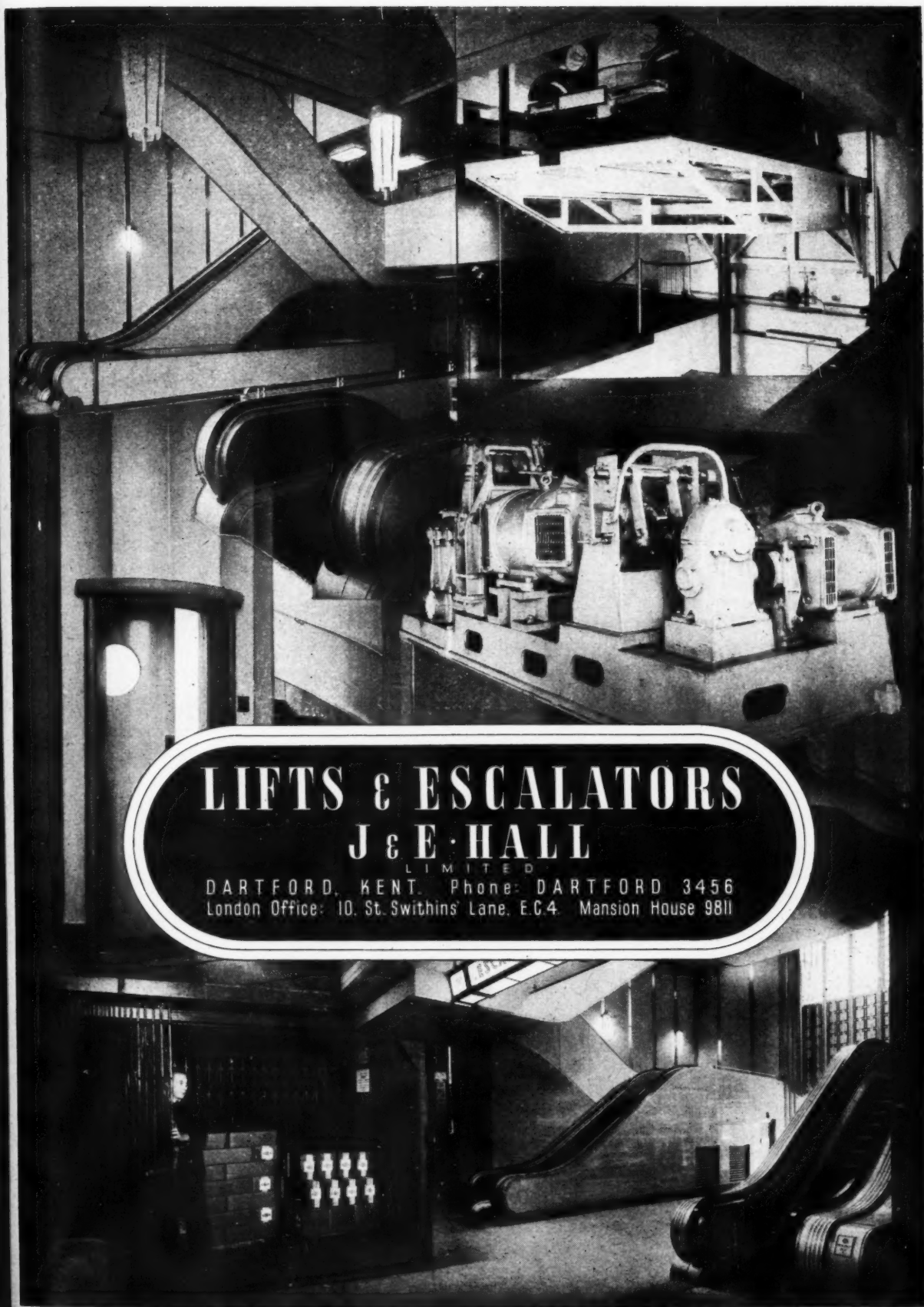
THE LIMMER & TRINIDAD  
LAKE ASPHALT CO., LTD.

19 GROSVENOR PLACE, LONDON, S.W.1

SLOANE 7123



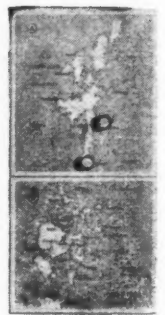




**LIFTS & ESCALATORS**  
**J & E HALL**  
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London Office: 10, St. Swithins' Lane, E.C.4. Mansion House 9811

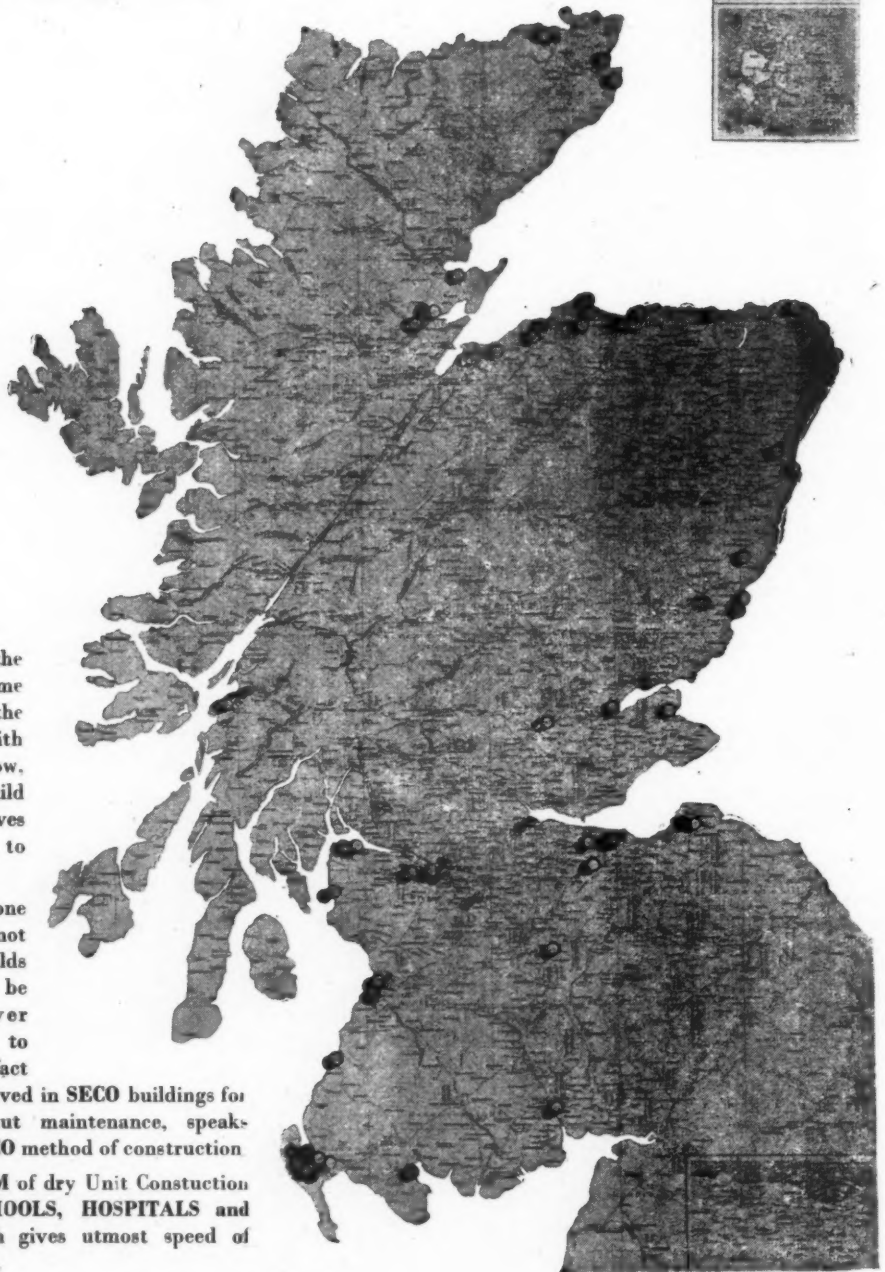
# SECO

can take it



When the winds on the Scottish coast come howling out of the N.E. bringing with them hail and snow, it is advisable to build where nature gives some shelter. And to build well.

But shelter was the one thing SECO could not have, because air-fields cannot help but be exposed. Whatever came, SECO had to take it. And the fact that the air-crews lived in SECO buildings for four years, without maintenance, speaks volumes for the SECO method of construction. SECO is a SYSTEM of dry Unit Construction for HOUSES, SCHOOLS, HOSPITALS and FACTORIES, which gives utmost speed of erection on the site.



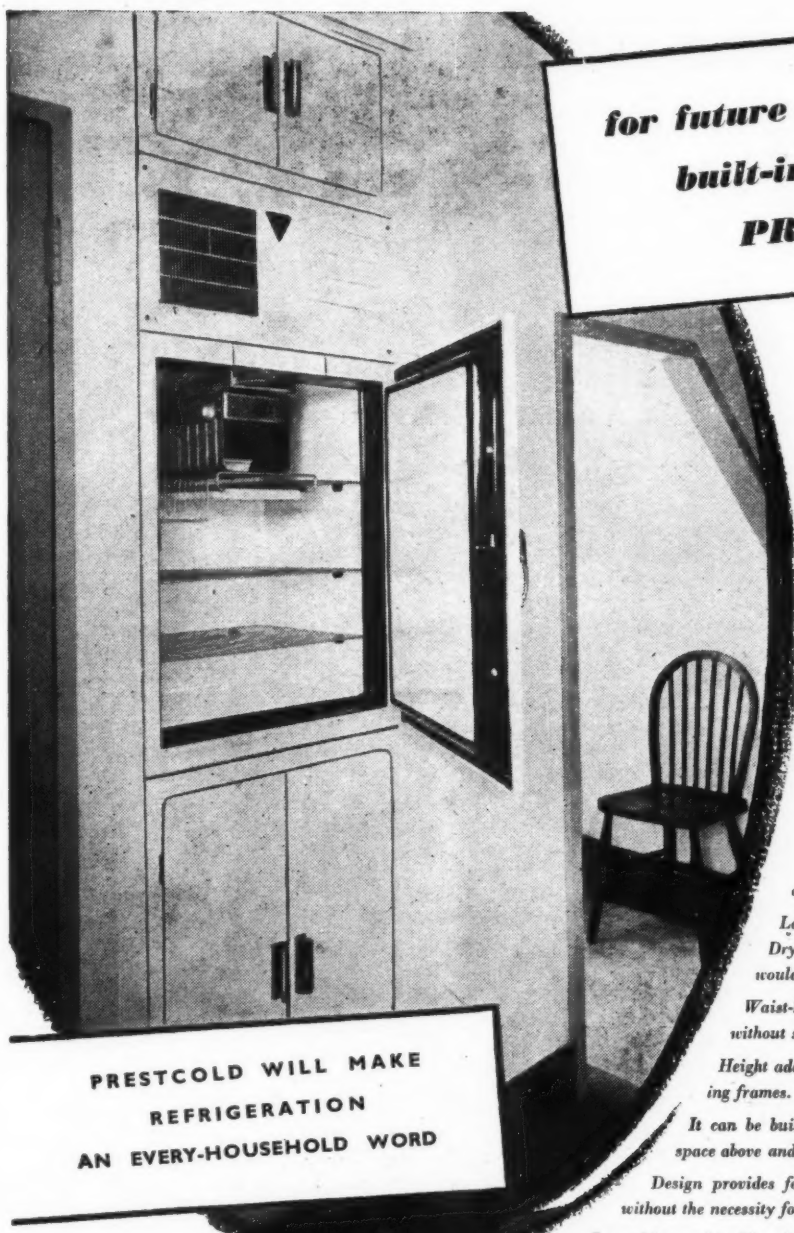
Seco and Uni-Seco are Registered Trade Marks

## UNI-SECO STRUCTURES LIMITED

25, Upper Brook Street, Park Lane, London, W.1

Mayfair 9080

Stonham & Kirk



for future use . . .  
built-in, by  
**PRESTCOLD**

**PRESTCOLD WILL MAKE  
REFRIGERATION  
AN EVERY-HOUSEHOLD WORD**

This built-in Prestcold refrigerator, as shown, installed in the kitchen of the "Bryant" house in Birmingham, has the following important advantages:

*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 door, allowing access to interior without stooping.*

*Height adaptable by varying position of supporting frames.*

*It can be built into kitchen fittings with cupboard space above and below it.*

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

*Ice making and 'cold cooking' facilities.*

**M**OST important too, is the fact that this Prestcold refrigerator provides the food storage temperatures necessary for the proper safeguarding of perishable foods—for instance 35°F for fresh fish and poultry; 40°F for milk—

and even the lower temperatures needed to store the frozen foods which will be available later on. In addition, it will be most economical in current consumption, using only one unit a day.

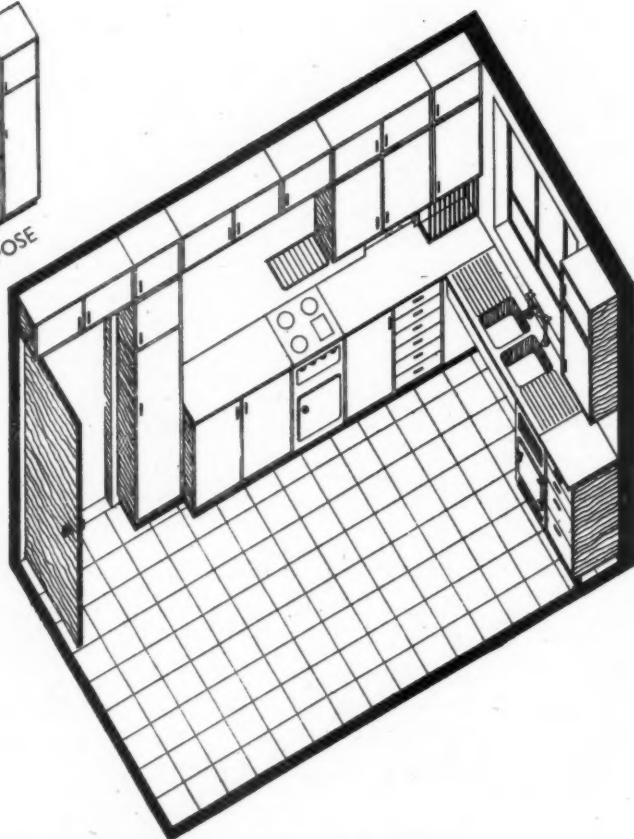
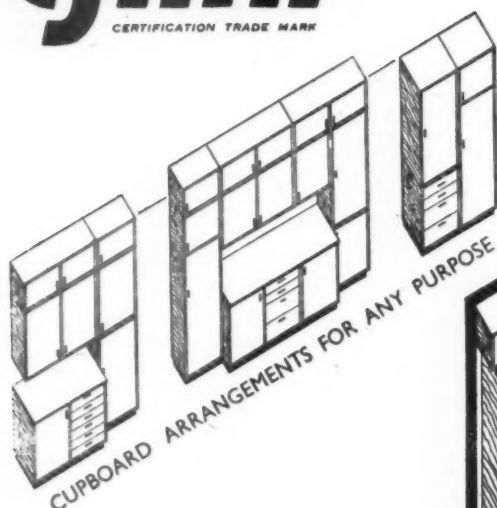
## **PRESTCOLD** *Refrigeration*

A PRODUCT OF THE PRESSED STEEL COMPANY LIMITED • COWLEY • OXFORD

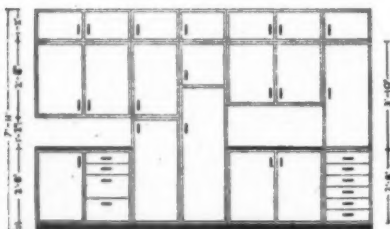
# STANDARD KITCHEN UNITS

## EJMA

CERTIFICATION TRADE MARK



1. Each single unit is 1ft. 9in. wide.  
Each double unit is 3ft. 6in. wide.  
Each wall unit is 1ft. 0in. deep.  
Each floor unit is 1ft. 7in. deep.



2. This diagram shows how the heights of the various units have been arranged to give the fullest range of possible combinations for units.

3. The EJMA range of kitchen units is designed to give a work top 3 ft. high, wall cupboards 13 or 18 inches above this top, with dead storage space above to make up the remaining ceiling height. Large or small, new or old, any kitchen can be equipped with an efficient and unified arrangement.

THE  
**ENGLISH JOINERY MANUFACTURERS ASSOCIATION**

SACKVILLE HOUSE, 40 PICCADILLY, W.1 REGENT 4448 [INCORPORATED]

*Announcing a New Issue of*

# CERAMICS

*in Art & Industry*

It was with great regret that we had to suspend the publication of this Journal during the war years. Those readers who have written to enquire if we intend to resume publication will be interested to know that the Fourth Edition is now available.

This new issue is devoted mainly to an illustrated review of the part which ceramic products have played in the war effort. It is, however, of more than merely retrospective interest, as almost all the applications shown and described will have a part to play in peacetime industry and reconstruction.

In future issues we shall endeavour to deal with many different aspects of ceramics both from a technical and a more general standpoint, thus catering for the extremely varied interests of our 7,000 or more readers.

Unfortunately, our mailing list was partially destroyed during the war and it has, moreover, been difficult to keep track of changes of addresses of readers. We are now compiling an up-to-date mailing list and if you would like your name included, we shall be glad if you will let us know as soon as possible.



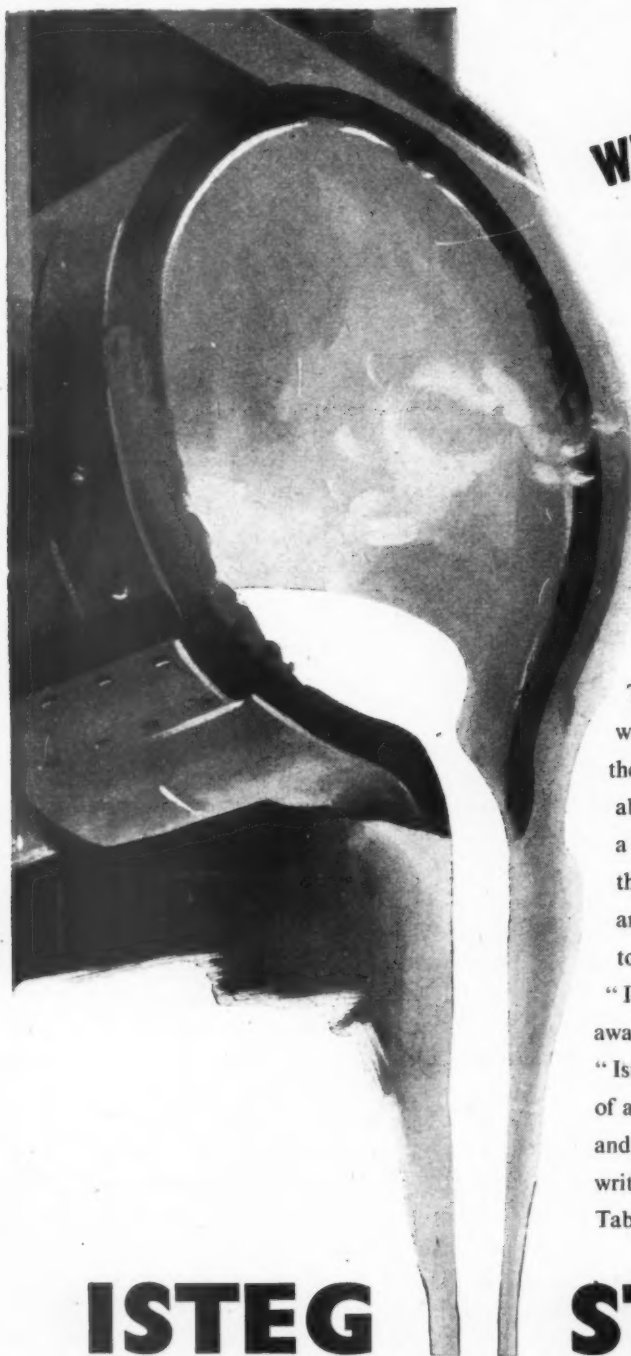
Owing to the reduced quantity of paper at our disposal, we regret that we can only send copies to those applying on business or professional letter headings and it will also, unfortunately, be impossible to send copies to *individual* students. We shall, however, be very pleased to send a copy to the Principal or Librarian of any University, College, Technical School or Public Library, so that the Journal may be available for reference.

*Please be good enough to give your full name and address in  
BLOCK LETTERS to prevent any possible errors in mailing.  
Applications should be addressed as follows:*

**DOULTON & CO., LIMITED**

DEPT. 60, DOULTON HOUSE, ALBERT EMBANKMENT, LONDON, S.E.1

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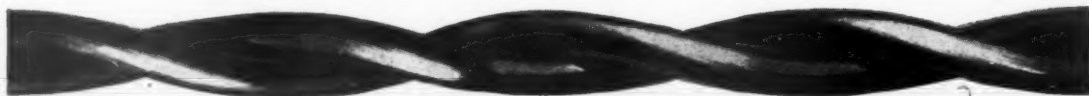


What do they mean by  
'MAKING THE  
BEST USE OF  
OUR RESOURCES?'

Take steel for instance. By designing in "Isteg" wherever it can be used to advantage, a third of the weight of steel can be saved and made available for other urgent requirements. "Isteg" has a permissible working strength 50% in excess of that permitted for plain bars of similar length and weight. Apart from this, because it is keyed to the concrete throughout its entire length, "Isteg" effectively controls cracking and does away with the need for hooks and overlenghts. "Isteg" Service provides simultaneous deliveries of all diameters (ex stock if required), plus bending and pre-fabrication to your specification. Please write for our book of Reinforced Concrete Design Tables and Formulae.

# ISTEG STEEL

## REINFORCEMENT



Manufactured by GUEST, KEEN & NETTLEFOLDS, LTD. CARDIFF. THE UNITED STRIP & BAR MILLS, BRANCH OF THE UNITED STEEL COMPANIES LTD. McCALL & CO. (SHEFFIELD) LTD., TEMPLEBOROUGH, SHEFFIELD and  
**ISTEG STEEL PRODUCTS LTD. (SALES), 7, PRINCES STREET, WESTMINSTER, S.W.1.**

'Phone WHitchall 3757 (2 lines)



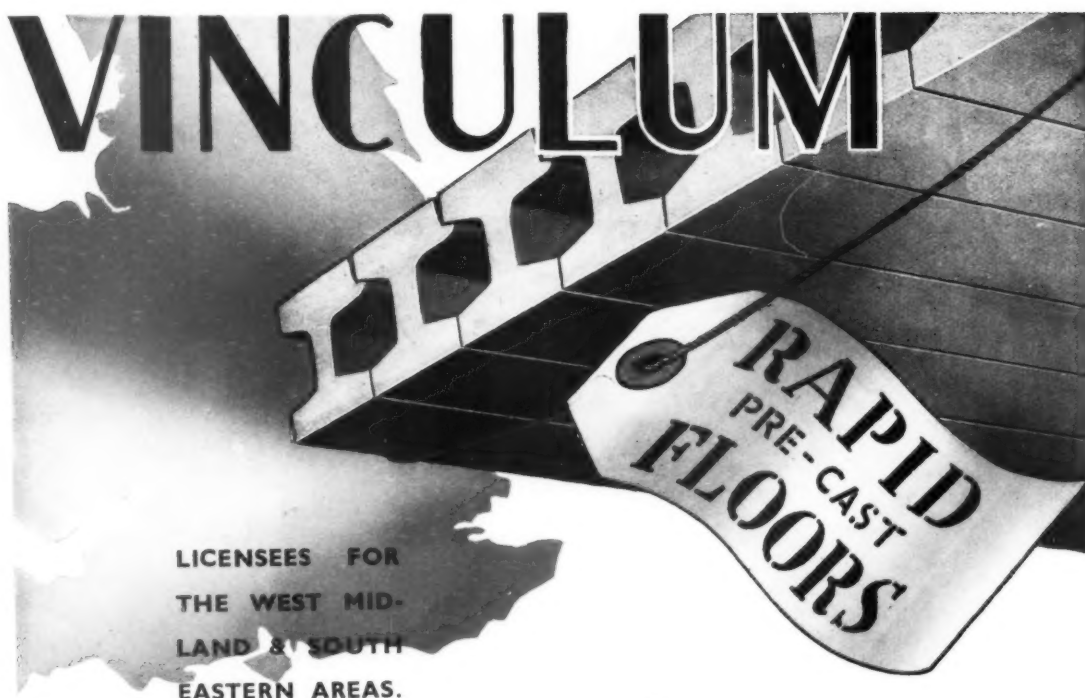


*Distinctive as  
Glossex Finishes*



VULCAN PRODUCTS LTD. SLOUGH  
*Specialist Paint Manufacturers*  
and 24, Ryder St. St. James, London. S.W.1. Abbey 4161 (5 lines)

# VINCULUM



LICENSEES FOR  
THE WEST MID-  
LAND & SOUTH  
EASTERN AREAS.

TARMAC LTD. VINCULUM DEPT. ETTINGSHALL, WOLVERHAMPTON

## KEX PRODUCTS

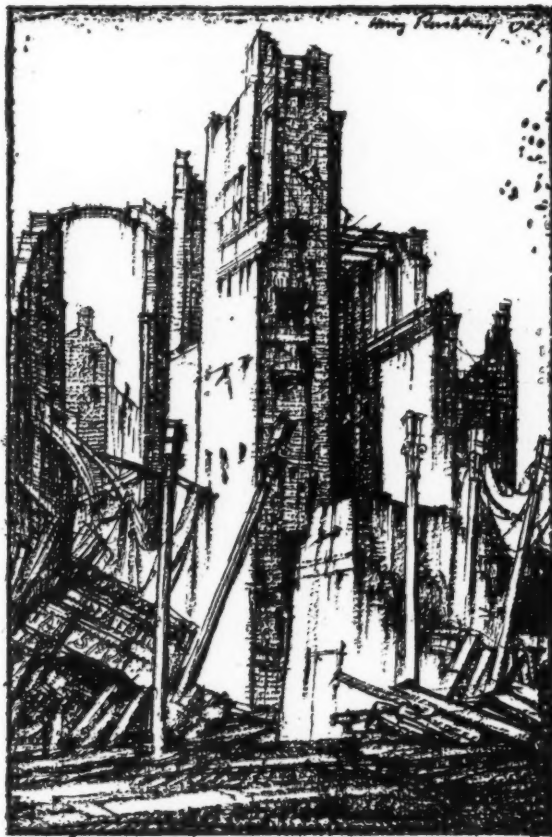
### DECKEX **Pigmented, Stable, Silica Solutions**

*Deckex is a Stable Silica Solution—derived from a Silicic Ester—to which has been added a pigment and/or filler to form a decorative medium. It is applicable in all situations where normal paints, with organic binders, are subjected to destroying influences. For external decoration, for instance, of concrete buildings and structures—particularly where exposed to sea air or the corrosive atmosphere and soot of Industrial Towns—it is of particular importance. Deckex has an additional hygienic value for use on the interior surfaces of Hospitals, Public Buildings and Schools. Full information will be gladly sent.*



**Kautex Plastics Ltd**  
Elstree, Herts. Elstree 1777

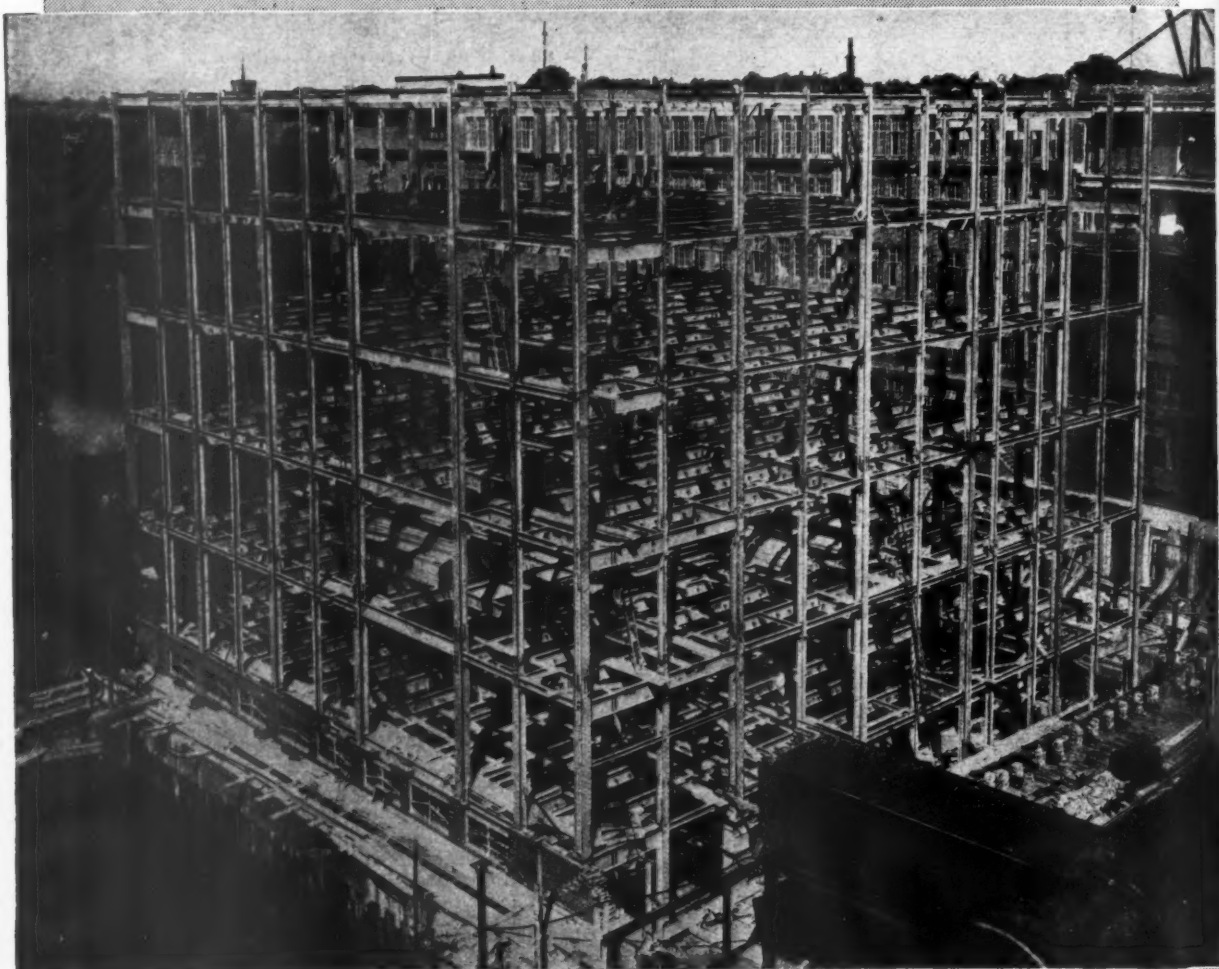
# CRITTALL WINDOWS



WHEN YOU  
REBUILD

THE CRITTALL MANUFACTURING CO. LTD., 210 HIGH HOLBORN, W.C.1.

# HORSELEY-PIGGOTT

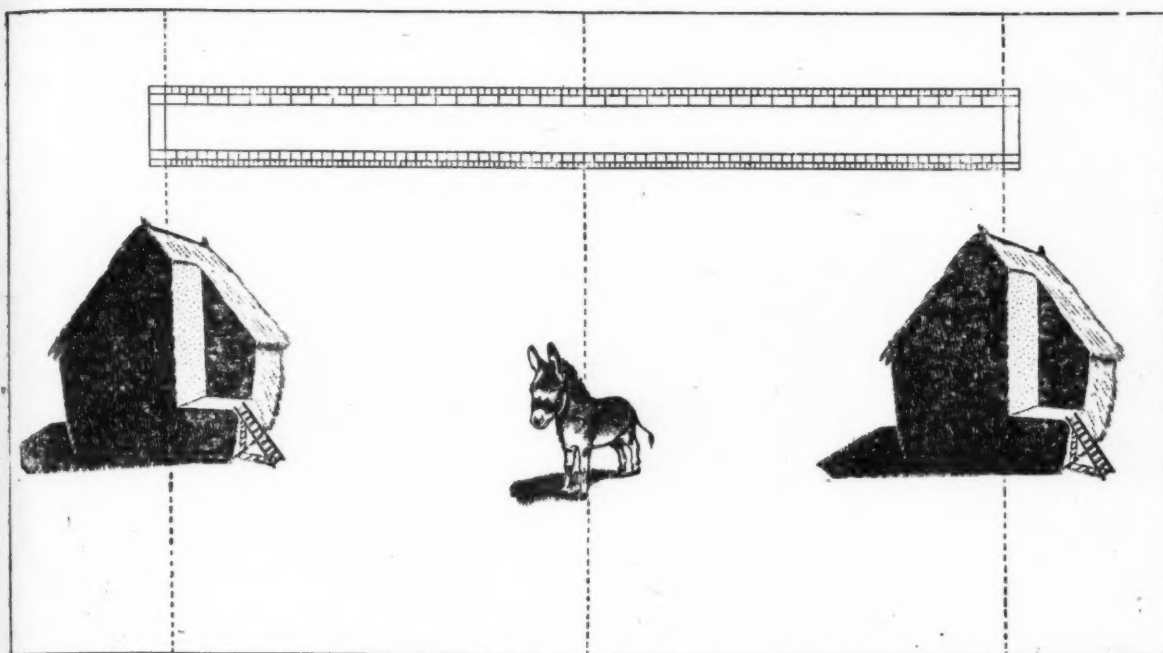


## STRUCTURAL STEELWORK

STEEL FRAME BUILDINGS : FACTORIES  
MILLS : POWER STATIONS : BRIDGES  
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OIL AND WATER STORAGE TANKS

**HORSELEY BRIDGE AND THOMAS PIGGOTT LTD.**  
HORSELEY WORKS, TIPTON, STAFFS. · PHONE : 1104 P.B.X.  
LONDON OFFICE: 22, CARRISLE PLACE, WESTMINSTER, S.W.1.

*By* **HORSELEY-PIGGOTT**



### THE LOGICAL DONKEY

The logical donkey, finding himself equidistant between two hayricks, starved because he could find no reason to choose one rather than the other. Logic was not enough. A sense of visual appreciation would have shown him that the effect of sunlight, viewed from his standpoint, would have made one the more inviting!

Present research into room heating raises many such problems of choice. Alternative methods, equal in efficiency, can be judged by standards other than the toss of a coin; great distinction in design is also necessary. Bratt Colbran products have this distinction as well as high efficiency in use.

## BRATT COLBRAN LIMITED

10 MORTIMER STREET, LONDON, W.1

"PORTCULLIS" GAS FIRES • "HEAPED" COAL FIRES • "SOLECTRA" ELECTRIC RADIATORS



# **CONCRETE FLOORS FREE FROM DUSTING**

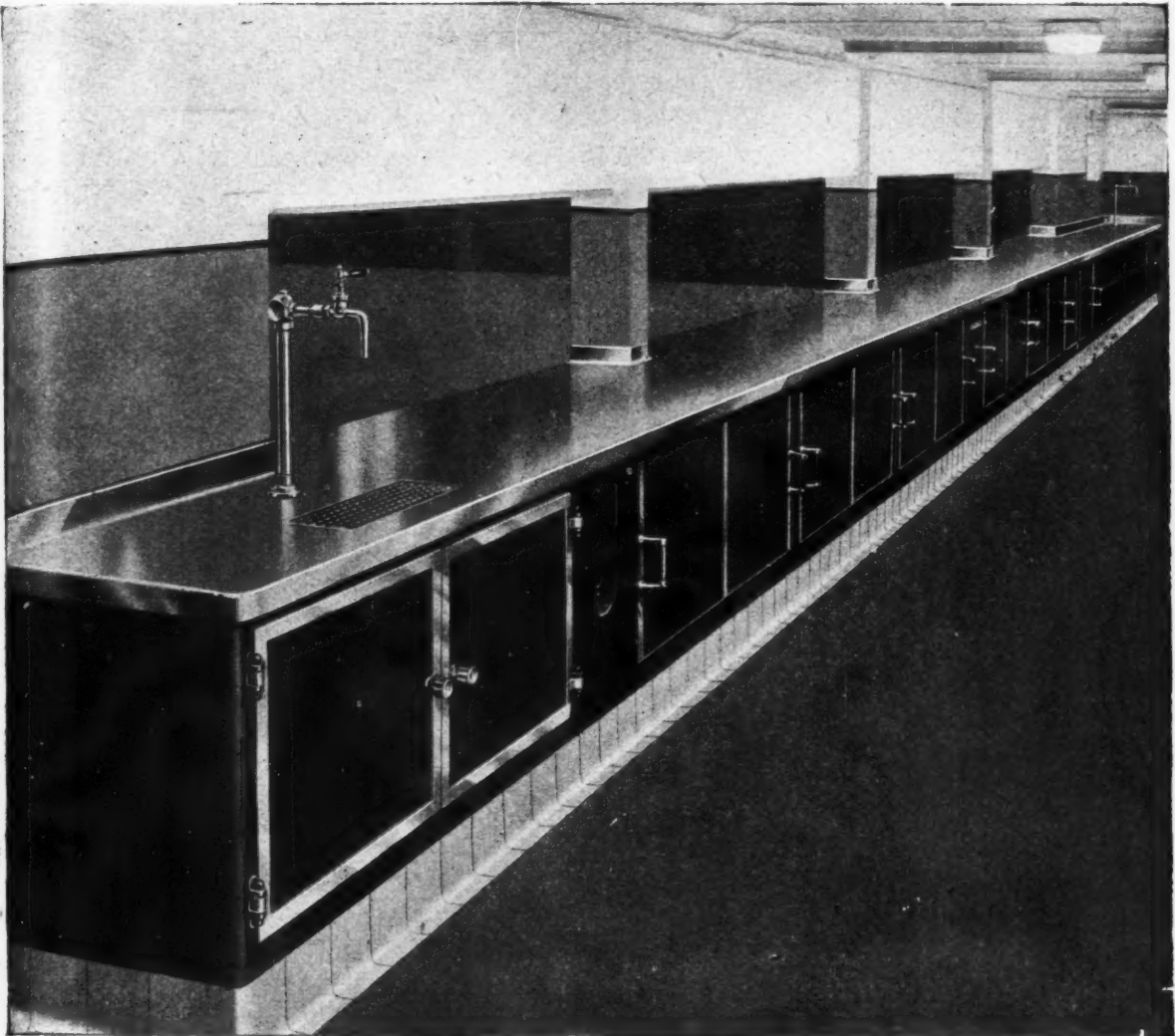
by simple application of Tretol  
Fluat to Old and New Floors  
Oil and Acid resisting

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**TRETOL** FLUAT CEMENT SURFACE HARDENER

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Tretol Ltd., 12 North End Road, London, N.W.11. Tel. Speedwell 2866



*Large Scale Apparatus  
for the Cooking and  
Serving of Food.*

MAIN Specialists in large-scale Cooking have planned and equipped some of the most extensive installations in the country. If you have any catering problems, large or small, you are gladly offered the benefit of their extensive knowledge and experience

**R. & A. MAIN LIMITED, LONDON AND FALKIRK**



People like to relax in pubs and inns. They go to meet their friends and to talk as well as to smoke, drink and eat. They are not consciously bothered about the furniture and decorations of their surroundings.

But it is someone's duty to decide if "the regulars" are likely to prefer a background of oak benches and sawdust or would feel happier amid neon lights and good murals. Someone also must remember that decorative materials must be of good quality so that in spite of the smoke and all the daily contacts with man and his dog, they will look clean and fresh at every opening time.

Only the best materials are good enough. This means work for I.C.I. paints. Of these, "Dulux" is the outstanding product where there is need for durability and gloss, but "Petrumite", "Beldec" and "Du-Lite" can also contribute much to the lasting comfort of the people's club. Particulars of I.C.I. finishes recommended for hotels, public houses and other public buildings will be forwarded on request.

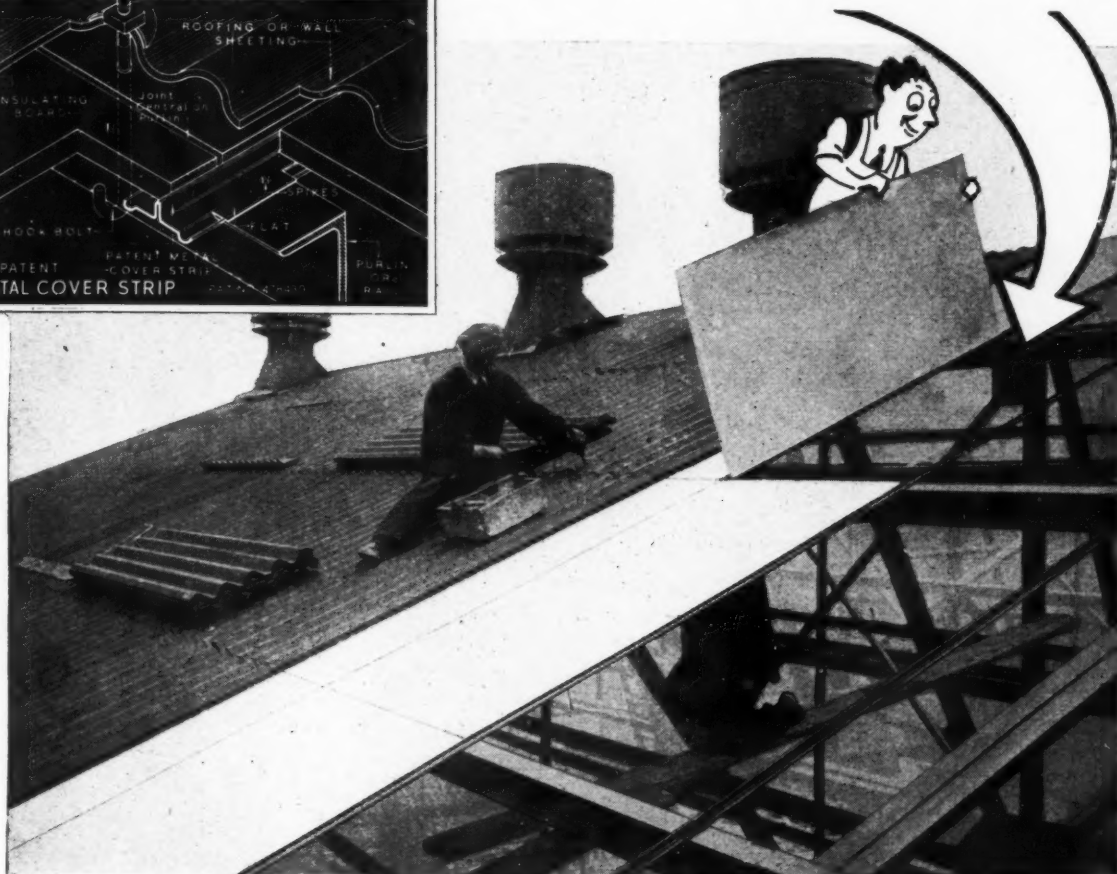
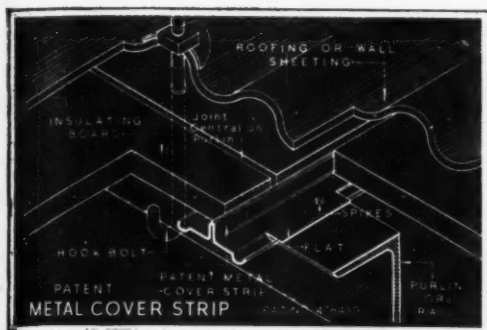
**IMPERIAL CHEMICAL INDUSTRIES LIMITED**  
**PAINTS DIVISION • SLOUGH, BUCKS.**

*(successors to Nobel Chemical Finishes Ltd.)*

Telephone: Slough 23851



# PUT TENTEST HERE — says George



For speed and economy insulate all new steel-framed roofs over the purlins by the **PATENT METAL COVER STRIP** method.

## ADVANTAGES

1. **It's Quicker**—roofing and insulation are fixed simultaneously.
2. **It's Cheaper**—by about 25% compared with under the purlins.
3. **It Saves steel**—about 50% saved using no nails, screws, clips, etc.
4. **All Structural Steel exposed** within the building—no hidden corrosion.
5. **All Structural Steel protected** by insulation is free from condensation.

## HEAT LOSS DATA

The following figures relate to a typical factory roof of 100,000 sq. ft. corrugated asbestos-cement, and are based on Chart I of Fuel Efficiency Bulletin No. 12\*.

"U" of roof unlined ...	1.40
"U" of roof lined with $\frac{1}{2}$ in. TenTest fixed by Patent Metal Cover Strip ...	0.37
Cost of roof lining at 9d. sq. ft. ...	£3,750
Saving on Heating Plant ...	£6,500
Fuel saved per heating season...	570 TONS
Annual value of fuel saved at 50/- per ton	£1,425

Ministry of Fuel and Power, free and post free.

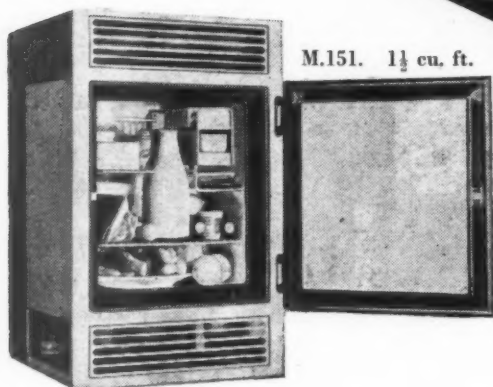
If you would like to consider the full advantages of Structural Insulation in relation to the building designs you have in hand, let us put our technical representative in touch with you to make a free survey and give you facts and figures. Our Specialised Construction Department is fully equipped to undertake supplying and fixing complete to ensure satisfactory results.



TENTEST FIBRE BOARD CO. LTD., 75 CRESCENT WEST, HADLEY WOOD, BARNET, HERTS.  
Telephone : BARNET 5501 (5 lines).  
Telegrams : Fiboard, 'Phone, London'



"Alpha" Kitchen  
Designed by Gaby  
Schreiber by courtesy of  
International Plastics, Ltd.



M.151. 1½ cu. ft.

Electrolux 'Built-in' Refrigerators operate equally well by Gas or Electricity. Free standing Models operate by Gas, Electricity or Paraffin.

Kitchen equipment must satisfy the housewife's needs and, by its adaptability, meet the requirements of the kitchen planners. That is why Electrolux 'built-in' refrigerators are so popular. The M. 151 shown fulfils the needs of the average small family, and like all Electrolux 'built-in' cabinets, fits in to any kitchen design. Moreover, it is noiseless, has no moving parts, and does not interfere with wireless reception.

## ELECTROLUX LIMITED

Works: LUTON, BEDFORDSHIRE

'Phone: LUTON 4020



REFRIGERATOR MAKERS  
TO H.M. THE KING



SUCTION CLEANER AND  
REFRIGERATOR MANUFACTURERS  
TO H.M. QUEEN MARY







*During the past 50 years we  
have been responsible for some  
of the largest installations in  
Great Britain.*

# heating ventilating & sanitary engineers since 1892

ELLIS (KENSINGTON) LTD · KENDRICK PLACE · LONDON · S.W.7

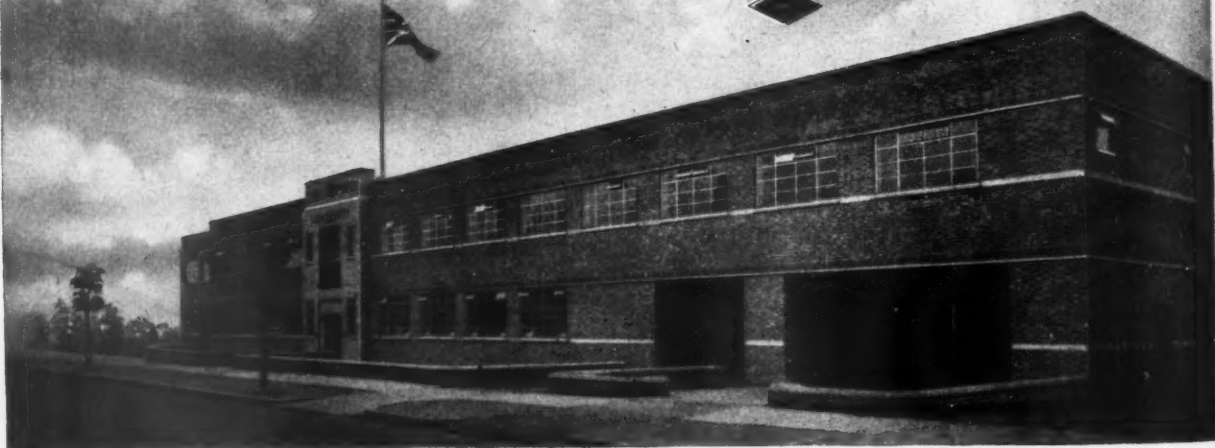
*Telephone: Kensington 1420*

*Announcing the*  
**BRITMAC**  
**ELECTRICAL CO. LTD.**  
*A New Name for the Sales Organisation of*  
**C. H. PARSONS LIMITED**

So that the Electrical Accessories which have hitherto been offered under the Registered Trade Mark—"BRITMAC"—may be more closely associated with the name of the Company, it has been decided to form the above new Company to deal exclusively with sales and distribution.

It is felt that this step will be of assistance, especially in cases where it is desired to specify the trade name of the product and the name of the Company selling it.

Will our many friends please note, that whilst the above named Company will feature in future advertising, it is purely a subsidiary of the parent Company, having a nominal capital only.



**BRITMAC ELECTRICAL CO. LTD.**

SALES ORGANISATION OF C. H. PARSONS LIMITED

**Head Office: BRITANNIA WORKS, WHARF DALE RD., TYSELEY, BIRMINGHAM 11**

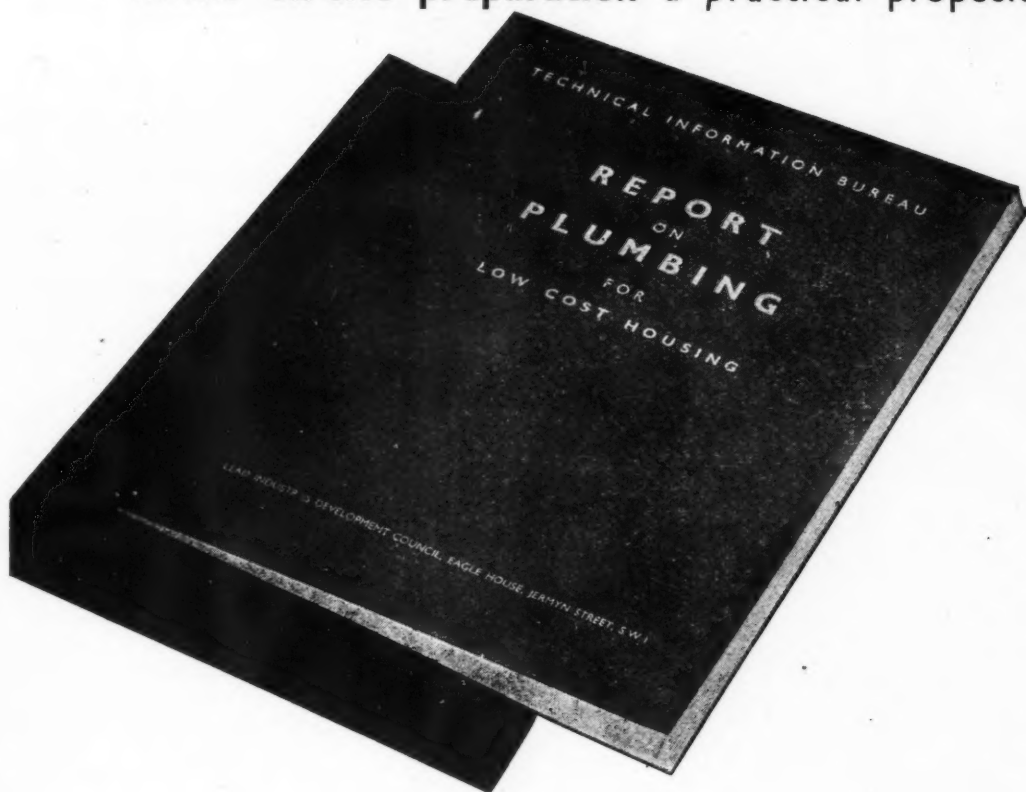
Telephone: ACOcks Green 1191 (3 lines). Telegrams: "BRITMAC, BIRMINGHAM"

**Glasgow Office: GRESHAM CHAMBERS, 45 WEST NILE STREET, GLASGOW, C.I.**

Telephone: Central 9106

# The flexibility of **LEAD PIPE**

makes off-site preparation a *practical* proposition



Lengths of distribution pipe with connections and short branches can be prepared in the workshop thus saving site work hours. On the job, the pipe can be bent and deviated as required, and the flexibility of the material allows for the inevitable variations in the dimensions of building work and sanitary appliances.

The report illustrated, copies of which may be had on application, deals with this and other factors relevant to the provision of efficient and economic plumbing for low cost housing.



**LEAD INDUSTRIES DEVELOPMENT COUNCIL**  
EAGLE HOUSE JERMYN STREET LONDON S.W.1

B20



# HOLLOW!

Hollow extrusions in aluminium alloys form a welcome addition to the materials of construction which are now available to the engineering and manufacturing industries. Here we have lightness of material and *lightness of form* combined with strength in a fashion which is new, and which cannot be provided so economically in any other manner. The uses for solid extrusions are legion, the hollow extrusion extends those uses into all kinds of unexpected fields. If you have a difficult construction problem drop a line to our Development Department. Maybe they will find you the answer in "HOLLOW EXTRUSIONS."

## BIRMETALS

### BIRMETALS-LIMITED BIRMINGHAM-32

RP-699D

## SADD'S STANDARD JOINERY

### WINDOWS

in the EJMA Range of Wood casements.

### DOORS

Panelled and flush doors to EJMA Specification.

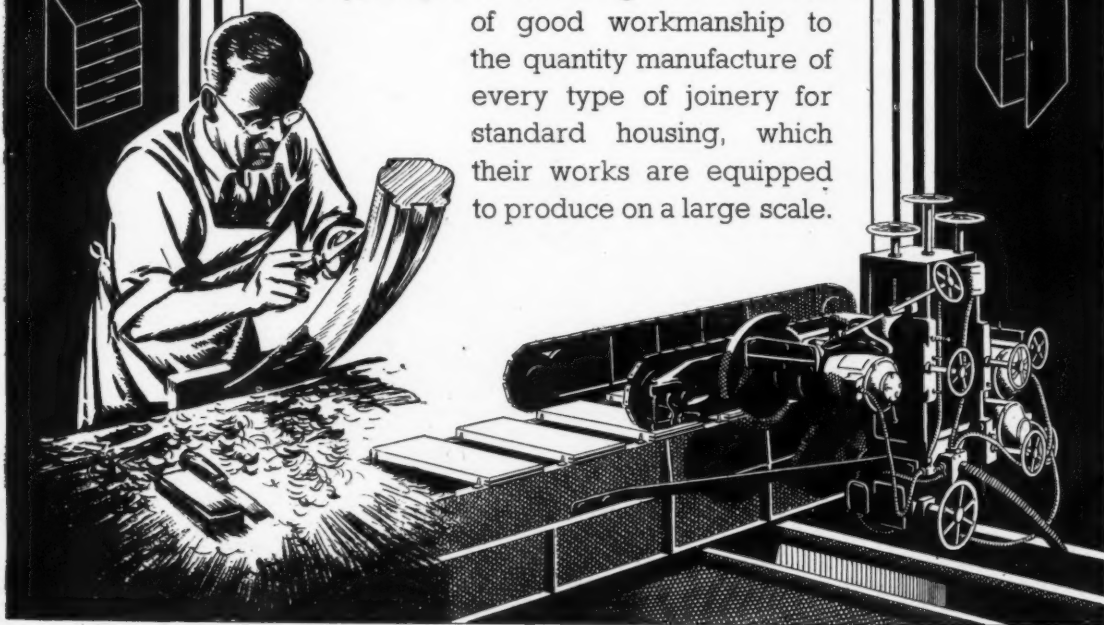
### STAIRCASES

Standard designs for low cost housing.

### CUPBOARDS

EJMA Kitchen Units in a wide range of types and sizes.

SADD'S take great pride in fine woodwork to architects' designs. Today, they are extending their tradition of good workmanship to the quantity manufacture of every type of joinery for standard housing, which their works are equipped to produce on a large scale.



EJMA is the Registered Trade Mark of The English Joinery Manufacturers' Association (Incorporated).

# JOHN SADD & SONS, LTD.

## HIGH-CLASS JOINERY

**MALDON**

Telephone: Maldon 131.

**ESSEX**

London Office: ALDWYCH HOUSE, W.C.2.

Telephone: Holborn 7225

# ASBESTOS-CEMENT

THE BUILDING MATERIAL THAT FOUGHT THE WAR



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



**TURNERS ASBESTOS CEMENT CO. LTD.**  
TRAFFORD PARK • MANCHESTER 17

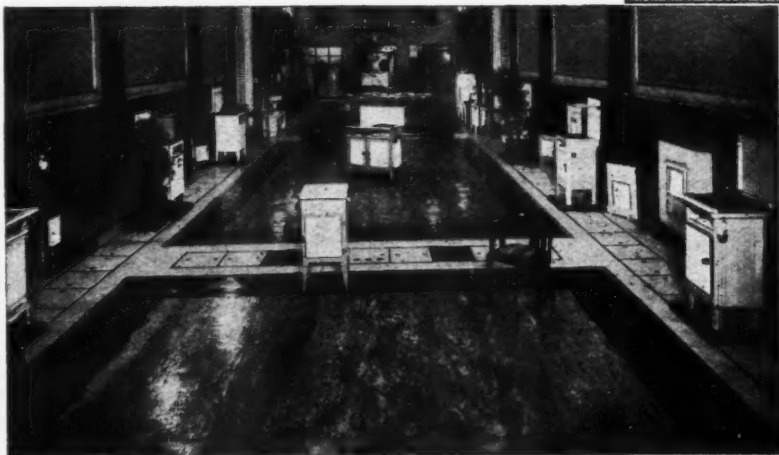


G.G.115

# HOW LONG WILL A DUNLOP RUBBER FLOOR LAST?



Flooring in the head offices of the Union Bank of Scotland, laid in 1927 and in good condition today.



The Corporation of Glasgow Gas Showrooms. Dunlop Rubber Flooring was installed in 1935 and is still in use.



Dunlop Rubber Flooring in the Royal Samaritan Hospital for Women, Glasgow. This has given continual service since 1936.

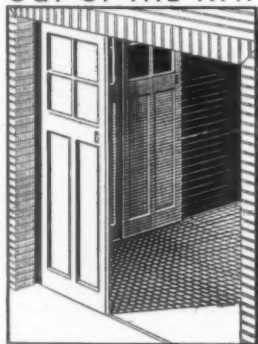
## DUNLOP *Rubber Floors*

# TO SWING OR NOT TO SWING



THAT IS THE QUESTION and when it comes to planning doors it needs extra careful thought—because there are few things more precious than space when you are working in confined quarters. A door that's hinged is a door that needs a lot of room; but with a sliding door it's different. If it's fitted with King Door Gear a touch of the hand takes it out of the way, gliding easily and quickly to nestle snugly against the wall, completely and unobtrusively out of the way.

## OUT OF THE WAY



It is true to say that in post-war building every inch of space will be of the utmost value; take advantage of every scrap of it—when you can, and how you can. This is where King Door Gear comes in—or to be more precise slides along. Doors that slide mean doorways that allow free passage all around them.

For ante rooms, cloak rooms, garages, lifts, etc., and places where space is limited or traffic congestion is likely to occur, sliding doors are the perfect application.

As specialists for over a quarter of a century we claim to satisfy the most exacting requirements for any type of sliding door gear. Write for fully illustrated booklet.

# KING SLIDING DOOR GEAR

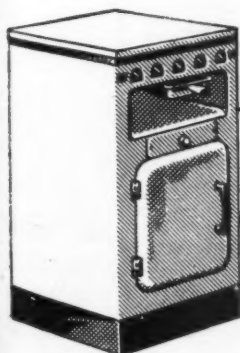
**GEO. W. KING LTD HITCHIN · HERTS**  
**TELEPHONE HITCHIN 960 (10 LINES)**

# OUR AIM is



## a "CORNER" in every kitchen

and we shall score a bull's-eye — first shot! Note these special features ● Frameless steel construction (*patent*) ● Stainless steel burners (*something new*) ● 3-position enclosed grill (*no burnt offerings*) ● Patent "Cortrol" Thermostat (*for greater accuracy*) ● All parts easily replaced on the spot (*we mean it*) ● Maintenance costs reduced to a minimum (*time and labour, too*). Prices on application.

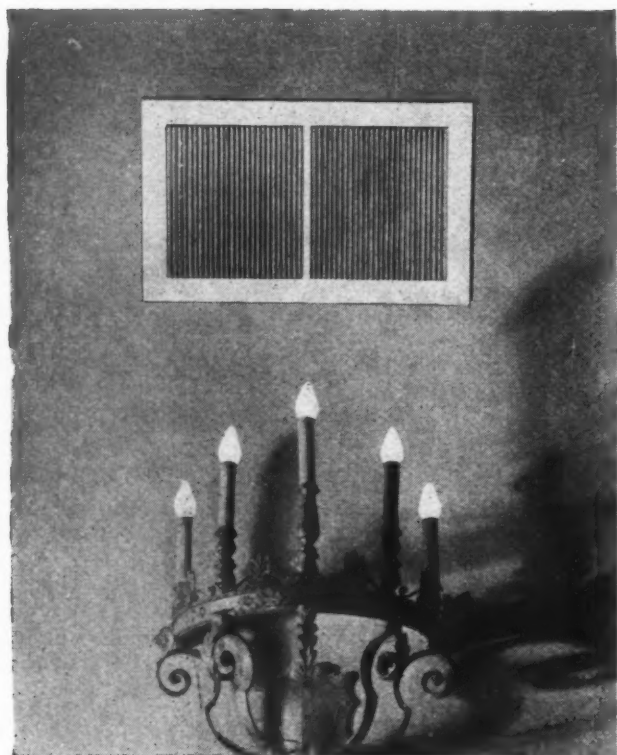


### CORNER

*The cooker that will astonish!*

G. CORNER & CO. LIMITED · Adair Street Works · MANCHESTER 1

# PLANNED VENTILATION NOW!



## REGISTERS & GRILLES

*Send for Bulletin  
No. 778*

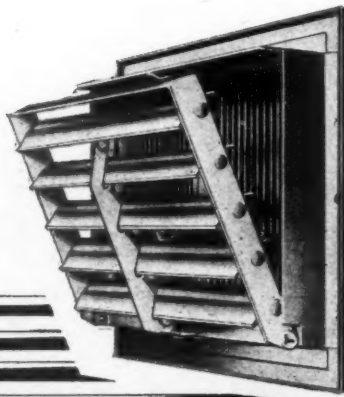
IMMEDIATE  
DELIVERY  
of types for  
PRE-FABRICATED  
HOUSES.

*Sole Manufacturers*

**AIR CONDITIONING  
& ENGINEERING LTD.**

3 BAYLEY ST., TOTTENHAM COURT RD.,  
LONDON, W.1.

TELEPHONE MUSEUM 0744 Four Lines



# "BUILDING BOARD"

in the specification —  
— that means

# CELOTEX



There is a Celotex product which will do—and do well—every job for which building board may be specified. In the chart which follows, the present Celotex range is listed with brief notes on the principal uses of each product. Keep it for future reference and, next time the specification calls for building board, make sure of a good job; use Celotex.

## CELOTEX PRODUCT

INSULATING BOARD  $\frac{1}{2}$ " THICK

BUILDING BOARD  $\frac{3}{8}$ " THICK

UTILITY BOARD  $\frac{5}{16}$ " THICK

ACOUSTI-CELOTEX TILES

ROOF INSULATION  $\frac{1}{2}$ " THICK

CELOTEX LATH

HARDBOARD  $\frac{1}{8}$ " &  $\frac{3}{16}$ " THICK

MEDIUM HARDBOARD  $\frac{1}{4}$ " THICK

METAL FIXING SYSTEMS

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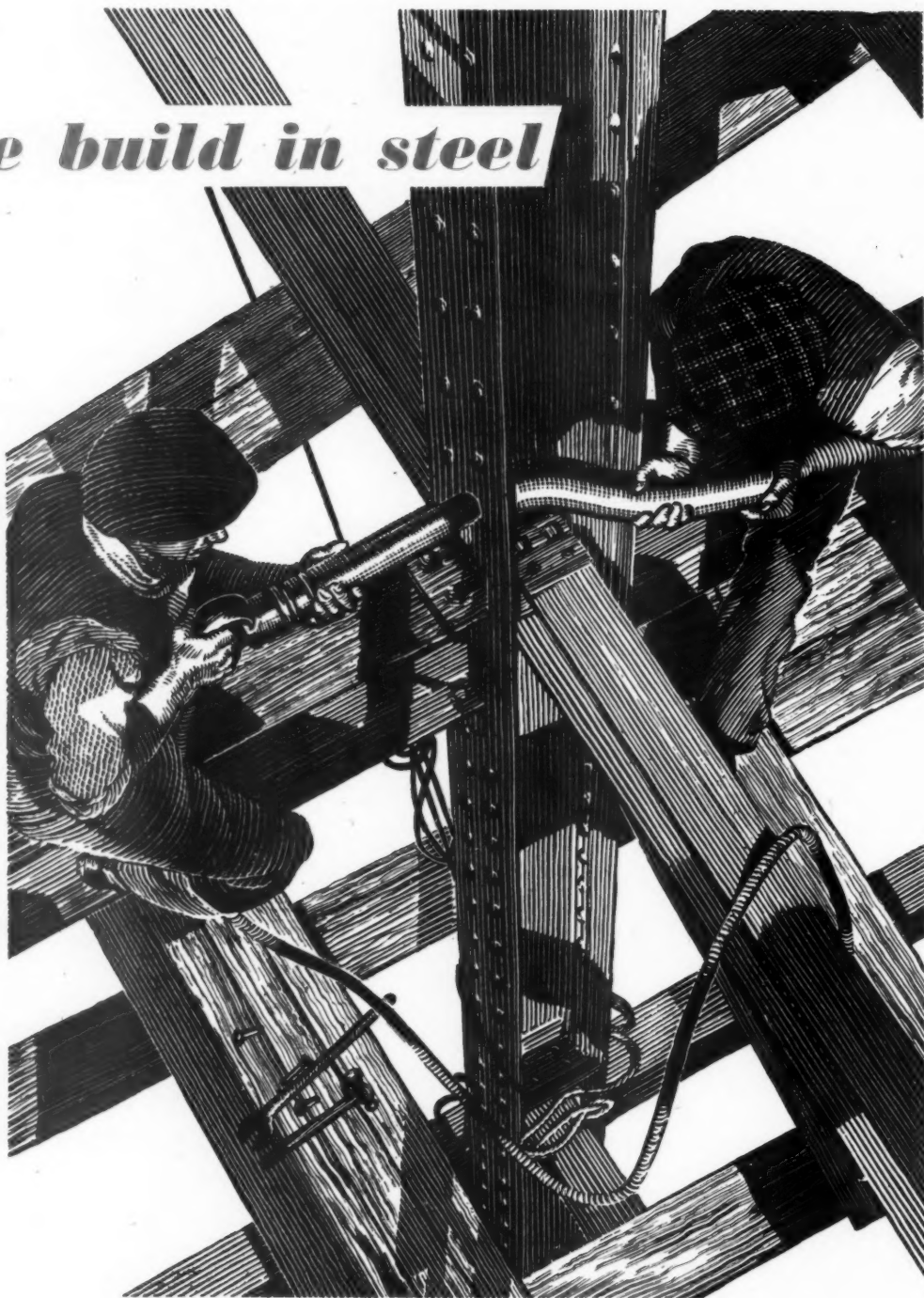
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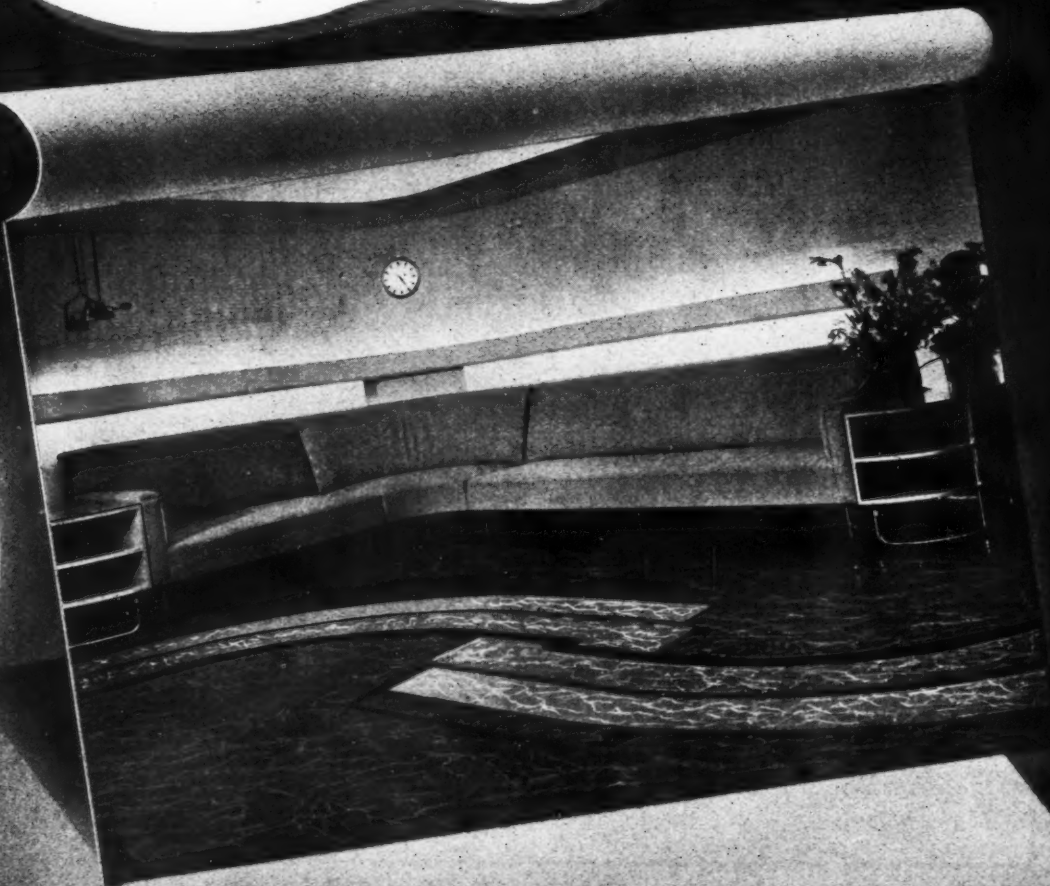
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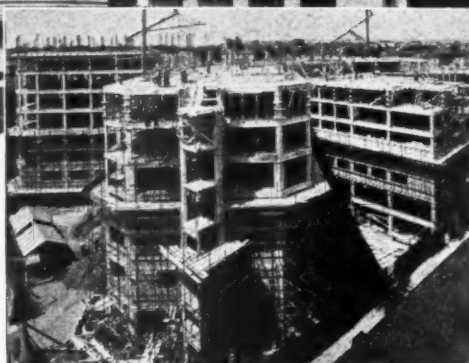


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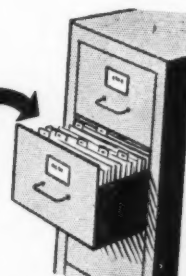
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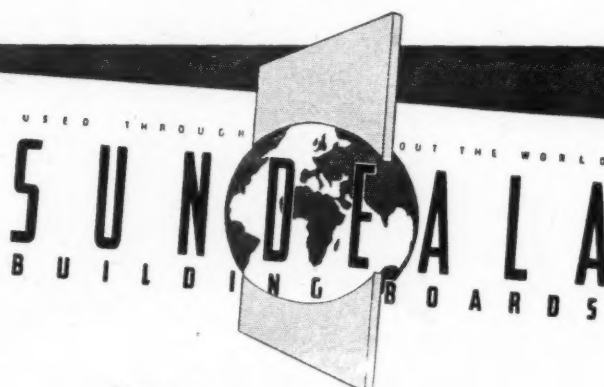
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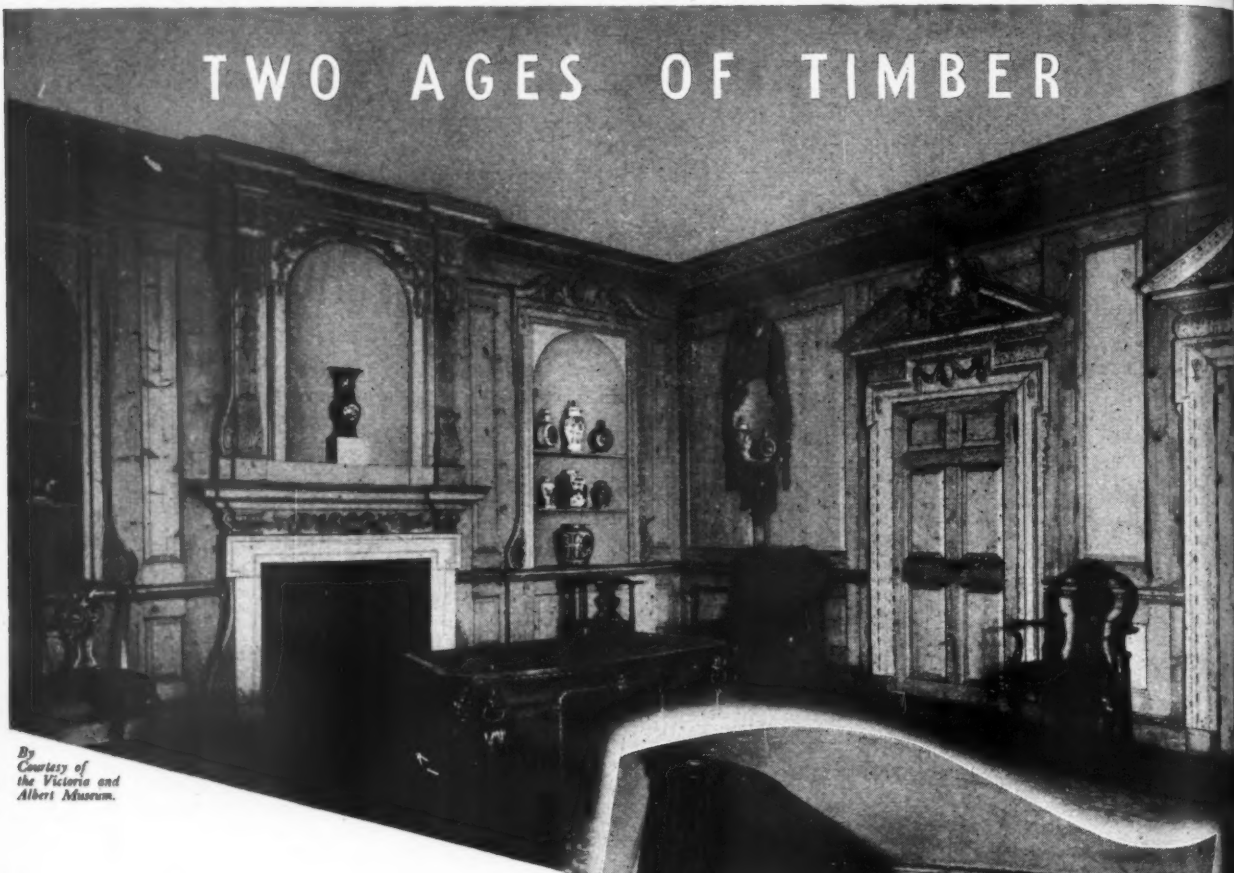
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## DIARY FOR FEBRUARY MARCH AND APRIL

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

**BLACKPOOL.** *Annual General Meeting of the Federation of Master Builders.* FEB. 25-27

**LONDON.** *Arts and Crafts Exhibition Society. Twentieth Exhibition.* At the Royal Academy of Arts, Piccadilly, W.1. 10 a.m. to 5 p.m. daily (Sundays 2 p.m. till 5 p.m.) Admission 1s. (Sponsor, Arts and Crafts Exhibition Society.) FEB. 21-MAR. 16  
*Max Lock. Surveys and Their Practical Application to Planning.* At the Livingstone Hall, Broadway, Westminster, S.W.1. (Sponsor, TPI.) 6 p.m. FEB. 21  
*Miss Jacqueline Tyrwhitt. Planning in Canada.* At the Town and Country Planning Association, 28, King Street, Covent Garden, W.C.2. (Sponsor, TCPA.) 1-15 p.m. FEB. 21.

*F. J. Tritton. The Photographic Copying of Documents and Plans.* At the Royal Society of Arts, John Adam Street, Strand, W.C.2. (Sponsor, Association for Scientific Photography.) 6.30 p.m. FEB. 22  
*J. F. Bickerton and Petros Protopapadakis. Layout of Passenger Stations.* At the Institution of Civil Engineers, Great George Street, S.W.1. (Sponsor, ICE.) 5.30 p.m. FEB. 26

*AA Debate. That Architecture in England is Dead.* At the AA, 34-36, Bedford Square, W.C.1. (Sponsor, AA Students' Committee.) 6.30 p.m. FEB. 26  
*Solid Smokeless Fuel Appliances for Domestic Heating Services Exhibition.* At the Horticultural Hall, Vincent Square, S.W.1. The exhibition is being designed by Ian Jeffcott. (Sponsor, Solid Smokeless Fuels Federation.) MARCH

*Stormont Murray. Eric Gill; His Life and Work.* At the International Arts Centre, 3, Orme Square, Bayswater Road, W.2. (Sponsor, IAC.) 8 p.m. MAR. 1  
*Prof. J. D. Bernal. The Organization of Building Science Research.* Architectural Science Board Lecture. At the RIBA, 66, Portland Place, W.1. (Sponsor, RIBA Architectural Science Board.) 5.45 p.m. MAR. 6

*Town & Country Planning Association. Conference: From Plan to Reality; The Operation of the Greater London Plan.* At Conway Hall, Red Lion Square, W.C.1. The conference is intended primarily to supply information as to the present stage of progress and to enlist the support of organized bodies who can stimulate interest and discussion in localities affected by the Plan. A second purpose is to advance the solution of the outstanding problems, among which are: 1. How to co-ordinate redevelopment in the bombed and blitzed areas with rehousing and the dispersal of the necessary amount of industry and

business. 2. How to bring to a stop the sprawl of suburbs and to save for London the nearer parts of its Green Belt Ring. 3. How to start and push on with the necessary speed, the new towns and small town extensions in the Outer Country Ring. Speakers include: F. J. Osborn, member of Lord Reith's New Towns Committee, on *London's Chance: Can London Take It?* H. W. Wells, Chief Estate Officer, Ministry of Town and Country Planning, on *Redevelopment: Public and Private Agencies*, and J. F. Eccles, Director, Welwyn Garden City, Ltd., on *Relocation of Industry and People.* (Sponsor, TCPA.) 2.30 p.m. to 9.45 p.m. MAR. 7

*G. L. E. Metz and R. L. Davies. The Electrical Engineering Industry in The Post-War Economy.* At the Institution of Electrical Engineers, Savoy Place, Victoria Embankment, W.C.2. (Sponsor, IEE.) 5.30 p.m. MAR. 7  
*Maurice B. Reckitt. The Polls and the Citizen.* At the Town and Country Planning Association, 28, King Street, Covent Garden, W.C.2. (Sponsor, TCPA.) 1.15 p.m. MAR. 7

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

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

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

*Mrs. Lovat Fraser. The Future Use of Plastics.* At the International Arts Centre, 3, Orme Square, Bayswater Road, W.2. (Sponsor, IAC.) 8 p.m. APRIL 9  
**SOUTHEND-ON-SEA.** *W. R. Arnold Whittick. How Can All This be Managed?* Last of six lectures on Town Planning and Housing. At the School of Art, Dowsett Avenue. (Sponsor, Southend-on-Sea Municipal College.) 7.15 p.m. FEB. 25

**STAVELEY.** *Rebuilding Britain Exhibition.* At the Branch Library. (Sponsor, BIAE.) FEB. 21-25

**YORK.** *NALGO Exhibition.* At Holgate Hill Settlement. (Sponsor, BIAE.) FEB. 21-23

## N E W S

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

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

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

★  
**Mr. Basil R. Ward, F.R.I.B.A., has been APPOINTED PROFESSOR OF ARCHITECTURE at the Royal College of Art.**

The Council of the Royal College of Art has appointed Mr. Basil R. Ward, F.R.I.B.A., Professor of Architecture. Mr. Ward, who is a New Zealander, came to England in 1924 to study at London University Atelier of Architecture. He won the Henry Jarvis Studentship (second prize Rome Scholarship) in 1927, which gave him a year studying architecture in Rome. He travelled extensively, working for a time in Burma. Before the war he was a member of the firm of Connell and Ward, serving on the Council of the RIBA from 1935 to 1938. During the war he was Architect on the staff of the Research and Experiments Department of the Ministry of Home Security, and later with the Inter-Services Topographical Department. He held the honorary rank of Lieutenant-Commander in the Royal Naval Volunteer Reserve, his work taking him to Ceylon, France and Belgium. He is now in association with the London firm of architects, Messrs. Ramsey, Murray and White.

# QUANTITY-PRODUCTION AND THE HOUSING PROBLEM



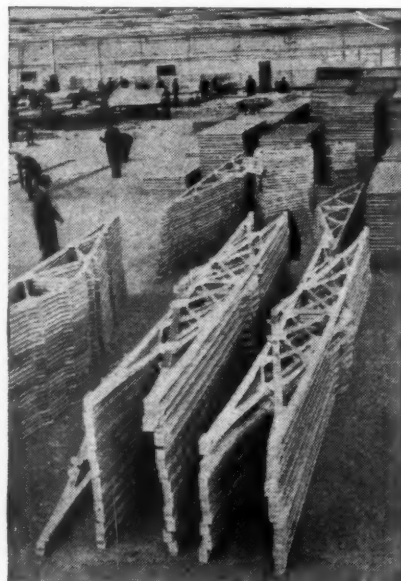
Entrance to the new plant at Middlesbrough.



In the joinery shop: after inspection, completed floor panels are impregnated with wood preservatives.



Completed floor panel: operator trims cut-out section for fire grate.



An inspection bay: roof trusses and wall panels awaiting final check.

The housing needs of this country must be met adequately and quickly. Quantity-production methods, which have proved their worth over the last two decades, must be used to supplement the efforts of the skilled craftsmen in the traditional building industry.

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The method of construction brings most of the work into the factory so that the fullest use can be made of semi-skilled labour. This will in turn relieve the pressure on skilled site labour and will help further to reduce costs.

The Company has planned a nation-wide organisation dividing the country into regions, each served by its factory and storage depots. The four existing factories form but the beginning of a system of factories located to serve all parts of the country. They are already in production for the Government's temporary housing scheme, and will be available in due course for the manufacture of Kingston permanent homes.

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## From AN ARCHITECT'S Commonplace Book

ON FACING THE CLIENT. [From An Autobiography by Frank Lloyd Wright (Faber and Faber).] Unity Temple is a complete building on paper, already. There is no 'sketch' and there never has been one. There seldom is in a thought-built building. The hardest of an architect's trials is to show his work for the first time to anyone not entirely competent or perhaps unsympathetic. Already the architect begins to fear for the fate of his design. If it is to be changed much he prefers to throw it all away and begin all over again. Not much hope in the committee except Mr. Roberts. Why not ask him to see the design and explain it to him first? This is done. He is delighted. He understands. He is himself an inventor. And every project in architecture needs this one intimate friend in order to proceed. Mr. Roberts suggests a model. Without it nothing can be done. So the model is soon made. All right; let the committee come now. They do come—all curious. Soon confounded—taking the 'show me' attitude. At this moment the creative architect is distinctly at a disadvantage as compared with his obsequious brother of the 'styles,' he who can show his pattern-book, speak glibly of St. Mark's at Venice or Capella Palatine, impress the no less craven clients by brave show of erudite authorities. But the architect with the ideal of an organic architecture at stake can talk only principle and sense . . . But hoping, we try. And we use all our resources, we two—the inventor and I . . . Doubts and fears are finally put to sleep—all but Mr. Skillin's. Mr. Skillin is sure the room will be dark—sure the acoustics will be bad. Finally the commission to go ahead is formally given over his dissent and warnings. Usually there is a Mr. Skillin on every modern building project in Usonia.

### Following their annual meetings, the London Master Builders' Association Areas have appointed the following AREA CHAIRMEN FOR 1946:

Central Areas No. 1.—C. E. B. Head (F. D. & H. Head, Ltd., Notting Hill Gate); No. 2.—A. W. Yeomans (Yeomans & Partners, Ltd., Mayfair); No. 3.—R. L. Roberts (L. H. & R. Roberts, Southampton Row); No. 4.—F. Proctor (E. Proctor & Sons, Plumstead); No. 5.—H. F. Webb (F. & H. F. Higgs, Ltd., Herne Hill). Northern Area—Alex G. Payne (Turner & Payne, North Finchley); North Eastern Area—Arthur W. Davies, M.B.E. (Canning Town); North Western Area—R. E. Welch (Liddlelow, Ltd., Sudbury Town); Southern Area—J. E. Pickett (Burnand & Pickett, Ltd., Wallington); South Eastern Area—H. H. Friday & Son, Erith; South Western Area—E. A. Thorogood (Thorogood & Sons, Surbiton).

### The Ministry of Works has agreed with the National Council of Building Material Producers and the Distributors of Builders' Supplies Joint Council a scheme for the disposal of SURPLUS BUILDERS' MATERIALS which are being thrown up by various Departments to the Ministry of Works as surplus.

This arrangement covers commodities such as asphalt, bricks, slates, cement, wheelbarrows, rainwater goods, roofing materials, glass, wallboards, sanitary fittings, builders' ironmongery and joinery, fencing and workshop benches. Materials not required by the Government will first be offered to local authorities for the housing programme. For the remainder, as supplies become available *bona fide* merchants and producers will be invited, by advertisement in the local or Trade press and through Trade Associations, to apply for catalogues, which will be supplied for a nominal fee, and the goods will be sold by competitive

tender. The Ministry is also prepared to negotiate with manufacturers for them to purchase, in appropriate cases, the whole stock of their commodity remaining after local authority requirements have been met. The restriction of tendering to producers and recognised distributors is in accordance with the Government's policy to dispose of surplus goods through the normal Trade channels in order to ensure fair distribution. To guard against profiteering, the purchasers will have to undertake that the goods are not resold above the current market prices of comparable new goods. In certain cases the surpluses will be exported. Normally this will be done through the manufacturers or export merchants. The

bulk of Government stocks of goods suitable for housing will, of course, be absorbed by Government Departments themselves or by local authorities, and it is not expected that large quantities of items in short supply will become available to the Trade. There will, however, be large quantities of goods which, for various reasons, such as pattern or condition, are not of much use for housing as they stand or which, in view of considerations of transport, have only a local market. There will, for example, be thousands of slow combustion stoves intended for Army huts, miles of asbestos, pressure piping and glazed stoneware piping, and thousands of chemical closets.



In Hempstead, Long Island, New York, an insurance centre has been established with its products as accessible as groceries, hats or shoes. Photomurals line the walls and at the rear moving pictures are shown. The public can walk in and browse about without hearing an insurance sales talk. The architect is John Matthews Hatton.



## *County Architect of West Sussex*

Mr. Frank Reginald Steele, F.R.I.B.A., F.S.I., M.T.P.I., A.M.I.STRUCT.E., City Architect of Exeter, has been appointed County Architect to the West Sussex County Council, at a salary of £1,500 to £1,700 per annum. He takes up his appointment on May 1, and will succeed Mr. C. G. Stillman, F.R.I.B.A., who is now the County Architect of Middlesex. Born and educated in Staffordshire, and articled to Messrs. R. Scrivener and Sons, Stoke-on-Trent, Mr. Steele was subsequently Senior Assistant Architect

under the Borough Engineer of Wolverhampton, and a Principal Architectural Assistant in the Huddersfield Borough Engineer's Office. In 1937 he went to Bristol as Architect to the Education Committee, was later Chief Assistant Architect in the City Architect's Department, and became City Architect of Exeter in 1944. He is a Member of the Council of the Devon and Cornwall Architectural Society and Vice-Chairman of the South West of England Branch of the Town Planning Institute.

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*The Birmingham Local Joint Committee for the Building Industry has decided that the fixed week for the holiday under the HOLIDAYS WITH PAY Scheme shall be the normal working week commencing Monday, June 24, and terminating Saturday, June 29, both dates inclusive.*

The idea covered by the Committee includes the whole of the area of the City of Birmingham and a five miles' radius from Stephenson Place (excluding any portion of the Borough of West Bromwich), the County Borough of Smethwick, the Municipal Borough of Oldbury, portions of the Municipal Borough of Halesowen, portions of the Municipal Borough of Rowley Regis, and the whole of the Urban District of Solihull.

**Mr. G. W. Buchanan has been elected Chairman of the Joint Production Council to SPEED UP BUILDING INDUSTRY OUTPUT.**

Mr. G. W. Buchanan, C.B.E., who has just retired from the presidency of the National Federation of Building Trades' Employers, has been elected Chairman of the Joint Production Council, which has been set up in the building industry in terms of the recent wages agreement to speed up output to, at least, the 1938 level. Mr. J. W. Stephenson, C.B.E., President of the National Federation of Building Trades' Operatives, has been elected Vice-Chairman of the Council, with Mr. Richard Coppock, C.B.E., and Mr. I. Ernest Jones, Joint Secretaries. The Council consists of the executives of the two national federations, and sub-committees are already at work investigating the best means of tackling the problem.



Mr. W. H. Forsdike, the newly elected President of the National Federation of Building Trade Employers. Past-President of the Yorkshire Federation, the Sheffield Association and the Institute of Builders, he is known chiefly for his work as Chairman of the National Joint Council for the Building Industry

## A FEW FIGURES

YOU can prove anything with figures, the cynics say, only too often because they find themselves unable to prove anything either with or without them. But to use figures solely as weapons in an argument is to limit their function to one of their less essential purposes. Their proper use is to illustrate, to inform, to provide the bases from which the arguments can start and the decisions be made. They are the foundations of an enterprise, not the scaffolding. It is, therefore, a considerable satisfaction to see the first issue of the Government's new Monthly Digest of Statistics, published by H.M. Stationery Office at 2s. 6d., and to find that it is the first of a series. It is so long since exact information on the state of industry was made available that we have almost forgotten how wide a gap in our knowledge existed. Now we can follow each month the progress of reconversion, the state of our resources of power, our finances and wage rates, and the progress of the building trades. The digest so far contains only four tables directly relating to the building and civil engineering trades. They are: the estimated number of insured male workers in those trades, the production of building materials and components, the number of temporary houses and the number of new permanent houses under local authorities schemes. There is, as yet, no table showing the progress with new permanent houses. Doubtless those are being kept back until the Minister of Health gives his full report on the state of housing, due later this month.

The first two tables are the most important of the four. The figures for man power are encouraging. The total number employed has risen steadily each month since June, 1944, when the figure was 496,000 to the latest month for which figures are available, last November, 710,000, while the unemployment total (8,000) has remained virtually constant over the same period. At the same time a satisfactory percentage of operatives in Government employment has been switched from work for the Service and Supply departments on to new house construction. The first has fallen from 137,000 to 63,000, the second risen from 6,000 to 61,000 over the same period.

The figures for building material production do not show the same happy picture. There has not been sufficient increase in the production of either cement or bricks over the last twelve months. In January, 1945, we produced 206,000 tons of cement and 95,000 building bricks; in December, no more than 387,000 and 114,000 respectively. The monthly average for as late as 1942 was 621,000 and 248,000 respectively, while in 1938 the monthly average of building bricks produced was 610,000. Doubtless shortage of coal provides some of the explanation but it is clear that we are, yet, nowhere near our proper output.

But if these tables and statistics are to give a proper picture of the trade as a whole they need some amplification. Clearly

work in hand and completed, both by local authorities and private builders, must be included. Further, the figures should be broken down into a regional basis. Only that can give a useful picture to the individual concerned. Again, the figures for the production of materials and components are incomplete without some figure for stocks. At the moment the reader can see the manufacturing side. He has no means of knowing where production lags behind consumption and it is only by a comparison of those two sets of figures that any accurate estimate of the efficiency of the industry as a whole can be made.

But this is a birth and it is out of place on such an occasion to comment too harshly on the child's failings. One may express a preference as to the lines along which it is hoped that development will proceed; one should not criticise either child or parent for the fact that the offspring, unlike Venus, has not been born in possession of all desirable faculties. But it is to be hoped that the Central Statistical Office (and it is delightful to see those words as a Government address) will be as ready to accept guidance as it is to give it.



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N O T E S

&

T O P I C S

#### NATIONALIZATION OF THE ROADS

A considerable mass of material has been recently distributed by the employers' side of the road haulage industry which they describe as their case against nationalization. Far be it from me, here, to let myself get caught in the main issue at stake. But this question is interesting in two ways, in its relation to planning in general and in its relation to the technical art of propaganda in particular. In both the road haulage industry overstates its case.

If ever an industry showed that some sort of general national plan is essential it is the transport industry. We have been through the phase, which the pamphlets discreetly call the "pioneering" period, when road transport and rail transport were cutting each other's throats with such success that hardly a soul benefited from the resulting *mélée*. At the end of all that some national plan emerged. It was necessary to prove that the public needed your vehicles before you were allowed to operate them and we were left with an industry that was publicly controlled if not publicly owned. A campaign, therefore, which is pitched on the note that any Government interference in the industry must be bad seems to me to ignore too many facts to be convincing.

One has the same reaction when looking at the arguments as specimens of propaganda, for the impression it leaves is that it is propaganda and not argument. You have the impression that all the white is on one side and all the black on the other. That, in this year of grace, is too crude to be successful. The pamphlet takes a back-handed flick at the LPTB. The Board is probably not perfect but, to an architect, it has a much greater claim for sympathy than have the commercial concerns responsible for some of the bus stations to be seen up and down the country. There is no doubt which has the higher sense of civic responsibility. These points are interesting because every in-

dustry and every profession (not exempting the architectural profession) has the duty of explaining to the public what it does and what it is trying to do and why, and with that duty goes the parallel responsibility of deciding what is the fairest and most effective way (and those two are almost synonymous) of giving the public the information it needs and on which to make up its mind.

#### NEWS FROM THE NETHERLANDS

I have recently collected some facts on the state of housing in the Netherlands, which are interesting in revealing how closely the problem there and the problem here resemble each other.

For instance, in the extent of the damage. Before the war, there were 2,100,000 separate dwellings in Holland and during the war 85,000 of these were completely destroyed, 35,000 were severely damaged but are worth repair, and 270,000 were slightly damaged. Multiply these figures by five, to make up for the relative differences in the total populations, and you have figures very similar to our own.

Incidentally, it is interesting to see how this damage was spread geographically over the country. By far the largest portion of it occurred in Rotterdam, when the Germans bombed the town in 1940. 37,000 dwellings were destroyed then and the Germans allowed only one block of flats to be built during the war towards replacement. The next heaviest sufferer was The Hague, with 8,000. 3,500 were destroyed at IJmuiden, on account of German defence works or by Allied bombing, and Arnhem and Walcheren each lost about 2,000.

But the more interesting side, at present, is the planning of reconstruction. In some ways the Dutch have fared worse than us. For one thing it was impossible for them to make a start with the repair of minor bomb damage while the war continued. Everything had to wait until after liberation. Then, and this is a great handicap, many of the country's industrial records were deliberately destroyed during the war, by the Resistance movement, to hinder the Germans' attempts to conscript labour to work in Germany. The result is that the Dutch are only now able

to begin an industrial census and to piece together again the information that is essential if their building industry is to be properly organised.

Before the war there were some 150,000 men in the building trades there and about half their efforts were spent on domestic housing. This produced about 40,000 new dwellings a year, again a performance comparable with our own. The Dutch plan, I gather, was to allow complete freedom until the end of last year, in the hopes that men would be drawn gradually back into the trade as demand for war repairs grew, and that, as from the beginning of this year, a concerted Government plan should be put into operation to increase the annual pro-

duction of dwellings to a figure of between 60,000 and 70,000.

They estimated that by the end of the year at least 80,000 men would have returned to those trades but that they intended to raise the total number employed to 200,000, fifty per cent. more than its pre-war figure. Again, multiplied by five, those figures are remarkably like our own.

So far as I know Holland has not produced any revolutionary stroke to solve her own problems, which is a pity in one way, but some consolation to a country that has also failed to do so. Probably the answer is that there is no easy way out.

ASTRAGAL



## LETTERS

*L. E. Walker*

*J. V. J. Vivian*

*J. W.*

*Kenneth Reid*

### Are 35 mm. Cameras a Waste of Time?

Sir,—Your readers should not take seriously the statement by Mr. Kidder Smith, quoted by Astragal, that the 35 mm. camera is "more or less a waste of time." The truth is that, given a facility for composing a picture, and the patience required to master the scrupulous technique of miniature photography, this apparatus will produce, with a great saving of time and physical effort, results that stand comparison with those obtained with more bulky cameras.

Each of the four photographs chosen by Astragal for his illustrations, presumably the best of the bunch, could have been equalled by the use of a 35 mm. camera, and the accompanying enlargement from a Leica negative provides sufficient proof of this statement.

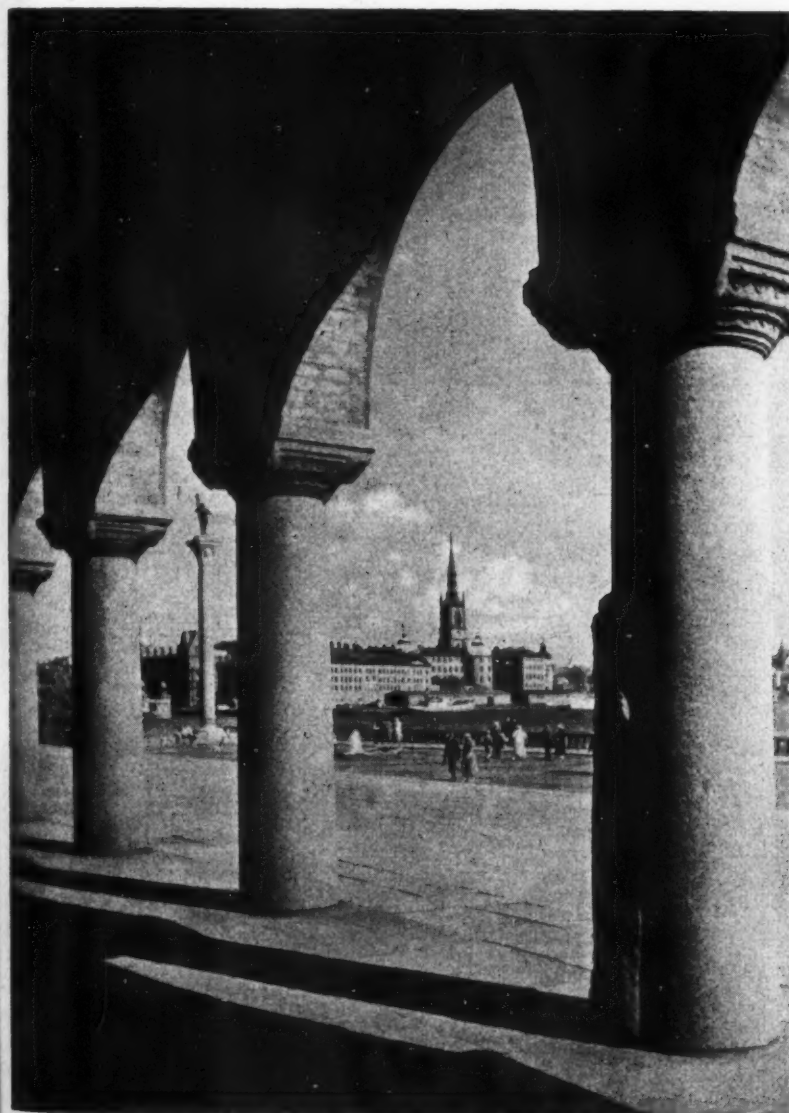
There are, of course, many architectural subjects for which, given time and opportunity, the larger stand camera is preferable but the great depth of definition and speed given by the lenses of very short focal length fitted to 35 mm. cameras enable these to be used successfully in a great number of cases where larger types would entirely fail. My own experience prompts me to suggest that architects should equip themselves with both types of apparatus, and use each for the purpose to which it is best fitted.

It is significant that some of the most accomplished professional photographers who specialise in architectural work, are also enthusiastic users of 35 mm. cameras.

L. E. WALKER.  
Kerner-Greenwood & Co., Ltd.  
Kings Lynn.

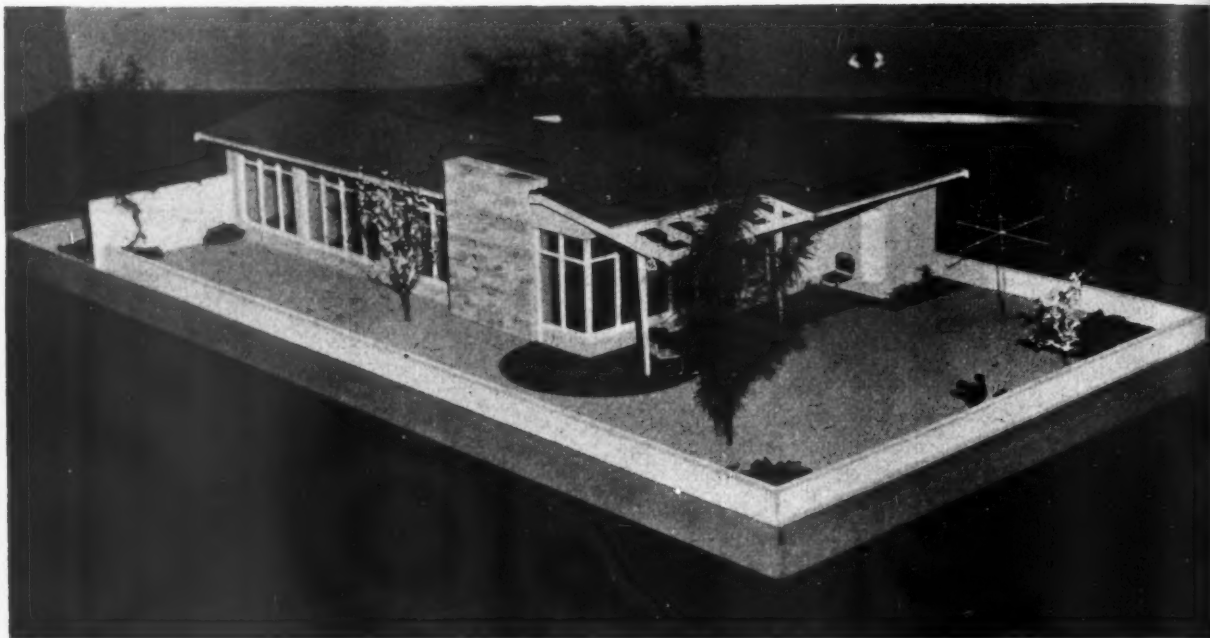
### Sharawaggi

SIR.—I'll buy it, what is this Sharawaggi business, anyway? Since I began to receive the JOURNAL again I have often been mystified by references to this and to other



The Arcade, Stockholm Town Hall. See letter, in right hand column, from L. E. Walker: Are 35 mm. Cameras a Waste of Time?

## AUSTRALIAN PRIZE-WINNER FOR POST-WAR HOMES



The trend of Australian domestic architecture was seen recently in an exhibition of models of prize-winning designs for post-war homes held in Melbourne. The competition, for which 1,000 entries were received, was sponsored by a Melbourne newspaper and called for designs under three sections—a single-storey house, a two-storey detached house, and a two-storey semi-detached pair of houses. The winning design for the single-storey house, illustrated here, is by Jeff Harding, A.R.A.I.A. The roofed car port, which can be used alternatively as children's playground, takes the place of the usual garage. Space is provided for the addition of an extra bedroom with minimum alteration of existing structure. Building costs for construction in brick of the houses ranges from £1,200 to £2,000, all houses being designed for 50 ft. frontage sites.

matters which have not been explained for the benefit of the uninitiated. The imposing glossary of abbreviations on the front of the JOURNAL does not always cover those used in the text; NALGO occurs frequently, but is not included. Two minor criticisms of an otherwise most readable and enjoyable publication.

J. V. J. VIVIAN

Bedford.

[Apologising to Mr. Vivian and to any other new or returned A.J. readers who are tossing helplessly on the tide of current

events, "Sharawadgi" is a technical gardening term of Chinese or Japanese origin and means "the art of the irregular." Resurrected from the 18th century literature by Christopher Tunnard, it made its first large-scale public appearance in the January, 1944, number of the *Architectural Review*, when it was used in a statement of editorial policy as a shorthand term for "the art of making urban landscape." In this statement, the *Review's* editor proposed that since planners so evidently lacked a visual policy, they might well pick up the picturesque theory [picturesque meaning not quaint, but possessing the qualities of the picture] which was so successfully applied to the face of 18th century England, and apply its principles to the urban landscape. It was an appeal in fact to carry on the English tradition of richness and intricacy in planning and architecture, not just for old times' sake, but because it is the only genuine functional approach. Since that epic number—after all, the *Review* only proposes an æsthetic faith—Sharawadgi has been discussed at the RIBA, AA, mass group meetings and at other less formal gatherings, and seems to be doing very nicely. As was recorded last week, it has even filtered behind the defences of MOTCP. That, Mr. Vivian, in brief, is Sharawadgi. There is nothing new about it, but—call it a faith, a movement, or scientific technique or what you will—it's going to make planning hum.—Ed., A.J.]



Trees in Cities. See letter from J. W.

### Trees in Cities

SIR.—Is there anything more futile and stupid? Judging by the treatment trees

receive at the hands of the municipal mutilator the ordinary citizen just hates the sight of them.

I enclose some snaps of these common objects which I suppose no one would deny are an outrage on any normal vision, and yet this is the sort of thing that is tolerated in all its indecency for six or seven of the dreariest months of the year without the slightest protest.

Nor can there ever be any hope of improvement in the course of time, for the process of mutilation (pruning if you like the term better) is claimed to be necessary.

No, Sir, whatever other obscure virtues they may be imagined to possess, city trees are without individuality, character or charm, even in the height of summer.

J. W.

## CABLEGRAM

### UNO Headquarters

TO THE ARCHITECTS' JOURNAL.—The Museum of Modern Art in New York proposes an international competition for UNO Headquarters. United support of leading architectural magazines in each country will forward this proposal. Will you join us in backing the Museum's proposal? Letter follows, but an immediate cabled reply collect supporting the principle would help.—Kenneth Reid, Editor, *Progressive Architecture*, 330, West 42nd Street, New York 18, New York.

[Our immediate cabled reply was, Yes.—Ed., A.J.]

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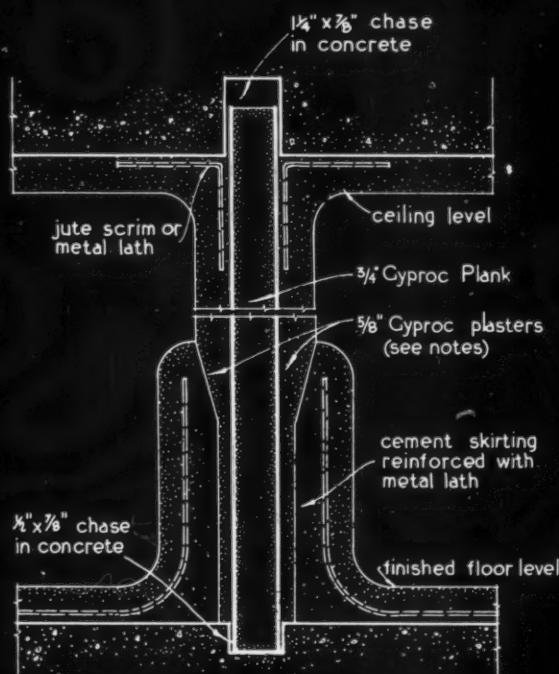
Yes.—



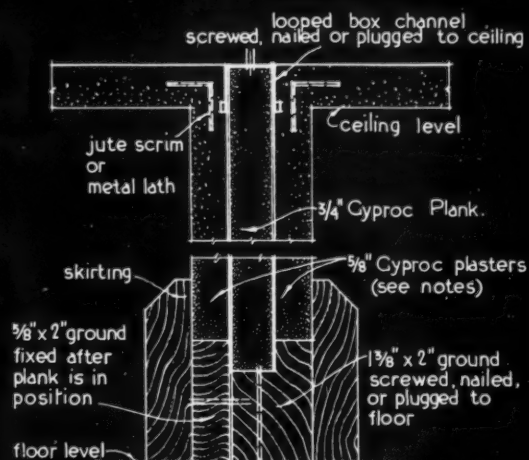
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## THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATION

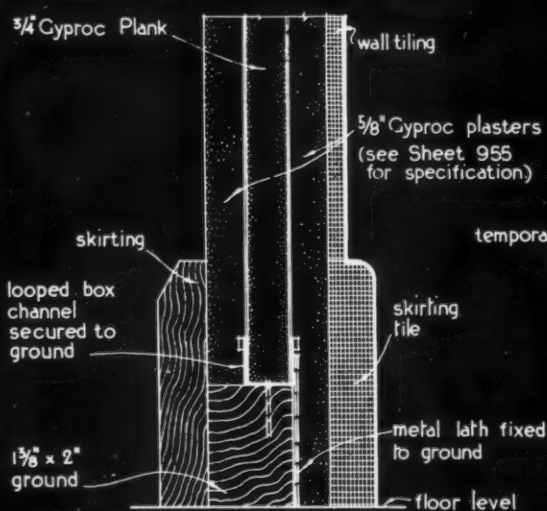
FIXING DETAILS USING: CHASE-IN-CONCRETE ARRANGEMENT, TIMBER GROUNDS, AND TIMBER GROUNDS WITH TILING.



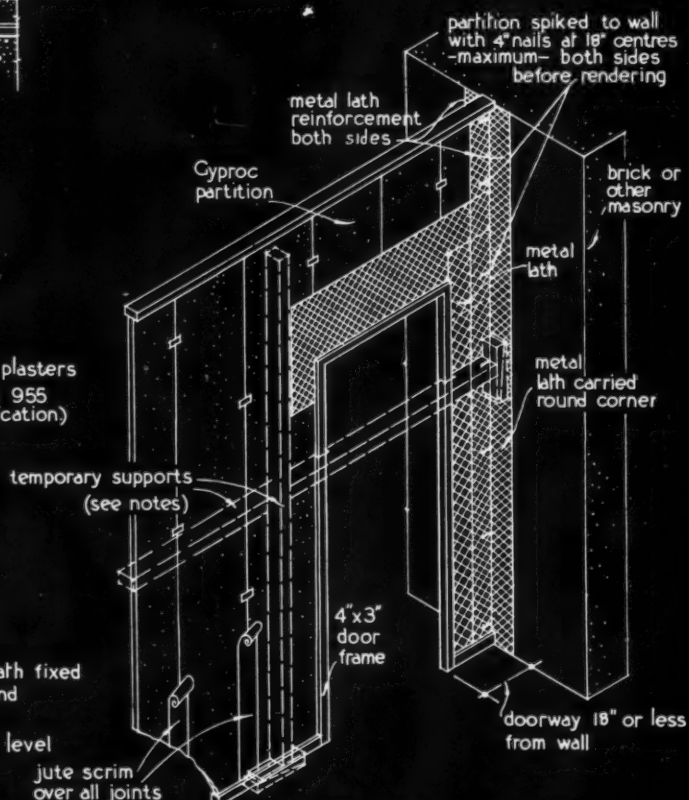
SECTION SHOWING PARTITION LOCATED IN CHASE IN CONCRETE.



SECTION SHOWING PARTITION FIXED AT FLOOR LEVEL BY MEANS OF TIMBER GROUNDS.



DIVIDING PARTITION SECURED BY TIMBER GROUNDS AND CHANNEL.—TILED ONE SIDE.



DETAIL SHOWING REINFORCEMENT WHERE DOOR OPENING OCCURS WITHIN 18" OF WALL.

Issued by Gyproc Products Ltd.

INFORMATION SHEET: PARTITIONS,

GYPROC 2" SOLID PARTITIONS 2.

945

THE ARCHITECTS' JOURNAL  
LIBRARY OF PLANNED INFORMATION

INFORMATION SHEET

• 957 •

PARTITIONS

**Product:** GYPROC 2 in. Solid Partitions (2).

**General :**

This Sheet is a continuation of Sheet No. 955. It sets out further methods of securing the partitions at floor and ceiling levels, and indicates detailing of door openings where these occur near walls.

The methods described below are illustrated on the face of this Sheet.

**Fixing by Means of Chases in Concrete :**

A  $1\frac{1}{4}$  in. by  $\frac{7}{8}$  in. chase is either cut or cast in the structural ceiling and a  $\frac{1}{2}$  in. by  $\frac{7}{8}$  in. chase in the floor. The  $\frac{3}{4}$  in. Gyproc plank is located in these chases. The ceiling cove is finished in Gyproc plasters reinforced by jute scrim or metal lath, and the skirting by Portland cement reinforced with metal lath.

**Fixing to Floor by Means of Timber Grounds :**

Where this arrangement is adopted, rebated timber member is first screwed, plugged or nailed to the floor; the ceiling fixing being by looped box channel as shown on the face of this Sheet and fully described on Sheet No. 955. The Gyproc plank is inserted and subsequently held securely in position by a batten screwed to the main member. The partition is plastered in the normal way and skirtings are then fitted. Alternative detailing for tile finish one side is also illustrated.

**Temporary Supports :**

It is essential to keep the partition in exact alignment until the rendering has set, and adequate temporary bracing should be provided to achieve this. One method of bracing is fully described on Sheet No. 955.

**Butt Fixing to Walls :**

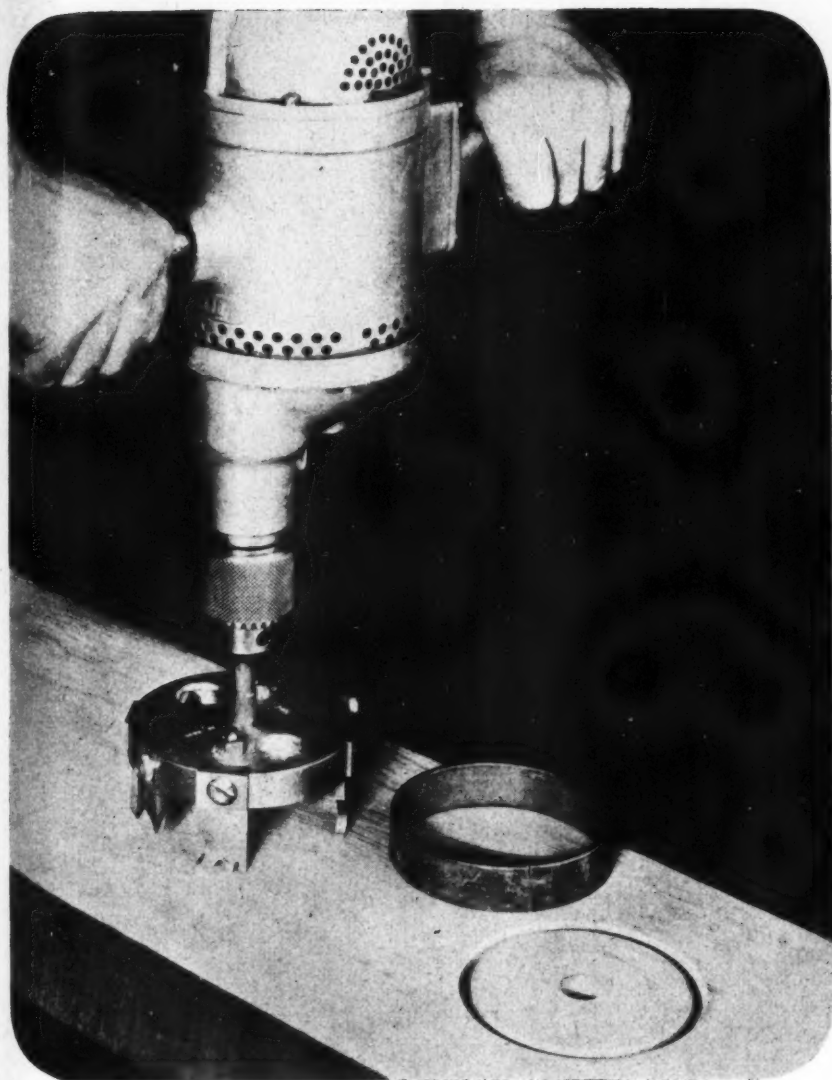
Where the partition abuts on new walls the fixing methods described for floor or ceiling can be used, or, alternatively, the Gyproc plank can be secured by 4 in. spikes on each side of the plank at not more than 18 in. centres.

If the partition abuts on a wall which is already plastered, the plaster should be cut back to the brickwork, or other masonry, for not less than 3 in. on each side of the Gyproc plank.

**General Detailing, Erection, Plastering, General Construction of Door Openings, etc.**

A plastering specification together with details of vertical jointing, and suggestions for temporary support for the Gyproc plank during erection, etc., are given on Sheet No. 955.

**Issued by:** Gyproc Products Limited  
**Head Office :** Westfield, Upper Singlewell Road, Gravesend, Kent  
**Telephone :** Gravesend 4251-4.  
**Telegrams :** Gyproc, Gravesend  
**Glasgow Office :** Gyproc Wharf, Shieldhall, Glasgow, S.W.1  
**Telephone :** Govan 614  
**Telegrams :** Gyproc, Glasgow  
**London Office:** 21, St. James's Square, London, S.W.1  
**Telephone :** Whitehall 8021



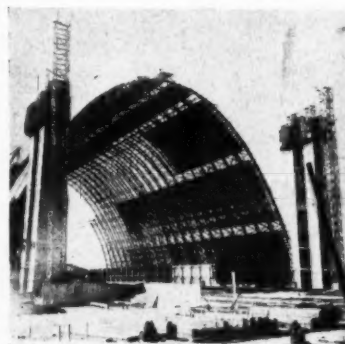
1 Left, a Teco split ring and grooving tool. This timber joint connector relieves the stress on the bolt and spreads the load over almost the entire cross-section of the wood. This connector made possible the construction of the high airship hangars for the US Navy, an example of which is shown below during construction.

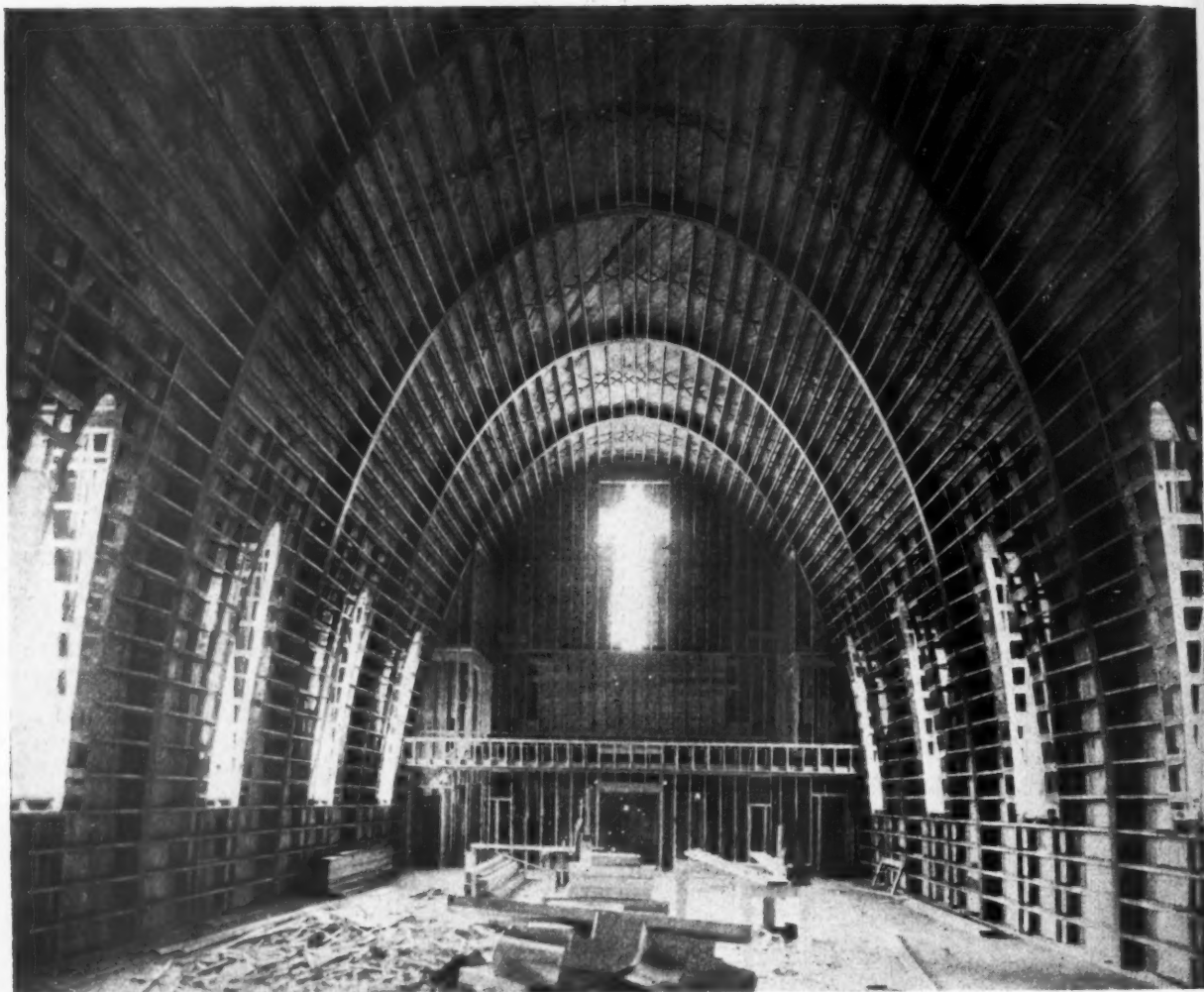
# A D V E N T U R E S I N L U M B E R

BY DAVID PLEYDELL BOUVERIE

Censorship has now been lifted from the wartime developments of lumber in America; architects and engineers both in England and abroad will be quick to exploit and express these new potentialities. Wood is becoming a freer medium for structural use, and wood products are losing the disadvantages inherent in natural lumber. These notes are written too early to illustrate anything but the very first of the forms and solutions which may result. However, they may serve to

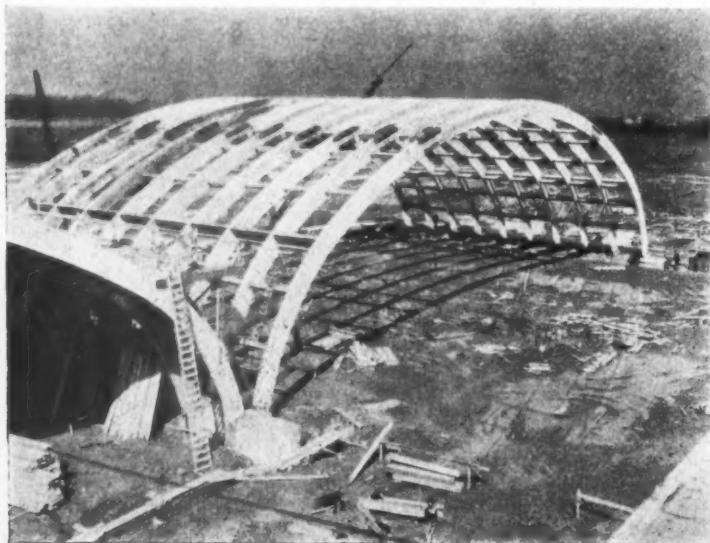
induce some new creative thinking in a field in which the technical data is now (for the first time) plentiful, and easy to obtain. The first photograph (1) shows a Teco split ring and grooving tool. This timber joint connector has been well known for some years. Its function is, of course, to relieve the stress on the bolt and spread the load over almost the entire cross-section of the wood. This represents an early contribution to the enormous amount of research





3

*Above, the Church of St. Paul, Minneapolis, during construction ; it was built ten years ago before the development of modern glues ; the laminated arches had therefore to be protected against water and rot. Below, 157 ft. laminated arches at 16-ft. centres built with the new glues during the war for a US airbase ; the structure has steel rod diagonal bracing.*



4

which was, and is, being carried on to overcome the basic disadvantages of natural lumber—namely, weakness at the joint (which, in the past, has often meant using member sizes much larger than required by the stresses in them, in order to have joints sufficient to stand these same loads), the restriction to shapes and sizes which the tree can provide, the splits, cracks, reaction to heat, humidity and cold, and the intermittent defects all of which seriously limit its use. The connector illustrated made possible the construction of Airship Hangars for the US Navy (2) at a time when steel was unobtainable for such a purpose. The hangars of this type are the largest existing clear spans in lumber (246 ft.). It is interesting to compare this solution with the continuous, laminated arches which were used in the eclectic, stucco church of St. Paul in Minneapolis, built some ten years ago. This construction picture (3), showing its glued laminated arches of rectangular section, was taken before the structure was disguised.

Glues were then available to form

a laminated arch which was structurally sound if fully protected, but no glues had been developed which were completely waterproof, rot-proof and able to maintain a perfect bond under all conditions with the laminations which they held. Such glues have been developed in World War II, the specifications and findings on their extensive use have been released by the Government, and the products are now becoming available for civilian use. They are resorcinol and resorcinol-phenol synthetic plastic resin waterproof glues. Room-temperature - setting and intermediate (warm)-temperature-setting, these glues are as durable as the most durable of wood species and of tremendous strength.

(4) shows 157 ft. glued laminated arches on 10-ft. centres for a US Airbase. These arches were delivered in three sections of about equal length. The sections are spliced together with  $\frac{1}{2}$  in. steel plates. Note the splayed concrete foundation shared by two arch spans at the springing point. The structure has  $\frac{7}{8}$  in. diameter steel diagonal bracing plus timber box and I-shaped struts.

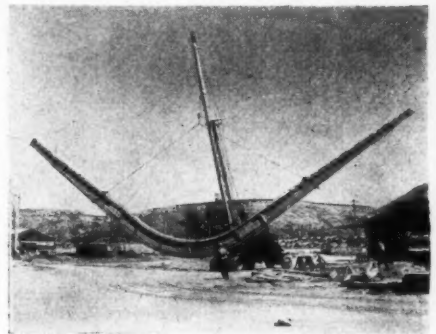
(5) shows a glued laminated timber

3-hinged arch of 120 ft. span and 72 ft. rise which will be hoisted into position to form an industrial plant (6). Maximum depth of beam is 49 in. Note the rectangular laminated member in foreground as a contrast to the I-section of main structure.

A more stereotyped solution is the 100-ft. bow-string bolted truss with a laminated upper chord and 25-ft. braced columns (7), which was the structural unit for some US Navy machine shops (8).

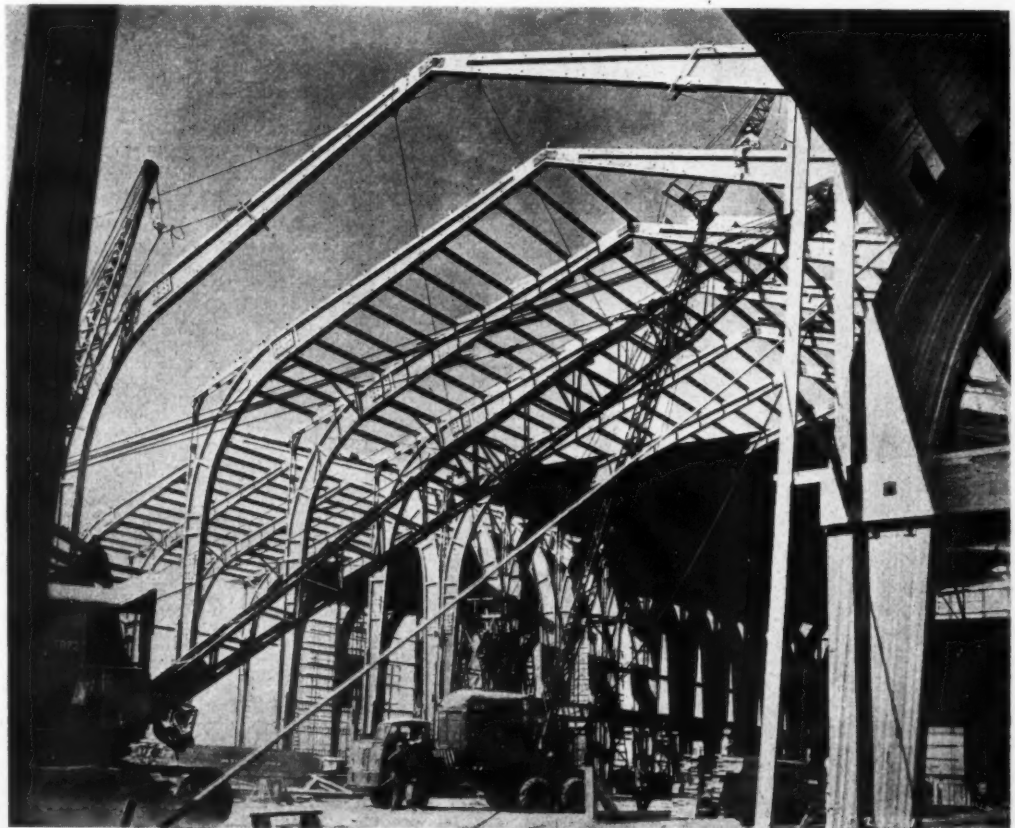
While these expedients were providing a new knowledge of the potentialities in lumber, engineers were developing uses for wood in other fields, of which aviation had the highest priority. Photographs (9) and (10) show two methods of forming moulded parts. (9) is an autoclave in which veneers, impregnated paper and resins are subjected to steam heat and pressure, and (10) shows the electronic method of curing the resins. The part shown being processed is a bent laminated bulk-head. (12) shows 3 main assembly parts. 2 half-shells moulded of veneer and impregnated paper, and centre bulk-head of which one section is seen in the previous picture. The

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Above, a glued laminated timber 3-hinged arch of 120 ft. span and 72 ft. rise for an industrial plant; the maximum depth of beam is 49 in. Below, the industrial plant during construction.

6



ADVENTURES IN LUMBER



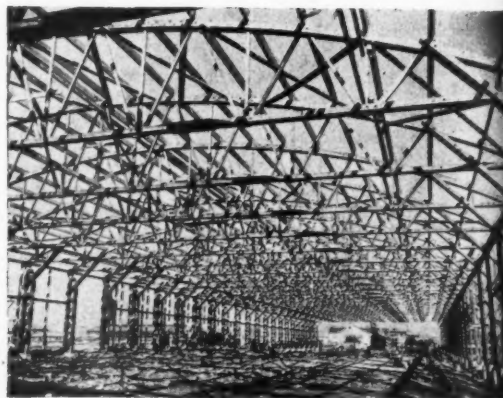
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finished product is a 165-gallon jettison auxiliary fuel tank (weighing 75 lb.) for the Vought Corsair airplane.

Among a thousand and one possibilities of the new timber technology are such items as plywood hinges with a moulded tube for the metal pin, laminated ships keels and golf club heads. But in a less exploited field the sandwich materials suggest many exciting possibilities made, for example, of pure cellulose acetate with papreg facing, highly carbonized rubber bonded to plywood, or plywood bonded to balsa (a combination used in the Mosquito bomber).

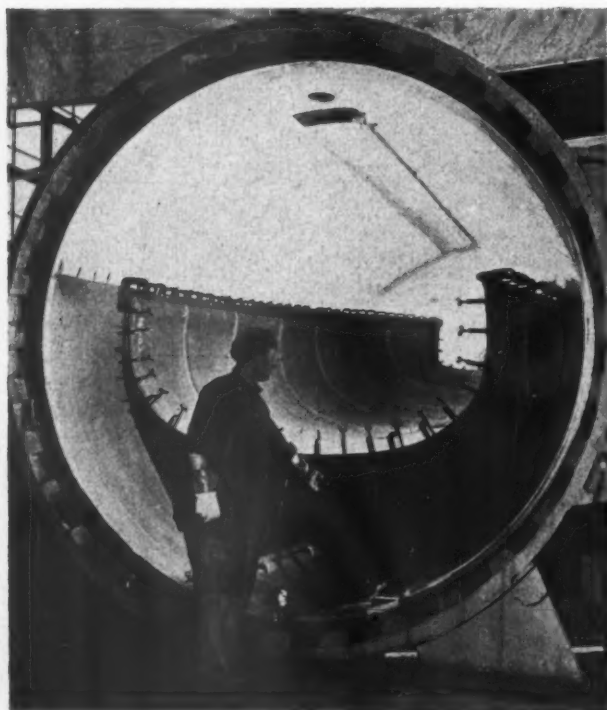
Great progress has been made in improving woods for specific purposes. While some of these developments are not of immediate application to the building industry, they are well worth study for

*Left, a 100-ft. bow-string bolted truss with a laminated upper chord. Below, the trusses in position during the construction of a US Navy machine shop. Bottom left, an autoclave in which veneers, impregnated paper and resins are subjected to steam heat and pressure. Bottom right, the electronic method of curing the resins; the part being processed is a laminated bulkhead.*

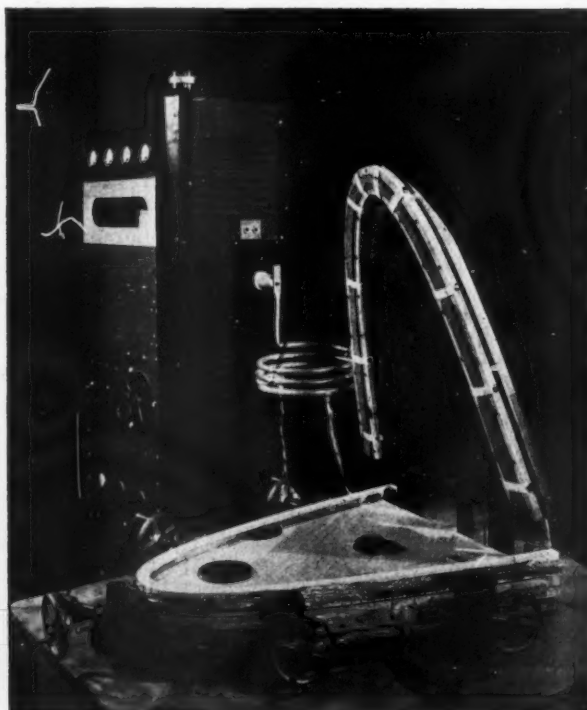


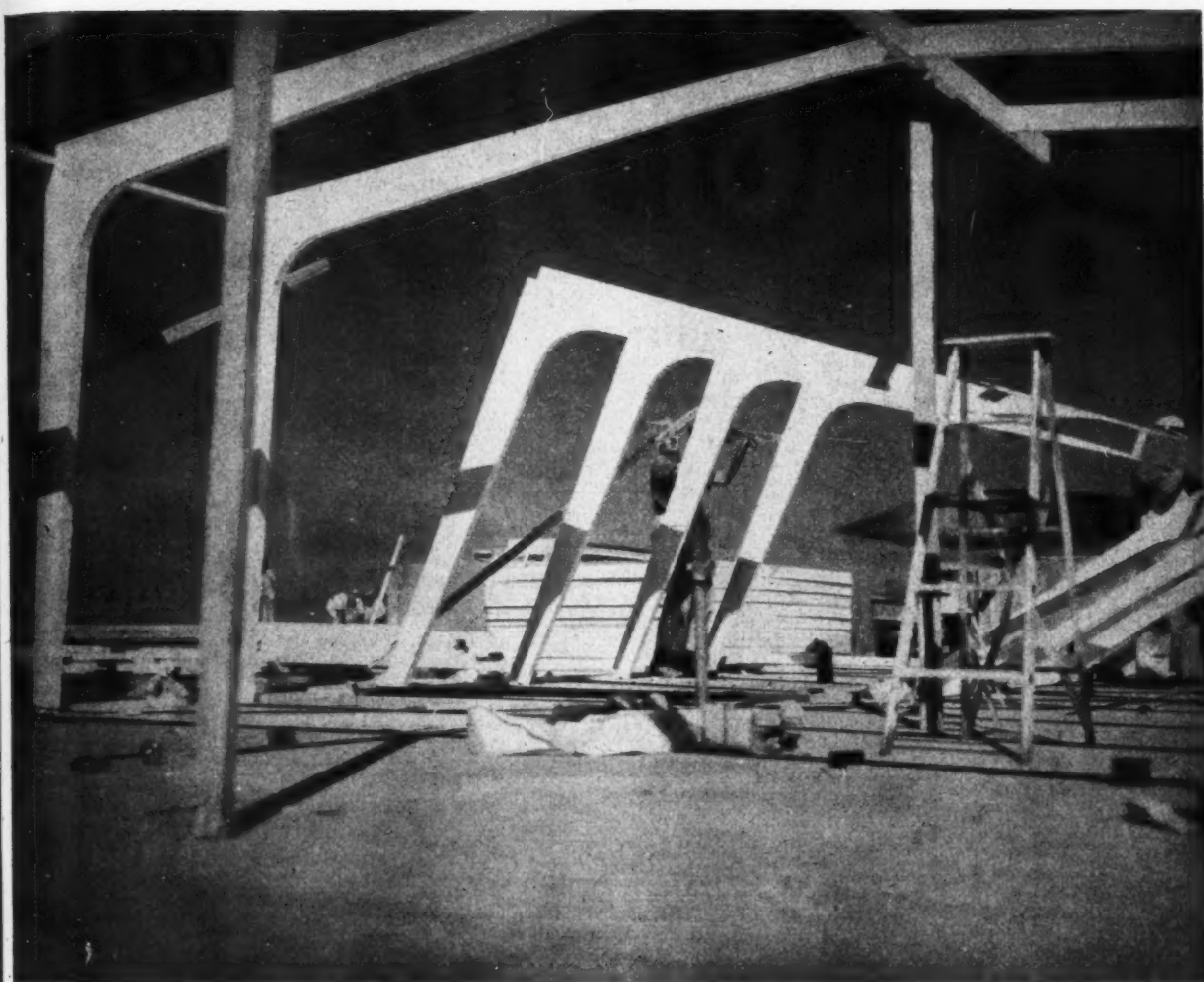
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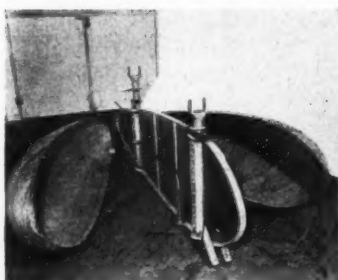


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*Above, laminated timber members for prefabricated housing. Below, three main parts of an auxiliary fuel tank.*



12

the possibilities which they imply. Such developments include compregnated wood of three pieces of 20-ply compreg formed under pressures of 150, 250 and 1,000 lb. per sq. in.

The photograph, which looks like a composition by Paul Nash (11) is a construction shot showing the use of laminated structural members in prefabricated housing. To make such projects economically feasible, careful calculation is necessary to offset the additional cost per board foot of laminated members, by taking full advantage of the medium. The allowable stresses will be higher (elasticity and moisture content are consider-

ably lower for laminated members) and where natural lumber of a constant dimension is used, laminated members will be tapered wherever the stresses are tapered. Timber development has, of course, little chance of wide application in Great Britain compared with the USA in the immediate future. Nevertheless, before long even in Great Britain the new timber technology is bound to have important effects on building. The new properties of lumber undoubtedly present a challenge to modern designers for whom many media (such as carved stone or wrought iron) have long since passed their zenith for expression.

## A D V E N T U R E S   I N   L U M B E R



PROJECT FOR A GROUP OF  
SIX HOUSES  
AT CHESLYN HAY, STAFFS.  
FOR THE CANNOCK R. D. C.

DESIGNED BY W. J. PAGE

LOCALITY.—Cheslyn Hay is a small mining town bordering on Cannock Chase and situated about four miles from Cannock. Unlike most of the development in the area which takes the form of unrestricted belts along the main roads, this small town possesses a character of its own and has a very

definite community sense. Being ideally situated near to but off the main road, Cannock-Walsall Road, it has become an example of the policy of the Rural Council and Local Planning Authorities which is to develop and reintegrate the existing small towns, which have been in the past, and are now,

definite urban centres rather than encourage additions to spread along the main roads.

As part of its housing scheme, the Council decided to erect six houses upon a triangular piece of ground of something over half an acre facing the East side of the High Street in Cheslyn Hay. The property

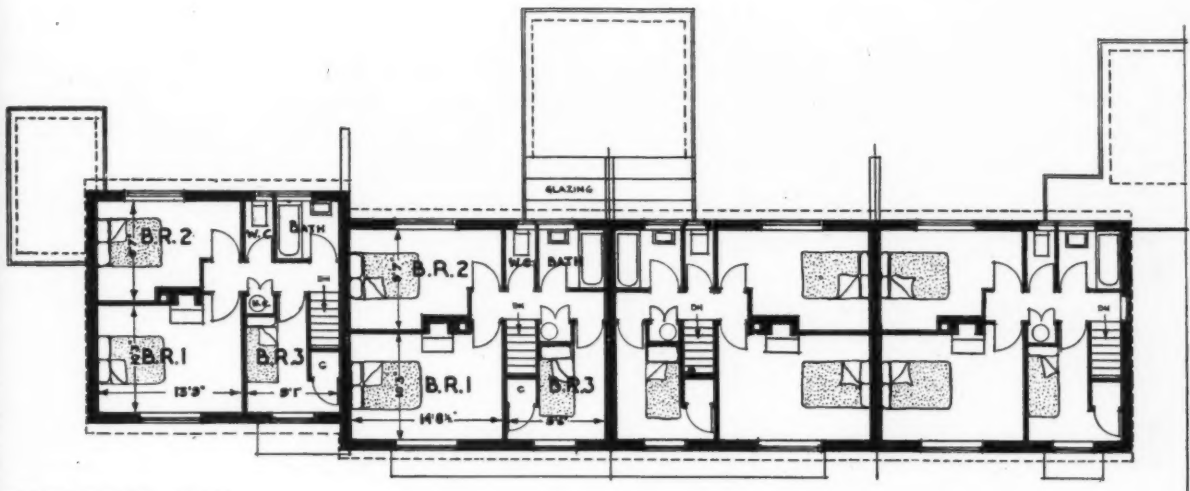
opposite consists of houses in brick and tile in the local manner.

**PLANNING.**—The site falls some 12 ft. between its extremities and it was decided to build a pair and a block of four houses dropping

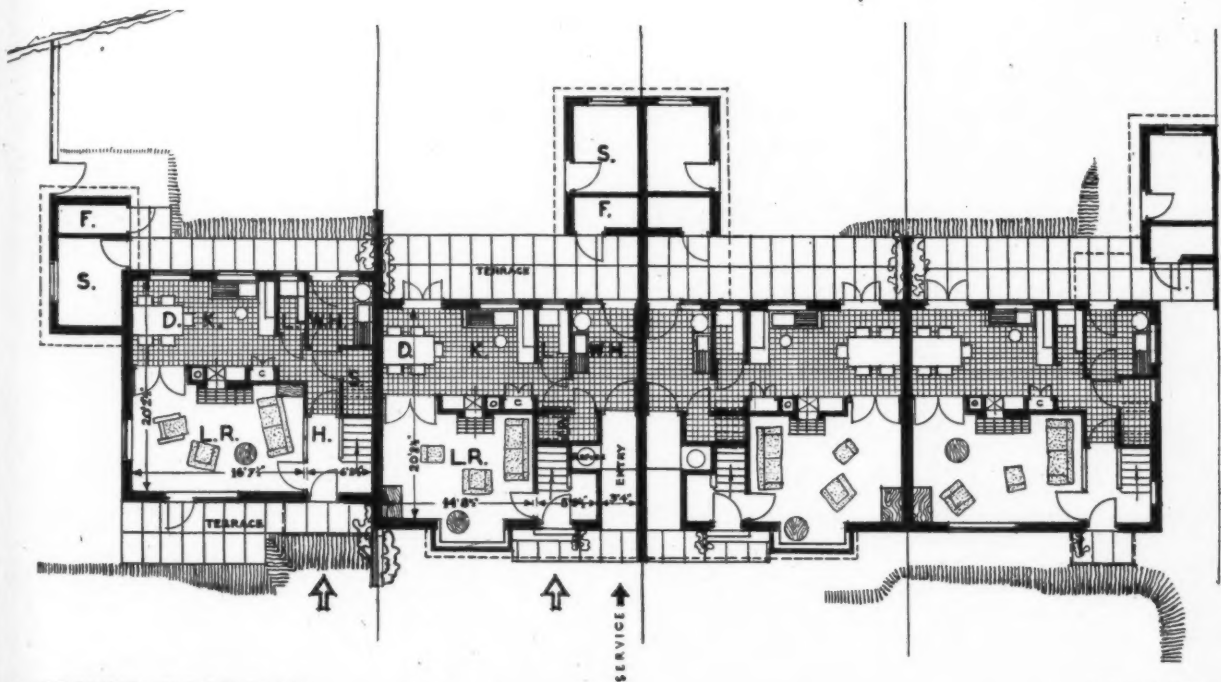
the last house of the block of four to accommodate the site levels. In this house a plan arrangement was adopted to bring the living room into relationship with the large garden at this end of the site. Although this faces north it

was felt that some prospect of it should be afforded.

Each terrace type, *i.e.*, the two middle houses of the block of four has separate access to the rear through a half entry off which is arranged access to the



FIRST FLOOR PLAN



GROUND FLOOR PLAN

[Scale:  $\frac{1}{4}$ " = 1'0"]

refuse bin. Access to the rear is then completed by using the laundry as a corridor room.

A back to back cooker will provide space heating by a fire in the living room and by warm air convection to two bedrooms, as well as the hot water supply, to sinks, baths, etc., and to the wash copper, which is boosted to boiling by gas.

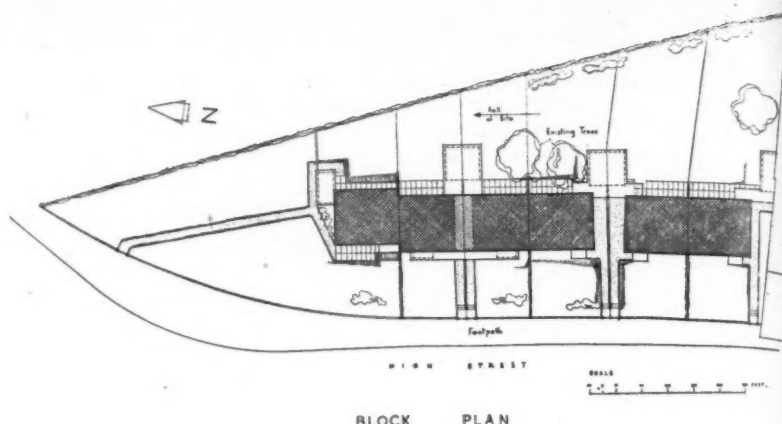
All living rooms face west and the dining kitchens east. Although the dining-space is continuous with the kitchen, this may, when the occasion demands, become part of the living room by opening the double doors and curtaining off the kitchen portion. The house when used in this manner becomes more akin to the working kitchen type.

Some expression of the open plan is obtained by regarding the central fireplace wall as an incident in the ground floor space rather than completely separating two rooms. It is proposed, therefore, to finish this wall in some different material or colour. Some further extension of interior space is obtained by the clerestory between the living room and the hall, the ceiling running through and giving some extra continuity of surface.

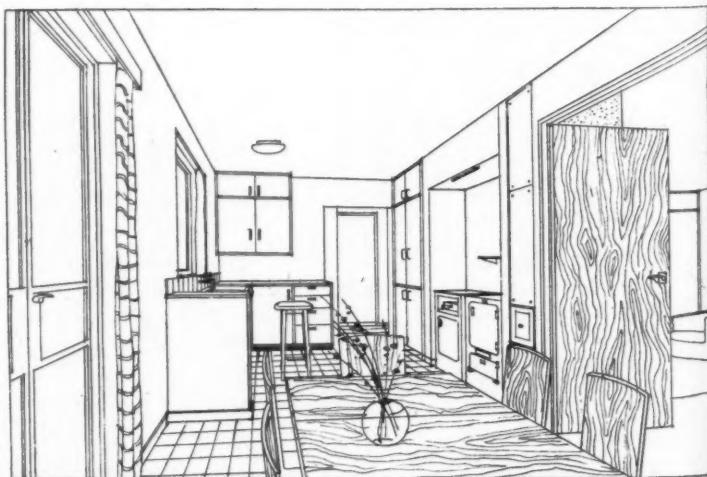
Outbuildings are provided comprising store and fuel, with covered ways to rear entrances.

**CONSTRUCTION.** — Traditional brick, tile and timber construction with RSJ beams where necessary in the thickness of the floor. External walls are of 11 in. brick. Internal walls are  $4\frac{1}{2}$  in. brick, and partitions are 3 in. breeze block. The roof is of tiles, battens and felt laid on 4 in. by 2 in. rafters. The first floor is boarded and joisted, and the ground floor is of Granwood and quarry tiles laid on concrete. Windows are standard no-glazing bar metal casements in wooden frames. The flat roofs are of Ruberoid, in two layers; built up roof to outbuildings on boards and joists. Bays and canopies are 4 lb. lead flats.

**INSTALLATIONS.** — Heating cooking space and water heating is by a back-to-back range. Auxiliary cooking is by gas. Clothes and washing is by gas boosting to boiler. EJMA standard cupboards are used, and there are built-in cupboards in kitchen and bedroom No. 3. Light points are installed throughout the houses and power points in living room, kitchen and all bedrooms.



*Above, site plan. Below, top, sketch of a living room; bottom, sketch of a dining kitchen.*



## PROJECT FOR SIX HOUSES AT CHESLYN HAY

# INFORMATION CENTRE STRUCTURE

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

## PHYSICAL PLANNING

2395

Australian Housing

COMMONWEALTH HOUSING COMMISSION. FINAL REPORT. (Ministry of Post-War Reconstruction, Australia, November, 1945, 338 pages.) Present housing position. Future requirements. Government-financed and private building. Physical planning. Administration. Building Industry. Standards. Community facilities. Legislation.

The Commonwealth Housing Commission was appointed on April 19, 1943, to inquire into and report on

- (a) The present housing position in Australia; and
- (b) The housing requirements of Australia during the post-war period.

The following is a synopsis of the Commission's findings:

### 1. The Present Housing Position

It is estimated that by January, 1945, the shortage of dwellings, including sub-standard houses needing replacement, will amount to 300,000.

Existing cities and towns need wholly or partially replanning.

### 2. Future Requirements.

Normal annual post-war requirements will be about 40,000 dwelling units. This number makes no allowance for immigration nor replacement of obsolete dwellings.

Community facilities need to be provided in both new and built-up areas.

It should be the aim within ten years after the war to overcome the housing shortage, repair and replace sub-standard dwellings and undertake slum clearance.

It is estimated that this will require, by the end of 1955, the erection of at least 700,000 dwelling units.

The target should be 50,000 dwelling units erected or under construction by the end of the first post-war year, rising to 80,000 by the end of the third post-war year, and maintained at that level until the shortage is overcome.

### 3. Government-Financed and Private Building

Of the 50,000 dwelling units to be constructed in the first post-war year, 30,000 might be Government-financed and 20,000 financed by private enterprise. Of the 80,000 dwelling-unit programme, 40,000 might be built by Government agencies and 40,000 by private enterprise.

A Commonwealth Housing Authority should be set up with planning and advisory functions, and State Housing Authorities should be established with full housing powers to be responsible for detailed housing projects and for the construction and administration of Government-financed housing. (This point has been realised in the meantime.)

The housing undertaken by private enterprise will be financed and constructed as before the war by semi-Government bodies,

banks, insurance companies, building societies, friendly societies, other bodies and individuals.

4. National, Regional and Town Planning. The Commonwealth Government should undertake responsibility for National Planning, and for this purpose should set up a Commonwealth Planning Authority.

State planning should be co-ordinated through State Planning Authorities. Regional and town planning legislation should be enacted in all States.

Pending the drawing up of full town plans, the control of land should be through zoning, the declaration of housing development areas and control and subdivision of land.

The Commonwealth Government should establish a National School of Physical Planning.

### 5. Land for Residential Purposes.

A Government valuing authority should be established in each State and should use uniform principles of valuation.

A special committee should be set up to investigate land nationalisation, and as an alternative, an incremental (betterment) tax.

State Housing Authorities should be empowered:

- (a) to declare housing development areas, so as to control the subdivision and price of land required for residential building;
- (b) to purchase or resume land required for housing purposes;
- (c) to replan and/or re-subdivide areas purchased or resumed.

6. Administration of Housing.

Housing functions of the Commonwealth and State Governments. During the early post-war period the great bulk of Government-financed housing should be for renting; the weekly rent of a dwelling unit of the standard recommended should be the economic rent or one-sixth of the family income, whichever is the less. Where the economic rent is more than one-sixth of the family income the difference should be covered by a subsidy provided by the Commonwealth and State Governments.

The standard weekly payment for purchase of a Government-financed dwelling of the standard recommended in this report should not exceed 22½ per cent. of the weekly basic wage.

### 7. The further chapters deal with:

Organisation of the building industry.  
Labour for post-war building.  
Building construction and materials required.

Housing standards.  
Types of dwellings.  
Rural housing.  
Slum clearance.  
Community facilities.

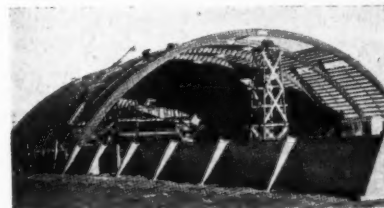
The Appendices to the report contain:

Summary of housing legislation of the Australian States and New Zealand, Comparison of the Constitution, Objects and Powers of Certain State Housing Bodies, Model Housing Act; Standards of Habitation in urban and rural areas, cost of building materials and methods of calculation of economic rent and rental rebates, standard types of houses for various climatic conditions and housing planning principles.

2396 Laminated Arches and Beams

UNIT LAMINATED ARCHES AND BEAMS. (Pamphlet issued by Unit Structures, Peshtigo, Wisconsin.) Data for structures in glued laminated timber.

This pamphlet is an impressive illustration of the great development in timber construction during the last 35 years. Most of the structures shown are three-hinged frames providing a greater stability than is afforded through separate roof trusses and supporting columns artificially connected. The frames with a single large section give unobstructed areas, with freedom from cobweb trusses which interfere with ceilings, lighting, ventilation and decoration. The manufacture is a process of forcibly curving and gluing, under high pressure, laminae of pre-determined moisture content, into solid units. Glues of high water resistance form a permanent bond. This type of structure has a universal application in churches, halls, assembly rooms, etc. It creates very pleasing architectural effects. Arches have been used in hangars up to 175 ft. span. It is interesting to note the striking similarity in appearance with welded steel and reinforced concrete framed structures.



Top, the Gustavus Adolphus College gymnasium of laminated timber arches of 120 ft. span, buttressed at wall height. Centre, laboratory for the U.S. Signal Corps, 52 ft. wide and 64 ft. high of laminated arch construction. Below, bridge at Madison, a glued laminated arch structure of 78 ft. span. See No. 2396.



Split rings, which in recent years have become standard practice in the USA for timber connections, carry the load, the bolts merely holding parts together. See No. 2397.

## 2397 Timber Design

**WARTIME INNOVATIONS IN TIMBER DESIGN.** (*Engineering News-Record*, October 18, 1945, pp. 514-517.) Increased permissible stresses used for wartime construction recommended for peacetime. Provision for stress variations for combinations of temporary and permanent loads. Higher stresses permissible for laminated timbers. Stresses due to bending modified by form factors.

Wartime consumption of timber in USA made it necessary to effect the greatest possible economies in the use of wood. Design loads were drastically reduced and permissible stresses increased by 20 per cent. (See No. 1318:9.12.43.) The increased stresses do not appear to have resulted in generally dangerous structures. Consequently these stresses are recommended by the National Lumber Manufacturers' Association for normal peacetime designs with normal peacetime design loads. (See No. 2104:13.9.45.)

Fundamental to all engineering design in timber is stress-graded lumber. (See 2114:20.9.45.) Stress-grades are now established for 27 different types of wood. Values are specified for tension, extreme fibre stresses in bending, horizontal shear, compression perpendicular and parallel to the grain and modulus of elasticity. Experience has proved that permanent loading on timber structures is far more unfavourable than temporary loading. (See Nos. 1146:20.5.43 and 2202:22.11.45.) For this reason the following variations are permissible: Snow load combined with dead load, 15 per cent. increase; wind or earthquake load combined with dead load, 50 per cent. increase; impact stresses 100 per cent. increase, if the combined stresses do not exceed twice the permanent dead load stresses. When decay hazards exist, stresses are reduced by 10 to 33 per cent.

The permissible stresses and design

procedures evolved assume that designs are carried out by competent engineers and adequate supervision is provided during fabrication and erection.

Timber connectors, almost a novelty in USA ten years ago, have now become practically standard practice in timber framing. Four types are in current use; of these split rings are the most widely employed.

Requirements for large high-grade structural timber that could not be satisfied gave a strong impetus to the use of glued laminated members. (See Nos. 1393:2.3.34, 1704:7.12.44, 2000:28.6.45; 2022:12.7.45.) Increased costs per board foot must be overcome by careful design. Permissible compression parallel to the grain is increased by 50 per cent. For members subjected to bending the laminæ are selected for position.

Built-up beams utilizing plywood webs and solid laminated flanges have been employed in increasing numbers. (See No. 1402:9.3.44.) Design in general conforms to that for metal girders, but important departures are made necessary by the characteristics of wood.

Originally, casein glue was almost exclusively used. Within the past ten years synthetic glues have come to the forefront. Glue lines are assumed to be as strong as the wood itself. Glue bonds must be properly made with adequate clamping under shop controlled conditions.

Nail gluing is rapidly being outlawed. (See No. 1853:29.3.45.)

The practice of treating timber to increase its fire-resistance came into increasing use during the war. Generally, when treatment is carried out properly with either oily or water-soluble preservatives, no diminution of strength occurs because of the chemicals themselves.

The article is accompanied by a selected bibliography.

## 2398 Plywood

**STRUCTURAL USES OF PLYWOOD.** *Paper to the Design and Industries Association by A. H. Scroggs.* (*The Architects' Journal*, January 10, 1946, pp. 34-36.) Materials, manufacture, grading. Principles of design of modern plywood structures. Application in the aircraft and building industry.

## 2399 Repair

**REPAIR OF DAMAGED BUILDINGS.** *Building Research Station.* (See Nos. 1843:22.3.45, 2316:10.1.46.) Further leaflets issued free of charge. No. 18, Reinforced Concrete Columns Damaged by Fire. No. 19, The Repair of Solid Concrete and Hollow-tile Floors Damaged by Fire.

No. 18 contains data on the effect of heat on the strength of steel and concrete. Mild steel loses rapidly in strength when heated over 400 deg. C. At about 550 deg. C. its strength is reduced to about half the original value. When cooled down, the original strength is regained with comparatively little loss, unless the temperature has exceeded 800 deg. C. The effect of heat on concrete is permanent, and can be recognized on the discolouration of the concrete. The strength of concrete is reduced if the temperature has exceeded 250 deg. C. The loss is about 50 per cent. if the temperature has reached 500 deg. C. The colour of the concrete is an indication of its loss of strength, the loss of strength of the steel may be estimated by testing stirrups, cut out from the most seriously damaged and from an undamaged or slightly damaged part of the same columns respectively. It is then possible to estimate the strength of the remaining columns and decide upon the method of

repair. No. 19 deals mainly with the method referred to in No. 2099—13/9/45.

# PLUMBING and Sanitation

## 2400 The Unfit House

**THE UNFIT HOUSE.** J. E. Blease. (*Journal of the Royal Sanitary Institute*, January, 1946.) What to do with the non-slum but substandard house? Available urban accommodation today consists largely of such houses. Requirements for reconditioning. Obstacles are cost, lack of adequate legal powers. Proposed remedies, and cost analysis of typical houses.

The paper touches on a problem perhaps regarded as insoluble for the present and therefore better forgotten. The author pleads for consideration for a campaign to improve the obsolete house as an essential part of the national housing drive, and underlines his argument by a graphic description of the problem in Salford, where he is sanitary inspector. There were (1943) 50,494 dwelling houses in the town, and of these 24,500 were classified as substandard but not warranting treatment as slums. There were only about 11,000 houses that could be classed as satisfactory to modern standards, while 14,655 houses stand condemned as unfit for human habitation. Under present schemes the latter must be cleared first, before Salford could even start on the 49 per cent. of substandard property.

Some idea of what is meant by substandard can be gathered from other figures given:

Houses without hot water ...	25,579
Houses without bath ...	26,069
Houses without proper food store ...	33,195

These houses are built in rows as close as they will go, and either "two up and two down" or "three up and three down," drab uniform, dark, dilapidated and neglected, relics of what the author calls the Early Byelaw period. Many are without artificial light, most without facilities for washing clothes.

The urgency of the rehousing precludes rebuilding these houses for many years, but meanwhile they cannot be left as they are. It would be grossly unfair for half our population to be expected to remain patiently in such houses for years, while the homeless and the slum dweller walk into the new houses and flats. Temporary rehabilitation is suggested, to be carried out as a definite part of the immediate housing programme, and to anyone who knows the industrial communities of which Salford is only one of hundreds, such a suggestion must seem sound sense.

The obstacles are the high cost of such work, and the absence of adequate powers in the hands of the local authorities to compel owners to carry out rehabilitation to a degree which would provide some modern amenities. Section 9 of the Housing Act, 1936, uses the phrase "reasonable expense," and as things are it is doubtful whether this would cover the installation of things like hot water and proper larders. More specific powers are required if the substandard house is to be dealt with; the arguments for them are strong indeed, if all the official talk about Britain rehoused and so on is not to have the hollow ring of mockery. And might it not be a more economical use of scarce materials and labour to spend £200 on making an obsolete house habitable alongside the £1,200 or so for the brand new house?

*Yes sir!  
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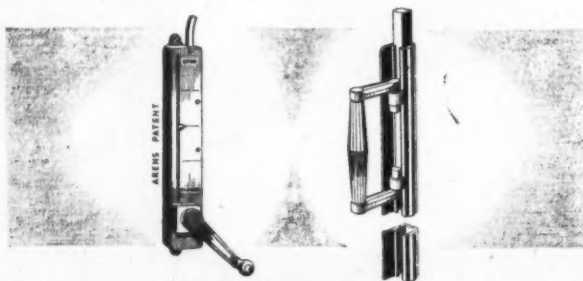
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2401

## Sewer Design

**SURFACE WATER SEWER DESIGN: THE CASE FOR A CODE OF PRACTICE.** G. S. Short. (*Journal of the Institute of Municipal and County Engineers, January, 1946.*) General survey of accepted methods of design. Unreality of mathematical analyses. Assumptions based on guesswork. Failure of theory to relate to practical cases. Need for practical investigation. Authoritative Code of Practice required, to be subject to revision in light of experience.

## 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.

2402

## Patching Concrete Floors

**Q** Throughout our factory the floors are nearly all concrete, and as a lot of the transport uses metal wheels, holes eventually appear which have to be repaired, and the usual procedure is to cut the hole out completely and make a fresh concrete section down to the original hardcore, the sections of course in many cases being relatively small areas. So far we have never achieved success by filling the hole direct to the small depth of say 1 inch, 1½ inch, or 2 inches, even if the edges are squared off, but we find that from American literature this is a method they employ, and particularly in the *Truscon Blue Book of Building Maintenance* we find a description of Truscon floor patch which is a non-shrinking concrete floor patching compound and is applied to the hole after the edges have been cut out with vertical sides for quite a small distance, approximately 1 inch.

So far we have been unable to trace any material in this country which would do the same thing. Who could we get in touch with on this subject, before we attempt to import such material from the States?

**A** There is, so far as we know, no firm in this country which supplies a ready mixed patching compound for concrete floors.

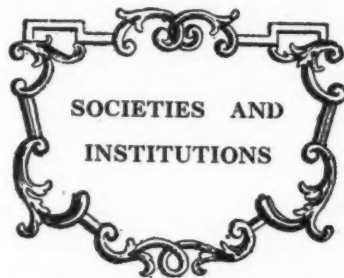
Most of the troubles in patching concrete floors are due to the shrinkage of the concrete on setting. A technique which frequently gives good results is to cut out the hole and undercut the edges at a reasonably sharp angle. This will help to hold the concrete in position.

In mixing the concrete use about half the normal amount of water and leave the mix for about one to one and a half hours. This will allow the initial set to take place and the rest of the water can then be added and the hole filled in the usual way.

It is an advantage to brush the interior of the hole with a 1:1 cement sand slurry. Some people prefer to leave the patch standing out about a ¼-inch proud of the surrounding surface and to level it off by tamping while the concrete is still green.

If this method is not satisfactory we suggest

that you should write to the Cement & Concrete Association, 52, Grosvenor Gardens, S.W.1. They have a consultant resident in Edinburgh.



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

## WDC

## Revised Fees

The following notice on the REVISED CODE OF PROFESSIONAL FEES FOR WAR DAMAGE REPAIRS has been issued by the War Damage Commission.

The War Damage Commission announces that the official notice of March 2, 1942, setting out the scale of professional fees for acting in an advisory or supervisory capacity in connection with the execution of the works which will be allowed by the Commission in claims for the cost of works or temporary works has been withdrawn and will be replaced by the following:—

## SCALE OF FEES

(1) For making, when necessary, detailed survey of the building if no drawings are available, or checking the drawings if available:—

Principal's time ...	£7 7 0 a day.
Senior Assistant's time ...	£3 13 6 " "
Junior Assistant's time ...	£2 12 6 " "

Note.—Senior assistants to mean assistants receiving £8 8s. a week and upwards; junior assistants, those receiving up to £8 8s. a week.

(2) (a) For preparing working drawings and specification of the works (or equivalent document); where necessary, obtaining tenders and/or arranging a contract; for general supervision of the execution of the works and certifying for payments and completion:—

9% on works costing between £500 and £1,000, with a minimum fee of £50.
8% on works costing between £1,000 and £1,500, with a minimum fee of £90.
7% on works costing between £1,500 and £2,000, with a minimum fee of £120.
6% on works costing over £2,000 with a minimum fee of £140.

(b) For preparing a specification of works (or equivalent document); for obtaining tenders and/or arranging a contract, where necessary; for general supervision of the execution of the works and certifying for payments and completion:—

(i) Works costing up to £500.

6% on the cost, with a minimum fee of £1 1s. (or a minimum fee of £5 5s. where the work affects the structural stability of the building or involves reinstatement or repair of features of architectural or artistic interest).

(ii) Works costing more than £500 but not more than £1,000.

5% on the cost, with a minimum fee of £30.

(iii) Works costing over £1,000.

5% on the first £500 of the cost.

4½% on the next £500 of the cost.

4% on the next £500 of the cost.

3½% on the next £48,500 of the cost.

2½% on the balance of the cost over £50,000.

With a minimum fee of £50.

(3) The above fees are exclusive of travelling expenses and other reasonable disbursements, and the fees under (1) are in addition to those under (2) (a).

(4) The scale of fees under 2(a) is not applicable in cases where the works cost less than £500. But where in exceptional cases the Commission agrees that working drawings are essential to the work, fees under (1) will be paid in addition to those under 2(b), in respect of the preparation of working drawings and of any necessary survey in connection therewith.

(5) The above fees are exclusive of the wages of a clerk of works, which will be recoverable from the War Damage Commission, provided that the employment of a Clerk of Works is reasonable.

(6) The above fees are exclusive of those for quantity surveying services. If such services are required, fees will be allowed, in addition, on the normal professional scale.

(7) The above fees are inclusive of the fees of any consultant or specialist engineer by whom the architect or surveyor may wish to be advised.

(8) Where repairs are carried out to several properties in the same area and in the same ownership, the scale of fees may be applied by reference to the aggregate cost of the work, provided that the premises are in the same vicinity, that the same builder carries out the work, and that all the work is done at the same time. As far as practicable an aggregate specification will be accepted by the Commission.

### CIRCUMSTANCES UNDER WHICH FEES CAN BE ALLOWED

(1) It is a condition of the allowance of fees that an appropriate specification or equivalent document conveying to the builder clear directions as to the work to be carried out is prepared before or at the time when the works are put in hand, and that the person charging the fees certifies that he has fully performed the services described under the appropriate heading or headings of the scale.

(2) Fees for quantity surveying services will be allowed where the works cost more than £1,000, and where these services are rendered by a Quantity Surveyor or a firm of Quantity Surveyors practising as such, not being the person or firm rendering the services described in paragraphs 2(a) or 2(b) of the scale above.

Provided only that where the person or firm who has rendered the services described in paragraphs 2(a) or 2(b) of the scale above in the capacity of Registered Architect, is also in regular practice as Quantity Surveyor, fees for quantity surveying services may also be allowed where the certificate that these latter services have been performed is signed by the person (stating his qualifications) who has actually rendered such services, and also by the principal or

firm with which he is connected.

(3) Pending further discussion with the professional institutions concerned, the Commission has decided that the scale will only apply to works costing less than £100,000.

(4) The scale is not applicable to cases where, owing to the special nature of the work, the accepted practice would be for the work to be carried out under the direct supervision of an engineer (e.g., work on public utility undertakings such as gas and water services).

#### NOTES

This announcement replaces the announcement of March 2, 1942, the chief differences being an increase in the fees under paragraph (1) and in the fees under paragraph 2(b) on works costing up to £1,000; and the scale of fees under paragraph 2(a) being no longer applicable in cases where the works cost less than £500.

Under the War Damage Act the Commission may only make payments of cost of works equal in amount to the proper cost of the work executed. "Proper cost" is defined in Section 123 of the Act where it is stated to include "the cost of the necessary employment of an architect, engineer, surveyor, land agent or other person in an advisory or supervisory capacity in connection with the execution of the works." Accordingly it will be observed that fees are only allowable where the professional man acts in supervising the works of repair and that the Commission has no power to repay professional charges incurred by a claimant in making a claim, either for a cost of works or a value payment.

It is also to be borne in mind that the Commission may only pay an amount equal to the cost of the reinstatement of a damaged building to its form immediately before the damage, even though the work of reinstatement may, in fact, include alterations and additions. Professional fees, admissible in claims, must therefore be assessed on the basis of reinstatement in the original form, any additional fees on account of alterations and additions being a matter between a client and his professional advisers.

## RIBA

### Huts for Schools

The RIBA strongly disapproves the proposals of the Ministry of Education to use army-type huts for schools. A report to this effect has been sent to the Minister by the RIBA Committee on School Design and Construction.

The Committee was first appointed in February, 1945, to consider and report on the subject of School Design and Construction. The report of the Committee was submitted to the Council and approved by them on June 19, 1945, and was published in the RIBA Journal for August, 1945. The report has been issued in pamphlet form and copies have been sent to all Local Education Authorities in England, Scotland, Wales and Northern Ireland.

The Council decided to appoint the Committee as a permanent one to advise on matters concerning school design and construction and the question of the use of MOW standard hutting for school buildings was at once referred to the Committee for consideration and report.

The Committee consists of the following members:—C. G. Stillman, F.R.I.B.A. (Chairman), County Architect, Middlesex; Verner O. Rees, F.R.I.B.A. (Vice-Chairman); Julian Leathart, F.R.I.B.A. (Hon. Secretary); W. T. Benslyn, A.R.C.A., F.R.I.B.A., Architect to the Birmingham Education Committee; P. W.

Birkett, A.R.I.B.A., County Architect, County of Lincoln—Parts of Lindsey; A. C. Bunch, F.R.I.B.A., late County Architect, Warwickshire; D. E. E. Gibson, A.R.I.B.A., A.M.T.P.I., City Architect, Coventry; J. Harrison, F.R.I.B.A., County Architect, Surrey; O. P. Milne, F.R.I.B.A.; John Swarbrick, F.R.I.B.A.; S. E. Urwin, F.R.I.B.A., County Architect, Gloucestershire; E. Berry Webber, A.R.I.B.A.

#### MOW Standard Hutting for School Buildings

There are aspects of recent Ministerial directions to local education authorities concerning the proposed MOW temporary hutting programme for school building, which give rise to misgivings regarding the "strictly temporary character" of these buildings, to quote from para. 5 (iii) of the MOE Circular No. 98. No such definite reference to the projected life of the huts is made in the MOE Circular No. 64 wherein the word temporary does not occur. Less definite still is the advice to local authorities contained in Circular No. 19 issued by the Ministry of Town and Country Planning to disregard time-limits of usability in formulating their standard hutting requirements. The scope and urgency of the school accommodation programmes, however, provides the most cogent evidence of the inevitability of a long-term policy of "temporary" building to overcome the difficulties of the task ahead.

The decision to terminate the Compulsory School Age (postponement) Order on April 1, 1947, is the primary cause of the imposition of sub-standard building expedients upon the local authorities, but this is not the whole of the additional accommodation problem. In the MOE Circular No. 98 the fact is emphasised that the new accommodation to be provided by August, 1948, covers only that required in connection with the raising of the school-leaving age. It "does not apply to the provision of accommodation for the purpose of relieving over-crowding or the reduction of the size of classes."

It is probable, therefore, that a further instalment of substitute buildings to eliminate overcrowding and to reduce class sizes, would follow upon the present three-year plan; but the Government may not be content to wait upon the completion of the first part of its rebuilding programme before it issues directions for further standard huts to be built to meet the second contingency of overcrowding. Thus it may be that towards the end of the three-year term, the further programme would be running concurrently with the first. These two phases of expansion would constitute a building venture of very considerable magnitude involving the erection of thousands of standard huts the extent of which must, perforce, be spread over a much longer time than that suggested in the MOE directives. As a result, a large percentage of the child population of this country for many years to come, will be compelled to receive its education in new structures of a sub-standard, improvised character which were originally designed for war-time, army-hutting purposes. Further, there will be little or no possibility of implementing the provisions of the 1944 Education Act relating to improved standards of accommodation and quality of buildings and equipment within a measurable distance of time.

Following are extracts from the Committee's criticisms on the MOW standard hutting:—

#### 1.—Design

The design is not suited to school use; access corridors do not form part of the standard units and must be added by improvised methods of construction. No provision is made for supporting the back of the corridor roofs abutting the main structure. The eaves level is only 7 ft. 6 in. above the floor level and the window area is thereby restricted. (Normal school build-

ing standards require the top glass line to be at least 10 ft. 6 in. from the floor.) The 3-light, standard metal casements to be supplied with the hutting units are 4 ft. 10½ in. wide and are narrower by 12 inches or more than the spacing between the posts; this will necessitate narrow widths of walling on one or both sides of each casement to fill out the opening. The now discarded timber casements filled the spacing between posts and were superior in this one respect. The improvised character of the hutting design is in no way better illustrated than in the foregoing example. As important as adequate natural lighting is to teaching rooms, no attempt has been made to provide special casements of a school type which would extend for the whole width of the inter-post spacings, and so utilise, to the maximum extent, the already too scanty lighting areas.

#### 2.—(a) Construction

The portal framework is adequate; in fact, it is too adequate for the supposed temporary nature of the building. Its life, with ordinary maintenance care, can be regarded as of a 20 to 25 year duration. Infilling walling is of 4 in. hollow blocks "externally waterproofed"—method unspecified. Four and a half inch brickwork is to be substituted where hollow blocks are unobtainable. Such filling cannot be regarded as being adequate either from moisture penetration and condensation or thermal insulation aspects. Except for the portal framework, the general construction is inadequate and is more appropriate to a storage-shed building than to a school.

#### (b) Heating

Slow combustion stoves of the type supplied by the MOW for standard hutting are small and will provide inadequate heating. Heat distribution by means of stoves is unequal; there is too much near the heat-source and insufficient in remote parts of the room. Stove heating is dusty and draught-creating and it has the further objection that fluctuations in room temperatures follow from irregular stoking.

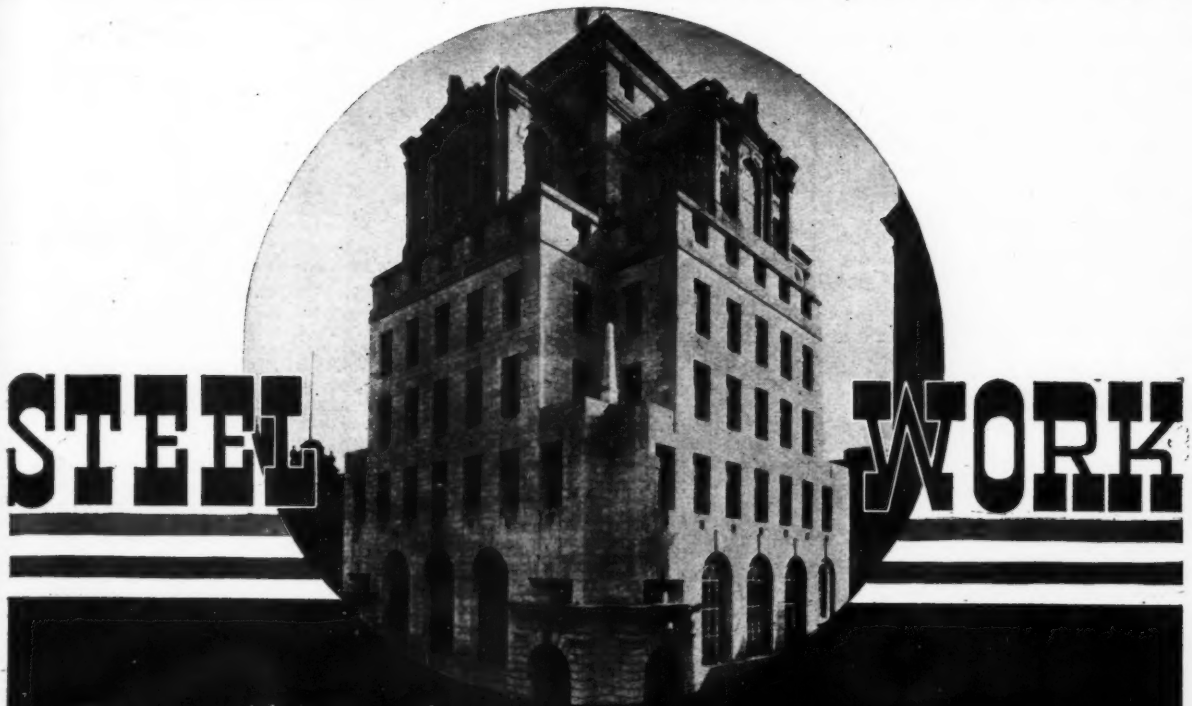
Central heating, where permitted by the provision of new sanitary accommodation in huts, will be more than usually costly to install because of the need for greater heating surfaces than normally required in order to overcome excessive heat-losses through the thin-membrane roof and walling infillings.

#### (c) Lighting

From calculations of the daylight factors made for an 18 ft. 6 in. wide hut without a corridor and with windows on both sides, the highest percentage obtainable for any working position is 2.12; the average on the whole room is only 1.8 per cent. The Lighting Committee of the DSIR in *Post War Building Studies No. 12* suggests that for single storey buildings, a minimum daylight factor of 5 per cent. is desirable for classrooms in new schools and that 10 per cent. is a suitable intensity for rooms in which drawing, sewing and machining are taught. Comparing these figures with those quoted above, it will be seen that the lighting to the teaching rooms in the standard huts falls very much below recognized minimum standards. As unsuitable as these buildings are for schools from almost every general aspect, they should stand condemned on this particular alone.

#### (d) Ventilation

Standard metal casements do not open in such a manner as to make it possible to maintain ventilation during high winds or rain. The side-hung casements will only function as ventilators under conditions of calm, dry weather. One small, top-hung night ventilator is the only part of each casement available for opening under all weather conditions. Roof ventilators, as suggested in the MOE Circular No. 98, will, if installed, create down-draughts.



# STEEL

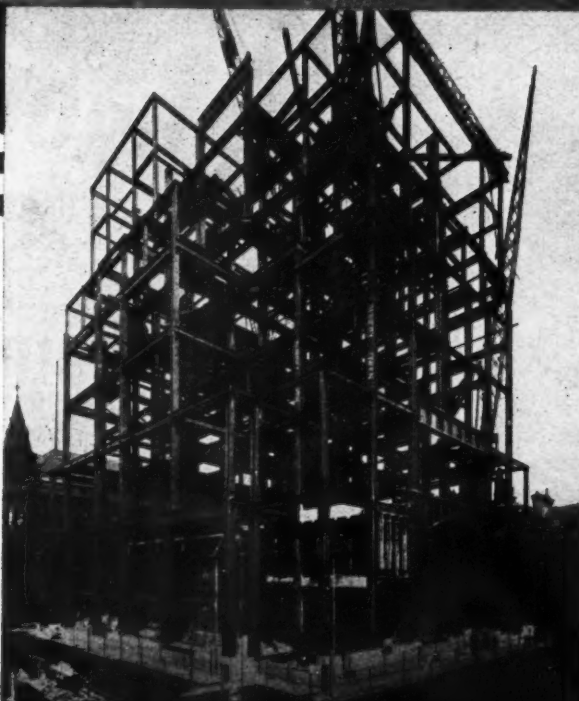
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A.J. 21.2.46

**3.—Siting of huts**

The MOE contemplate that the new huts "will generally be erected on the playgrounds of schools." Siting exceptions to this ruling must obtain the prior approval of HM Inspectors. Not all existing playgrounds conform to the MOE's regulations in regard to area, especially in Town Schools. To reduce, by new buildings, already inadequate play and drill space may compel the educational authorities to acquire and prepare new playgrounds to compensate for the loss. Further, it will be difficult, if not impossible, in many cases to site the huts on playgrounds where they will not interfere with the permanent extensions required at a later date under the 1944 Act.

**4.—Erection and Demolition Costs**

In comparing the erection costs of (a) the MOW standard huts with those for (b) a building of a permanent character designed as a school it should be emphasised that the cost of (b) saves the whole of the cost of (a) since it will not have to be rebuilt at a later date, and that the expenditure on (a) is for a sub-standard and unsuitable building. Very little capital outlay is saved in initial costs compared with the simply designed, permanent building and as the salvage value of the huts is negligible, the MOE's proposals will incur wasteful expenditure of public funds. Further, the shorter the tenure of occupational usefulness, the greater the relative waste of money.

**5.—Maintenance Costs**

It is inevitable in sub-standard building that maintenance costs must be higher than for good quality, permanent building and experience with war-time temporary hutting gives ample proof of this. As the thin external walls cannot be moisture-resisting, considerable periodic maintenance work will be required in the attempt to keep them dry.

**6.—Delays in Procedure**

From the investigations the Committee has made into administrative procedure with regard to the supply of standard hutting parts, it is clear that the Government's system of delivery is not working with smoothness nor precision.

**7.—Recommendations**

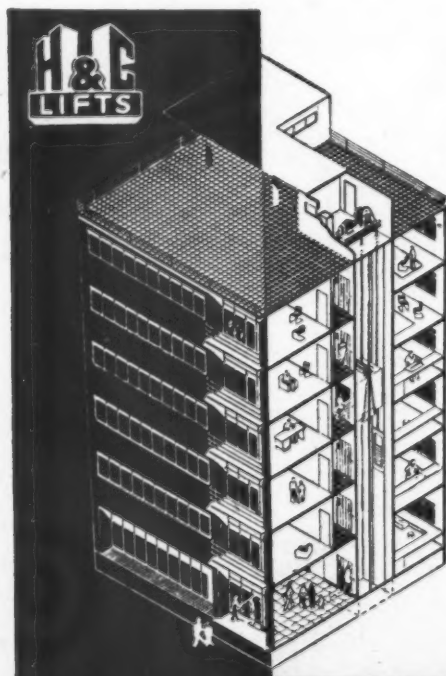
The Committee recommend the following alternatives to the MOW standard hutting scheme for the consideration of the Ministry of Education:—

(a) Where additional accommodation is required as part of permanent school re-organization under the raising of the school-leaving age scheme, every encouragement should be given to local authorities to build additional accommodation in permanent instalment of the ultimate and permanent building.

construction with local materials as an

(b) When additional accommodation is clearly of a temporary nature, it should be provided, in a large measure, by specially designed, transportable huts which will be of considerable salvage value to the local authority at the end of their term of usefulness. Transportable huts are capable of easy removal to new positions if found to be obstructive to siting of the permanent extensions; there is less likelihood of their becoming permanencies as happened to much of the "temporary" hutting erected after 1918; it is possible to move them and erect permanent accommodation on their foundations if they are sited in proper positions for the purpose (the foundations of the standard hut must be largely destroyed in removing the portal frames).

(c) MOW Standard Hutting should be used only in extreme emergency and should be confined solely to the initial stages of the programme whilst arrangements under (a) and (b) are being put into effect.



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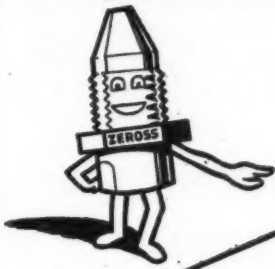
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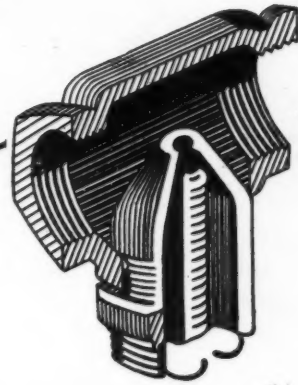
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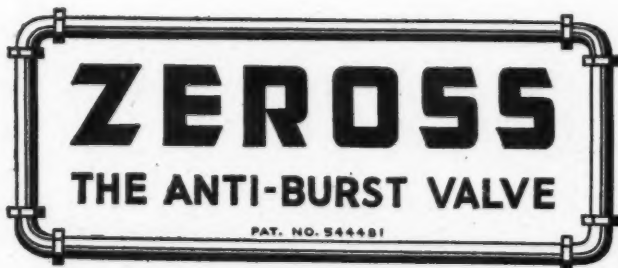
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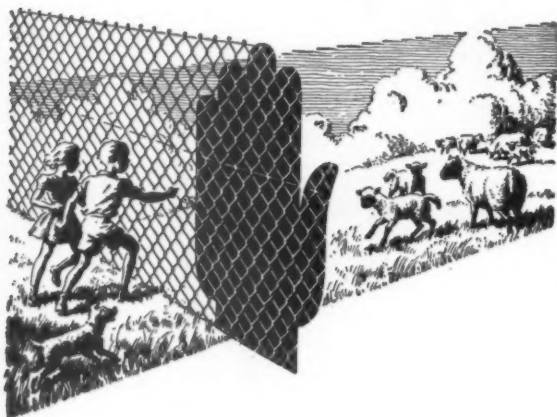
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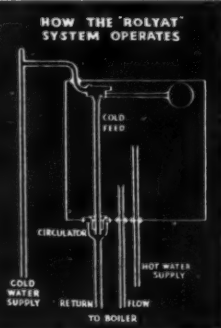
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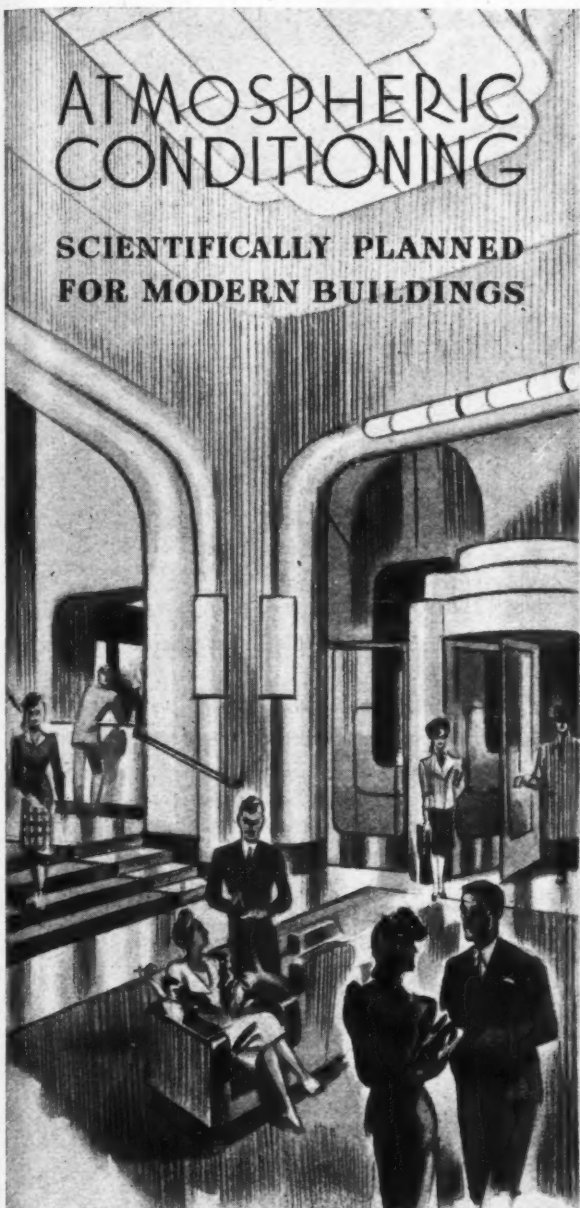
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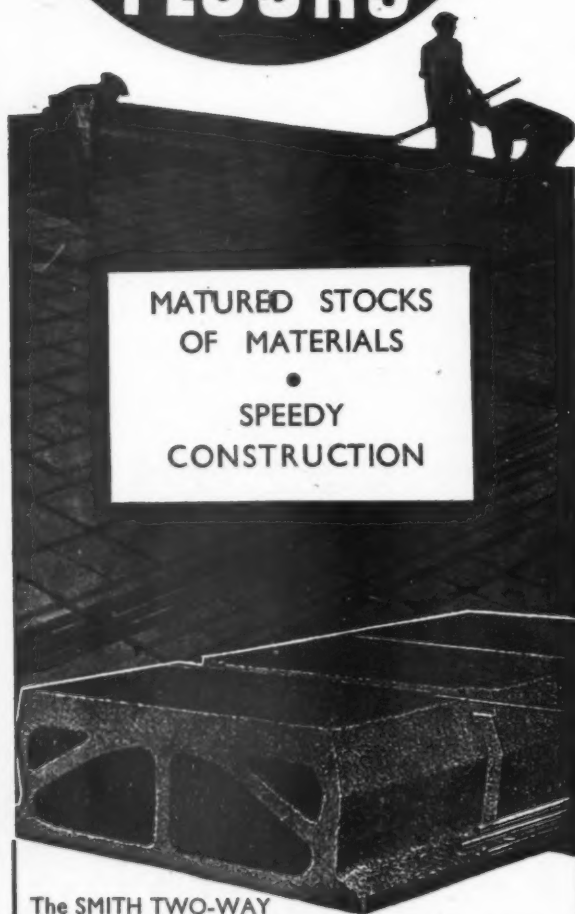
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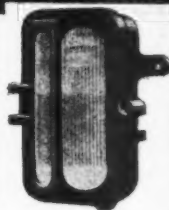
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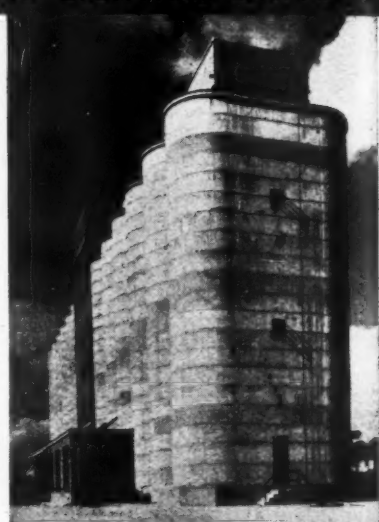
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Replies to Box Numbers should be addressed care of "The Architects' Journal," War Address: 45 The Avenue, Cheam, Surrey.

## 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

## COUNTY OF LINCOLN—PARTS OF KESTIVEN.

## COUNTY ARCHITECT'S DEPARTMENT.

Applications are invited for the appointment of ARCHITECTURAL ASSISTANT, in the County Architect's Department.

Salary £400 per annum, rising by annual increments of £15 and £5 to a maximum of £450 per annum, plus cost-of-living bonus of 25s. per week on the Council's scale. Commencing salary will be in accordance with experience.

Experience in Educational and general County work is desirable.

The appointment is subject to the provisions of the Local Government Superannuation Act, 1937, to a satisfactory medical certificate, and to the termination of the appointment by one month's notice in writing on either side.

Applications, stating age, present appointment, experience, and qualifications, together with copies of two recent testimonials, should be sent to the undersigned not later than the 28th February, 1946.

J. E. BLOW,

Clerk of the County Council.

County Offices, Sleaford, Lincs. 698

## NOTTINGHAMSHIRE COUNTY COUNCIL.

## ARCHITECT'S DEPARTMENT.

Applications are invited for the following appointments, at salaries within the under-mentioned grades, according to age, qualifications, and experience, plus cost-of-living bonus in each case, which at present amounts to £59 16s. per annum, namely:—

(a) ARCHITECTURAL ASSISTANTS. £350 to £450 per annum.

(b) QUANTITY SURVEYORS. £350 to £400 per annum.

The posts will be subject to the Local Government Superannuation Acts, 1937 and 1939, and will be terminable upon one month's notice on either side at any time. The successful candidates will be required to pass a medical examination.

In accordance with the general decision of the County Council, all appointments made under prevailing conditions are of a temporary character in the first instance.

Forms of application may be obtained from the County Architect, Shire Hall, Nottingham.

K. TWEEDALE MABY,

Clerk of the County Council.

Shire Hall, Nottingham.

4th February, 1946. 697

## CITY OF NORWICH.

## CITY ENGINEER'S DEPARTMENT—TOWN PLANNING SECTION.

## SENIOR PLANNING ASSISTANT.

Applications are invited for the above permanent position, at a salary commencing at £440 per annum, plus cost-of-living bonus, at present £59 19s. per annum, and rising subject to satisfactory service by annual increments of £20, to a maximum £480 per annum.

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

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

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

Applications, stating age, qualifications, experience and present position, accompanied by copies of not more than three recent testimonials, must be received by the City Engineer, City Hall, Norwich, not later than the first post on Friday, 8th March, 1946. 725

## NORTHAMPTON COUNTY BOROUGH EDUCATION COMMITTEE.

## ASSISTANT ARCHITECT.

Applications are invited for the above-mentioned appointment in the Education Architect's Department. Salary will be at the rate of £400 per annum, plus bonus (at present £60 per annum), and the appointment, which is a permanent one, is subject to the provisions of the Local Government Superannuation Acts. Applicants should be Registered Architects, members of the Royal Institute of British Architects, and have had experience in the design of educational buildings.

Forms of application, which may be obtained from the undersigned, should be returned, duly completed, forthwith.

H. C. PERRIN,

Chief Education Officer.

"Springfield," Cliftonville, Northampton. 708

## CITY AND COUNTY BOROUGH OF CARLISLE.

## TEMPORARY ARCHITECTURAL ASSISTANT.

Applications are invited for the above appointment, at a salary of £420, rising by annual increments of £20 to £460, plus cost-of-living bonus, now £59 16s. per annum.

The person appointed must hold the qualification of A.R.I.B.A., and will be required to work under the direction of the City Engineer and Architect, Mr. Percy Dalton, A.M.Inst.C.E., A.R.I.B.A.

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

Application forms, which may be obtained from the undersigned, should be returned, together with copies of three recent testimonials, not later than the 7th March, 1946.

Canvassing will be disqualifying.

PERCY DALTON,

City Engineer and Architect.

City Engineer's Office, 13 Fisher Street,

Carlisle.

6th February, 1946. 721

## CITY OF PLYMOUTH.

## CITY ARCHITECT'S DEPARTMENT.

## APPOINTMENT OF DEPUTY CITY ARCHITECT.

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

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

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

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

COLIN CAMPBELL,

Town Clerk.

Pounds House, Pevenell, Plymouth. 722

## LONDONDERRY COUNTY COUNCIL.

## APPOINTMENT OF DRAUGHTSMAN.

The above-named Council invites applications for the position of full-time Draughtsman, in the County Planning Office, Coleraine, at a salary of £250 per annum, plus war bonus on the Whitley scale (present rate £59 16s. per annum).

Applicants must be good draughtsmen, and preference will be given to candidates who have passed the preliminary examination and are anxious to qualify as Architects or Surveyors.

The person appointed will be required to take up duty as soon as possible after appointment, and the probable duration of the work will be two to three years, but the appointment will be terminable by one month's notice, in writing, on either side.

The appointment, which will be subject to the approval of the Ministry of Health and Local Government, will be made at the Meeting of the Council, to be held at the Town Hall, Coleraine, on 20th April, 1946, at 1.45 p.m.

Candidates may be required to attend this meeting or a previous meeting for interview, for which vouched travelling expenses will be paid.

Preference will be given to ex-Service candidates possessing the required qualifications, provided that the Council is satisfied that such candidates can, or within a reasonable time will be able to, fill the post efficiently.

Applications in writing, giving full particulars of age, qualifications and experience, accompanied by two recent testimonials and details of service, if any, in H.M. Forces, will be received by the undersigned not later than 4 p.m. on the 15th day of March, 1946.

Dated this 5th day of February, 1946.

J. L. RANKIN,

Secretary.

County Courthouse, Londonderry. 724

## WEST SUFFOLK COUNTY COUNCIL.

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

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

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

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

Forms of application may be obtained from the undersigned, by whom applications, accompanied by three recent testimonials, should be received not later than 1st March, 1946.

L. G. H. MUNSEY,

Clerk of the County Council.

Shire Hall, Bury St. Edmunds. 723

## METROPOLITAN BOROUGH OF HAMMERSMITH.

## APPOINTMENT OF ARCHITECTURAL ASSISTANTS.

Applications are invited for the following appointments in the Borough Engineer and Surveyor's Department:—

Grade "G." £550-£220-£650, plus bonus, at present 25s. per week: THREE ARCHITECTURAL ASSISTANTS (Temporary).

Grade "I." £250-£220-£450, plus bonus, at present 25s. per week; commencing salary according to experience: TWO ARCHITECTURAL ASSISTANTS (Temporary).

Candidates should have had experience in the preparation of designs, working drawings, and detailed drawings for public buildings and Municipal Housing Schemes and Flats.

Applicants for Grade "G" positions must be Associates of the Royal Institute of British Architects, and preference will be given to candidates for Grade "I" who are qualified.

The appointments are subject to the Council's superannuation and sick pay schemes, and to one week's notice on either side.

Applications (on forms to be obtained from the undersigned upon receipt of a stamped addressed foolscap envelope) must be delivered to the Town Clerk, Town Hall, W.6, in an envelope endorsed "Architectural Assistant," not later than 12 noon on the 4th March, 1946.

Canvassing, directly or indirectly, will be disqualifying.

W. H. WARHURST,

Town Clerk.

Town Hall, Hammersmith, W.6. 725

## CITY OF LEEDS.

Applications are invited for the following appointments:—

ASSISTANT ARCHITECTS, Class 2. £450 to £550 per annum.

ASSISTANT ARCHITECTS, Class 3 (Temporary). £360 to £400 per annum.

ASSISTANT ARCHITECTS, Class 4 (Temporary). £250 to £300 per annum.

ASSISTANT ARCHITECTS, Class 4a (Temporary). £220 to £300 per annum.

Applicants must be Registered Architects, with experience of housing.

ASSISTANT SURVEYORS, Class 2 (Temporary). £310 to £350 per annum.

JUNIOR ASSISTANT SURVEYORS, Class 4 (Temporary). According to age, with a maximum of £210 per annum.

Applicants for the post of Assistant Surveyor, Class 2, must be fully qualified, good draughtsmen, fully conversant with estate surveying and development, and be able to undertake the making and plotting of large surveys, setting out, contouring and levelling.

ASSISTANT QUANTITY SURVEYORS, Class 2 (Temporary). £310 to £400 per annum.

Applicants should have had experience in assisting with the taking off quantities, preparing schedules and specifications, and measuring up and preparation of final measurements.

JUNIOR ASSISTANT PLAN PRINTER (Temporary). According to age, with a maximum of £210 per annum.

The present cost-of-living bonus, which is additional to the above basic salaries, is in each case £59 16s.

The commencing salary will be the minimum in each case.

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

The position with regard to National Service must be stated.

Applications, on forms obtainable from the undersigned, accompanied by copies of not more than three recent testimonials (not returnable) must be received by me in the envelope supplied therefor, not later than 10 a.m. on Thursday, the 28th February, 1946.

Canvassing in any form, either directly or indirectly, will be a disqualification.

R. A. H. LIVETT, O.B.E., A.R.I.B.A.,

City Architect and Acting Housing Director.

Priestley House, Quarry Hill, Leeds, 9.

February, 1946. 727

SOUTH DEVON REGIONAL PLANNING  
COMMITTEE.

## APPOINTMENT OF PLANNING ASSISTANT.

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

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

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

HERBERT A. HIELD,  
Secretary.

Castle Circus House, Torquay.  
February, 1946.

737

CITY OF PORTSMOUTH EDUCATION  
COMMITTEE.

COLLEGE OF ARTS AND CRAFTS.  
Principal: MEREDITH W. HAWES, A.R.C.A.

## SCHOOL OF ARCHITECTURE.

Applications are invited for the post of LECTURER AND STUDIO INSTRUCTOR. Applicants should be Fellows or Associates of the Royal Institute of British Architects, preferably trained in a recognised school of architecture, with some professional experience. Salary will be in accordance with the new Burnham scale. Increments may be allowed for approved time spent in industry or professional work. Teaching experience would be an advantage, but is not essential. Last date for receipt of applications, 8th March, 1946. Further particulars and forms of application may be obtained from the Registrar, Offices of the College Governors, The Municipal College, Portsmouth.

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

744

## BOROUGH OF ROYAL LEAMINGTON SPA.

## APPOINTMENT OF DIRECTOR OF HOUSING.

Applications are invited for the appointment of a Director of Housing, to be responsible for all matters relating to the Council's post-war housing programme, except as regards the construction of roads and sewers and the maintenance and management of completed houses. Architectural and clerical assistance will be provided.

The salary will be £650 per annum, plus cost-of-living bonus (at present £59 19s. 3d. per annum).

The appointment will be a temporary one, but is expected to cover a period of about five years; it will be terminable by three months' notice on either side, and will be subject to the provisions of the Local Government and other Officers' Superannuation Act, 1937.

Applicants should have extensive and up-to-date knowledge of housing legislation and procedure and practical housing experience, including the design of layouts and houses and the handling of contracts. Architectural qualifications and experience in a similar capacity will be an advantage.

Forms of application may be obtained from, and are to be returned to the undersigned by 10 a.m. on Saturday, 2nd March.

A. F. GREENWOOD,  
Town Clerk.

Town Hall, Leamington Spa.  
9th February, 1946.

743

## DURHAM RURAL DISTRICT COUNCIL.

## HOUSING ARCHITECT.

Applications are invited by the above Council for the temporary appointment of a qualified Architect for their Post-war Housing Schemes. The salary will be £600 per annum, plus cost-of-living bonus, which at present is 24s. per week. Travelling allowance will be paid in accordance with the Council's scale.

Applications to be forwarded to the undersigned, and endorsed "Appointment of Architect," not later than the 20th February, 1946.

FRANK KIRBY,  
Clerk to the Council.

Dryand Lodge, Hawthorn Terrace, Durham.  
11th February, 1946.

740

## CITY OF STOKE-ON-TRENT.

## CITY ARCHITECTURAL DEPARTMENT.

APPOINTMENTS OF ASSISTANT QUANTITY  
SURVEYORS (TWO).

Applications are invited for the above appointments, each commencing at a salary of £440 per annum, rising by annual increments of £20 to £500, plus cost-of-living bonus, at present £59 16s. per annum.

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

Applicants must be Chartered Quantity Surveyors, competent to take off, abstract and bill quantities, prepare estimates, interim certificates, and final accounts.

Applications, stating date of birth, qualifications and experience, and particulars of present and previous appointments, together with copies of two recent testimonials, must be delivered to the undersigned, endorsed "Assistant Quantity Surveyor," on or before Friday, 1st March, 1946.

HARRY TAYLOR,  
Town Clerk.

Town Hall, Stoke-on-Trent.  
8th February, 1946.

718

## COUNTY BOROUGH OF BLACKPOOL.

Applications are invited for the position of SENIOR ARCHITECTURAL ASSISTANT, in the Borough Surveyor's Department, at a salary of £425, rising by annual increments of £25 to £475 per annum, plus cost-of-living bonus.

Applicants should be Members of the Royal Institute of British Architects or hold equivalent professional qualifications.

Applications, stating age, present position, and full details of qualifications and experience, accompanied by copies of three recent testimonials, are to be forwarded to A. Hamilton, B.Sc., A.R.I.B.A., Borough Surveyor, Municipal Buildings, Blackpool, not later than 10 a.m. on Monday, 4th March, 1946.

The position is a designated post in the Local Government Superannuation Fund, and the successful candidate will be required to undergo a medical examination.

Canvassing of members of the Council will be a disqualification.

TREVOR T. JONES,  
Town Clerk.

Municipal Buildings, Blackpool.

730

## COUNTY BOROUGH OF HUDDERSFIELD.

## BOROUGH ARCHITECT'S DEPARTMENT.

## APPOINTMENT OF TECHNICAL STAFF.

Applications are invited for the following appointments on the permanent staff:—

(a) QUANTITY SURVEYOR, at a salary of £400 per annum, rising by annual increments of £25 to £500 per annum, plus cost-of-living war bonus, at present £59 16s. per annum. Applicants should have had considerable experience in the preparation of bills of quantities, specifications and accounts. Preference will be given to members of the Chartered Surveyors' Institution, and previous municipal experience will be an advantage.

(b) SENIOR ASSISTANT ARCHITECT, at a salary of £400 per annum, rising by annual increments of £25 to £500 per annum, plus cost-of-living war bonus, at present £59 16s. per annum. Applicants should be Associates R.I.B.A., with considerable experience in housing and the general architectural work of a local authority.

(c) ARCHITECTURAL ASSISTANT, at a salary of £325 per annum, rising by annual increments of £25 to £400 per annum, plus cost-of-living war bonus, at present £59 16s. per annum.

(d) ARCHITECTURAL ASSISTANT, at a salary of £250 per annum, rising by annual increments of £25 to £325 per annum, plus cost-of-living war bonus, at present £59 16s. per annum.

(e) ARCHITECTURAL ASSISTANTS (TWO), at a salary of £200 per annum, rising by annual increments of £25 per annum to £250 per annum, plus cost-of-living war bonus, at present £59 16s. per annum.

The commencing salaries may be fixed above the minimum of the scale if warranted by the experience of the candidate.

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

Applications, stating clearly which appointment is applied for, and giving full details of age, qualifications, experience, and earliest date on which applicants could take up duty, together with copies of not more than three recent testimonials, should reach the Borough Architect, High Street Buildings, Huddersfield, not later than 1st March, 1946.

Applicants in H.M. Forces may name persons to whom reference may be made in lieu of submitting testimonials.

HARRY BANN,  
Town Clerk.

Town Hall, Huddersfield.

720

## SURREY COUNTY COUNCIL.

Applications are invited for the following appointments:—

(a) ASSISTANT ARCHITECT, Class I:—  
Salary £600, rising by annual increments of £25 to a maximum of £700 per annum.

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

(b) ASSISTANT QUANTITY SURVEYOR, Class I:—

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

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

(c) ASSISTANT QUANTITY SURVEYOR, Class II:—

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

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

(d) MAINTENANCE SURVEYOR, Class III:—  
Salary £400, rising by annual increments of £20 to a maximum of £500 per annum.

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

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

The appointments will be subject to one month's notice on either side, and to the provisions of the Local Government Superannuation Act, 1937. The successful candidates will be required to pass a medical examination. Applications, stating age, qualifications, and detailed experience, accompanied by three recent testimonials, should be sent to the County Architect, Surrey County Council, County Hall, Kingston-on-Thames, not later than Friday, 8th March, 1946.

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

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

736

## CITY OF NOTTINGHAM.

## CITY ENGINEER'S DEPARTMENT.

Applications are invited from Chartered Surveyors, qualified in quantities, for the post of FIRST ASSISTANT QUANTITY SURVEYOR. Candidates must be competent to discharge all quantity surveyor's duties for large architectural and civil engineering contracts.

The appointment will be in the Corporation's grading scheme, at a salary of £450, rising by £25 increments to £525, all plus cost-of-living bonus, at present £59 16s. per annum.

Forms of application may be obtained from the City Engineer, Mr. R. M. Finch, O.B.E., M.Inst.C.E., Guildhall, Nottingham, and are to be returned to him, with copies of not more than three testimonials (or the names of suitable referees), not later than 9 a.m. on Monday, 4th March, 1946.

J. E. RICHARDS,  
Town Clerk.

Guildhall, Nottingham.  
6th February, 1946.

735

## CITY AND COUNTY OF NEWCASTLE-UPON-TYNE.

## CITY ARCHITECT'S DEPARTMENT.

Applications are invited for the appointment of TWO ASSISTANT ARCHITECTS in the City Architect's Department.

The salaries will be in accordance with Grade D of the Council's grading scheme for official staff, i.e., £315 per annum, rising by annual increments of £15 to a maximum of £360 per annum, plus cost-of-living bonus, at present £59 16s. per annum.

The appointments will be subject to the provisions of the Local Government Superannuation Act, 1937, and may be terminated by one month's notice on either side.

Applications, stating age, qualifications and experience, and accompanied by copies of three recent testimonials, should reach the undersigned not later than Saturday, 2nd March, 1946.

R. G. ROBERTS, F.R.I.B.A.,  
City Architect.

18, Cloth Market, Newcastle-upon-Tyne, 1.  
13th February, 1946.

747

COUNTY BOROUGH OF BLACKPOOL.

Applications are invited for the positions of TWO ARCHITECTURAL ASSISTANTS, in the Borough Surveyor's Department, at a salary of £360 per annum, rising by annual increments of £15 to £405 per annum, in accordance with Grade "D." Professional, Technical and Administrative division of the Council's scale, plus cost-of-living bonus.

Applicants should be Members of the Royal Institute of British Architects or hold equivalent professional qualifications.

Applications, stating age, present position, and full details of qualifications and experience, accompanied by copies of three recent testimonials, are to be forwarded to A. Hamilton, B.Sc., A.R.I.B.A., Borough Surveyor, Municipal Buildings, Blackpool, not later than 10 a.m. on Monday, 4th March, 1946.

The positions are designated posts in the Local Government Superannuation Fund, and the successful candidates will be required to undergo medical examination.

Canvassing of members of the Council will be a disqualification.

TREVOR T. JONES,  
Town Clerk.

Municipal Buildings, Blackpool. 731

LITTLEHAMPTON URBAN DISTRICT COUNCIL.

APPOINTMENT OF DEPUTY ENGINEER AND SURVEYOR.

Applications are invited for the above appointment, at a commencing salary of £460 per annum, rising by increments of £15, £15, and £20 to £510, plus cost-of-living bonus (at present £59 16s. per annum).

Applicants should hold the Testamur of the Institution of Municipal and County Engineers or equivalent qualifications, and must have had considerable experience with a Local Authority. Experience in architectural work of a Local Authority would be an advantage.

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

Applications, endorsed "Deputy Engineer and Surveyor," stating age, qualifications, and experience, and accompanied by copies of not more than three testimonials, must be sent to the undersigned on or before 6th March, 1946.

Canvassing either directly or indirectly, will disqualify.

L. B. BERESFORD,  
Clerk of the Council.

Council Offices, Manor House, Littlehampton. Sussex.

7th February, 1946. 719

WESTMORLAND COUNTY COUNCIL.

COUNTY ARCHITECT'S DEPARTMENT.

Applications are invited for the undermentioned appointments to the staff of the County Architect. The department is a new one, and these appointments will be the first to be made.

(a) ONE SENIOR ASSISTANT ARCHITECT. Salary £420-£500 (subject to early review in light of new National Scale).

(b) ONE ASSISTANT ARCHITECT. Salary £330-£375.

(c) ONE JUNIOR ARCHITECTURAL ASSISTANT. Salary £255-£300.

The above salaries are subject to cost-of-living bonus (£59 16s. per annum at present). Starting points anywhere on the grades will be fixed according to experience.

Applicants for appointments (a) must be registered architects, preferably A.R.I.B.A., with good experience. A knowledge of modern school building practice will be an advantage; (b) should be preferably A.R.I.B.A. after training at a recognised school of architecture, be capable of good design, drawing presentation, and perspective work, and have had some office experience; or alternatively have reached the R.I.B.A. intermediate standard after considerable practical experience in the above fields; (c) should preferably have reached R.I.B.A. intermediate standard after some office training; or alternatively have full architectural school training without office experience.

The appointments will be on the permanent staff of the County Council (terminable by one month's notice on either side), and subject to superannuation and successful medical examination.

Applications from men who have been released from, or expect to be released shortly from H.M. Forces, are invited. These may name persons to whom reference may be made in lieu of testimonials.

Applications, endorsed "Architects Staff," stating which post is applied for, and giving all particulars as to age, education, etc., qualifications and experience, present salary, past and present appointments (and/or war service), and accompanied by copies of two recent testimonials, must be received by the undersigned not later than first post Saturday, 16th March.

H. B. GREENWOOD, M.A., LL.B.,  
Clerk to the County Council.

County Hall, Kendal. 756

COUNTY BOROUGH OF EAST HAM.

APPOINTMENT OF ARCHITECTURAL ASSISTANTS.

Applications are invited from qualified persons of not more than 45 years of age for the permanent appointment of one ARCHITECTURAL ASSISTANT (Grade C), in the Borough Engineer and Surveyor's Department.

Candidates must be Associate Members of the Royal Institute of British Architects or hold an equivalent qualification, and have general knowledge and experience of architectural work in the service of a local authority.

The salary will be in accordance with Grade C of the Council's Grading Scheme for official staff, i.e., £420 per annum, rising by annual increments of £15 to a maximum of £465 per annum, plus war bonus, at present £59 16s. per annum.

The Council are also desirous of appointing two additional ARCHITECTURAL ASSISTANTS on a temporary basis at the same rate of salary, but in these cases the commencing salary may be increased, according to the qualifications and experience of the person appointed. Applicants should state whether they are prepared to accept a temporary appointment.

The appointments will be subject to the provisions of the Local Government Superannuation Act, 1937, to the Council's conditions of service for permanent or temporary official staff in force from time to time, and the successful candidates will be required to pass a medical examination.

Application forms are obtainable from the Town Clerk's office, and must be delivered to the undersigned, together with copies of three recent testimonials, and endorsed "Architectural Assistant," not later than 1st March, 1946.

Canvassing in any form will be a disqualification.

H. A. EDWARDS,  
Town Clerk.

Town Hall, East Ham, E.6.  
15th February, 1946. 729

Partnership

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

A FIRM OF ARCHITECTS, in the West Riding of Yorkshire, with extensive practice in normal times, have a vacancy for a young and capable Junior Partner. Write, stating age, experience, and full particulars of school and architectural training to Box 726.

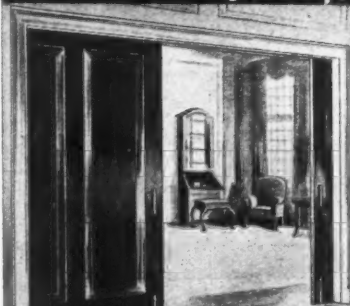
Architectural Appointments Vacant

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

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

ARCHITECTURAL DRAUGHTSMAN wanted immediately for private practice in S.E. London area; to prepare working and detail drawings for housing work, etc.; salary, £250-£350, according to ability. Box 741.

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SENIOR ARCHITECTURAL ASSISTANT required in West Riding (Yorks) for Housing, Factories, Banks, etc.; permanent position for suitable man; good draughtsman, supervision, and knowledge of quantities essential. State age, qualifications, and salary required to Box 664.

ARCHITECTURAL DRAUGHTSMAN for Architect's Department of an industrial undertaking in Birmingham. Write age, qualifications, and experience, to Box 739.

QUANTITY SURVEYOR required for Industrial Rebuilding. Box 746.

ARCON, Chartered Architects, 81, Piccadilly, have staff vacancies at salaries ranging from £250 to £600 p.a., according to capabilities. Write to the above for appointments, or "phone Grosvenor 3721.

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

WANTED, immediately, experienced Architectural Draughtsman for housing development. Apply Box 732.

JUNIOR ARCHITECT'S ASSISTANT required at once; East Midlands. Apply, stating age, experience, and salary required, to Box 727.

THREE capable Assistants required by London office. Wellbeck 8898.

ARCHITECT'S ASSISTANT required; must be good draughtsman and full knowledge of building construction; good prospects and salary for suitable applicant. Full details to W. & Hattrell & Partners, 1, Queen's Road, Coventry. 728

REQUIRED, immediately, qualified Assistant Architects; preferably school trained; at least 3 years' office experience, industrial and housing. Apply, stating salary, to Grenfell Baines Group, 12-24, Guildhall Street, Preston, Lancs. 74

REQUIRED, immediately, Junior Assistant Architects, in R.I.B.A.; at least 3 years' office experience. Apply, stating salary, to Grenfell Baines Group, 12-24, Guildhall Street, Preston, Lancs. 76

ARCHITECTURAL ASSISTANT, to work for two or three months in London and then on the site of a large Housing Scheme in Suffolk; interesting experience on a pioneer experiment; salary £450-£500. Applications to H.M., 14, High Holborn, W.C.1. 73

JUNIOR ARCHITECTURAL ASSISTANT required immediately. Write, stating age, experience, and salary required; surveying experience an asset. MacLaren, Soutar & Salmon, F.F.R.I.B.A., 15, South Ivy Street, Dundee. 75

Architectural Appointments Wanted

ARCHITECTURAL STONE - FITTING DRAUGHTSMAN offers spare-time service to Architects; wide experience in all services; moderate fees. Box 292.

ARCHITECTURAL ASSISTANT; willing to undertake spare-time work (N. London preferred), working drawings, etc.; experience in most kinds of work, including surveying and levelling. Box 291.

A.R.I.B.A. (33), Capt. R.E., to be released this month, desires appointment, with early Partnership or position as Architect or Assistant Architect to industrial concern; school and office trained and chief assistant before the war. Box 290.

ARCHITECTURAL ASSISTANT, with varied experience, requires spare-time work in London area. Box 293.

A.R.I.B.A., 13 years' experience, requires responsible position in Architect's office; preferably in Leicester district; able to carry out jobs completely; salary £500 per annum. Box 294.

ARCHITECT'S SENIOR ASSISTANT (36), qualified; Poly., Royal Academy and R.I.B.A. final; 20 years' experience; completing responsible wartime post, well known civil engineering contractors (factories, aerodromes and brick-built housing), and available a few weeks; excellent draughtsman, wide experience business side and contract supervision, also quantities, estimating and specification writing; good appearance and manner; South or West of England preferred. Box 297.

ARCHITECTURAL ASSISTANT (Female, 25, 5 years' experience, seeks position in South Coast office. Write Box 295.

PROBATIONER, R.I.B.A., two years' training, requires post in London office. Box 296.

ENGINEER, qualified, with wide experience, willing to advise and prepare schemes, specifications, etc. for electrical, heating, ventilation, air conditioning and mechanical installations of buildings, factories, etc.; able to work with architects and builders. Write Box 298.

SENIOR ASSISTANT, 20 years' experience, requires three full days' work per week, in London; plans, details, surveys, etc.; rate 24 per day. Box 299.

### Other Appointments Vacant

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

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

**MEASUREMENT SURVEYORS** and **SPECIALISATION WRITERS** required for War Damage and Dilapidation Schedules and settlement of Builders' final accounts; applicants must have experience of similar work, and should forward particulars of age, previous experience, salary required, and when available, to Anthony Steel & Owen, A/R.I.B.A., Cogan Chambers, Bowalley Lane, Kingston-upon-Hull. 713

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

### Other Appointments Wanted

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

**EVENING** Secretarial and Typing Services offered by competent Secretary Shorthand Typist, with experience of Architectural specification and similar work. Box 752.

### For Sale

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

**ELECTRICITY FOR COUNTRY HOUSE**.—Complete equipment for Sale, including 2 h.p. Oil Engine, Electric Generator and Booster Set, Switchboard, Battery and Motors, 200 volts supply, in good running order; inspection. Apply Bally, Grundy & Barrett, Ltd., Electrical Engineers, Cambridge. 685

**RENAISSANCE Stripped Pine Doorway**.—A fluted columns, corinthian capitals, panelled door and wrought iron fanlight; £200.—Seen Hampton's Depository, Ingate Place, Battersea, S.W. 682

**TWO complete Sets of Minibrix No. 7**, and box Accessories; all unused; £15; cannot be divided. Box 2, W. H. Smith & Son, High St., Dorking. 733

**DRAWING INSTRUMENTS**.—Seven-piece Set, plus six interchangeable parts, extensions, legs, etc.; also adjusting tool and leads; brand new, unused modern set, in elegant lined case; £12, or best offer. Further particulars apply Cotgreave, St. Lawrence House, Frodsham, Warrington. 742

**MAGNIFICENT mahogany case of Drawing Instruments**; new and unused; 30 pieces; suitable for presentation; £50. K. S. Morris, 382b, Upper Richmond Road, London, S.W.16. 750

### 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 and rail, factory partitions and gates. 53, St. Marlborough St., W.1. Gerrard 4225-4226.

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

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

**FENCING FOR ALL PURPOSES**.—Supplied and erected; established 100 years. Parker, Winder & Achurch, Ltd., 80, Broad Street, Birmingham, 1.

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

**OFFICE Accommodation or Studio** required in Kensington, Knightsbridge or Chelsea districts; would consider sharing. Box 709.

**M. & E. EQUIPMENT (CONSTRUCTIONS), LTD.**, 71, Lots Road, Chelsea, S.W.10 (Tel. No. Flax 1423), are prepared to accept work for:—

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### 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.E.San.I. Courses of Correspondence and Personal in Studio. 115, Gower St., London, W.C.1 (Tel.: Euston 3906), and at 23, St. James's St., Derby (Tel.: 45648).

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

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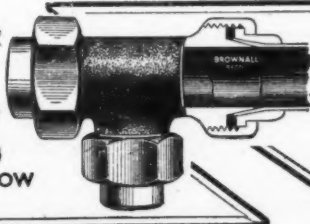
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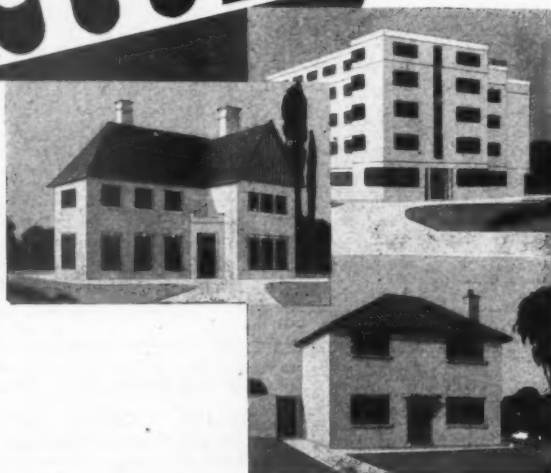


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