

# THE ARCHITECTS' JOURNAL



## standard contents

every issue does not necessarily contain all these contents, but they are the regular features which continually recur.

## NEWS and COMMENT

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★ A glossary of abbreviations of Government Departments and Societies and Committees of all kinds, together with their full address and telephone numbers. The glossary is published in two parts—A to I one week, I to Z the next. In all cases where the town is not mentioned the word LONDON is implicit in the address.

IEE	Institution of Electrical Engineers. Savoy Place, W.C.2.	Temple Bar 7676
IES	Illuminating Engineering Society. 32, Victoria Street, S.W.1.	Abbey 5215
IGE	Institution of Gas Engineers. 1, Grosvenor Place, S.W.1.	Sloane 8606
IHVE	Institution of Heating and Ventilating Engineers. 75, Eaton Place, S.W.1.	Sloane 3158
IIBD	Incorporated Institute of British Decorators. Drayton House, Gordon Street, W.C.1.	Euston 2450
ILA	Institute of Landscape Architects. 12, Gower Street, W.C.1.	Museum 1783
I of Arb.	Institute of Arbitrators, 35/37, Hastings House, 10, Norfolk Street, Strand, W.C.2.	Temple Bar 4071
IOB	Institute of Builders. 48, Bedford Square, W.C.1.	Museum 7197
IR	Institute of Refrigeration. Empire House, St. Martin's-le-Grand, E.C.1.	Monarch 7391
IRA	Institute of Registered Architects. 47, Victoria Street, S.W.1.	Abbey 6172
ISE	Institution of Structural Engineers. 11, Upper Belgrave Street, S.W.1.	Sloane 7128-29
IWA	Inland Waterways Association. 11, Gower Street, W.C.1.	Museum 9200
LIDC	Lead Industries Development Council. Eagle House, Jermyn Street, S.W.1.	Whitehall 7264
LMBA	London Master Builders' Association. 47, Bedford Square, W.C.1.	Museum 3891
MARS	MARS Group (English Branch of CIAM). 34, Gordon Square, W.C.1.	Euston 2158-9
MOA	Ministry of Agriculture and Fisheries. 55, Whitehall, S.W.1.	Whitehall 3400
MOE	Ministry of Education. Curzon Street House, Curzon Street, W.1.	Mayfair 9400
MOH	Ministry of Health. Whitehall, S.W.1.	Whitehall 4300
MOLNS	Ministry of Labour and National Service. St. James's Square, S.W.1.	Whitehall 6200
MOS	Ministry of Supply. Shell Mex House, Victoria Embankment, W.C.	Gerrard 6933
MOT	Ministry of Transport. Berkeley Square House, Berkeley Square W.1.	Abbey 7711
MOTCP	Ministry of Town and Country Planning. 32-33, St. James's Square, S.W.1.	Whitehall 8411
MOW	Ministry of Works. Lambeth Bridge House, S.E.1.	Reliance 7611
NAMMC	Natural Asphalt Mine-Owners and Manufacturers Council. 94, Petty France, S.W.1.	Abbey 1010
NAS	National Association of Shopfitters. 9, Victoria Street, S.W.1.	Abbey 5277/8
NBR	National Buildings Record. 37, Onslow Gardens, S.W.7.	Kensington 8161
NCBMP	National Council of Building Material Producers. 2, Caxton Street, S.W.1.	Abbey 5111
NFBTE	National Federation of Building Trades Employers. 82, New Cavendish Street, W.1.	Langham 4041
NFBTO	National Federation of Building Trades Operatives, Federal House, Cedars Road, Clapham, S.W.4.	Macaulay 4451
NFHS	National Federation of Housing Societies. 13, Suffolk St., S.W.1.	Whitehall 2881/2/3
NHBRC	National House Builders Registration Council. 82, New Cavendish Street, W.1.	Langham 4041
NPL	National Physical Laboratory. Head Office, Teddington.	Molesey 1380
NSAS	National Smoke Abatement Society. Chandos House, Buckingham Gate, S.W.1.	Abbey 1359
NT	National Trust for Places of Historic Interest or Natural Beauty. 42, Queen Anne's Gate, S.W.1.	Whitehall 0211/2
PEP	Political and Economic Planning. 16, Queen Anne's Gate, S.W.1.	Whitehall 7245
RCA	Reinforced Concrete Association. 94, Petty France, S.W.1.	Whitehall 9936
RIAS	Royal Incorporation of Architects in Scotland. 15, Rutland Square, Edinburgh.	Edinburgh 20396
RIBA	Royal Institute of British Architects. 66, Portland Place, W.1.	Langham 5721/7
RICS	Royal Institution of Chartered Surveyors. 12, Great George St., S.W.1.	Whitehall 5322
RFAC	Royal Fine Art Commission. 22A, Queen Anne's Gate, S.W.1.	Whitehall 3935
RS	Royal Society. Burlington House, Piccadilly, W.1.	Regent 3335
RSA	Royal Society of Arts. 6, John Adam Street, W.C.2.	Temple Bar 8274
RSI	Royal Sanitary Institute. 90, Buckingham Palace Road, S.W.1.	Sloane 5134
RIB	Rural Industries Bureau. 35, Camp Road, Wimbledon, S.W.19.	Wimbledon 5101
SBPM	Society of British Paint Manufacturers. 20, Piccadilly, London, W.1.	Regent 6347
SCR	Society for Cultural Relations with the USSR. 14, Kensington Square, London, W.8.	Western 1571
SE	Society of Engineers. 17, Victoria Street, Westminster, S.W.1.	Abbey 7244
SFMA	School Furniture Manufacturers' Association. 30, Cornhill, London, E.C.3.	Mansion House 3921
SIA	Structural Insulation Association. 14, Moorgate, London, E.C.2.	Central 4444
SIA	Society of Industrial Artists. Room 243, Empire House, St. Martin's-le-Grand, E.C.1.	Metropolitan 8344
SNHTPC	Scottish National Housing & Town Planning Council. Hon. sec., Robert Pollock, Town Clerk, Rutherglen.	Holborn 2646
SPAB	Society for the Protection of Ancient Buildings. 55, Great Ormond Street, W.C.1.	Temple Bar 5006
TCPA	Town and Country Planning Association. 28, King Street, Covent Garden, W.C.2.	City 4771 (6 lines)
TDA	Timber Development Association. 75, Cannon Street, E.C.4.	Sloane 4554
TGC	The Gas Council. 1, Grosvenor Place, S.W.1.	Victoria 8815
TPI	Town Planning Institute. 18, Ashley Place, S.W.1.	City 1476
TTF	Timber Trades Federation. 81, Cannon Street, E.C.4.	Mayfair 8866
WDC	War Damage Commission. Devonshire House, Mayfair Place, Piccadilly, W.1.	City 4263/4
WEDA	Welfare Equipment Development Association. 61, St. Paul's Churchyard, E.C.4.	Oxford 47988
ZDA	Zinc Development Association. Lincoln House, Turl Street, Oxford.	

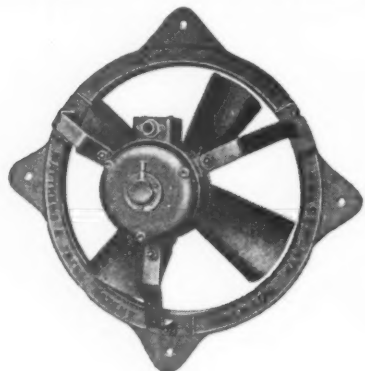
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[Vol. 111

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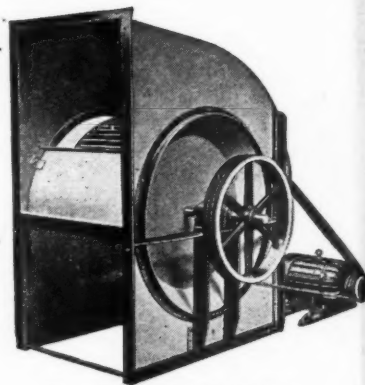
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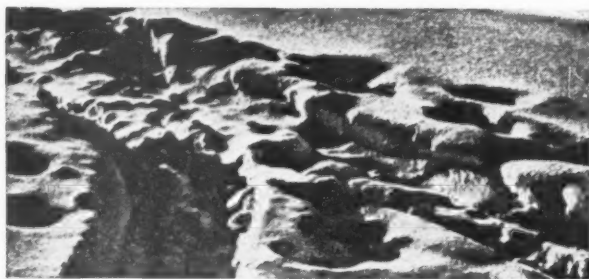
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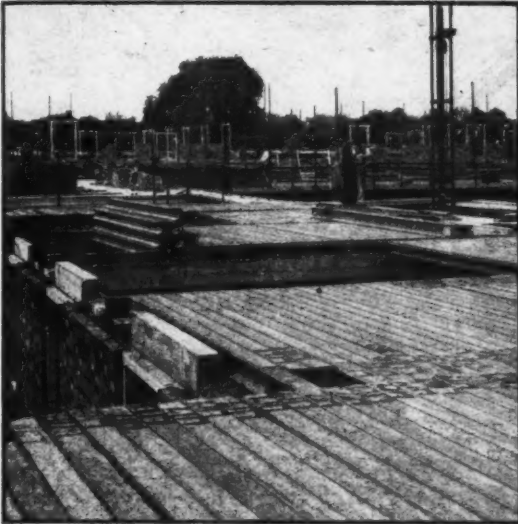
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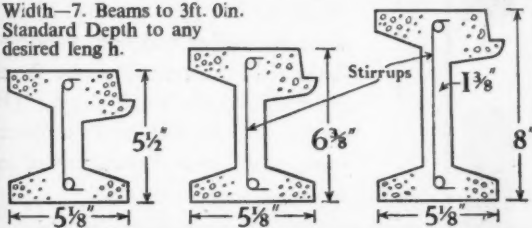
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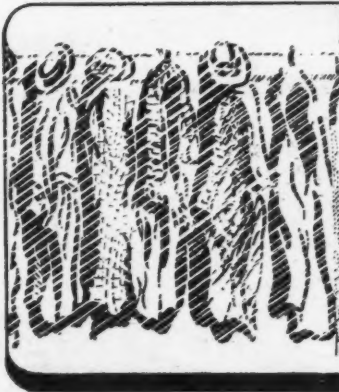
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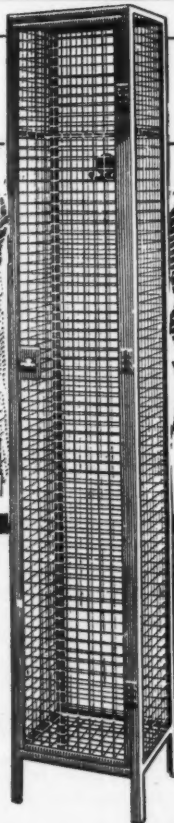
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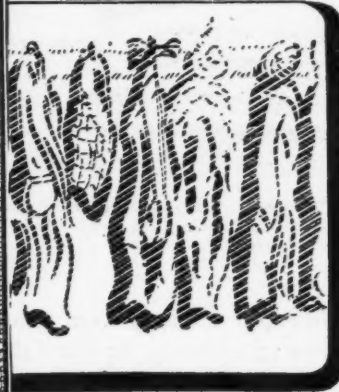
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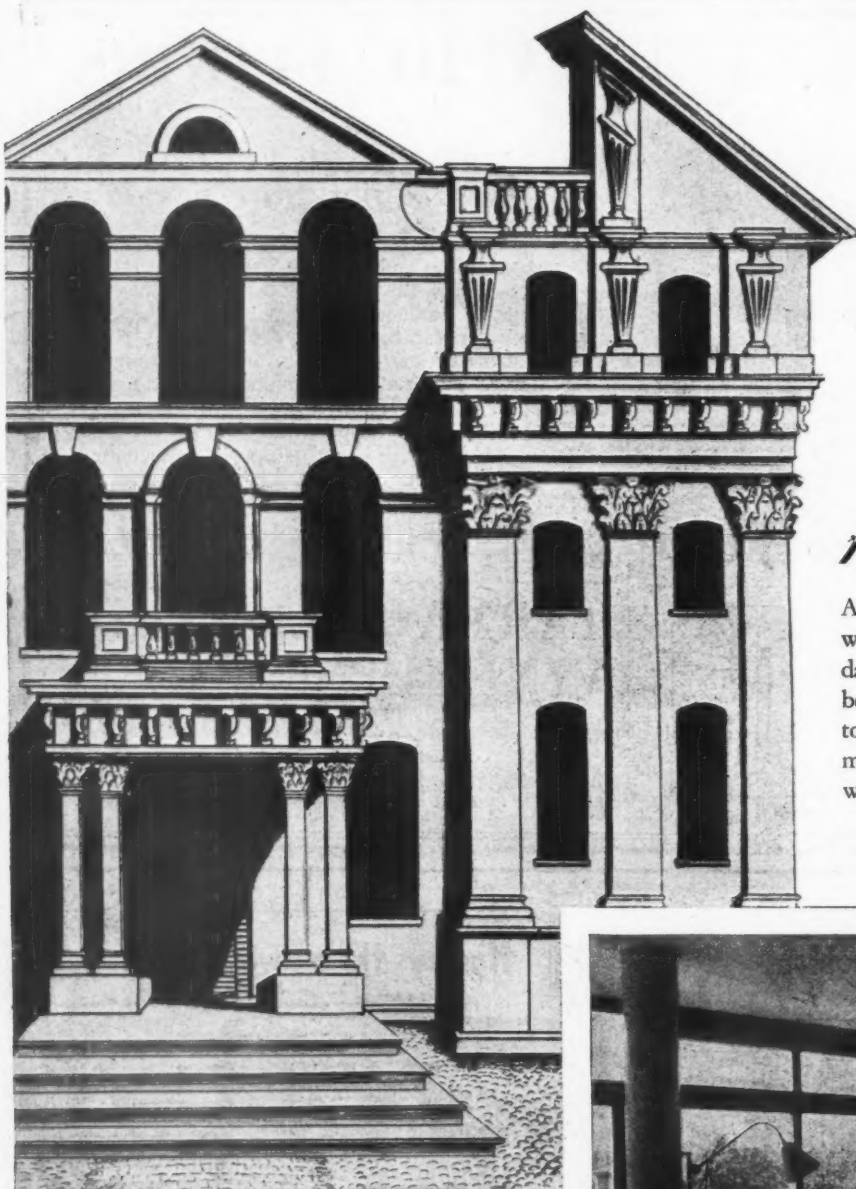


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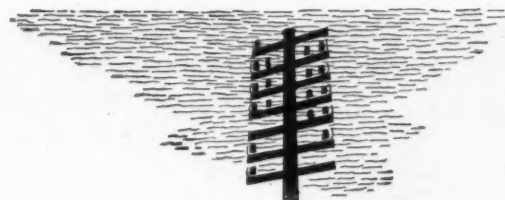
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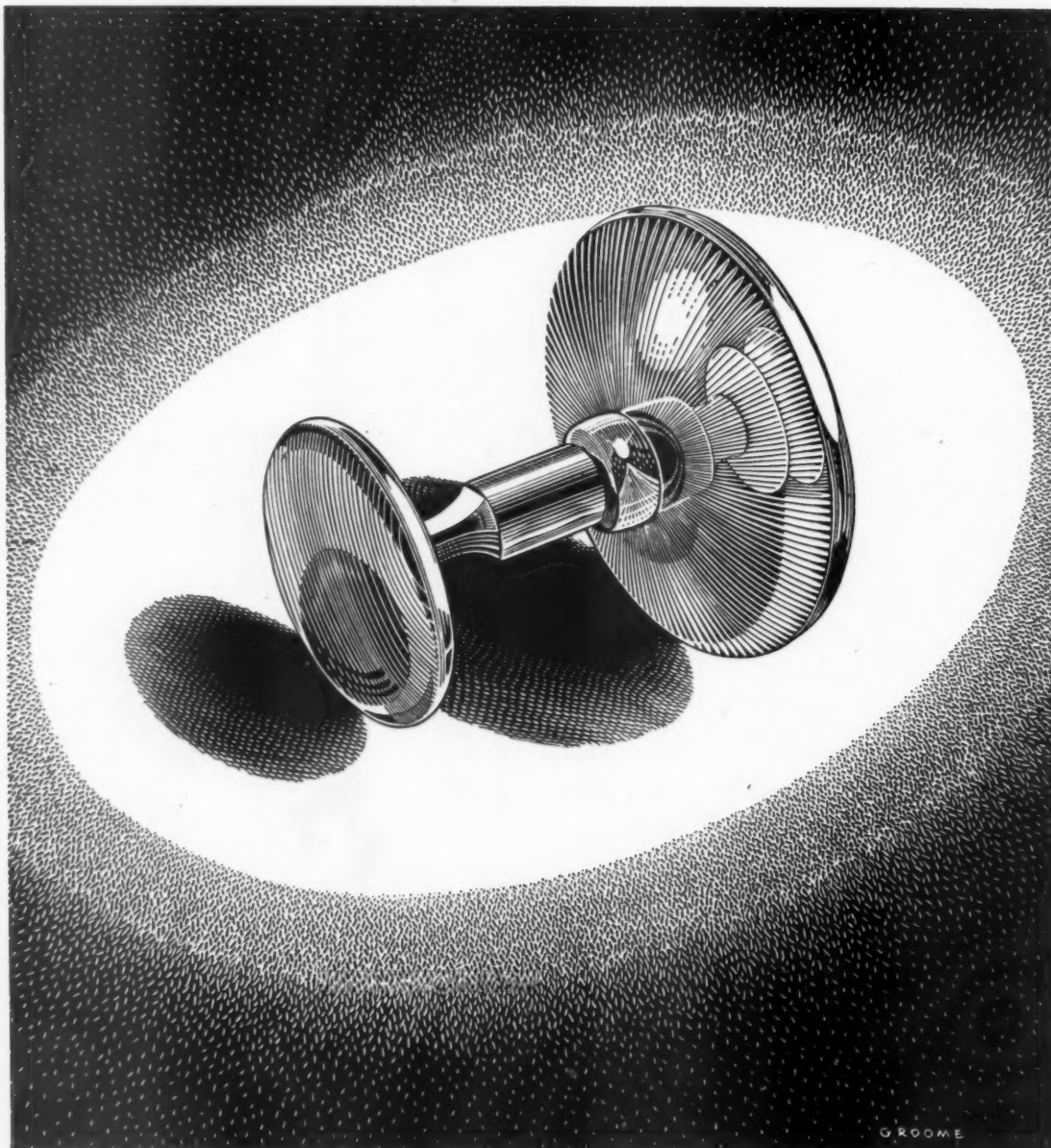
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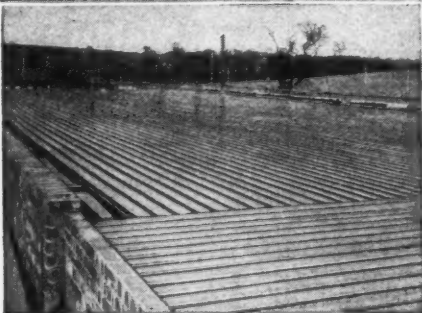
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# Bitumetal in Action

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"BITUMETAL" Roof showing  $\frac{1}{2}$  inch  
Insulation Board being laid on  
Aluminium Decking and bonded  
with hot bitumen.



General view of Aluminium Decking prior to the application of Insulation Board and weather resisting surface.

"BITUMETAL" is playing an ever-increasing part in modern roof construction. Here is a roof perfectly adaptable to present-day requirements — strong, rigid, lightweight, speedily erected and complete from ceiling to roof deck.

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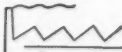


### SCHOOLS

New School, Fort Luton, Kent.  
Architects: Messrs. Read & McDermott, Rochester.

New School, Welling, Kent.  
Architect: S. H. Loweth, Esq., F.S.A., F.R.I.B.A.  
Kent County Architect.

Assembly Halls at New Junior & Infants' School, Loughton, Essex.  
Architect: H. Conolly, Esq., F.R.I.B.A.  
Essex County Council.



### INDUSTRIAL PREMISES, Etc.

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Extension to Nelson's Printing Works, Edinb'gh.  
Engineers: Messrs. Blyth & Blyth, Civil Engineers, Edinb'gh.

Post Office, Larbert.  
Architects: G.P.O.

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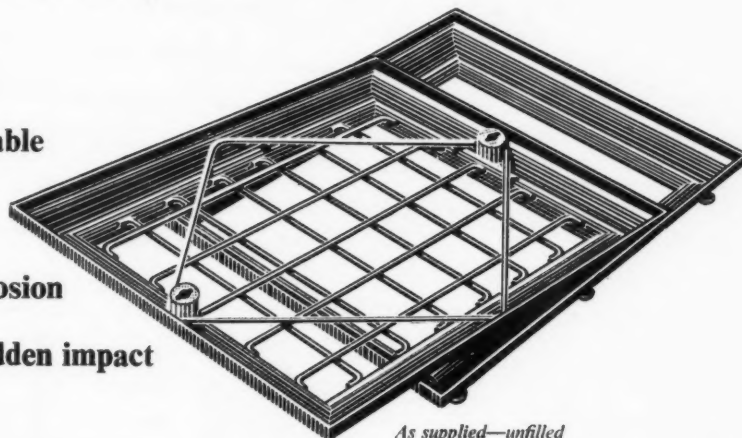
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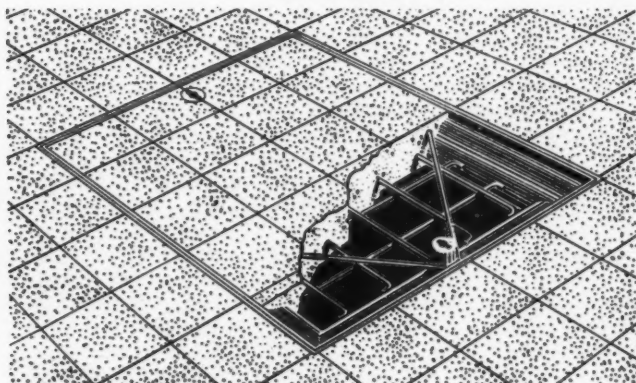
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*As supplied—unfilled*

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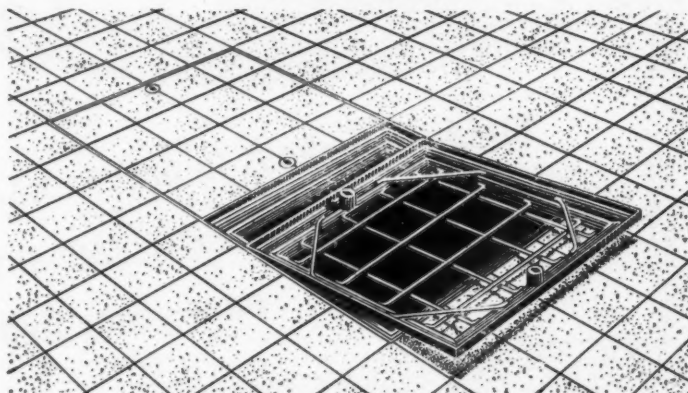


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Sudden blackout is prevented  
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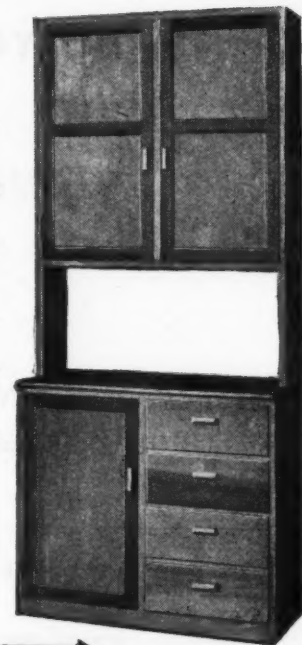




Here's a fine storehouse for  
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CRC 6

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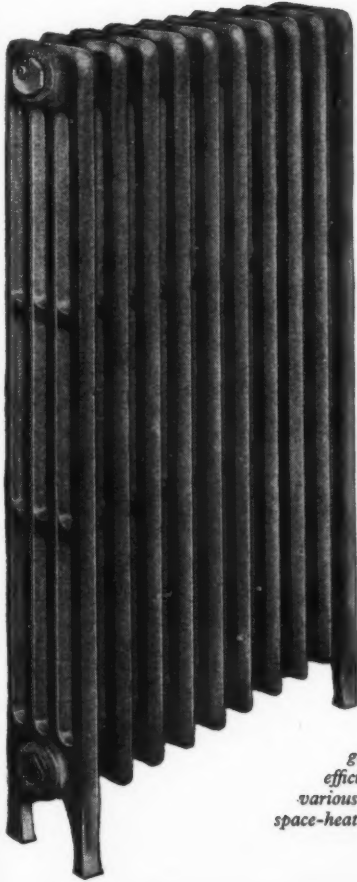
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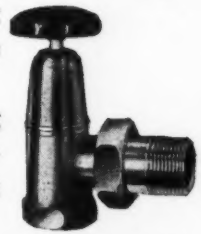
FROM THE RAW MATERIAL TO THE FINISHED ARTICLE



## HEATING EQUIPMENT...

As the counterpart of their up-to-date boilers for central heating, Crane provide, in a practical range of sizes, radiators that meet any space-heating requirement. Their design, following modern trends and providing clean-cut, tasteful lines, pays regard to hygiene by eliminating inaccessible traps for pests and dust. Yet in no way has efficiency and strength been sacrificed to appearance, the metal used being carefully chosen and critically tested to ensure adequate and consistent wall thickness.

This modern design extends to every feature, including the radiator valves, of which Type No. D.201 illustrated is an excellent example. It is supplied in matt or chromium plated finish.



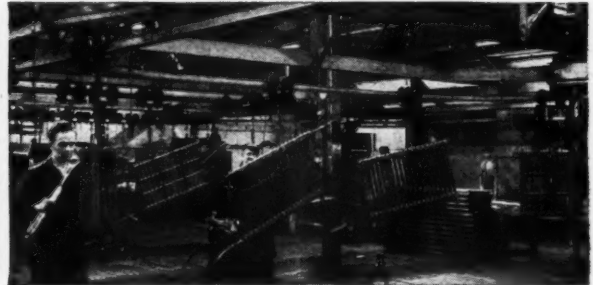
*The Crane 'Pall Mall' radiator combines good appearance with great efficiency. It is available in various sizes to meet different space-heating requirements.*



*Part of the foundry in which the radiator moulds are formed. Photograph shows cores being placed in position.*



*General view of the shop in which cores for Crane radiators are made.*



*Testing the radiators for watertightness at pressure.*

# CRANE

## BOILERS AND RADIATORS

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BRANCHES: BIRMINGHAM, BRENTFORD, BRISTOL, GLASGOW, MANCHESTER

# U and The Wall

Just one course



upon another

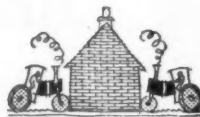


but think what a brick wall

does for a house.



It makes it very strong



and gives it a pleasant

appearance.



It needs no maintenance,



resists rain penetration



and keeps fire



at bay. But what of the interior? A brick house

usually is warm and snug:

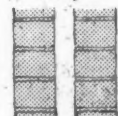


Not quite sufficient, perhaps, if you talk in U's, but that

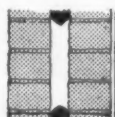
is easily solved.



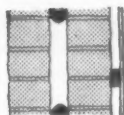
An 11" cavity brick wall, ventilated, plastered on the inner face



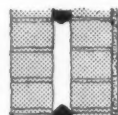
has a U-value of 0.34. Seal the cavity



and it becomes 0.30. With  $\frac{3}{8}$ " plasterboard on battens

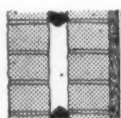


It is 0.23. Line the inner face with  $\frac{1}{2}$ " cork, plastered

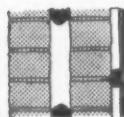


and the result is 0.21.

With 1" wood wool, plastered

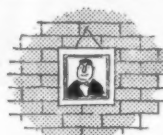


the U-value is 0.20. With  $\frac{1}{2}$ " fibreboard on battens



it is 0.18. And there are many other methods. But the important thing is that, whatever

you put on the inner face of a brick wall



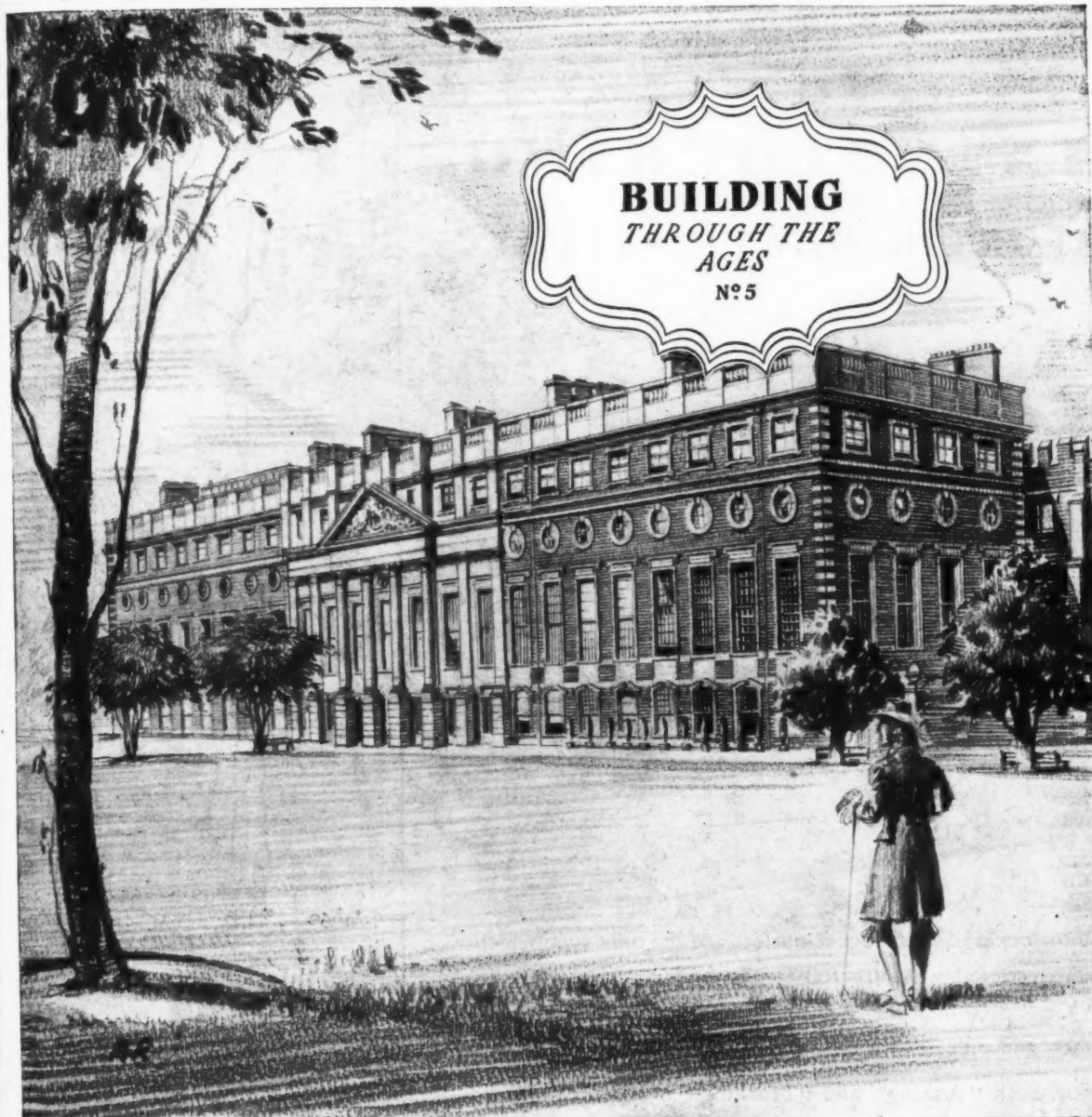
you still have a jolly good wall.

# BRICK

*Note: The type of exposure, whether North, South, East or West, & whether sheltered from wind or not, will, of course, vary the value of walls of similar construction.*

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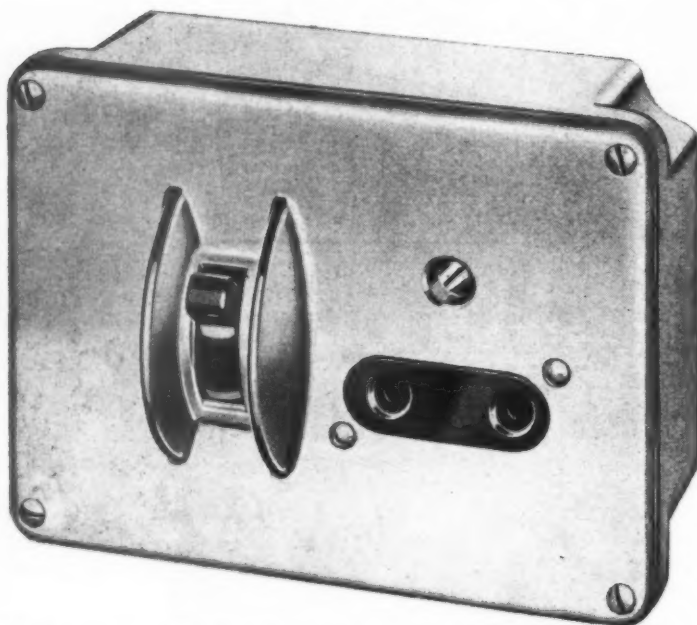
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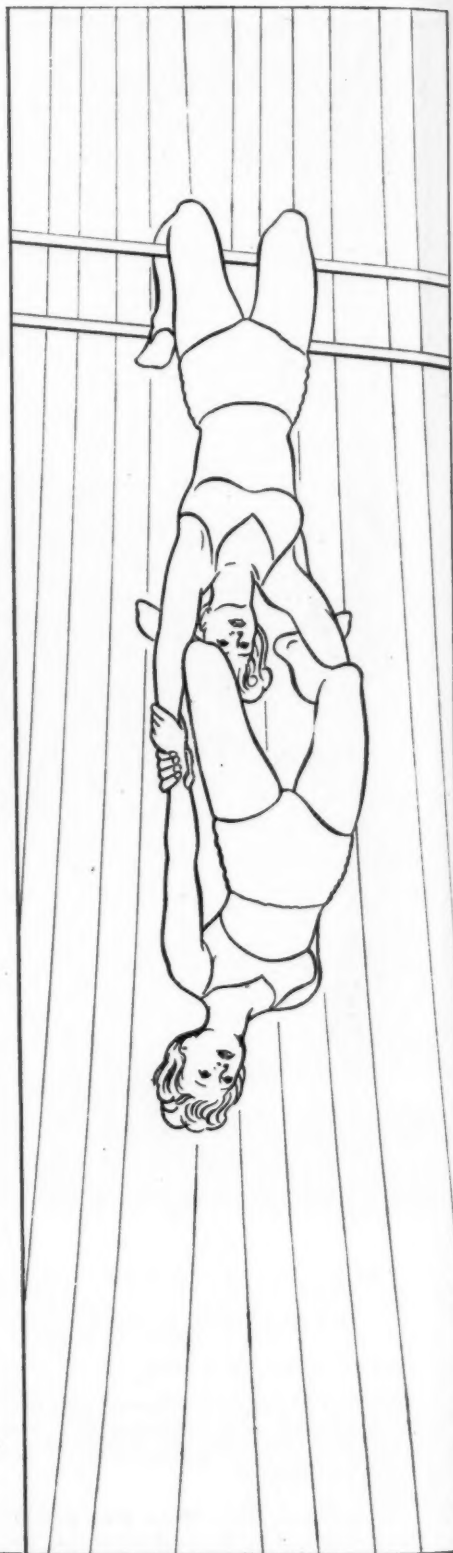


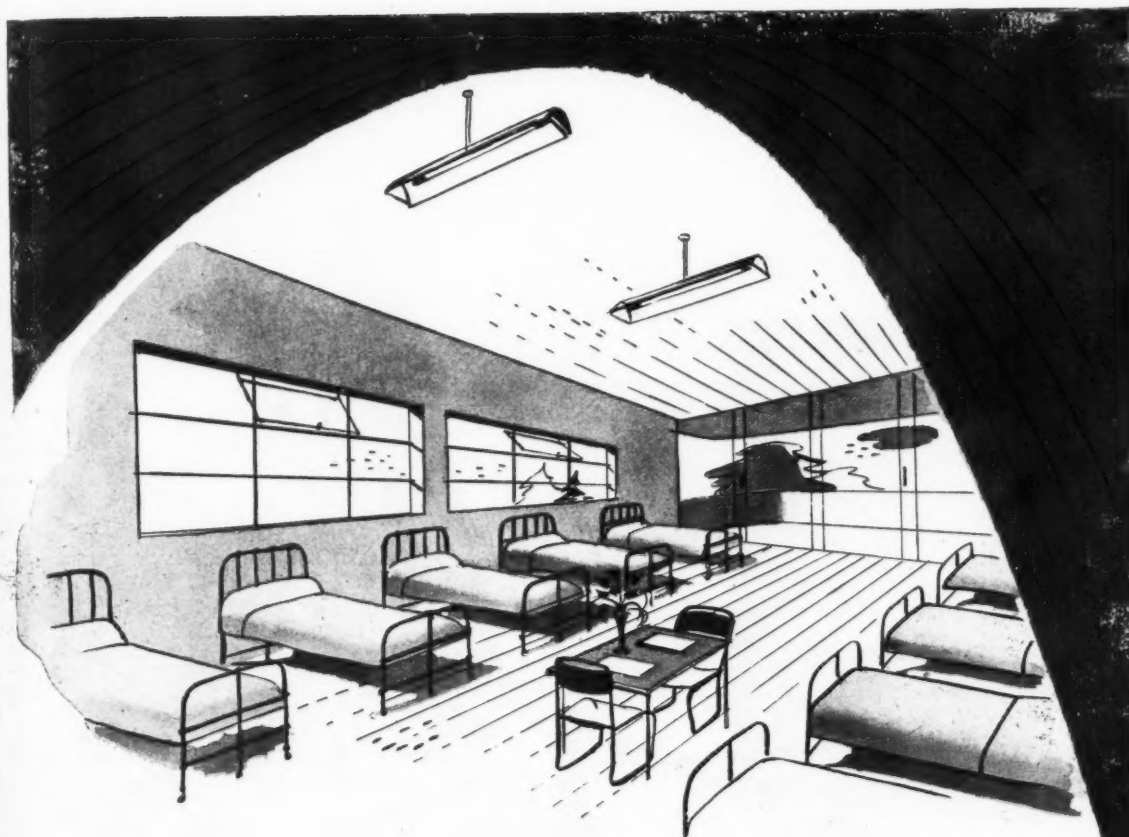
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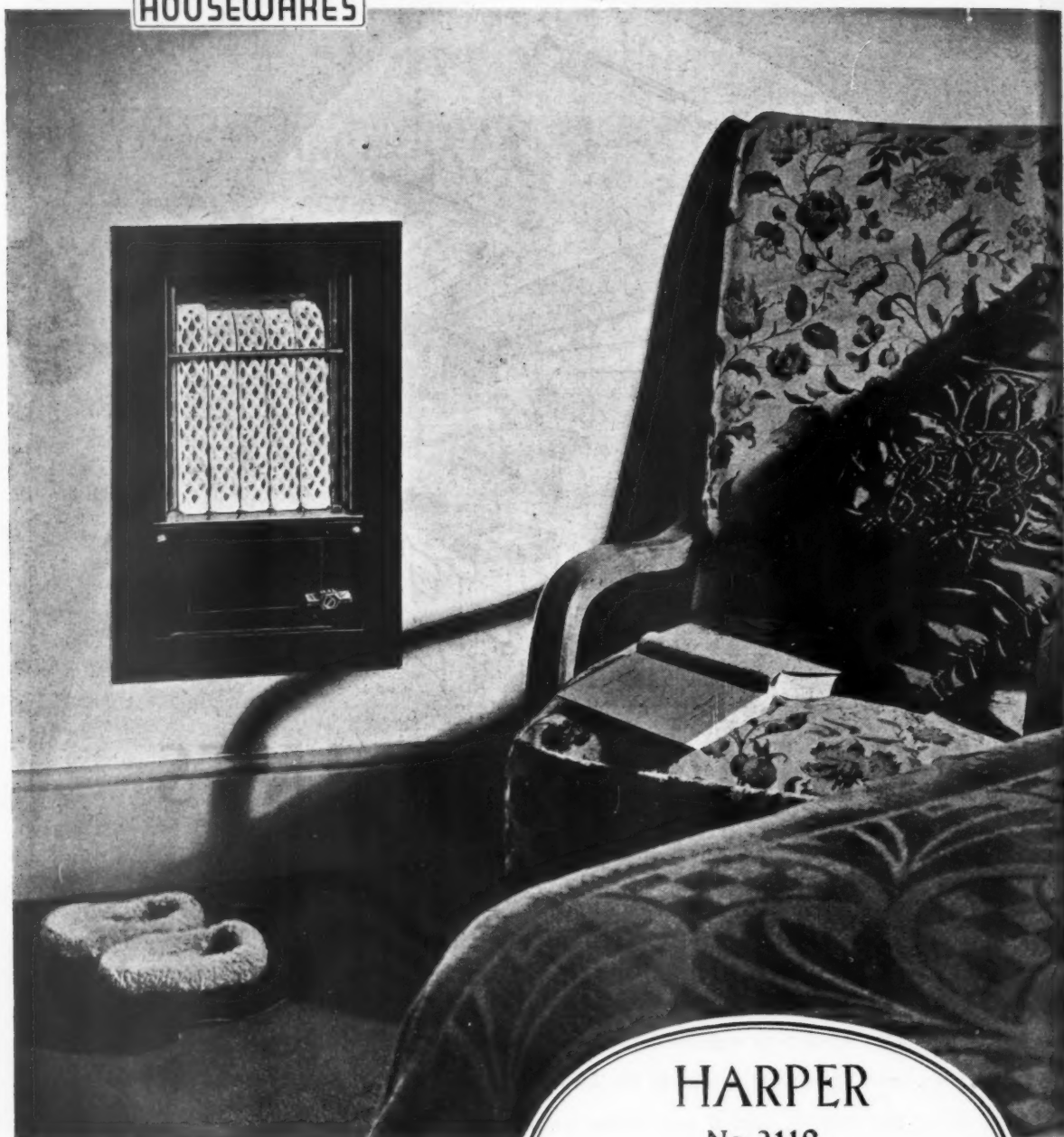
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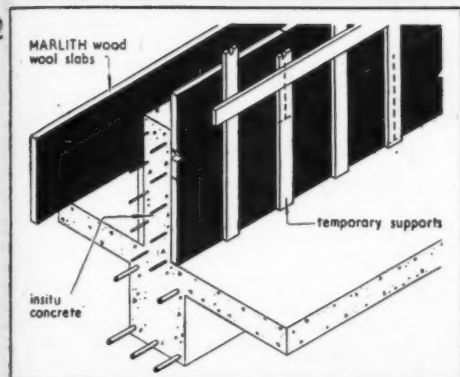
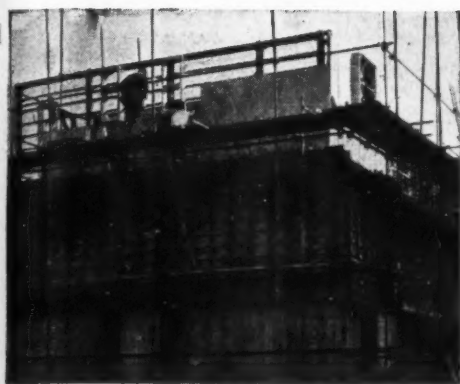
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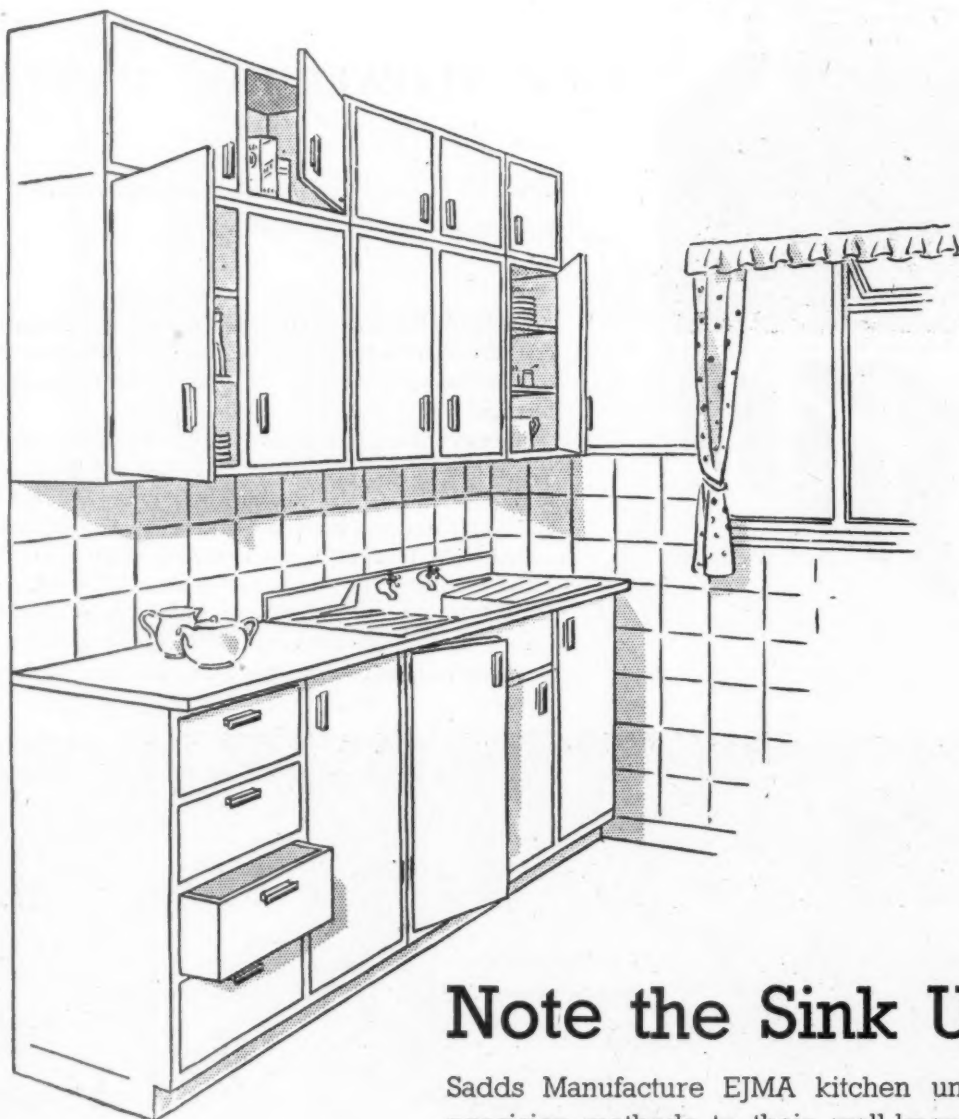
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- 2 Method of using Marlith as permanent shuttering for walls.
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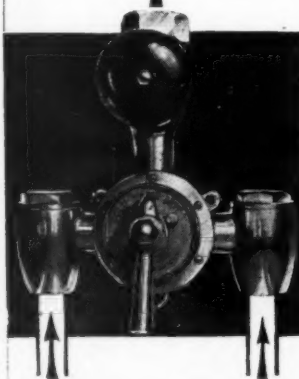


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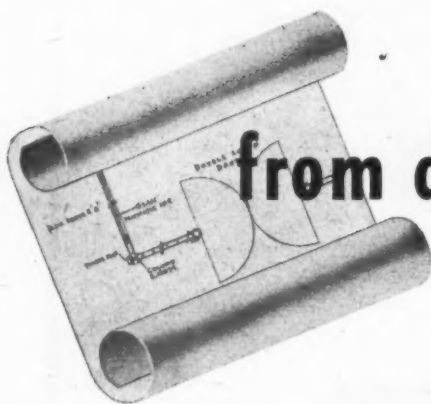


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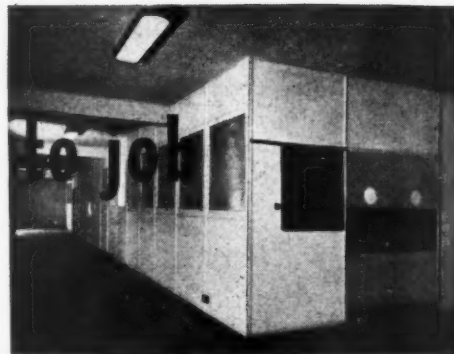
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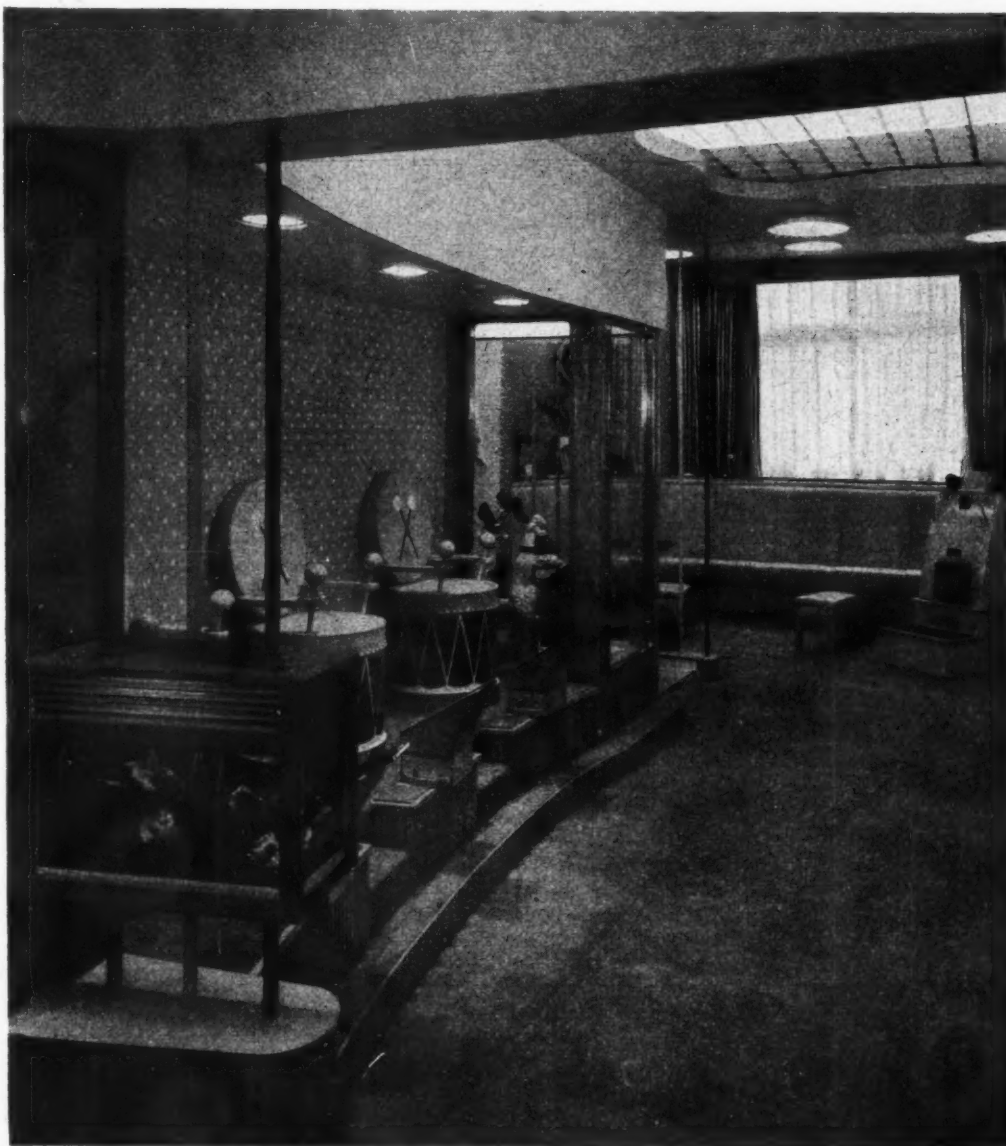
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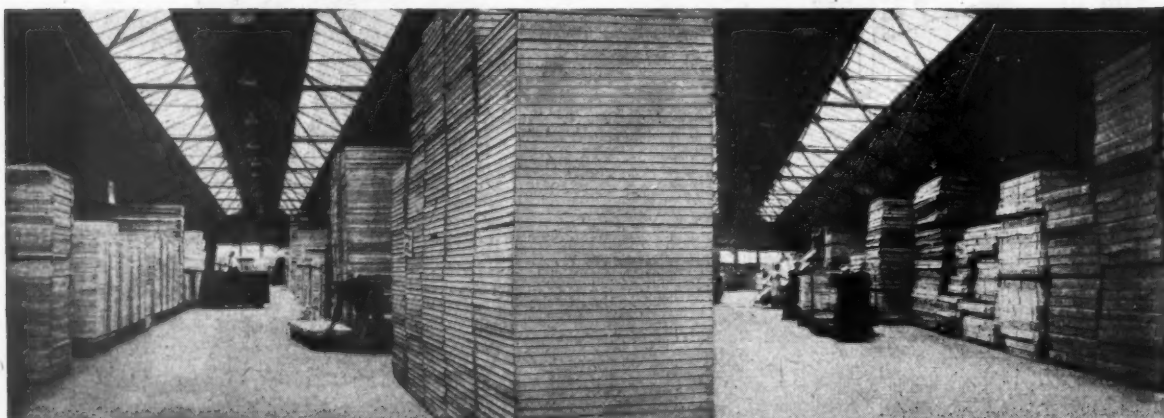


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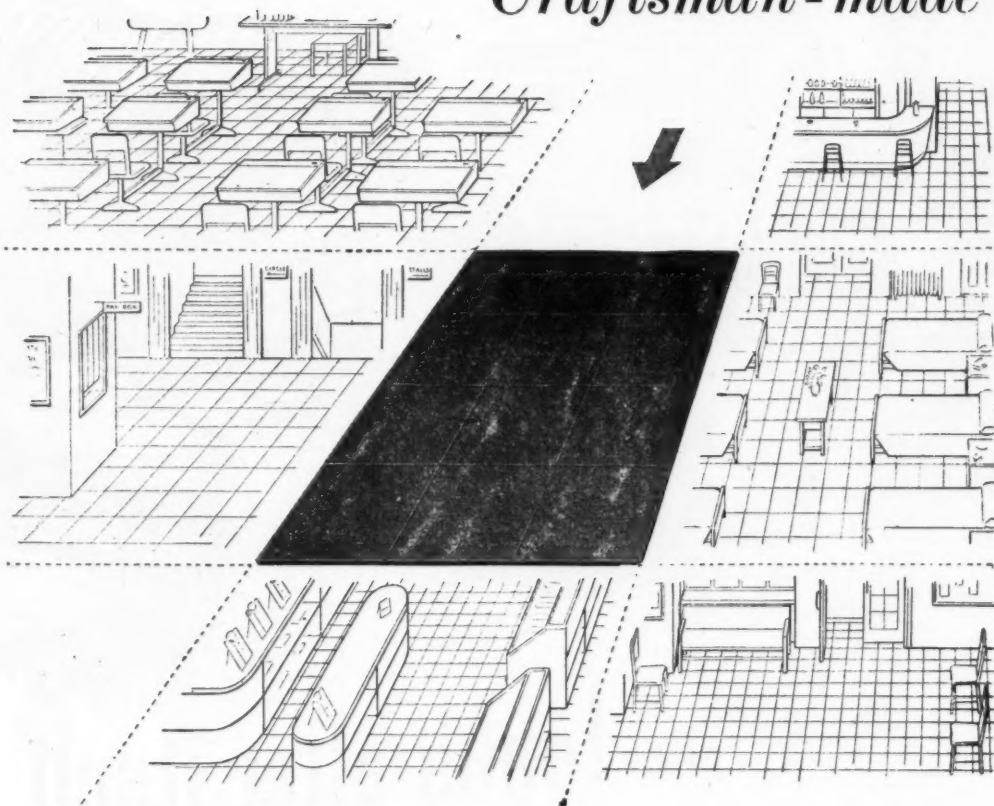
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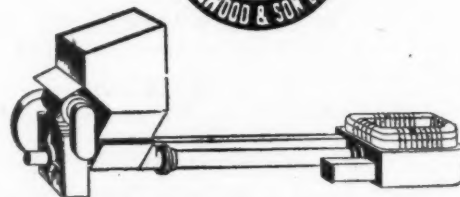




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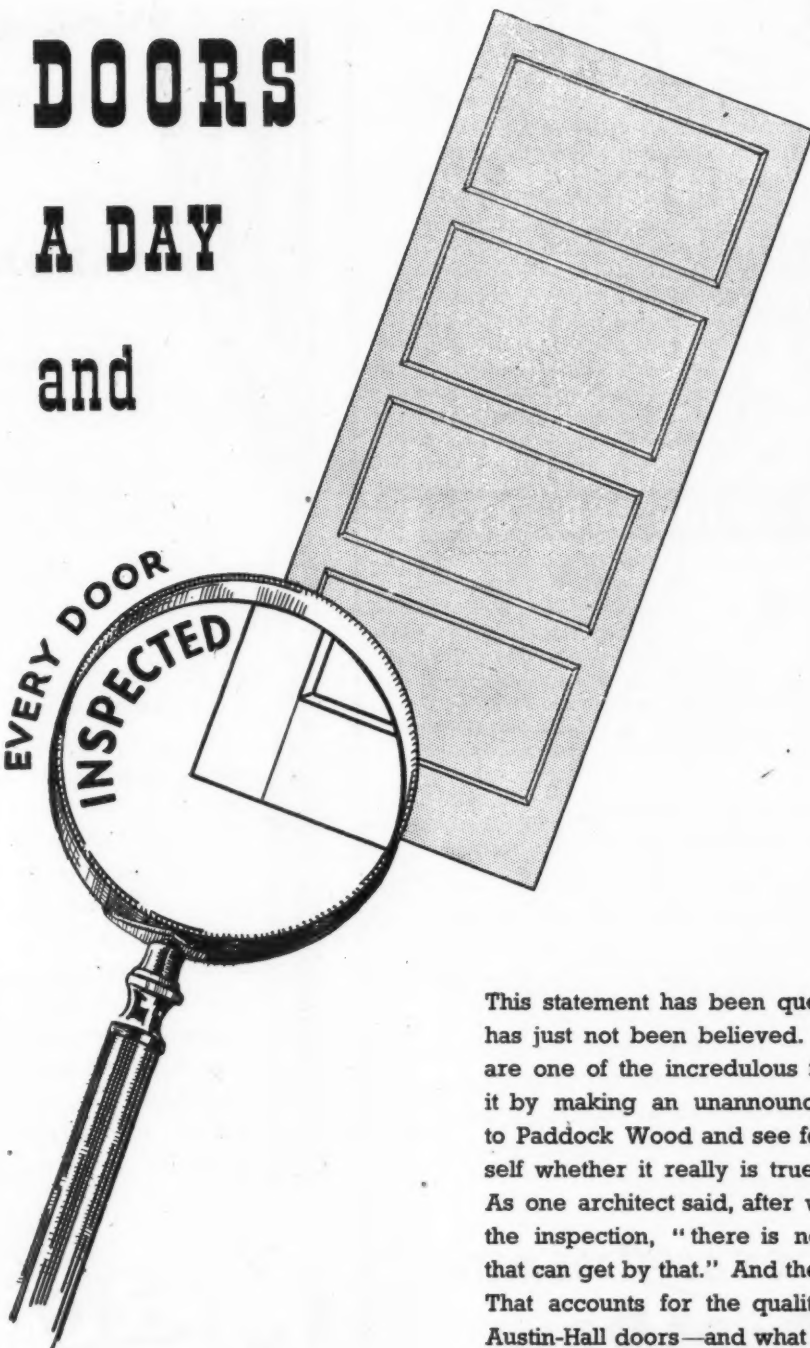
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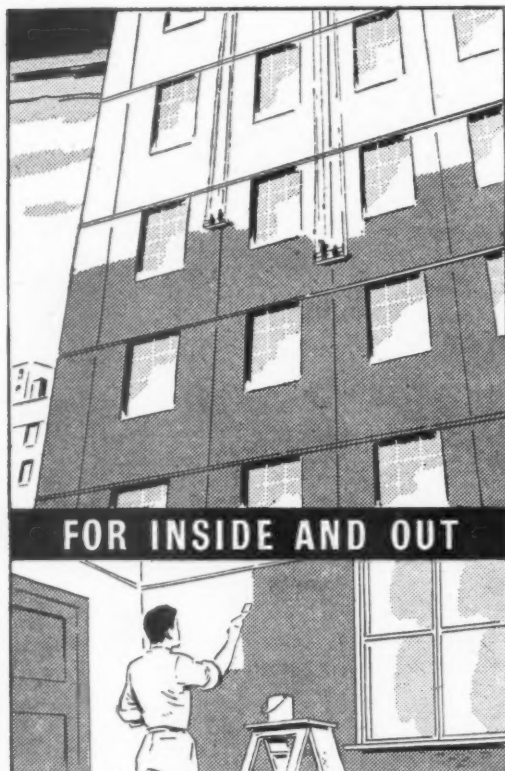
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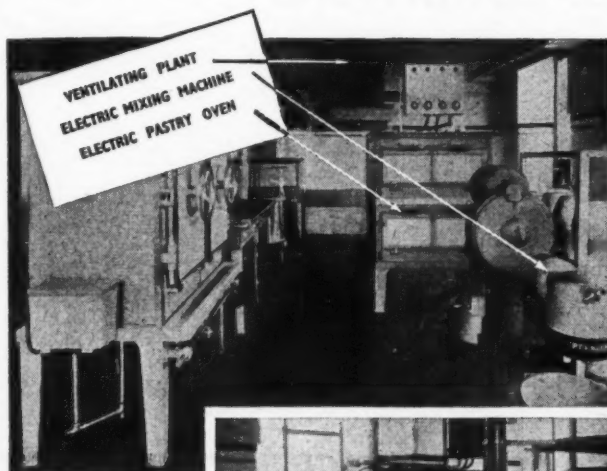


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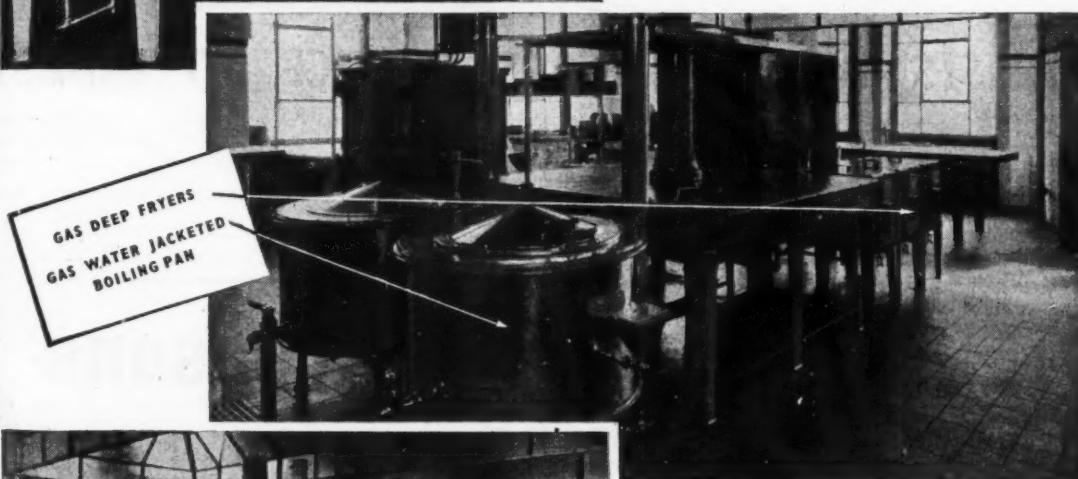
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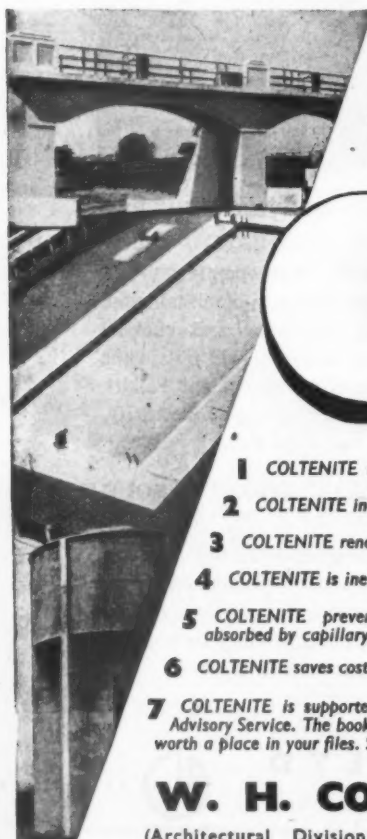
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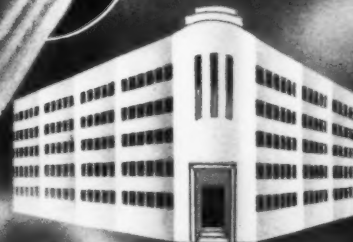
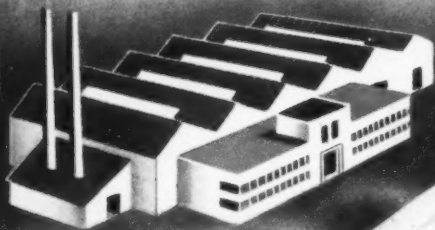
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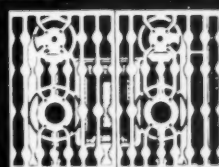
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UNITA

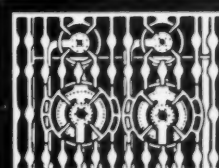
UNIT GAS COOKERS  
IN YOUR PLANS ...



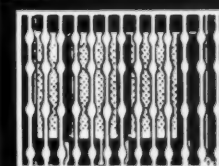
"UNITA" Hotplates provide a range of cooking facilities to meet all requirements.



No. 220 Includes two large and two small ring burners and short double grill.



No. 221 Features two concentric and two single ring burners.



No. 222 Consists of an all-grilling arrangement.

Parkinson "Unita" Gas

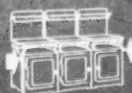
Cookers are specially designed for heavy cooking duties in Boarding Houses, Hotels, etc. The unit system employed makes it simple to add additional cookers as catering requirements increase, forming ranges to suit individual needs.



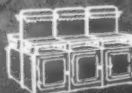
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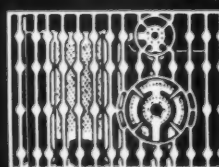
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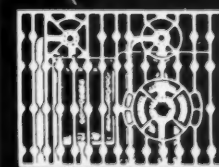
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"UNITA" Gas Cookers can be installed  
A. as a separate self-contained unit.  
B. in pairs, with oven doors opening left and right.  
C. in batteries of 3 or more, in which case only the end cookers can be fitted with Thermostats.



No. 224 Is fitted with one concentric, one single burner and long grill.



No. 223 Has one concentric and two single ring burners and short grill.

DIMENSIONS OF SINGLE UNIT

Door Opening		Oven Dimensions			Hotplate		Height to Cornice	Height Overall	Width Overall including Adjust
Wide	High	Wide	Deep	High	Wide	Deep			
ins. 21	ins. 22	ins. 25	ins. 21	ins. 28	ins. 27½	ins. 24	ins. 38	ins. 59½	ins. 30½





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THE ARCHITECTS' JOURNAL

No 2866 12 January 1950 VOL 111

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#### THE WORLD'S BIGGEST HOUSING JOB

Few, if any, will fail to applaud the LCC's decision to appoint a Housing Architect. As architect responsible for one of the largest housing programmes in the world the job concerns our international prestige. But £1,500 rising by increments to £1,700 represents—to quote the *Bush Telegraph*—one and one half MP's, or one good bookmaker's clerk or five missionaries. So it seems improbable that it will attract designers of sufficient calibre to meet the case.

To me it raises the knotty problem of all our senior official architectural posts. Redolent with this atmosphere of "annual increment" they have been the prerogative in the past of ageing senior civil servants—the reward for long and faithful service. The general result has been that these gentlemen have moved gracefully on to their

OBE's and knighthoods, and finally to the civil service Valhalla, leaving behind them monuments in Portland stone as dead as the hands that delineated them.

Today, as the Government grip steadily tightens on all major building works, it grows more and more imperative that some method is found to ensure that any potential genius can be encouraged to enter into a bureaucracy and become distinguished rather than extinguished. How can this be done? Perhaps not entirely by hard cash. An essential requirement is a sense that the job is primarily for creative work rather than a cosy career. As genius is as likely to be found in private enterprise as the ranks of official architects, there should be equal incentive offered to both categories. Sweden, for example, never fails to secure the services of any worthy private practitioner simply by allowing him to continue his private work while retaining his services officially for a limited number of years. This has worked admirably, and to be given the post is considered the highest architectural achievement in the land. The nearest equivalent in Britain to this ideal is expressed by the kudos and competition in the medical world to become an honorary consultant to a major teaching hospital.

To consider, for a moment, the other end of what is nowadays called "the pyramid." Presumably the necessary new blood will be judiciously mixed with the old. Many of the present Housing Department will be occupied for some time to come completing works now in hand, but there must be many—especially the younger men in the department—who deserve transfer to the new department and who would do good work under new leadership.

#### J. N. COMPER

In an article about Comper, the greatest living church architect, pub-

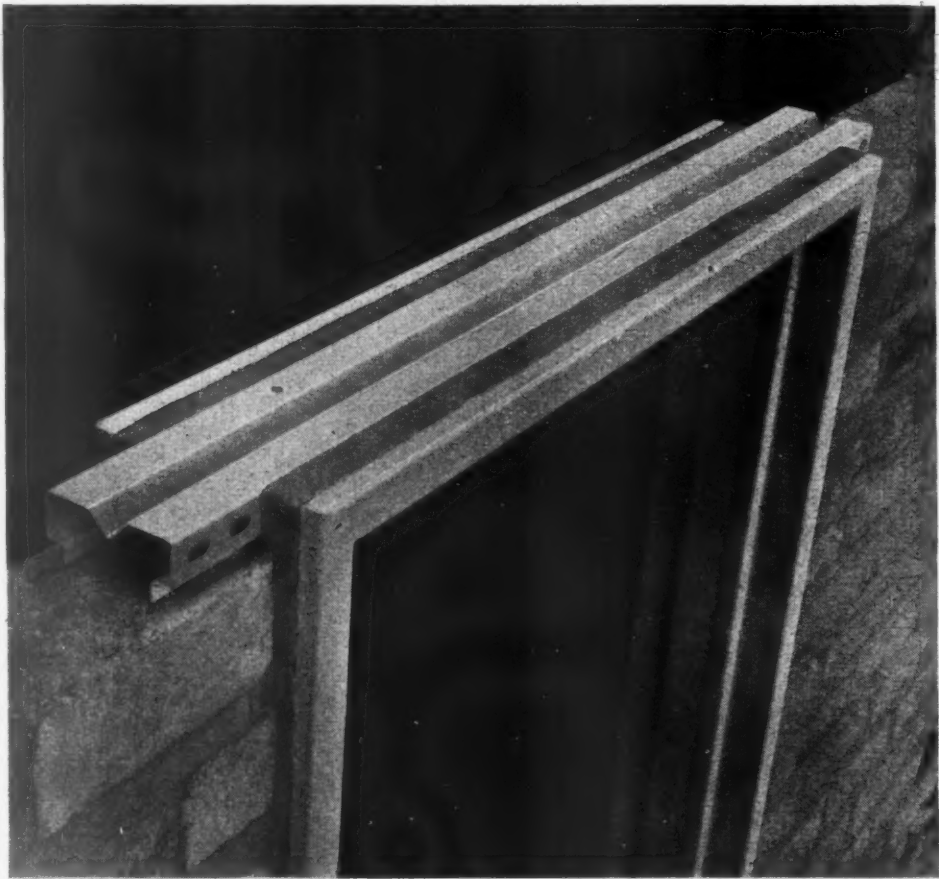
lished in *The Architectural Review* in 1939, John Betjeman remarked: "I doubt whether many of the younger architects have even heard of him . . . Had he designed flats, town halls, libraries and banks his name would probably be more familiar to them and to the general public, for would he not have received a knighthood on the strength of his extensive output alone?"

Well, Comper has now been given a knighthood, not on the strength of extensive output or public fame (it is more true than ever, eleven years after Betjeman wrote, that the younger architects know nothing of him) but for real architectural achievement. It is encouraging to find that authority can recognize distinction in so retiring a personality and when it is not accompanied by a public position.

In the same article (which was incidentally the first article on Comper's work to appear in any architectural magazine) Betjeman described his influence on ecclesiastical architecture as being deeper than that of any English architect since Bodley. He was, as a matter of fact, a pupil of Bodley's and is thus heir to an unbroken tradition, perhaps the last exponent of the real Gothic Revival. For like Butterfield, Street, and the others, his work is never a copy of the ancient, but is highly original and personal.

Those who only have eyes for the stylistic element in Comper's beautiful Gothic churches may be surprised by the following extract from a paper he read to the St. Paul's Ecclesiological Society as long ago as 1932:

"There will be no wholesomeness for architecture till, abandoning all this talk about self-expression and the expression of the age, we settle down again to real work and the concentration of all our time and energies on



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meeting our real needs by beauty of proportion and detail in whatever style we build. No one expresses the age better than the engineer who designs an aeroplane, and no one is further from any set intention of doing so. His sole pre-occupation is to make it fly."

#### THE TURNING WORM

I have for many years, and mostly as a duty, been a hard-boiled frequenter of meetings, ordinary, general, annual and otherwise, where people talk about architecture. I have often wondered what the gentlemen of the press tables, who spend their lives making bad speeches read like good ones, think of it all. Well, those who were at the AA last Wednesday week at a most unordinary general meeting learned a lot.

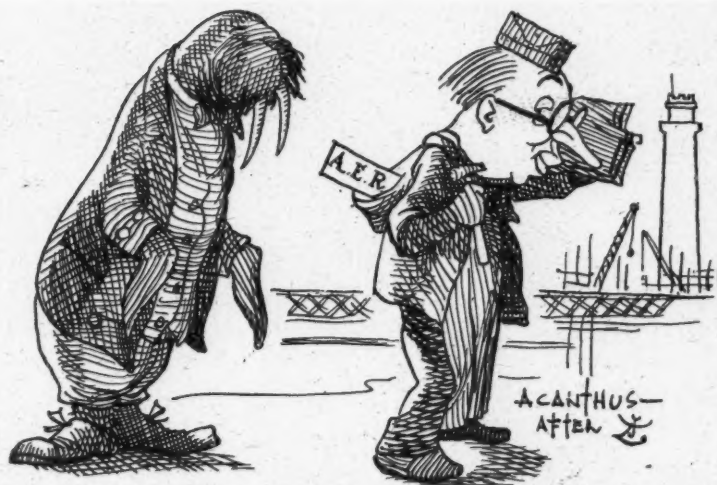
Perrot, who has been reporting AA meetings, to say nothing of those at the RIBA, for over twenty years, was given the platform, and, under the humble title of "The Worm Turns," gave one of the wittiest talks heard in Bedford Square for many a year. There were a host of pretty but kindly cracks at architects and their weaknesses, but on the whole they were given the full credit of being nice chaps if sometimes wilful and strange. Nevertheless, as Eric Bird said when adding his thanks to that of others, seldom has a turning worm been known to have such sharp teeth.

#### FURTHER ORNAMENT

This week it is with great pleasure I welcome to this column a drawing by the well-known *Punch* cartoonist "Acanthus." I hope that this is but the first of a whole series of cartoons by him for the JOURNAL on subjects relating particularly to the architectural profession. As many must have guessed from studying the design details of the buildings which occasionally occur in his cartoons, "Acanthus" leads a double life; he is also a practising architect.

#### DANISH PRIVATE HOUSING

I have been studying an attractive little Danish book on small houses called "21 Danske Enfamiliehuse." With typical consideration, the text is in both Danish and English, the cubic content of each house illustrated is given, as well as an average price per foot cube, thus enabling a rather superficial, probably inaccurate, but nevertheless interesting comparison to be made with housing designs in this country.



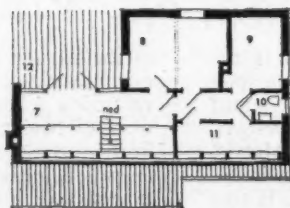
"If all the men available,  
No strikes—no going slow—  
Worked night and day,  
then would you say,  
That we could have our show?"  
"I doubt it" said the carpenter,  
"You see, I'm in the know"—

(with the usual apologies).

Poor families, it would appear, stand a good chance of building their own houses in Denmark today. By means of a combination of State loans and building society mortgages, up to eighty-five per cent. of the total cost can be borrowed. The cost must not exceed, roughly, £3,000, and the total floor area must be less than 1,200 square feet.

Reproduced on this page are typical house plans, and it is quite a shock to

English eyes to see how the Danes disregard conventional "good planning" as practised over here. Bedrooms are small, awkwardly shaped and often close under the roof, so that the sloping ceilings reduce the effective floor area still further. A bathroom, or what is described as a "washroom with shower" may open off a kitchen, and, as in the plan shown, may lead into a fuel store. Living rooms, even if not used as passages, are very large in comparison with the total floor area.



House in Hjortekær by Rut Speyer and E. H. Rasmussen. Key to plans: 1, hall. 2, living-room. 3, fuel. 4, washroom with shower. 5, larder. 6, kitchen. 7, balcony. 8 & 9, bedrooms. 10, toilet. 11, lumber room. 12, terrace. Approximate cost: £1,350. See Astragal's note on this page.





### *An Early Design by Ninian Comper*

Ninian Comper, who was awarded a knighthood in the New Year Honour's List, is not known to many, in spite of his considerable work in church building and stained glass. At 86 he is still active in producing his designs, of which perhaps the most important is St. Mary's, Wellingborough. Illustrated in this photograph is St. Cyprian's, Clarence Gate, which, built in 1903, is one

of the earliest of Comper's complete churches. One of our greatest authorities on Gothic architecture, he has refused a fellowship of the RIBA. An article on the work of Ninian Comper by John Betjeman was published in *The Architectural Review* in February, 1939, where he was described as heir to Butterfield and Bodley. For examples of his more recent work see p. 39.

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This is not intended to imply disapproval of this kind of planning. On the contrary, I think it shows a healthy disregard for convention and should shake any complacency anyone may feel regarding design standards in this country. On the other hand I do not recommend anything so absurd as copying Danish designs. I only suggest that such subjects as the relative areas of sleeping space and living-working space are not definitely fixed (despite what the excellent Housing Manual recommends). Cranky, wayward human nature may, in many cases, be only too ready to sacrifice, for instance, the standard of accommodation in that part of the house in which the occupant spends a third of the twenty-four hours in a state of unconsciousness (he hopes), for that part in which he plays or works. Some people would cheerfully sacrifice floor area for increased warmth, or, bless their hearts, for nobs and fancy bits on the exterior.

In Denmark it appears still to be possible to make these adjustments for human nature, at least in respect to housing. This book proves that Danish architects are actively experimenting in house design; some of the designs are too slight to be worthy of much consideration, but I am afraid that outside the schools it would be hard to find comparable experiments in this country today, even if only on the drawing board.

#### PUB COMP LATEST

Those of my readers who are working hard at the *Review* pub competition will be encouraged to learn that the exhibition of the designs sent in is to be held, by courtesy of the Director, at the Victoria and Albert Museum.

This, as well as being a rare compliment to the *Review*, is still another symptom of the widespread interest the subject arouses. Exhibited at the V and A, the designs will become much more of a public show than is normal with architectural competitions and will have a correspondingly wider influence. It is now up to competitors to make sure the results justify this amount of public attention.

The closing date is the last day of February, judging will take place during March and the exhibition in April. The exact opening and closing dates of the exhibition will be announced later.

ASTRAGAL

## The Editors

### VALUER TO ARCHITECT

THE important decision on the part of the London County Council to transfer the responsibility for the design and erection of housing from the Valuer's Department to the Architect's (forecast in the *JOURNAL* for December 22 and announced on December 29) was allowed to pass without much comment owing to the confusion of Christmas. No excuse is needed for returning to it. It brings to a satisfactory end a long controversy in which the *JOURNAL* has played an active part.

Such controversies, when they are concerned with the doings of a body like the LCC, in which one party is always on the look-out for weapons to attack the other, easily become confused by political allegiances. Alternatively they become side-tracked into questions of personality. It should therefore be stated that the *JOURNAL* does not consider that architectural quality should be a party issue. Attempts to make it so are a disservice to the good government of London. Further, that the *JOURNAL*, in pressing strongly for the removal of architectural responsibility from the Valuer's Department, cast no reflection on the excellent work done by Mr. Walker and his colleagues within their proper sphere. The *JOURNAL* was concerned all along with establishing one simple principle: that the proper person to take responsibility for architecture in a public body is the architect to that body—and no one else.

A decision has now been taken in accordance with that principle and it remains to wish the LCC Architects' Department good fortune in fulfilling their new obligations. The quantity of LCC housing already approved, and therefore to remain in the hands of the Valuer, amounts to something like two years' work, so Mr. Matthew will have a margin of time in which to build up his organization. In due course the results of the change will become apparent. The *JOURNAL* made this controversy the occasion for insisting on the right to criticise freely the work of public offices. It is happy to be able to congratulate the LCC on showing its ability to take criticism in the spirit in which it is meant and to change its views when the need for change is clearly demonstrated.

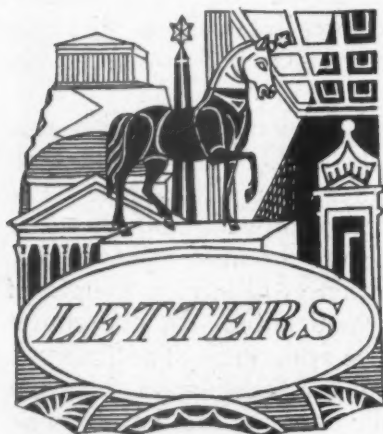
### ARCON'S PROGRAMME

The first of a series of articles by Raglan Squire, of Arcon, will be appearing in the issue of the *JOURNAL* for January 26. The subject of the series, as announced on this page last week, is how to make the practice of architecture pay its way as a business. The first article will describe the Arcon version of the combined practice, and subsequent articles will give examples of the many instances in which architectural practice on the lines which they suggest proves advantageous to both client and architect. Arcon believe that the practice of architecture can be made to pay,

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despite the many statements to the contrary heard today, while still maintaining a good standard of design. Arcon was formed in 1943. Since that time comparatively few firms have been formed, and very few indeed have been able to achieve the success of Arcon. This success has only been possible by ready adaptability to meet changing conditions on architectural practice and by following a consistent policy calculated to give maximum freedom of expression to the designing capabilities of the practice within a framework of strict business economy and efficiency.

During the coming year readers will be given details of the office organization of Arcon. Following a description of the new conditions facing the architect today, which, in the opinion of Arcon, can best be met by a combined practice, there will be an account of the kind of architectural specialization required in the practice as well as its relationship with other professions, such as surveyors, engineers and accountants. Further articles will follow on the structure of the office staff, on overheads, costing, profits and profit sharing, and, finally, on research and development in architecture, with special regard to the relationship of the architect with the building industry.



Kenneth J. Campbell, A.R.I.B.A.

### Public Architecture

SIR.—Poor Mr. Barrie! How one's heart bleeds to read his letter on the horrors of public offices—and how embarrassed Mr. Gibberd must be by his support. So the Civil Service is unchangeable and without hope of salvation; we must ignore it, or destroy it, since it is beyond the power of mortal men (who created it) to alter it! The other public offices are damned to eternity because the solution put forward by the ABT and others is "naïve" and impracticable—and why? Mr. Barrie groaning at the bottom of his pyramid sees the insurmountable obstacle to the group system:—the impossibility of allocating jobs (especially the dull ones) to the various Groups. Tch! Tch! what a shocking and unforeseen problem—we ought not to have missed it. Let's drop the whole idea and go back to private practice as principals.

If he is going to carry this attitude over into his professional life, then presumably

the first time Mr. Barrie comes across a tricky foundation he will call the whole thing off and look for another job.

Both Mr. Barrie and the rest of us have got to realise that the big public office exists, that it has, without displacing the private architect, a tremendous and important job to do and that in its comparatively short life it has by no means yet found its final form. At the present time the only practical development is through the group system. We may all be reassured by the fact that this system already exists in several forms in public offices, that it works and that the problem of allocation of jobs has been by far the least of the difficulties—in fact it is not one at all. It is not one because first of all this is the ultimate responsibility of the Chief Architect (why Mr. Barrie thinks he must be eliminated I don't know) and because in most cases the dullness of a job lies in lack of responsibility and continuity. These are the two failings the group system precisely remedies.

The other difficulty mentioned—that of men of different rank consulting together—certainly exists at present but it is a by-product of the pyramid system itself and ironically enough is used as an excuse for retaining the latter. It eventually disappears in the process of developing the improved organization. In any case it is certainly not true that it shows itself at its worst in relations between the civil service and architects of authorities outside.

One must sympathize quite sincerely with Mr. Barrie if he is indeed at the bottom of a standard type pyramid but the "callowness" which he admits (but which he is hardly justified in extending to Messrs. Braddock, Shepherd, Marshall, de Syllas & Co. who spoke at the Architectural Association meeting) certainly does not excuse his foolish attack on the ABT and others, who are putting forward a policy designed to lift this pyramid off his back—a policy, moreover, which has proved valid in practice.

KENNETH J. CAMPBELL.

London.



### COMPETITION

#### Art Students to Dress Shop Windows

A challenge to the imagination and ingenuity of art students has been issued by the Regent Street Association through the CID. London and Home Counties Art Schools have been invited to enter teams for a window display competition to be judged on February 20.

Thirty-nine leading stores and shops in this shopping centre are giving students a free hand for a week in window space worth tens of thousands of pounds. This opportunity to gain practical experience in collaboration with some of the country's best-known firms has already been taken up by thirty-five display teams entered by Art Schools in London, Kent, Middlesex and Surrey. The students will create and construct in their school workshops displays designed to sell the goods and services of the Regent Street firms.

### RIBA

#### 1950 Prizes

At a General Meeting of the Royal Institute of British Architects, held on January 3, the Council's Deed of Award giving the results of the competitions for the Annual Prizes and Studentships awarded by the RIBA was read.

There were in all 712 competitors. The total value of the Prizes and Scholarships offered by the RIBA is over £3,000 a year.

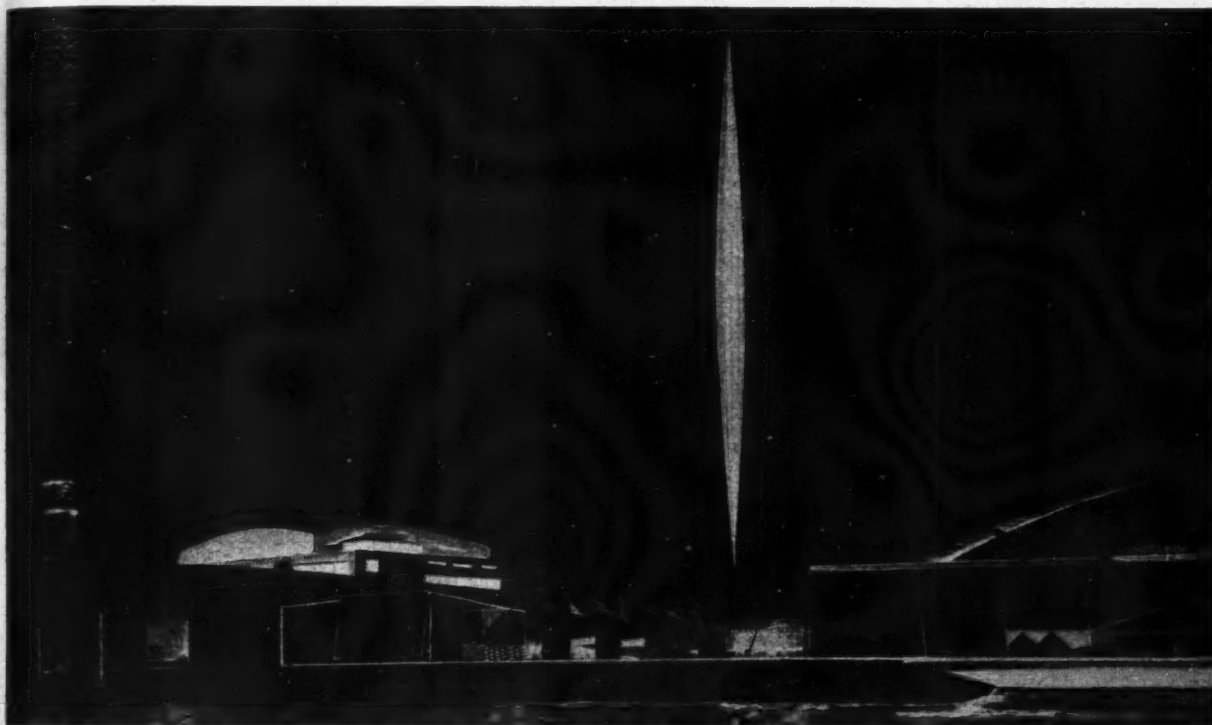
The results of the various competitions are as follows:—

**The Title Prize:** A Certificate and £100 for the Study of Italian Architecture. The subject: "An Industrial College Research Library." Awarded to: "ARAN," James Daniel Shearer, Student R.I.B.A., School of Architecture, Edinburgh College of Art.

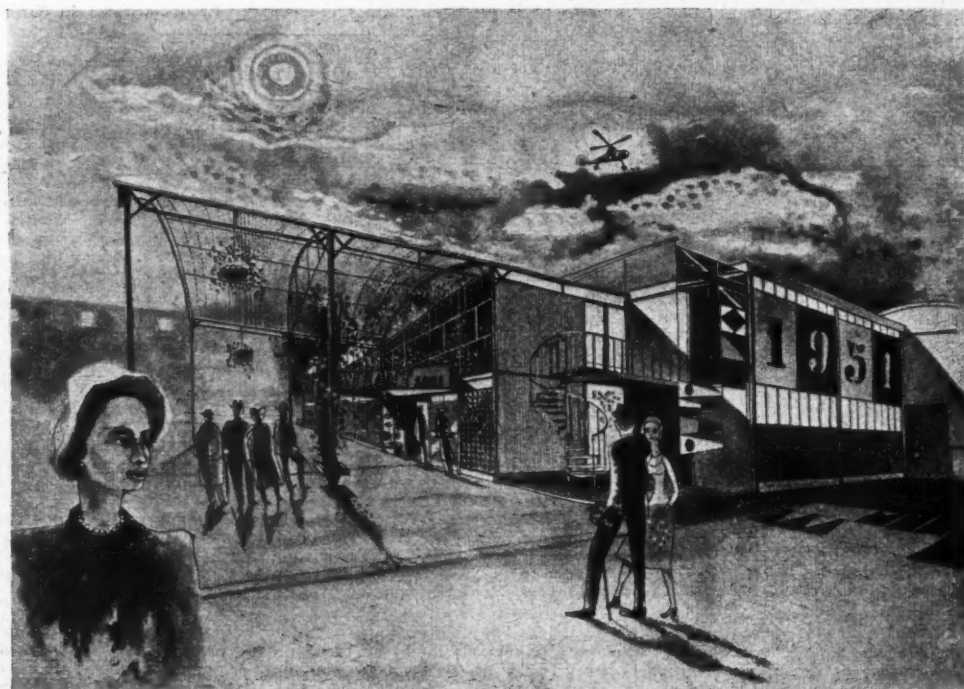
**The Soane Medallion and £120 for Architectural Study Abroad.** The subject: "A Parish Church." Awarded to: "DECANI," Colin Laird, A.R.I.B.A., School of Architecture, The Polytechnic, Regent Street, London.

**The Pugin Scholarship:** A Silver Medal and £80 for the Study of Mediæval Architecture of Great Britain and Ireland. Awarded to: Derek Anthony Cobb, Student R.I.B.A., School of Architecture, University of Manchester.

## WINNING DESIGNS FOR 1951 FESTIVAL COMPETITION



The "Vertical Feature" Competition required a design for a dominant vertical element in the exhibition, either completely abstract in conception or related to the theme of the exhibition. The overall area of the site is 40 ft. sq. and the height should relate to adjoining buildings. Assessors: Presentation Panel of the Festival of Britain. Premiums: First prize, £300; second prize, £150; third prize, £100. Winners: M. and P. Powell and H. Moya, A./A.R.I.B.A. (see sketch above). Second prize: S. Cousins, A.R.I.B.A. Third prize: P. A. R. Dickinson, A.R.I.B.A. The Restaurant Competition required a building in the extreme south corner of the exhibition on a site area of 14,800 ft. super, half of which may be given up to garden. Assessors: R. Furneaux Jordan, Mischa Black, Hugh Casson, Mark Hartland Thomas and Ralph Tubbs. Premiums: First prize, £250; second prize, £200; third prize, £150. Winner: Leonard Manasseh, A.R.I.B.A. (see sketch below). Second prize: Patrick Gwynne, L.R.I.B.A. Third prize: P. R. Davison, A.R.I.B.A.





*The Owen Jones Studentship: A Certificate and £80. For the improvement and cultivation of knowledge of the successful application of colour as a means of Architectural Expression. Awarded to: "BARVA," John Newel Lewis, A.R.I.B.A., School of Architecture, The Polytechnic, Regent Street, London.*

*The Grissell Gold Medal and £35 for the encouragement of the Study of Construction. The subject: "A Sports Club House." Awarded to: "AQUILA," Kenneth William Charles Reed, A.R.I.B.A., School of Architecture, The Polytechnic, Regent Street, London.*

*The Andrew N. Prentice Bequest: A Certificate and £150 for the Study of Spanish Architecture. Awarded to: Rachel Alice Caro, DIP.ARCH.(LOND.), A.M.T.P.I., A.R.I.B.A., Bartlett School of Architecture, University College, London.*

*The Royal Institute Silver Medal and £50 for an Essay. NOT AWARDED.*

*The Banister-Fletcher Silver Medal and £26 5s. for the Study of History of Architecture. The subject: "The Smaller English Eighteenth Century Country House: Its Setting and Furnishing." Awarded to: "CAB-BALA," John Leigh Corfield, Student R.I.B.A.*

*The Alfred Bosson Research Fellowship and £250 for Post-Graduate Research. Awarded to: Leonard William Elliott, A.M.I.C.E., A.M.I.STRUCT.E., A.R.I.B.A.*

*The Godwin and Wimperis Bursary: A Silver Medal and £245 for the Study of Works of Modern Architecture Abroad. Awarded to: Emil C. Scherrer, M.A., F.R.I.B.A., School of Architecture, University of Manchester.*

*The Henry Saxon Snell Prize and Theakston Bequest: £125 (offered jointly by the RIBA and the Architectural Association for the study of the improved design and construction of hospitals, convalescent homes and asylums for the aged and infirm poor). Awarded to: Sidney Edward Thomas Cusdin, O.B.E., A.A.DIP., A.R.I.B.A., Architectural Association, School of Architecture. A Certificate of Honourable Mention awarded to: Kenneth Halstead Evans, DIP.ARCH. (DIST.) (LIVERPOOL), A.R.I.B.A.*

*The Hunt Bursary: £75 for the Encouragement of the Study of Housing and Town Planning. Awarded to: Leslie Vivian Mitchell, DIP.ARCH., A.M.T.P.I., A.R.I.B.A., School of Architecture, The Polytechnic, Regent Street, London.*

*The Athens Bursary: £125 for Study at the British School at Athens. Awarded to: Frank Fielden, A.R.I.B.A., School of Architecture, King's College, Newcastle-upon-Tyne.*

*The Henry L. Florence Bursary: A Certificate and £350 for the Study of Greek, Hellenistic and Byzantine Architecture of the Mediterranean Basin. Awarded to: Major George Uvedale Spencer Corbett, R.E., A.R.I.B.A., Architectural Association, School of Architecture.*

*The Arthur Cates Prize: £80. The subject: "A Study of the Cantilever Principle in Architectural Design." Awarded to: Victor Charles Launder, A.R.I.B.A., School of Architecture, Southern College of Art, Portsmouth.*

*The Rome Scholarship in Architecture, 1949: £250 for Study and Research at the British School at Rome. Awarded to: Ian Scott Melville, A.R.I.B.A., School of Architecture, University of Liverpool.*

*The RIBA Silver Medal and £10 in Books for Students of Schools of Architecture Recognized for Exemption from the Final Examination, 1949. Awarded to: Philip Russell Diplock, B.ARCH., Student R.I.B.A., School of Architecture, University of Liverpool.*

*The RIBA Bronze Medal and £10 in Books for Students of Schools of Architecture Recognized for Exemption from the Intermediate Examinations, 1949. Awarded to:*

*Frank Sykes, Student R.I.B.A., Leeds School of Architecture.*

*The Archibald Dawney Scholarships, 1949: Five Scholarships of the value of £60 each for the Advanced Study of Construction. Awarded to: James Michael Poliard, Student R.I.B.A., Leicester College of Art, Edward Jones Williams, Student R.I.B.A., Welsh School of Architecture, William Alexander Greig, Student R.I.B.A., Robert Gordons Technical College, Grays School of Art, Aberdeen, Alexander Henry Bannerman, Student R.I.B.A., Robert Gordons Technical College, Grays School of Art, Aberdeen, John Smith Bonnington, Student R.I.B.A., School of Architecture, King's College, Newcastle-upon-Tyne.*

*The RIBA Henry Jarvis Studentship at the School of Architecture, Architectural Association, 1949: £50. Awarded to: William John Gilbert Godwin, Student R.I.B.A.*

*The RIBA Howard Colls Travelling Studentship at the Architectural Association, 1949: £15 15s. Awarded to: Robert Alfred Maguire, Probationer R.I.B.A.*

*The RIBA Donaldson Medal at the Bartlett School of Architecture, University of London, 1949: Awarded to: Edward Martin Glossop Wells, A.R.I.B.A.*

*The RIBA (Anderson and Webb) Scholarship at the School of Architecture, Cambridge University, 1949: £55. Awarded to: E. H. Cullinan.*

*The RIBA Prize for Art Schools and Technical Institutions with Facilities for the Instruction of Intending Architects (£10 in Books), 1949. No Entries.*

*The RIBA Prizes for Public and Secondary Schools. (a) Essays: No entries. (b) Sketches (£5 5s.): Awarded to Brian Williams, The Grammar School, Manchester.*

Certain of the Competition Drawings will be on exhibition at the RIBA, 66, Portland Place, London, W.1, until February 5, inclusive, from 10 a.m. to 7 p.m., Saturdays 10 a.m. to 5 p.m. (Sundays excluded).

The President, Mr. Michael Waterhouse, M.C., will present the Medals and Prizes for 1950 and will deliver an address to Students at a General Meeting to be held at 66, Portland Place, London, W.1, on Tuesday, February 7, at 6 p.m., and a criticism will be given by Mr. E. Maxwell Fry, F.R.I.B.A., of the work submitted.

## ABT

### The Supply of Architects

The Association of Building Technicians wish to express their concern at the Report to the Minister of Labour and National Service of the Architects' Sub-Committee of the Technical and Scientific Register on *Present and Future Supply and Demand for Persons with Professional Qualifications in Architecture*.

There is little in this report which is not open to serious question, whether in its premises, its presentation of "fact" or its policy. The Association of Building Technicians cannot for one moment accept the report's extraordinary conclusion that "until and unless architects in private practice are more fully employed . . . the supply of assistants of a suitable grade for appointment to official posts will remain short of the demand" or the recommendation that "a tendency towards a further increase in the number of entries (to the profession) should be discouraged."

Had the ABT, which is the trade union for architects, been consulted in the preparation of the report, it would have been worthy of more attention from the Minister. We wish to comment on the following points:—

1. The premise that the future size of the profession should be based on the pre-war ratio of architects to building personnel, ignores the fact that there was at that time

only a small percentage of building controlled by architects. This is a position which we consider should be, and is being, corrected.

2. The report accepts without question the present cuts in the building programme and the possibility of a further shrinkage of the industry. We shall continue to stress that the needs of the people and industry of this country demand a large building industry, where stable employment is possible, and an expanding building programme.

3. The recommendations of the report would continue the present inequality of opportunity to enter the profession, since it sees no need for an increase in Government grants and maintenance scholarships. We consider that, whatever the demand, the future supply of architects should be determined by aptitude alone and not by ability to pay for training.

4. The conclusions of the report make what amounts to an attack on public offices and on their ability to provide good technicians and architecture. The ABT, favouring neither the public nor the private office, believe that an expanding programme would provide full opportunity for both types of office to fulfil the needs of the country.

## DIARY

*Exhibition of Rare Maps of the Counties of England. Foyles Art Gallery, Trefle House, Charing Cross Road, W.C.2. Daily, 9 a.m. to 6 p.m.*

UNTIL FEB. 4

*Building (Safety, Health and Welfare) Regulations 1938. R. G. Ward. Little Theatre, Education Buildings, Guild Street, Burton-on-Trent (Sponsor, MOW). 7 p.m. JAN. 13 (also by W. G. Thomas, Yare Hotel, Great Yarmouth. 7.45 p.m. JAN. 18)*

*Development in Timber Technique. R. T. Walters. 66, Portland Place, W.1. (Sponsor, RIBA). 6 p.m. JAN. 14*

*Structure of Timber in Relation to use. Professor T. W. Jane. Leeds College of Commerce. 6.45 p.m. JAN. 16 (also at Grimsby Town Hall. 7.30 p.m. JAN. 17)*

*Heating Research for Houses. G. D. Nash. Mill End County Secondary School, High Wycombe. (Sponsor, MOW). 7 p.m. JAN. 17*

*Mechanisation of Small Jobs. J. F. Eden. Assembly Hall, Town Hall, Devizes (Sponsor, MOW). 7 p.m. JAN. 17 (also at National Farmers' Union, Queens Street, Exeter. 7 p.m. JAN. 18. and at Mutely Assembly Rooms, Mutely Plain, Plymouth. 7 p.m. JAN. 19)*

*Changes in Building Technique. R. Fitzmaurice. YMCA Hall, St. Andrews Street, Edinburgh. (Sponsor, MOW). 7 p.m. JAN. 17*

(also at Dundee Institute of Art and Technology, Bell Street, Dundee. 7 p.m. JAN. 18)

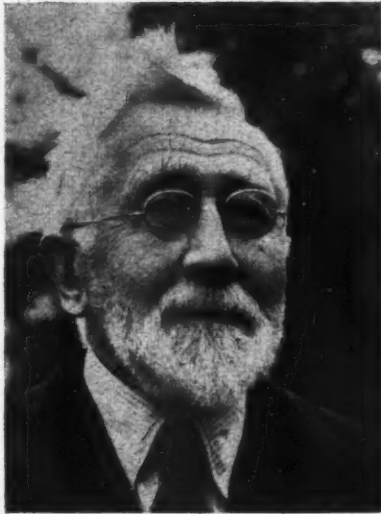
*Site Records for Builders. R. H. James. Tempest Anderson Hall, Museum Gardens, York (Sponsor, MOW). 7.15 p.m. JAN. 18 (also at Lecture Hall, YMCA Building, Albion Place, Leeds. 7.15 p.m. JAN. 19)*

*Techniques and Devices for Improving Bricklaying Output. C. S. Thompson. Lecture Theatre, Gas Showrooms, Parliament Street, Nottingham (Sponsor, MOW). 7.15 p.m. JAN. 19*

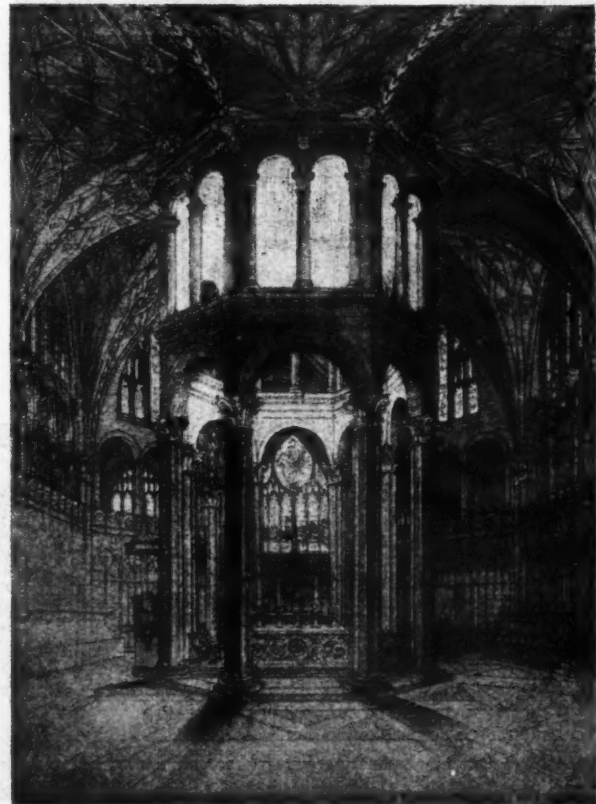
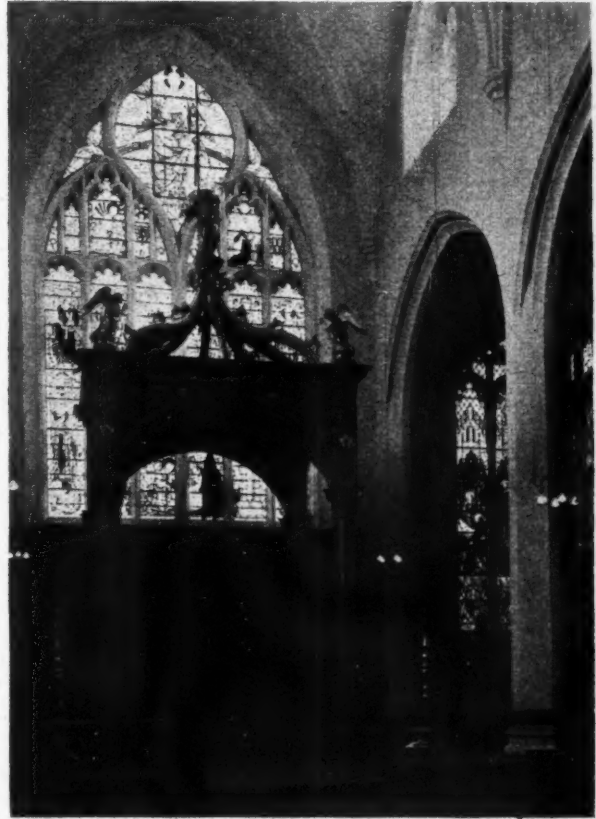
*W. K. B. Marshall. The Welding of Light Alloys in Structural and Similar Applications. ICE, Great George Street, S.W.1. (Sponsor, ICE). 6 p.m. JAN. 25*



## RECENT WORK BY NINIAN COMPER



John Ninian Comper, who was awarded a Knighthood in the New Year Honour's List, was born in Aberdeen in 1864. He was educated at Trinity College, Glenalmond, and, after drawing for one term in Ruskin's School at Oxford, he was articled to Messrs. Bodley & Garner. He now has his Studio in his own home at Beulah Hill. He has travelled in Italy, Greece, North Africa, Spain and France. On this page are given some examples of his recent work. Above, a photograph taken last week of Ninian Comper. Below, left: A window in the chapel of the Headquarters of the Seamen's Mission dedicated to the memory of the crew of the S.S. "Samkey," which disappeared in 1948. Above, right: The choir extension to St. Andrews, Aberdeen. The church was built in the 18th century. The extension was built during the war and paid for by subscriptions raised in America. Below, right: Design for the interior of a new church to take the place of the one dedicated to St. John of Jerusalem in Clerkenwell, destroyed by enemy action. (See also p. 31 and Astragal's comment on p. 34).



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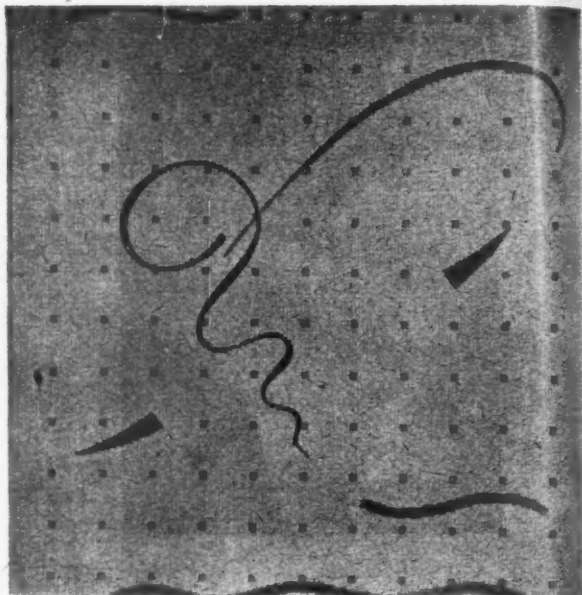
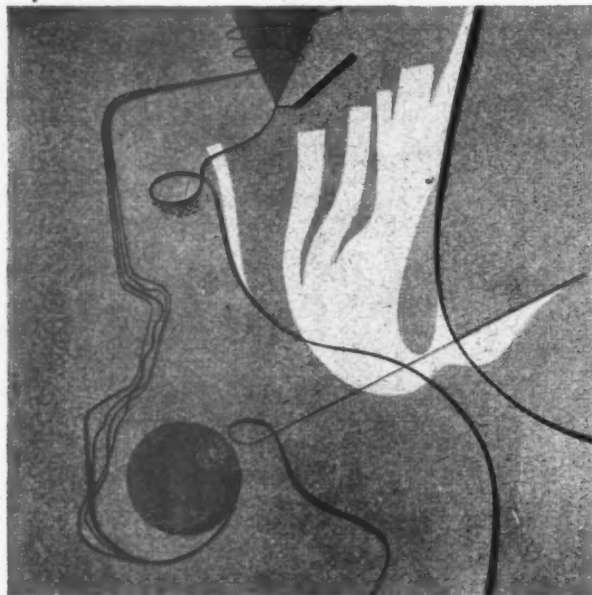
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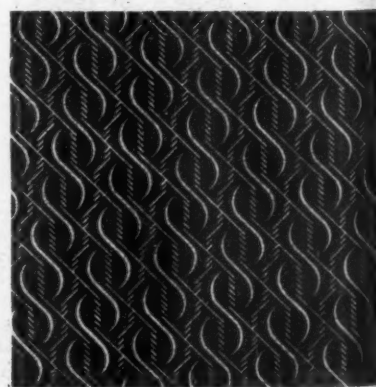
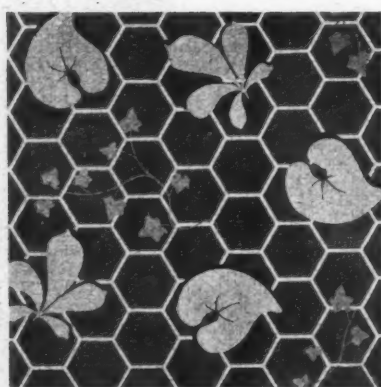
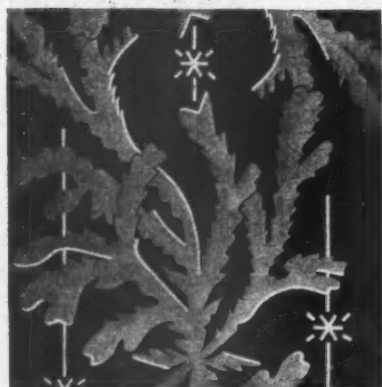
# WINNING DESIGNS : CARPET COMPETITION



The competition was promoted by IAAS for the design of a strip carpet. Assessors : K. J. Lindy, F.R.I.B.A., E. C. Leach, F.R.I.B.A., H. Robinson, F.R.I.B.A. Technical Advisors : J. Anderson and J. P. Glass. The Competition was divided into three sections with a first prize of 75 guineas and a second prize of 25 guineas in each class.

**1st Prizes.** Above, left : for ships. J. Faczynski and J. W. Jakubowicz of Richmond, Surrey. Colour scheme : Light grey background, chrome yellow motif. Lines are black or red, and the ball and triangle are dark grey. Above, right : for hotels. W. F. Martin, of Wood Green, London. Colour scheme : French beige background diced with darker beige squares ; scroll figure, royal blue, other figures, indian red, grey and sage green. Left : for cinemas and theatres. Gerald Stanwell, A.R.I.B.A., M.Inst.R.A., of Beckenham, Kent. Colour scheme : maroon, bright royal blue, chrome yellow, dull tan and green.

**2nd Prizes.** Below, left : for ships. R. E. Summers, A.R.I.B.A., of Clifton, Bristol. Below, centre : for hotels. Peter Kirkland, A.R.I.B.A., and Cynthia Kirkland, A.R.I.B.A., of Adelaide, South Australia. Below, right : for cinemas and theatres. J. D. Billingham, of South Woodford, London.



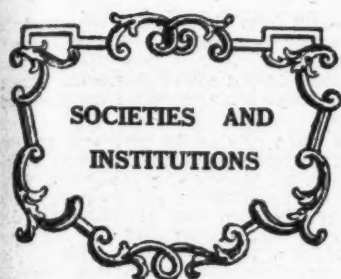
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*Speeches and lectures delivered before societies, as well as reports of their activities are dealt with under this title, which includes professional societies, trade associations and government departments. To save space they are represented by their initials—see front cover. Lectures cannot usually be reported in full, but the extracts given are in the speakers own words.*

IEE

## W. Allen

December 19. Talk on ACOUSTICS OF STUDIOS AND AUDITORIA (with reference to experiments carried out at the Building Research Station, Garston, Watford). IEE, Savoy Place, W.C.2.

**W. Allen:** The science and art of acoustics had rather a curious and chequered pre-war career. It had a flying start in 1900 from W. C. Sabine, in America, who did a series of researches, lasting some five years, as the preparation for a series of papers which he published in a journal called *The American Architect*. He laid down the basis for the computation of reverberation times and the prediction of reverberation conditions in auditoria, as well as the analysis of existing buildings. For some reason, which I have never quite understood, the emphasis which he laid on reverberation time succeeded in constraining the character of the interest and studies in acoustics for nearly half a century. I say that because the reverberation time deals essentially with things that you hear after the initial sound has reached your ear; but the initial sound is obviously very important, and it is equally obvious, I think, that it will not always in all auditoria reach you very readily.

Up to the beginning of the recent war, very little interest was taken in anything but the reverberation time, and the reverberation conditions were taken as the only criteria available for good acoustics of auditoria. With minor qualifications, that was the position. Since the war, however, and in fact during the war in some countries, work proceeded, and, particularly in Scandinavia, it acquired a very distinctive alteration in character. The Scandinavians have managed to build two or three concert halls and some quite good radio studios and, although none of these, I think, is a brilliant success, they have learnt valuable lessons which

had not been learnt from some of the previous buildings put up for essentially acoustical purposes.

The Americans, after that flying start in 1900, never succeeded, for some reason which again I cannot understand, in keeping alive ties between the scientific studies and the architectural practices, and to a very large extent the auditoria which were built between the two wars did not reflect any particular advance in a knowledge of acoustics beyond what was possible in 1901, except perhaps for the fact that they had a larger variety of sound absorbents. The honourable exception, I think, would be the work in radio studios done by investigators working with a number of radio companies and in one or two of the laboratories. That at least stands out to me as important work in which an attempt was made to raise the standards of acoustical control, to adopt more advanced criteria, and to deal with what one might call good acoustics, rather than the negative idea of avoiding bad acoustics.

So much for the period before the war and up to the present time. Those of us who work in this field often speak of the post-Sabine period as being the one which we are now entering, when we are looking at the matter in a rather more free way than we did before the war. We are looking at other sides of the question; we are looking at subjective studies very much more carefully, to discover, if we can, still higher and better and more exact criteria of good quality. There are many signs that a much more balanced outlook on the matter is being acquired, especially in this country and in Scandinavia, where the architects and the scientists concerned seem to be able now to collaborate effectively. So far as I know from discussions which I have been able to have with American colleagues, they do not feel that the situation is quite so happy there; they do not have the good contacts between working scientists and the architects of these big acoustical chambers which we and the Scandinavians and some of the other people on the Continent seem to be able to arrange.

### THE INITIAL SOUND

One aspect of this balanced outlook which I have mentioned is the emphasis now put on the initial sound which reaches your ear; or presumably which reaches a microphone, if that is taking the place of your ear. The initial sound is valuable because it is essentially the sound by which you identify what you are hearing. If you hear a characteristic sound clearly and without confusion, then you have a very good insurance against the risk of any trouble from reverberation or from other confusing sounds, such as echoes, or from other background sounds. If you do not hear the initial sound clearly, then, as shown by Mason and Moore before this Institution some years ago, you will be in a state of very considerable confusion, because the initial sound on which you are relying for identity will be interfered with by perhaps a stronger first reflection, and the intelligibility of speech sounds and the character of musical sounds will be modified and made very unsatisfactory.

There is nothing particularly scientific, however, about this interest in the initial sound, and this may possibly be the explanation of why it has lacked any emphasis in the literature. If there is no problem, no one will comment on it. So far as the architect is concerned, however, if he is designing a hall or a room the initial sound is likely to have a major effect on his design.

In order to be able to hear the initial sound quite clearly, it must pass from the source to the listener directly, and without being modified by preferential absorption or distorted in any way. The biggest risk occurs in an ordinary hall from the absorption from an audience when the sound passes over it at grazing incidence. If the hall we are in now had a flat floor and were

twice its present length, the people at the back would have a good deal of difficulty in hearing my voice, but almost certainly they would be able to hear a certain amount of sound. Probably an analysis would show that what had happened was that the higher frequencies had been absorbed effectively in passing over the audience, and so the components of sound on which we rely a great deal for intelligibility would have been lost.

The only building of which I know which consciously embodies the idea of passing the initial sound from the source to the audience directly and effectively is the new South Bank concert hall, where a great deal of emphasis has been put on it. It may be that some of the Continental auditoria have been designed with a very clear recognition of the importance of this, and certainly some recognition has been given to it, because interest has been shown in the computation of the angle of the rake of the seating area, in order to make sure that in fact there is a good free path for sounds from source to listener; but I think that the South Bank concert hall embodies the idea in the most elaborate demonstration that we have yet seen. We have taken particular precautions in advising the people concerned to ensure that the whole of the orchestra and the whole of the audience area are as steeply raked as is feasible.

You will appreciate that the audience rake must be to some extent limited, because if you make it very steep you are likely to increase the height of the hall too much if you are to maintain a reasonable sense of proportion in the interior; but you can rake the orchestra quite steeply up to the point where it is becoming inconvenient for the orchestra to assemble and play.

There is nothing very remarkable about that, and it probably sounds like a piece of common sense; but it has had a curious effect on our interest in the source of sound in this case, and I mention that because it is a good example of how carefully one has to look at the source of sound in a case of this kind if one is, in fact, to have a good grip on the acoustical factors in a design.

We argued this question at some length in the laboratory, and we finally came to an analysis of concert hall platforms on the following lines, that the modern tradition of orchestra arrangements usually puts quite a large part of the orchestra on a flat fore-stage elevated three or four feet above the main floor, and then there are two or three quite steep steps at the back to carry the brass, the drums, the big stringed instruments and so on, and usually the rest of the percussion. If you consider that for a moment, you will realise that all the weak instruments are on the floor area—the fiddles and the woodwind—and all the strong instruments are exposed on part of the platform. This gives them an advantage which they certainly do not need, and it tends to muffle, as far as we can discover, the fiddles and the woodwind. Quite often some of the instruments—the woodwind especially—are buried behind one or two pianos. In many halls, and especially in those with shallow raked floors, probably not more than half the fiddles can be seen at any moment, which means that there is a good deal of acoustical shadowing of the sounds, and particularly the high-frequency sounds, from these instruments. The high-frequencies are very important in instruments such as the fiddles and woodwind.

### AMERICAN METHODS

We then considered how the Americans handled the situation, and we realised from looking at a few of their designs, and from my own recollection of pre-war life in America, that they played their orchestras very frequently on the flat, or on a very shallow rake. They got a fairly satisfactory sort of solidity and balance from the performance, and this, it seemed to us, could be explained by assuming that all the

instruments were at an equal disadvantage in being shadowed by one another. We felt that if that were the case, as it seemed reasonable to assume, we should be much better off with the whole of the orchestra on a rake, in order that all the instruments should be equally exposed. Certainly that should be the case, in our view, if you are going to play in a hall with a long reverberation time, which we now think is desirable.

Having arrived at that point, we had to consult the orchestral adviser, Sir Malcolm Sargent, and he in general agreed with this analysis. On the basis of the discussions which were held at that time, a new arrangement of concert platform was built up which starts virtually at floor level and continues upwards in convenient steps to carry the necessary banks of fiddles and so on.

I mention that because one must be prepared, in this sort of acoustical work, to look at the source with the greatest care and make sure that one is not being misled by any easy preconceptions about the requirements. For instance, in a theatre there is not only the problem of getting the sound from the player to the audience but also the problem of getting the sound from one player to another, and of getting a cue passed from one person to another person who may have his back to the first, where hearing might be difficult if there was no internal reflection on the stage. We must consider the source of sound.

There is another aspect of the source which I should like to mention, particularly with regard to concert orchestras. We have a practice at the Building Research Station of doing what we call listening studies in order to appraise the acoustical characteristics of a hall. We take three or four pairs of seats in strategically different positions in the hall, and during the course of a single concert we rotate three or four pairs of observers through these different positions, and the comparisons which they experience sensitize them rapidly to acoustical differences between one position and another. Very early in these studies we noticed that observers were saying of a certain position near the end of a rather widely-spaced orchestra, and only a few feet forward from it, that the orchestra appeared to be playing raggedly, at a time when other observers in the hall felt that it was playing in a very well synchronized manner. This drew our attention to the fact that the path differences between the nearest and furthest instruments, in many positions in the hall, might in fact be such as to appear confusing when you heard sounds which were supposed to arrive simultaneously. We later observed this in an orchestra which was quite deep from front to back. There the percussion instruments were well behind the fiddles, and we are told that this effect is aggravated by the habit of some members in some branches of orchestras of listening for the other people before they themselves play, instead of following the conductor's beat, so that a second delay is introduced. This is said to be a characteristic of percussion players, who listen for the fiddles, which are furthest away, and then beat their drums. The result is that you first hear the fiddles, and then there is a delay while the percussion players listen for the fiddles, and then you eventually hear the drum. However that may be, there is no doubt about the fact that the path differences across a large orchestra may be such as to cause differences which are discernible, and probably more so than you would expect, because of the fact that you are very sensitive of differences in rhythm once you are listening to a performance which has so much rhythm in it.

#### DIMENSIONAL LIMITATIONS

This means, I think, that to get clear performance the orchestra must be limited dimensionally in width and depth. It will depend to some extent on the hall. If it is a very wide hall, but not very deep,

it might be better to spread the orchestra out a little more; but that must not be carried too far, or the people at one side or the other will hear all sorts of odd things. So much for the source of sound.

The first reflection is important, because it is likely to be the loudest, and it is able, if it is well contrived, to reinforce and reinsure your first interpretation of the initial sound, and give you some momentary comfort as the sounds roll into your ears. There are some risks, however, about the first reflection which have to be watched. If we take a concert orchestra in a normal auditorium as the source, we must remember that a reflection off a side wall back to a member of the audience a short distance away is likely to be the longest path difference experienced in the auditorium, and this is a common cause of virtual echoes, or at least of sounds arriving so late as to be confusing. Sometimes the path differences can go to 90 or 100 feet, which is 0.1 second, and much too much to be acceptable. Great care has to be taken, therefore, in configuring the sides of the hall near a source of that kind, and to treat it as the ancient Romans did in their theatres, by providing an absorbent or diffusing shape at the sides, or by making sure that the sides are not too far away.

Then there is the reflector overhead, and this is the subject of argument which is not yet fully resolved. We must certainly not have the reflector or the ceiling so high that there will be a very great path difference between the direct sound and the reflected sound for those nearest to the orchestra. Some kind of reflector is therefore often essential, and the question then is what kind of shape it ought to have. Some people argue that it must be convex in order to diffuse the sound outward in the hall in certain cases, and in other cases it is said that it should be concave, and designed to direct the high frequencies towards the rear of the hall, where they are most likely to be weak. That argument is not entirely resolved, and I do not know that it is going to be very easy to resolve it. We had hoped to be able to compare, and we still hope that we may be able to compare, the South Bank concert hall and the new Queen's Hall in this respect and perhaps arrive at some conclusions, because in other ways the halls are likely to be fairly similar; but that remains to be seen two or three years hence. One thing about the reflector which is agreed by everybody is that it must have some horizontal areas in order to reflect sounds back to the orchestra. The convenience and comfort of the orchestral players hearing one another is an important factor in good playing; they must be able to hear one another and the orchestra as a whole if they are to play together well.

There is one other region which can produce important first reflections, and that is the corners to the right and left of the source of sound. It is often forgotten, but if you draw either a cross-section on a plan you will see that the corners are in fact the furthest things away from the source of sound, and if they are ordinary square corners they will reflect back the sound very well. It is said that one of the reasons for the success of the old Queen's Hall was that it had a convex shape which diffused the sound outwards from the corners, and it is certainly the case that in a good many halls which have echoes and defects in balancing, where you hear an instrument on one side of the orchestra much more loudly than the rest of the orchestra, the trouble is generally due to some reflection effect of that kind.

There is no treatment, I suppose, which is guaranteed to be perfect, but one which is being used in the South Bank concert hall is 2 inches of wood wool with an air space behind for 5 or 6 feet downward and

outward from the corners to absorb as effectively as possible at all frequencies in that region. It is a very effective place in which to put sound absorbents, because of the high pressures which are developed there.

We come now to the reverberation time. When Sabine did his original work, he laid a basis for computation technique which put the emphasis on one frequency only, the reverberation time generally at middle pitch, or round about 500 c/s. This persisted as a general practice until the beginning of the war, and the only intrusion upon that general practice was made, I think, by the American studio investigators, who began to compute the reverberation times at low, middle and high frequencies, in order to get a sort of response curve covering the whole frequency range. They also examined a number of studios in terms of such reverberation curves, and arrived at what they regarded as an optimum.

The reverberation time curves have a good deal to tell us, and they are by no means to be ignored. The figure (opposite page) shows two sets of reverberation curves. On the vertical scale we have the duration of reverberation in seconds, and on the horizontal scale the frequency range. These are for two churches, with very similar volume and very similar construction in many ways; but the church represented by the upper curve had a concrete roof as well as thin brick walls, and the reverberation time at low frequencies is enormous, 6 or 7 seconds at 100 c/s. The dotted line is the computed curve, and the solid line the measured curve. The church represented by the bottom curve had the ordinary lath-and-plaster vaulting system, and the wooden roof construction, and the curve droops at the lower frequencies instead of rising steadily. It is this region of the lower frequencies which has excited the most interest since the war, because it is at the present time still one which is difficult to predict; we have not enough data for absorbents which are effective in the low frequency range.

In the upper curve the computed and measured values are very nearly identical, and this shows very well how reliable the computation can be when there is virtually no absorption taking place in that range. The discrepancy between the values at 500 c/s of the two curves is not serious in either case. At the upper ends they tend to be exactly similar, because at the upper end of the curve for the high frequencies the principal absorbents are the audience and the air, and in the end these things win. In the lower curve it will be seen that the computations were wildly in error.

#### LOW FREQUENCY REVERBERATION

Low frequency reverberation is important, because if you have a low frequency rumble going on all the time it becomes very aggravating. I was told of one concert hall that during the war, when bombs used to drop outside, the noise inside was more terrifying because of the low frequency reverberation which was kicked off. This is a region in which a great deal of work is being done in the sense that absorbents are being studied and devised in order to cope with the trouble. It is particularly the case in buildings with concrete and brick construction, and especially those buildings which are built extensively of reinforced concrete, where the continuity is very high, that you get this very long low frequency reverberation. Generally speaking, in buildings with plenty of lath and plaster you will find that the lath and plaster acts as a panel in a way which I will describe in a moment, and the panel characteristic is in fact a useful mechanism for absorption at low frequencies.



The interest in absorbents is in fact very great at the present time. I would say, looking at the world picture of absorbents, that the Americans devote a great deal of time to porous types of absorption, such as the familiar fibre board tiles, sprayed asbestos and other such materials. The characteristic of these is generally a little bit of low frequency absorption and a great deal of high frequency absorption, which makes them very suitable if we wish to reduce noise, because noisiness is frequently associated with high frequencies, especially in restaurants, canteens, machine shops and so on. The Americans, however, did not devote any study at all to what we now know as the resonant absorbers or the panel absorbers, and here we turn to the work of Professor Meyer, of Germany, who lectured at this Institution in 1937.

About that time he was doing, with the help of one of his post-graduate students, a good deal of work on panels, and he showed that they formed, together with the air spaces trapped behind them, resonant systems with a natural frequency which reflects the elasticity and stiffness of the air and the panel, and so on, and they are tunable absorbers in the sense that they absorb at their resonant frequency at which the energy in the sound is dissipated, so that these panels are able to absorb at one frequency while leaving the other frequencies very much alone. They have the particular value that, generally speaking, if the mass of the panel and the size of the air space are suitable they absorb considerably at low frequencies, and, if you put in the air space some soft felted absorbent which is an effective absorber on its own, you will find that the absorption of the panel system goes up very considerably at its selected frequency and not at any other, or not appreciably at any other. We can therefore design these panel systems to be very effective sound absorbents.

#### NEW ABSORBERS

During the war it was not possible to devote any further time to that, but the Scandinavian investigators were able to carry on the work, and they did a great deal of extremely interesting and valuable investigation, leading to the introduction of a large number of different types of absorbers, although frequently they were variations on the theme of a panel, perforate or imperforate. The perforations enable them to extend the range to a higher range than the resonant system of the imperforate panel could cope with satisfactorily. These absorbers have the enormous advantage that they are robust, and therefore they are attractive to people who have a practical eye for durability. They are also architecturally extremely attractive, and therefore have excited a good deal of interest. They are rapidly becoming available in this country. There is a publication on them by the Acoustics Group of the Physical Society in this country. Both perforate and imperforate varieties are being used extensively in the South Bank concert hall, and I think that we shall see a great deal more of them in the near future.

One thing which I have not mentioned yet is sound insulation as a factor in acoustics. You will have noticed that a certain amount of interest has been taken in the site of the concert hall on the South Bank because it is near a railway and reputed to be a noisy site. It is quite true that there was a great deal of energy in the sound, especially at low frequencies, and in order to avoid trouble, many precautions have been taken to raise the sound insulation to a very high level at low frequencies. We have even had a test chamber built of the kind of construction to be used for the concert hall. The importance of this is that if the background noise levels are high in a concert hall you will

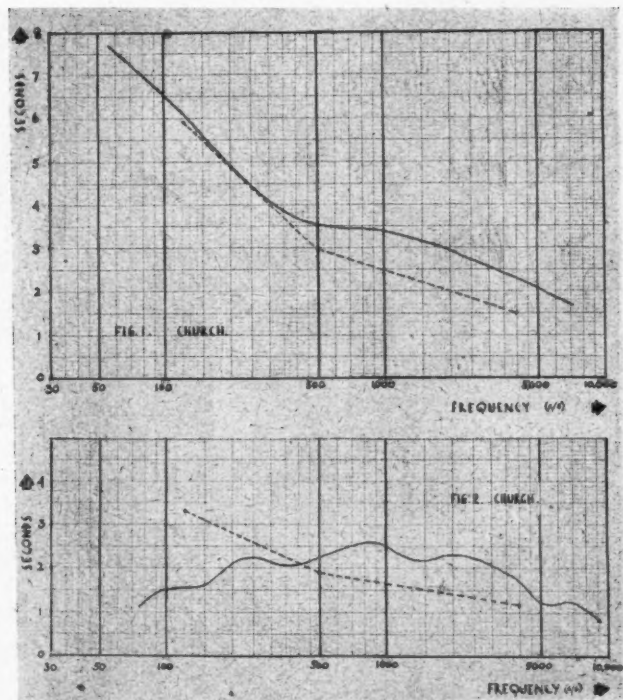
find the music a great deal less satisfying and a great deal less clear, especially at lower frequencies; and, for all I know, this may apply also to microphone conditions, though I have never discussed this with any of my colleagues who are expert in these fields. It is, however, certainly the case—and this is confirmed by opinions expressed in America—that you must have a very low level of background noise, down to 10-15 phons, in a concert hall if the full value of the quiet passages in the music are to be appreciated or high intelligibility is to be secured for speech. I need not go into the question of how to obtain high insulation, which is outside the province of my talk.

That has carried us a good deal of the way over the ground, but I must point out that we still have no reliable criteria of goodness in a concert hall, or in any large hall, except possibly in respect of speech conditions, when intelligibility is of course essential. For music there is something like that, in the sense that you must be able to distinguish between one kind of instrument and another, and for both of these criteria high frequencies have to be preserved, but we do not know a great deal about other requirements. There is something called the liveness concept which is attracting a good deal of attention now and which may prove to be something fundamental. It has to do with the ratio of the reverberant sound and the direct sound. There are also other points. I have mentioned the sense of raggedness in the playing of the orchestra when path differences are important. There is something intangible at present, called singing tone or string tone, which is reputed to be important and

which everybody would like to secure in a good concert hall, but so far nobody has been able to identify it, and musicians will not agree on what halls have string note. It may be a characteristic more of orchestras than of halls. This makes things very difficult, and we are still waiting for someone to tell us where there is a hall with string tone, so that we can go at once and measure it and see whether we can identify its physical properties and find out at long last what it is.

Despite that somewhat facetious glance at that problem, it must not be forgotten that subjective criteria are the only things which matter in the end in a concert hall. The music has to sound well, and sound well in a way which will cause the hall to acquire a name for good acoustics over a century and not merely for the first six months of the critics' interest in it.

We come now to my last point, and this, I think, may be of some interest to you. I am indebted for the basis of what I am going to say for the next minute or two to Dr. Meyer, who, in Göttingen in Germany, with one of his colleagues, Haas, has done the research on which this is based. I am now referring to electro-acoustic systems. We have to have public address systems, of course, and we have to have loudspeaker systems sometimes to aid and abet the acoustics of the concert halls. Especially is that the case with weaker instruments, such as harpsichords, clavichords, and so on. It may be the case in great churches and cathedrals, where the conditions of service have become so very different that it is necessary to have some sort of aid to make intelligible speech more widespread.



Figures 1 and 2 show the reverberation curves for two churches. On the vertical scale there is the duration of reverberation in seconds, and on the horizontal scale the frequency range in each case. The two churches are of very similar volume and construction in many ways, but the church represented by the upper curve in figure 1 had a concrete roof as well as thick brick walls, and the reverberation time at low frequencies is enormous, 6 or 7 seconds at 100 c/s. The dotted lines are the computed curves and the solid lines the measured curves. The church represented by the curve in figure 2 had the ordinary lath-and-plaster vaulting system and wooden roof construction.



Main Entrance.

# OFFICES AT ILFORD

BY EASTON AND ROBERTSON

**GENERAL.**—The factory and offices of Messrs. Howards and Sons, Ltd., at Ilford, were seriously damaged during the war and the new offices replace those totally destroyed by enemy action. The new building is designed to link

with a part of the original structure.

**CONSTRUCTION.**—The offices are steel framed with walls of grey bricks which have a slightly recessed mortar joint. The roof

slab and floors are of reinforced hollow block tiles. The main entrance has a reinforced concrete canopy.

**FINISHES.**—Walls and ceilings are plastered and distempered and

View

floors  
Staircase  
in terrace  
stone  
fixed  
which  
entrance  
panel

GRO

DIRECTOR  
DIRECTOR  
DIRECTOR  
SECRETARY  
MANAGER  
OFFICE  
MANAGER  
BOARD



View from the south-east.

floors are of Rhodesian teak blocks. Staircases and lobbies are finished in terrazzo. Copings are of artificial stone and the metal windows are fixed in *in situ* concrete frames which are painted. The main entrance doors are flanked by panels of glass bricks surrounded

by grey tiles and there are glazed screens of reeded glass.

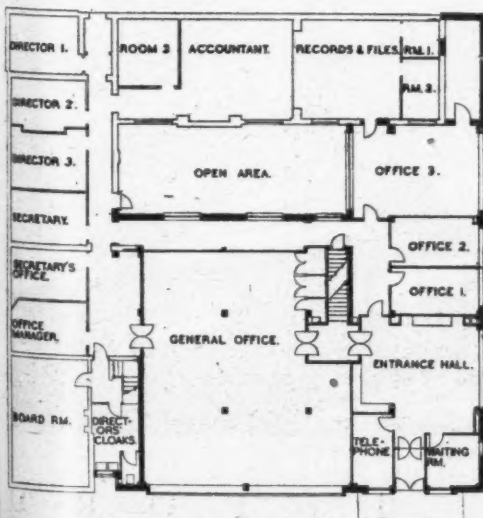
**SERVICES.**—The heating is provided by calorifiers heated by steam from the main factory. The caretaker's flat has gas water heaters and gas fires for week-end

use when no steam is available. The contract price was £24,000.

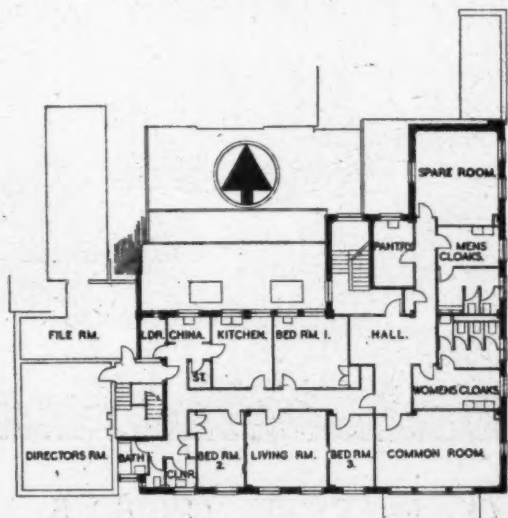
The general contractors were Messrs. Hammond and Miles, Ltd.

For list of sub-contractors see p. 60.

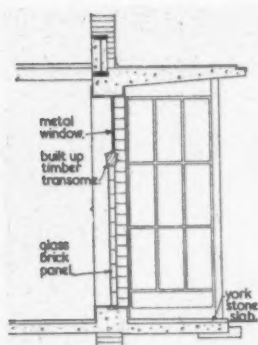
#### GROUND FLOOR PLAN



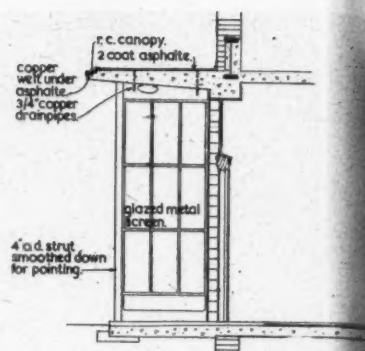
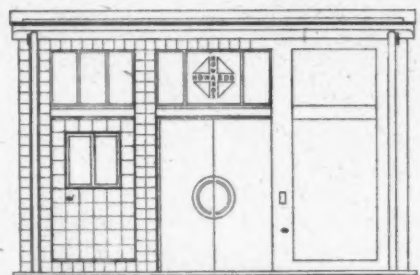
#### FIRST FLOOR PLAN [Scale: 1/4"=1'0"]



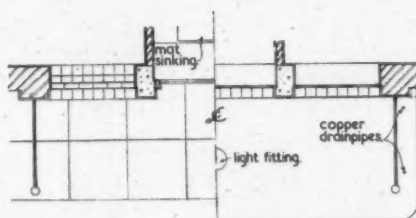




SECTION THROUGH  
GLASS BRICK PANEL



SECTION THROUGH DOOR  
[Scale : 1/4" = 1']



Entrance hall.



O F F I C E S   A T   I L F O R D



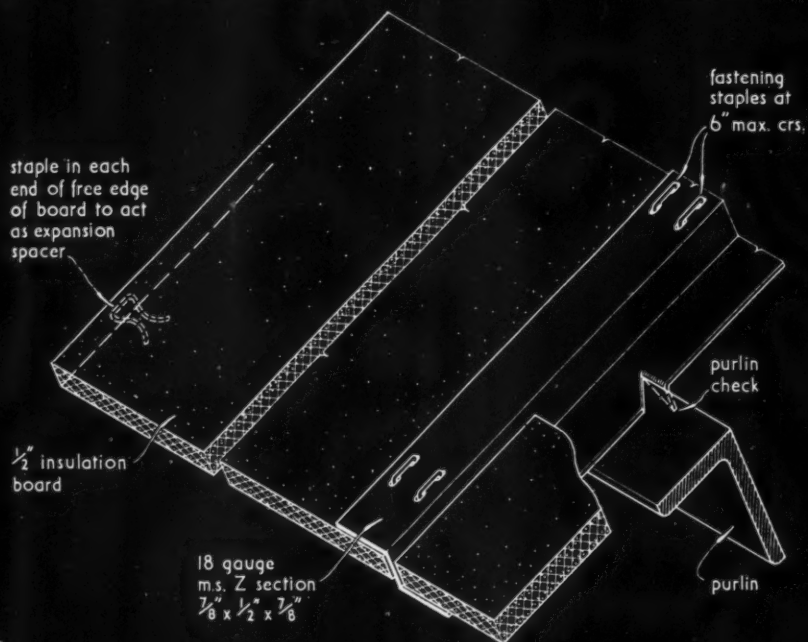
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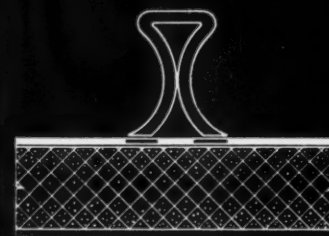
## THERMAL INSULATION | ROOFS

28.E20

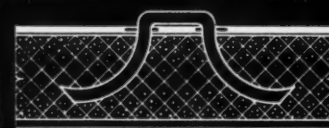
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DETAIL SHOWING ARRANGEMENT OF Z MEMBER, BOARD AND PURLIN.

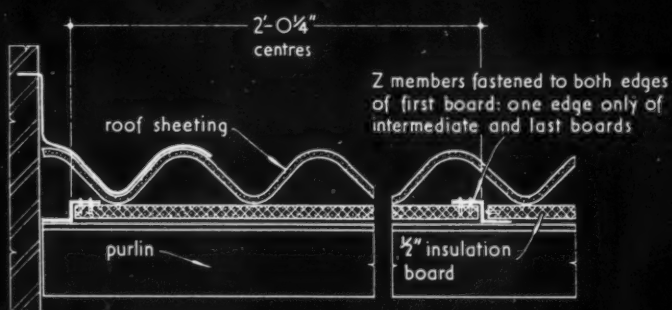


before insertion

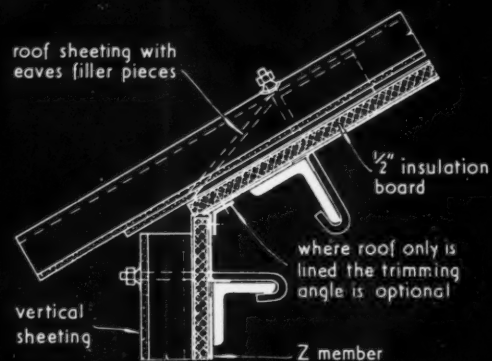


after insertion

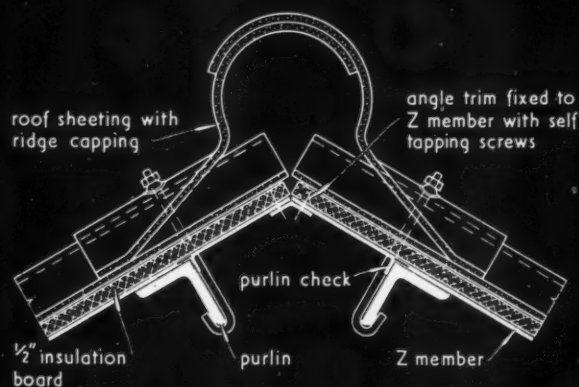
F.S. SECTIONS SHOWING FASTENING STAPLE.



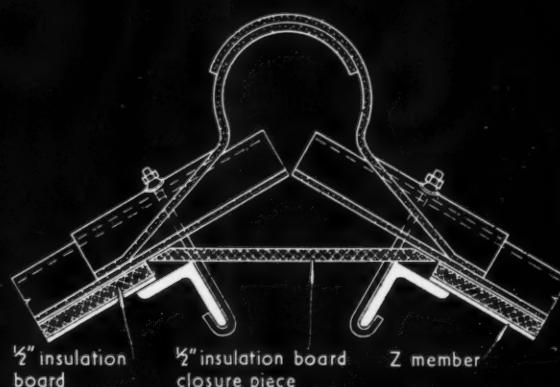
PART SECTION THRO' ROOF PARALLEL TO PURLIN.



DETAIL AT EAVES.



ALTERNATIVE TREATMENTS AT RIDGE.



## 28.E20 ROOF LINING : Z TYPE FIXING FOR LINING OVER PURLINS

This Sheet describes a system of fixing insulation board linings to the underside of pitched roofs in which the boards are fixed over the roof purlins.

### General System

The system makes use of a method of stapling metal Z sections to low density insulation boards. The staples are specially designed to hold securely any make of low density insulation board as the prongs of the staples are spread independently of the board density. This is effected by the metal bridge between the slots in the Z sections spreading the curved prongs, the degree of spread being determined by the width of the bridge and the curvature of the prongs.

Purlin checks are formed in the sections to provide a positive safeguard against slipping of boards prior to the application of the roof covering. Trimming at the cross joints of the boards is not necessary as the joints are arranged to coincide with the purlins.

Since the boards and sections are connected at ground level the danger of breakage when hoisting to roof level is minimized.

### Components

**Z sections:** 18 gauge mild steel,  $\frac{7}{8}$  in. by  $\frac{1}{2}$  in. by  $\frac{1}{4}$  in. Available in lengths to suit purlin spacing. The deflection of the section is approximately half, and the saving in material approximately 18 per cent., of a T section of similar dimensions.

**Staples:** 14 gauge mild steel wire.

**Angle trim:** 21 gauge mild steel. Available in angles to suit all normal roof pitches.

**Finish:** All sections and fittings are sherardized.

### Expansion and Contraction

Allowance for expansion and contraction is made by providing a gap of  $\frac{1}{8}$  in. at all cross joints in the boards. Staples in each end of the free edges of boards act as spacers to permit lateral movement.

*Compiled from information supplied by :*

### Structural Insulation, Ltd.

Address : 5, Queen Anne's Gate, London, S.W.1.  
Telephone : Whitehall 4176/7.  
Telegrams : Thermecon, Parl, London.



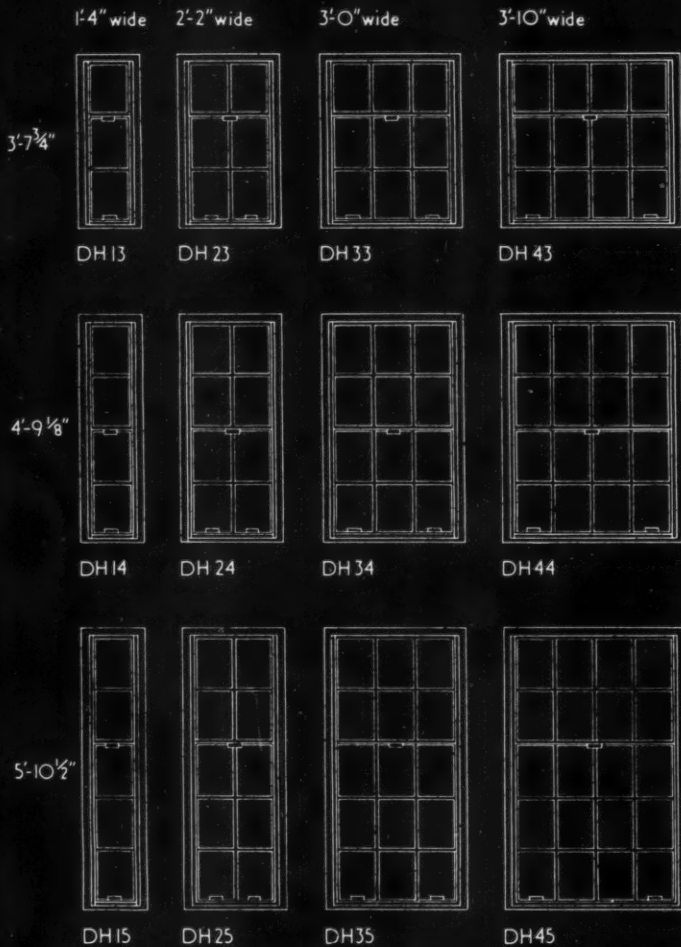




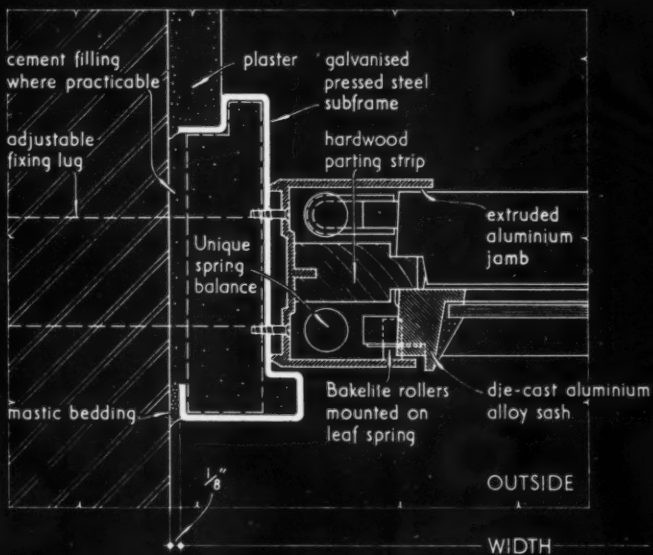
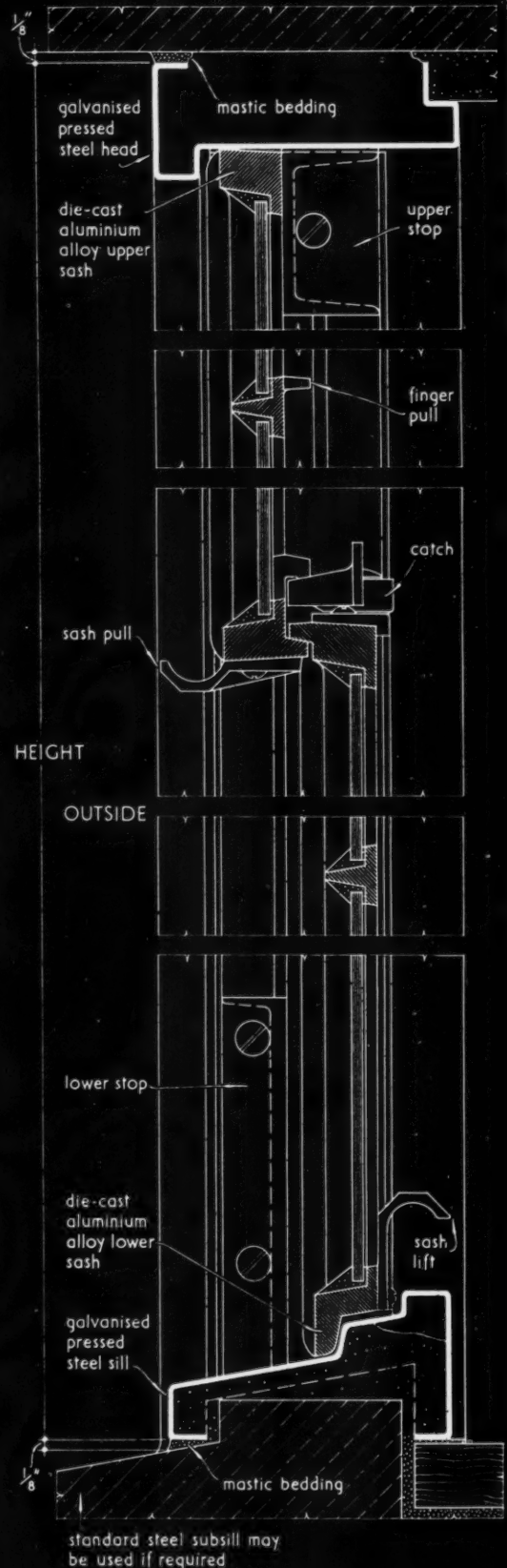
# WINDOWS | ALUMINIUM | GENERAL DATA

24.EI

The Architects' Journal Library of Information Sheets 240. Editor: Cotterell Butler, A.R.I.B.A.



STANDARD TYPES AND SIZES. (outside elevations)

PLAN AND SECTION THRO' WINDOW. (scale:  $\frac{1}{2}$ " full size)

## 24.E1 • CRITTALL-LUXFER • ALUMINIUM DOUBLE-HUNG SASH WINDOWS

This Sheet describes the Crittall-Luxfer double-hung sash window. It is a complete window, supplied already glazed, with balances adjusted ready for use, and fixed by the manufacturer on the site into the pressed steel subframe which has been previously built in by the building contractor. The sashes are aluminium die-castings (in one piece) which slide in extruded aluminium alloy jamb-guides with hardwood parting strips; thus all sliding contacts are metal to hardwood. The sashes are controlled by Unique spring sash balances, no cords or weights being required.

### Materials and Construction

**Subframes:** These are of 16 gauge pressed steel, welded at the corners.

**Sashes:** The sashes are of cast aluminium alloy of high corrosion-resisting quality. They are putty-glazed from outside with 24 oz. clear sheet glass.

**Jamb-Guides:** These are of extruded aluminium alloy (AW.9).

**Parting-strips:** These are of selected hardwood and can be tropicalised if required.

**Sash balances:** These are coiled spring Unique type having a variable-pitch spiral actuating rod which equalises tension at all degrees of opening. They are correctly adjusted before despatch.

### Fittings

The fittings comprise a cam sash-fastener at the meeting-rail, two sash-lifts at the bottom of the lower sash, and one sash-pull at the bottom of the upper sash. In the case of the sashes, one pane wide, only one sash-lift is provided at the bottom of the lower sash.

### Finish

Sashes and outer surfaces only of jamb-guides are painted one coat of cream primer, stoved on. Subframes are hot-dip galvanised and etched ready for painting.

No paint must be allowed inside the jamb guides which house the sliding contacts.

### Fixing

This should be carried out in two stages, the sub-frame being fixed first. The sashes should be fixed after the rougher trades have left the site. It should be noted that adjustable fixing lugs are provided for fixing the subframe at the jambs, no fixing being necessary at the head or sill.

### Ordering

The following information should be given with orders:

1. Location and nature of building for which the sashes are required.
2. Quantity of each size required, quoting type numbers given on face of sheet.
3. When building will be ready for sub-frames to be fixed.
4. Type of steel sub-sills, if any, to be supplied with subframes.
5. State type of glass required if other than 24 oz clear sheet.
6. Whether lower sashes are to be fitted with eyes to receive curtain springs.

Compiled from information supplied by:

#### The Crittall Manufacturing Co. Ltd.

Address: Manor Works, Braintree, Essex.  
Telephone: Braintree 106.  
Telegrams: Crittall Phone Braintree 106.

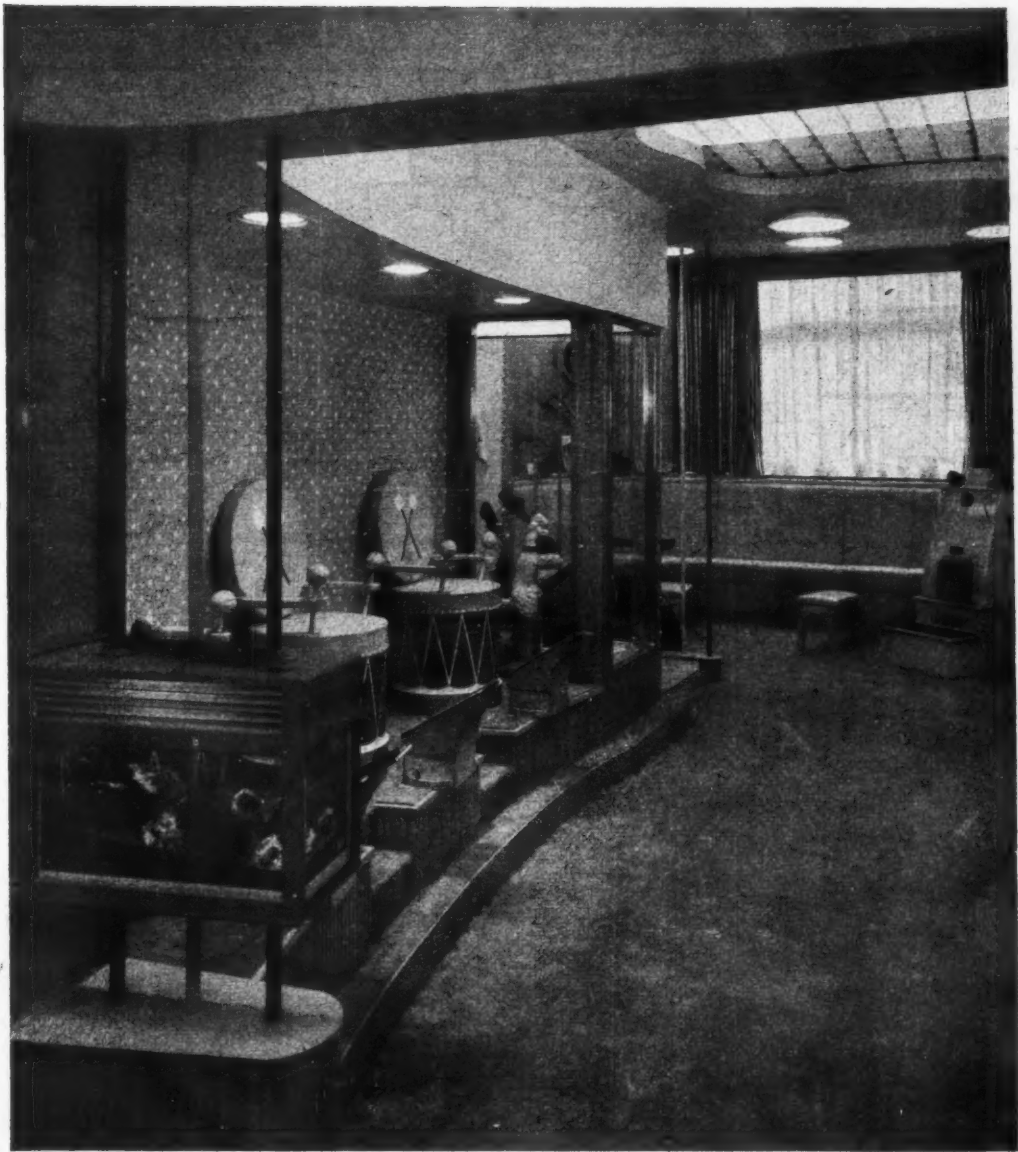
#### Luxfer Limited.

Address: Waxlow Road, London, N.W.10.  
Telephone: Elgar 7292.  
Telegrams: Luxfer, London.

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Under 10's department.

# SHOP IN SLOANE STREET, S.W.1

BY DONALD HAMILTON, WAKEFORD AND PARTNERS

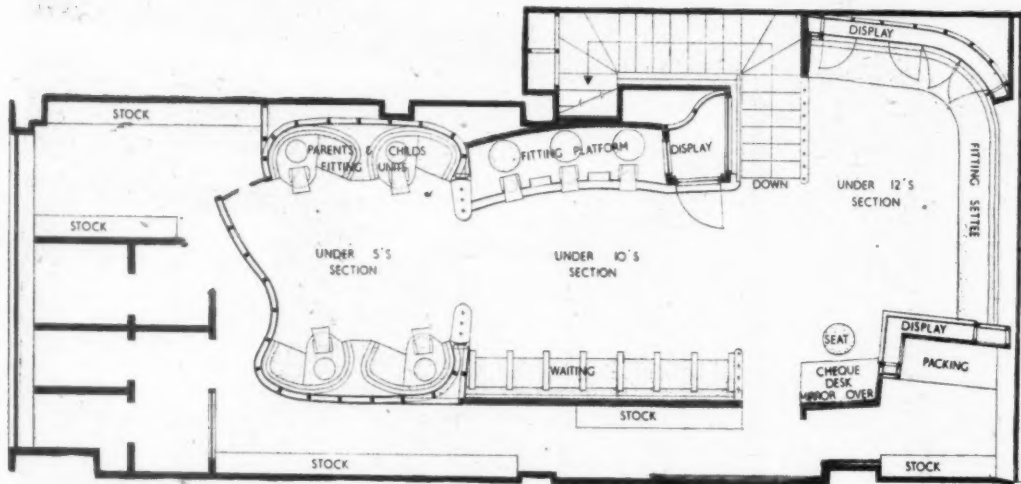
**GENERAL.**—A shoe department designed exclusively for children has been opened on the first floor of Messrs. Peter Yapp's premises in Knightsbridge. The department has been divided into three sections, according to the following age groups: under 5's, under 10's and under 12's. The fitting units for the two younger groups are on raised platforms, with a seat

provided for an adult beside that for each under 5, whereas children of the oldest group are made to feel as if they are receiving adult treatment. As far as possible, the ceilings have been lowered in order to adjust the scale to that of the children.

**CONSTRUCTION.**—Walls are of 3-in. stud partitions covered with

expanded metal lathing and 2-in. and 3-in. breeze blocks, both plastered  $\frac{3}{8}$ -in. thick.

**FINISHES.**—All woodwork for panelling and fittings is of natural, wax-polished sycamore. Upholstery is of beige hide with loose covers of pink and white weave. The wallpaper is grey with white polka dots and the ceiling is



PLAN [Scale: 1/4"=1'-0"]

*Under 5's department.*

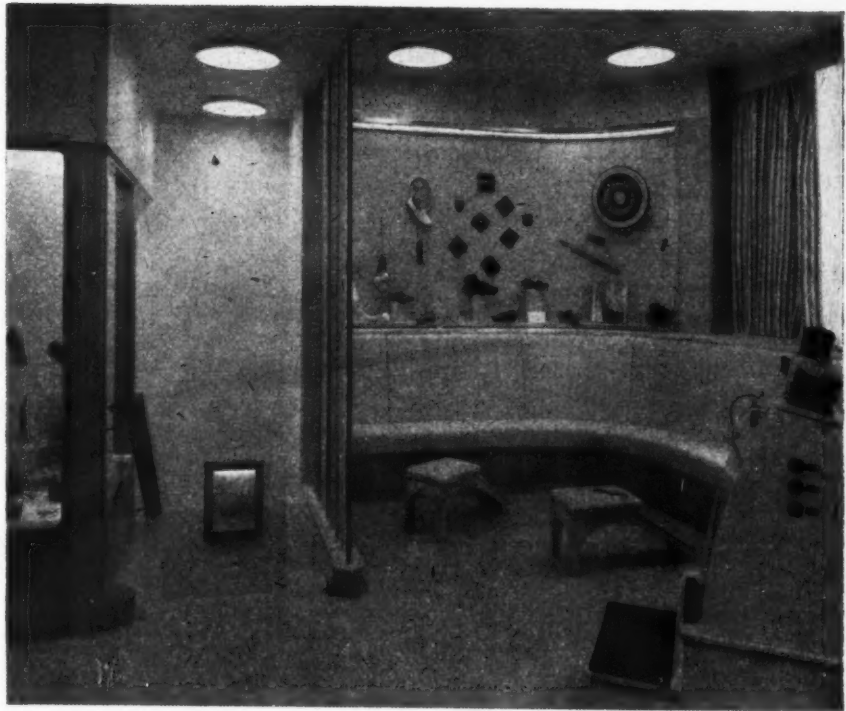


SHOP IN SLOANE STREET, LONDON S.W. 1. B 2

finished with a light blue matt paint. The fitted carpet is elephant grey and the curtains are grey with white stripes. The display cases, which are backed with wallboard on 2-in. studding, have a matt aluminium frame and armour plate glass. The two aquariums are supported by 1-in. diameter painted metal rods.

**FITTINGS.**— Aluminium egg-crate type lighting units, the centre sections of which are removable, are hung from the ceilings by metal straps in the under 5 and under 10 departments. There are spotlights over the seats in these departments and in the under 12 department two rows of "porthole" ceiling lights. The display cases are lit from the sides through 2-in. metal louvres and from above by fluorescent tubes. It has been found that the volume of new lighting gives out considerable heat and augments the original hot water radiators. The 3-in. aluminium fasciae to the light wells are painted blue to match the ceilings.

The general contractors were Contemporary Woodwork, Ltd. For list of sub-contractors see page 60.



*Under 12's department.*

*Under 10's department.*





*A possible perspective for the exterior of the self-service shop shown in the plan on the opposite page.*

## ANALYSIS OF SELF-SERVICE SHOPS

BY P. J. WESTWOOD AND SONS

The announcement last year that licences would be granted to enable certain shops to be converted to what is termed "self-service," gave rise to a series of comments in the popular press, to the effect that the housewife was to enjoy the advantage of yet another labour-saving system. This system which gives the public open access to the shopkeeper's shelves provides a great saving in time, providing

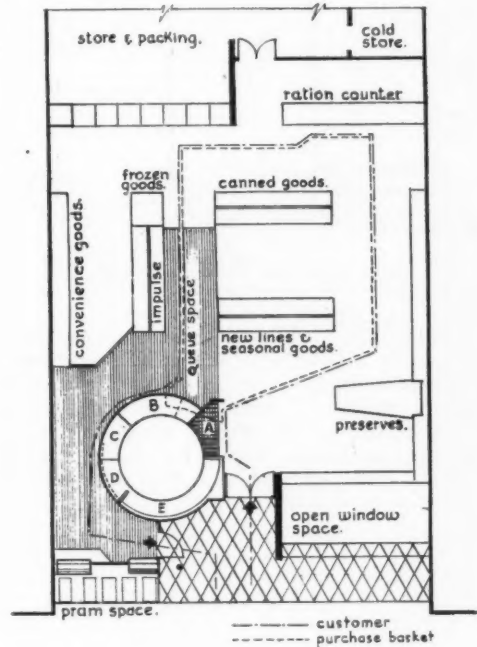
that it is applied to suitable trades. The American authority on shops, Mr. Morris Ketchum, sums up the popularity of this system with these words: "Self-service caught on because the buying public could wander past vast quantities of edible merchandise sold at amazingly low prices, and pick out whatever took their fancy. Customers discovered a new feeling of freedom and independence, a new flavour to

shopping. Self-service permitted drastic reductions in store overheads and brought into play one of the most powerful factors in retailing—visual selling."

There are as yet not a great number of shops in this country using the self-service system. As in a cafeteria, the customer picks up a special basket on a trolley at the entrance; passes along a one-way system of the shop's

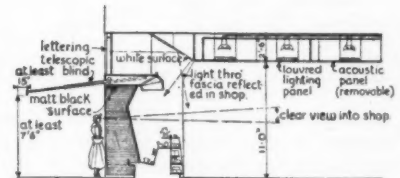


The layout of a medium sized grocer's shop demonstrates the principles of self-service circulation. Having collected the purchase basket the customer first passes a stand stacked with new lines of goods and seasonal specialities. Then she passes counters stacked with "convenience" goods (preserves, tinned food, etc.) until she comes to the ration counter at the back of the shop. Also along the back wall are "demand" goods (cereals, etc.) which, because of their bulk and popularity, need replacing often. This is done from the stockroom, which is behind the stand and has direct access to the back of the stand. Passing along the queue for the cash desk the customer has another opportunity to choose items from a range of "impulse" goods (new brands of food, etc.) which have a chance of influencing the customer now that she has time to look at them. Goods, where possible, are situated in bays out of the circulation flow.



- Key:
- A Basket stand
  - B Checkers
  - C Cashier
  - D Space for left goods taken in by cashier
  - E Office space.

The principle of visual display is extended throughout the whole shop. As all goods are exhibited on counters and stands the shop window becomes less important for display purposes. The window is used to afford a better view of the shop from the outside.



interior lay-out, collecting from the shelves and counters all the goods that are required; has the goods checked and the cost added up at the cashier's desk; transfers the goods to a personal basket and leaves. Ideally no assistants are required as there would be no over-the-counter sales, but owing to rationing and difficulties of packing some of the goods, some counters will have to have shop assistants. The self-service system has been in operation in the United States for some time, and in this country for nearly two years.

The advantages to the shopkeeper can be summarized as follows:—(a) A reduced number of assistants is required and those assistants need only be trained for specialist jobs. (b) Time is saved, as the customers serve themselves. (c) The shop is less crowded, while serving the same total number of customers, and space is gained by the removal of counters. (d) Easy access to the comparatively large quantity and greater range of goods displayed results in greater sales, which more than affect the greater losses from pilfering. There are, however, a number of disadvantages, such

as the cheapening effect of presenting goods in mass; the necessity of keeping to standardized packs; the fact that exceptions have to be made for certain fragile and otherwise unsuitable goods which must still be included. A psychological disadvantage would become evident were the system to be extended to trades other than the grocer, chemist and household ironmonger, or similar shops selling for the most part standardized packaged goods. Shopping must not be regarded merely as a necessity, as, for the hard-working housewife, it has become one of the main social occasions. The relationship between customer and the shop assistant is of more importance than the saving of a few minutes. This system must be accepted as a logical development in the evolution of the shop. It enables floor space to be used with the maximum effectiveness and has wide possibilities in the arrangement of the orderly movement of people through the shop.

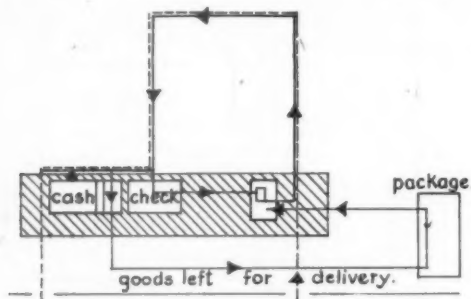
#### PRINCIPLES OF PLANNING

There are two fundamental differences between the normal shop with

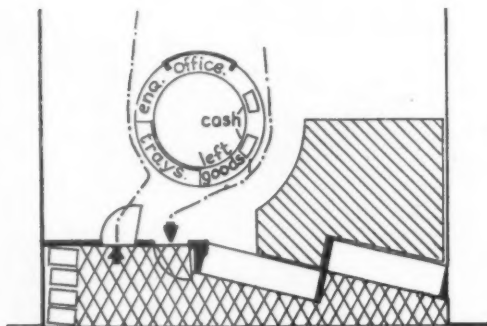
assistant service and the self-service shop. The first is the new concept of a control from one centralized "hub" or control area. Here the customer is given a special purchase container or basket on arrival, and here she returns to have the cost totalled, to pay, and to return the container. Accounts are kept here, orders taken, and goods may be left for delivery. The staff can work in greater comfort by these means. The second idea is the treatment of the shop as a combined sales space and stock room. Only small quantities of goods need be kept in the back store. Apart from some staple goods and some bulky commodities, which take up too much room for the whole stock to be displayed at once, everything in the shop is kept on those fittings to which the public has access.

#### THE SHOP WINDOW, AND APPROACH

These differences change the function of the shop window. As the idea of selling by visual display is extended throughout the whole shop, the view into the interior largely supersedes a



The customer, having made her round of the shop, takes her basket to the checking desk, where it is emptied and returned to the pile. The customer transfers the goods to her own bag and passes on to the cash desk, or has them replaced in the purchase basket and left, to be packed and delivered later. The exact positioning of the left goods counter to the cashier will depend on the mode of payment adopted.



A simple arrangement with simple circulation. The entrance and exit doors are given equal importance. The windows do not give the best view of the shop: they also have an undesirable directional aspect to the street. The shaded area on the diagram, which is to be used as sales space is on the wrong side of the checker.

set window dressing. The window backs may be omitted to let natural light into the shop. Since the light intensity inside the shop will be lower than in the street it is important that reflection from the window is reduced, so that an effective view of the inside can be obtained. The canted glazing (see section on page 51) is a method of reducing reflection without the expense of the older curved glass type, and is more easily replaceable in case of breakage. In addition the light intensity within the window is stepped up by reflecting the light coming through the fascia (and thus uninterrupted by the blind) down into the shop.

#### BLIND

The blind shown in the section is of the telescopic kind. The arms of the blind telescope and slide back into the

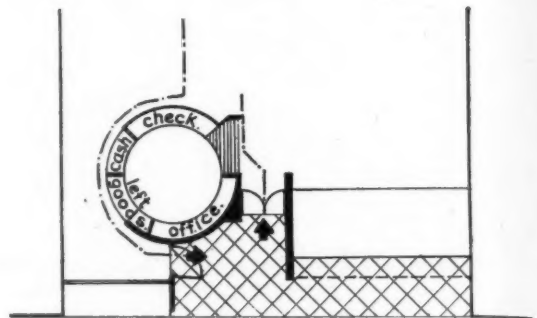
deep box at the base of the fascia. No fascia stays are needed. It is operated by a long arm outside the shop, or by hand gear or electricity from within. The blind does not have to be fully extended but can be stopped at any intermediate position.

#### PRAM PARK

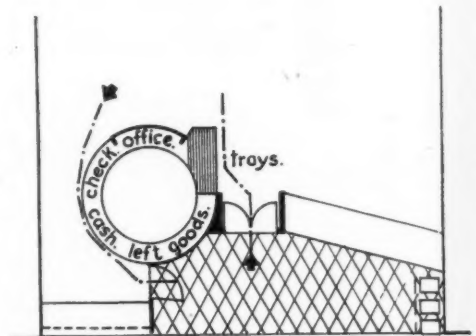
In the case of a self-service shop a pram park is necessary. Prams cannot be taken through the circulation system inside the shop without giving rise to considerable congestion. Therefore it is necessary to leave them outside.

#### ENTRANCE DOORS

The internal circulation takes the form of a one-way traffic system. In a small shop the incoming and outgoing streams may both use one door. In the case of a large shop it is more



This is the best arrangement for the control hub. Window space has been improved at the expense of the entrance. The return path of purchase baskets is short and the checking counter easily visible.



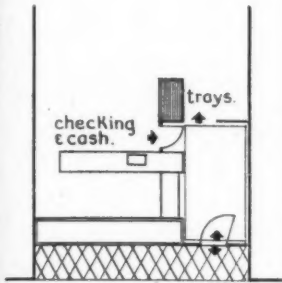
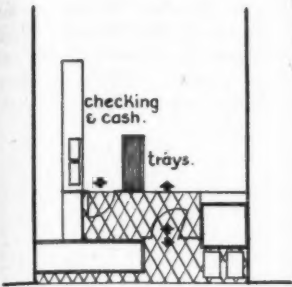
This is a compact arrangement with a good entrance-exit relationship. The queue is screened from passers-by in the street. The checking counter is not easily visible from most of the sales area. This arrangement would need signposting.

convenient to separate the two streams outside, and have two sets of doors.

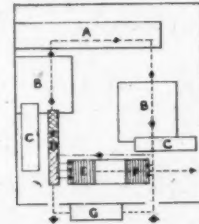
#### THE CONTROL HUB

A very close relationship exists between the entrance, the window and the control centre. This is the most intricate part of the planning problem. It is important that the following be remembered:—

1. The window and front approach must lead naturally to the entrance door, and if there is a separate exit door it should be screened, or in some way be made subordinate to the entrance.
2. The basket stack and enquiry counter, if there is one, must be prominently placed just within the door. It is unlikely that there will be queueing at this end of the circulation.

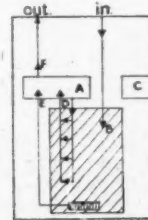


Control hub arrangements suitable for frontages of 15-20 ft. Both these arrangements work reasonably well. The customer has to replace the purchase basket on a central stand.



Key:  
A Demand  
B Convenience  
C Impulse  
D Queue  
E Checker  
F Baskets  
G Frams

This diagram shows the customer circulation.



A Stock of a few staple commodities for inclusion in orders, etc., which go into the back store.  
B Bulk of goods go straight to storage in the display stands.  
C Perishable goods which go into cold storage.  
D Assistants making up customers' orders tour the main shop with a purchase basket and take the goods back for packing.  
E Baskets of purchases left at the control hub for delivery are brought back for packing and dispatch.  
F Packed goods leave for delivery.

This diagram shows the circulation of goods.

3. As the customer completes the round of the shop, she must find the checking counter easily visible. It is at this counter that queues will occur and space should be provided where customers may stand without interrupting the circulation in the shop. The queue should be screened from the view of people in the street.
4. Provision must be made for a person coming to pay an account to pass straight through to the checking counter, without having to pass through the display section of the shop.
5. Provision must be made for the return of baskets from the checking counter to the starting point.
6. Before leaving the shop, it should be possible for the customer to leave goods at a counter for later delivery, and arrangements should be made whereby these goods can be taken to the back of the shop for packing. If more than one checker is employed in conjunction with only one traffic lane, cross-circulation of baskets and customers will occur. It is better to divide the functions of cashier and checker.

All commodities have been divided into three classes by Morris Ketchum—Impulse, Convenience and Demand. Impulse goods are defined as luxuries, or suddenly desired merchandise. Convenience goods are standard items of standard quality. Demand goods are essentials bringing in a constant traffic flow. Impulse goods depend almost entirely upon visual display. There are two places in the shop suitable for such commodities—at the entrance, and at the side of the queueing space, where they may attract the attention of the customer waiting to have goods checked. Demand goods should go to the very back of the layout in order to draw the customer through as much sales space as possible. Convenience goods are of intermediary importance.

The counter and display fittings must be block-packed, as customers hesitate before taking things which appear to be for display only. For the same reason a fitting should never be completely filled. One package should always be omitted.

#### CEILING

It is important that the sales floor

should be as flexible as possible. The ceiling can be so arranged that the lighting system can be made to follow the line of different arrangements and displays. A suspended ceiling is formed of removable panels attached to a grid of standard metal channels hung some two feet below the structural ceiling. The panels are of two kinds, opaque acoustic, and louvred lighting. The former may be either of a standard perforated acoustic tile backed by fire-proof building board, or light inverted metal pans filled with a smooth-faced acoustic material. The louvred panels are made up of egg-crate aluminium louvres finished in white enamel or natural brushed aluminium. The regular grid may be conveniently based on a 2-ft. module. (This means that one standard 4-ft. fluorescent light will cover two louvred squares.) In addition to this general lighting, any number of solid panels may be fitted with either surface or flush mounted spot lights for display lighting. This form of ceiling is said to be easy to install, low in initial cost, and provides space for sprinkler systems and other services.





The Buckland branch of the Portsea Island Society. This branch has been converted to self-service. Metal purchase baskets are stacked in the foreground.

### FLOOR

Floor surfaces are most important, and certain parts, those by the basket-counter, checking counter and cashier, are subject to particularly heavy wear. Such materials as quarry tile or travertine might be used for these parts; the difference might also serve to show the intended queueing lane.

For moderate sized shops the floor

space required is claimed to be less than that required by traditional sales methods. This is owing to the quick customer turn-round.

### PLANNING DIMENSIONS

Island sales fittings should not be more than 4 ft. high and 3 ft. wide. A convenient length is 10 ft. - 12 ft. Counters should not obstruct the clear

view of the shop. The highest shelf of a wall sales fitting should be no higher than 5 ft. 6 in. Space between fittings should be about 4 ft. 6 in. The passage past the checkout point should be 2 ft. 3 in. to 2 ft. 9 in. and the distance between the ration counter and any sales fitting 5 ft. 6 in., and ration counter and wall 3 ft. All counter tops on which wire baskets are to rest should be protected with

An interior view of the Kingskerswell Branch of the Newton Abbot Society. "Blind-spot" tendencies have been counteracted by filling these shelves with goods having a strong appeal.





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The Stamshaw branch of the Portsea Island Society showing the checking desk in the foreground.



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metal strips. The checking counter should be 2 ft. 6 in. high, and should have a white line upon it over which goods may be passed as they are checked. Baskets should be light, strong and easy to nest.

#### SELF-SERVICE IN THIS COUNTRY

The Co-operative Wholesale Society has in recent years been doing a great

deal of pioneering work in self-service. Many branches have been converted to self-service operation; two shops have been built specifically for self-service; and the Great Grimsby Society has introduced a mobile shop. A Suffolk Society increased its membership by 40 per cent. and increased its grocery trade by 48 per cent. as a result of conversion. The mobile shop reached a mid-week trade of £25

per day and a week-end turnover of £100 per day.

To replace an old shop the Newton Abbot Society opened its Kingskerswell branch, built for self-service, on September 29, 1949. This is the first shop opened by the CWS specially for the purpose. A large proportion of customers demand delivery of all their goods, and country clients do not



The Kingskerswell Branch. The checking and emergency checking point are conveniently placed, the latter being manned by the ration counter assistant, who is normally engaged in the handling of points and coupons.

PS

EXAMPLES IN PRACTICE OF THE CWS



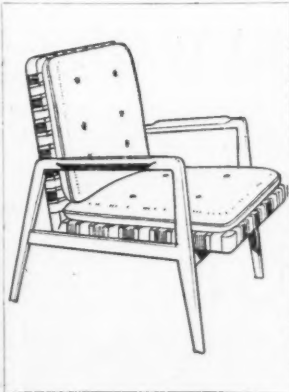
*The exterior of the Bridgemary Branch at Gosport which was opened in October of last year.*

*An interior view of the same branch.*



even come in to select items. Special provision for the handling of a large order trade, and a larger amount of delivery work has had to be made. The CWS Architects' Department therefore added a warehouse for the making up of orders, as well as a cloakroom and staff messroom. This shop caters for a community of 2,000. Of this community, 500 are already members, and the average weekly trade amounts to £300. Were it not for the special conditions imposed by the community, a staff of four would be adequate to man the shop.

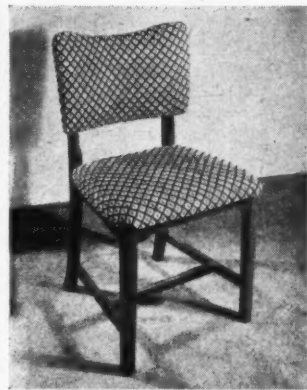
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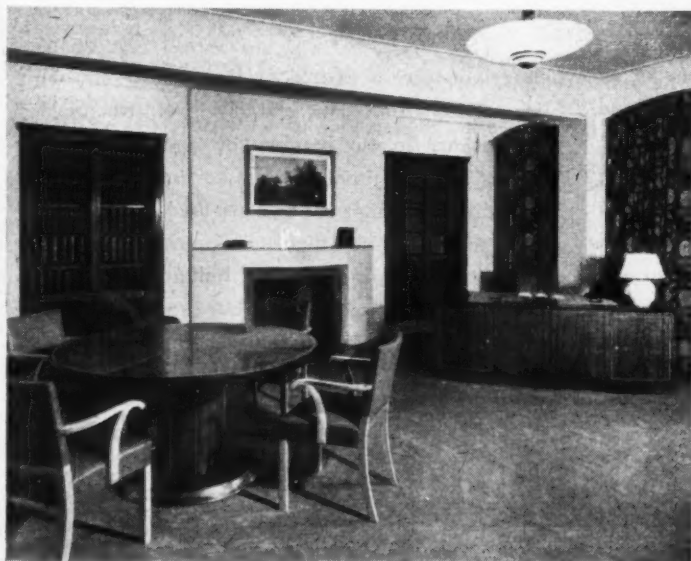
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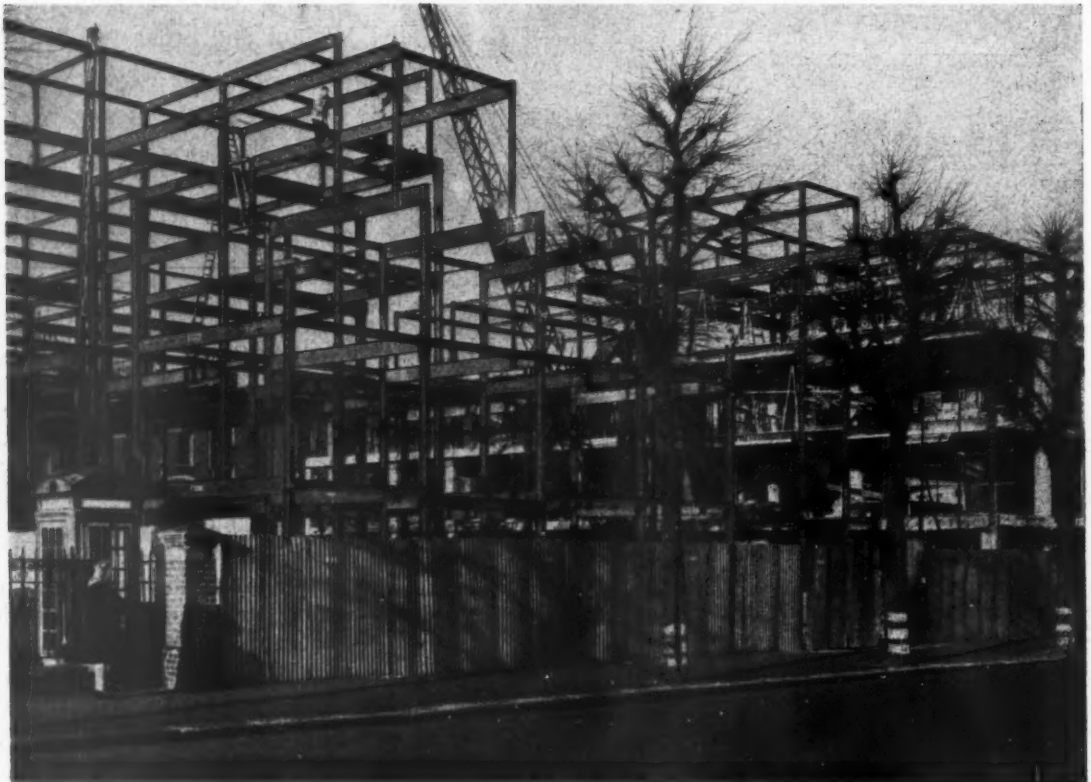
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## TECHNICAL SECTION

A digest of current information prepared by independent specialists; printed on one side of the paper only, to allow readers to cut out the items for filing and paste them up in classified order. Headings below.

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#### 10.66 design: building types SCHOOLS

*Schools.* (Architectural Forum [USA], Oct., 1949, Special Issue, 300 pp.)

Elaborate treatise, with contributions from about a dozen architects and engineers.

The position in school building is described as a major national crisis in USA. The boom in war babies demands a boom in school construction, with a one billion dollar annual expenditure. Shortcomings of today's average types and building methods are compared with modern technical advances. Urban and rural conditions are covered, and better schools illustrated as actually built, in dimensioned drawings and many photographs. Here are some of the headings: long-range planning, architecture and engineering, industrialized building, modernization of building codes, new plan types.

#### 13.52 materials: timber WOOD WINDOWS

*Wood Framed Windows.* Eric de Maré. (Building Digest, Nov., 1949.)

A good review of recent trends in wood window design, including some foreign types. 8 pp. illustrations, photographs and diagrams.

This is a useful article giving a general review of present trends. It discusses the well known EJMA windows and also illustrates their double type. Sash windows are mentioned and the spring balance type which obviates the heavy side bosses is illustrated. Several interesting foreign windows are shown, including the Swedish pivot type. Weather stripping is referred to. The article is interesting but would be of greater value if it discussed more critically the merits and drawbacks of the various window types.

#### 17.63 construction: general FIRE RESEARCH

*Fire Research.* 1948. DSIR, Fire Offices Committee. (HMSO, 1949. 1s.)

Annual report. Of limited interest to architects. Includes statistics of fires in traditional and non-traditional houses and notes on some programmes of research affecting choice of materials and type of construction.

#### 17.64 construction: general CONNECTORS FOR TIMBER

*Connectors for Timber.* (BS 1579:1949, 27 pp., 22 Figs. British Standards Institution, 3s.)

Types and dimensions of metal connectors to transmit tension forces in timber structures.

Timber structures, buildings and bridges have been erected in the past without the use of metal connectors. The joint efficiency in tension has been rather low. The purpose of the metal connectors is to improve the efficiency of tension joints and so to approach the tensile strength of the members. The main types of metal connectors covered in this specification are split rings, shear plates, claw plates, toothed plates round or square, and corrugated toothed rings. Bolts and special washers complete the joint, and these, too, are covered. The designer, however, will require data on the efficiency of joints made with these connectors, and a code of practice on the structural use of timber in buildings containing such data is being prepared.

#### 20.157 construction: complete structures CINEMAS IN CONCRETE

*Some Danish Cinemas. Designed by Erik Bunch.* (The Architect and Building News, Oct. 28, 1949, pp. 425-428.)

Several cinema buildings in drawings and photographs. Concrete frames and roofs.

The architect found the best solution in reinforced concrete frames spanning across the auditorium, spaced at about 13 to 17 ft., provided their effective span is not more than 50 to 70 ft.; 3-in. thick reinforced concrete slabs are used for the sloping roof. Bigger spans are better covered by shell construction. Two-inch cork insulation is sufficient without a ceiling, or 2-in. sheets of "asbestos wood" on the inner surface of the concrete shell.

#### 20.158 construction: complete structures SOUTH BANK RIVER WALL

*South Bank River Wall.* (Concrete and Constructional Eng., Nov., 1949, pp. 349-352, and other journals.)

Extension of the river wall from County Hall, Westminster, to downstream side of Waterloo Bridge.

The construction of this wall forms the basis of the redevelopment of the South Bank of the Thames between the river and York Road. Four and a half acres of land are being reclaimed from the river,

forming a strip 60 to 140 ft. wide. This area is being filled in by 120,000 cu. yd. of consolidated earth and rubble from bombed houses and air raid shelters, and is to be laid out as public gardens after the 1951 exhibition. The new wall is of mass concrete faced with Cornish granite blocks, 50,000 cu. ft. of which are being shipped from Penryn to the site. Sheet steel piles up to 51 ft. length form the cofferdams all along the wall. The cross section of the wall varies according to sub-soil conditions, it is biggest on clay, i.e., 20 ft. wide at the base and 43 ft. high. The front face (river side) has a curved batter, the back has three steps each 1 ft. 4 in. wide. Vertical expansion joints at 180 ft. spacing have a  $\frac{1}{2}$  in. gap in the concrete with an elastic joint filler. Twenty-two thousand cu. yd. of concrete will be used. The weepholes are 6 in. dia. glazed stoneware pipes. From January to October, 1949, about 650 ft. length of the wall have been built; the 1,700 ft. extension from County Hall to Waterloo Bridge is expected to be complete by the end of 1950.

#### 20.159 construction: complete structures INDUSTRIAL BUILDINGS

*Industrial Buildings at Scunthorpe.* (Architects' Journal, Nov. 17, 1949, pp. 559-568.)

Description of three buildings in reconstruction programme of Appleby-Frodingham Steel Company, Scunthorpe, with large size illustrations.

#### 20.160 construction: complete structures PRESTRESSED CONCRETE BUILDINGS

*Two Notable New Prestressed Concrete Buildings.* (Civil Eng. and Public Works Review, Nov., 1949, pp. 660-664.)

Factory extension at Newport, Monmouthshire; prestressed concrete columns and aluminium alloy roof.

The combination of different materials in one and the same structure is a feature of this 800 ft. long new building. The columns are 37 ft. high, spaced at 15 ft. centres. The light alloy roof trusses have 60 ft. span. Light alloy sheeting rails bolted to the columns carry the corrugated asbestos sheets and windows, both for side walls and gable ends. One hundred and four prestressed main columns are used; a solid type of 12 in. by 30 in. rectangular cross section, and a hollow type of equal weight but, of course, far stronger, to be used where no intermediate floors exist to stiffen the columns. Prestressing is by the Freyssinet type of double-acting hydraulic jacks. The trusses were lifted in one piece, without any temporary stiffening. Purlins and wind bracing are also of alloy, and corrugated asbestos sheeting is used as roof cover.

The other remarkable building in prestressed concrete, the three-storey Stationery Office at Edinburgh, 220 ft. long by 120 ft. wide, has already been described in these columns (see 20.155).

#### 20.161 construction: complete structures PRECAST CONCRETE ARCH

*An Exhibition Hall at Turin, Italy.* Prof. P. Luigi Nervi. (La Technique des Travaux [Belgium], Sept.-Oct., 1949, pp. 272-278.)

An exhibition hall of bold design to replace an older building badly damaged by bombing.

The main hall, 250 ft. long and 315 ft. wide, is covered by concrete arches of 315 ft. span without intermediate supports, with a clear height of 61 ft. at the crown, the arches having 5 ft. 4 in. depth at this point. This clear floor area has a semi-circular extension at one end covered by a cupola



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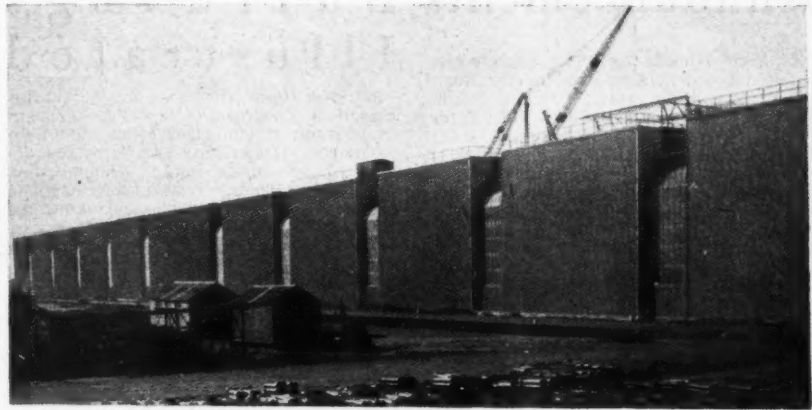
of 132 ft. diameter, also built of precast concrete units. Site clearing was only started in August, 1947, and the new building had to be completed by June, 1948. Shortage of time was the main reason for adopting novel types of design in pre-fabricated units. The precast concrete units for the arches, at 8 ft. 2 in. centres, were erected on tubular centering and served as moulds for the concrete poured *in situ*, resulting in monolithic arches of undulated cross section. About 30 of these units were erected per day, each weighing 1.5 tons. Deflections were carefully controlled by about 100 instruments; the maximum of about  $\frac{1}{4}$  inch agreed very well with calculated figures. An interesting feature both in design and in its aesthetic effect is the abutment, where the thrusts from three arches converge into a single pier so as to treble the clear passage way between piers, both at ground floor and at gallery level (see illustration). The arch ribs are at 8 ft. 2 in. centres, thus the spacing between piers is 24 ft. 6 in.

#### 20.162 construction: complete structures WELDED STEELWORK BUILDINGS

*New Melting Shop at Abbey Works for the Steel Company of Wales Ltd. J. Warley. (The Welder, July-Sept., 1949, pp. 51-54.)*

Welded structure for 1,870 ft. long melting shop nearing completion; 17,000 tons of steelwork. Details of fabrication and erection.

The new works at Port Talbot, Wales, are probably the biggest welded steelwork construction job in this country at present, and the crane gantry girders represent a major feature of all-welded design. The total length of the melting shop is 1,870 ft., subdivided into 34 pitches of 55 ft. each, indicating the longitudinal spacing of columns. There are five bays up to 87 ft. wide.



1,870 ft. long welded structure nearing completion. See 20.162.

The illustration shows the "high-low" type of roof with large glazing areas in place of the usual pitched roof for industrial buildings.

The gantry girders for cranes of 275 tons capacity run continuously over the 55 ft. and 110 ft. spans. These all-welded plate girders are 12 ft. 5½ in. deep, with flange plates 2½ in. thick and 3 ft. wide. The 110 ft. span girder weighs 90 tons. Special rotary jigs and erection equipment were used for assembling, welding and erection.

#### 20.163 construction: complete structures TIMBER STORAGE SHED

*A Timber Storage Shed, Shoreham, Sussex. (Architects' Journal, Nov. 3, 1949, and other journals.)*

Three-bay latticed arch storage shed in timber, 145 ft. wide, 180 ft. long.

#### 23.120 heating and ventilation ROOF INSULATION

*Weather-Conditioning of Roofs of Residences: Part 1. Groff Conklin (Progressive architecture [USA], Nov., 1949.)*

General discussion of problem of thermal control and prevention of condensation. Respective merits of reflective methods and others.

This is a useful article, for although rather closely related to the problems of American conditions its treatment is broad and it is valuable in quoting results of recent American research and experience. The author gives U values for various treatments and infers that reflective insulation with aluminium foil is likely to be successful and apparently the most economic. A discussion on vapour barriers is probably of less direct interest to our conditions, though the use of such treatments is now regarded as essential in the colder parts of America.

#### 24.127 lighting SCHOOL LIGHTING

*Progressive Lighting for Schools. Articles by N. L. Engelhardt, E. Russell, D. L. Essex and L. R. Travis. (Illumination [USA], undated, listed as AIA File No. 31-F-1.)*

Example of fluorescent lighting applied to existing schools. Popular; photographs.

This series is chiefly useful in representing American school lighting as practised by "light conscious" educational authorities. Only fluorescent systems appear, and all of these except one have the fittings arranged in two, three or four continuous rows. The exception is a louverall ceiling example. Values appear to be 20-50 foot candles.

There is only one reference to regulations for windows, but it is interesting. It comes from the New York State Regulations. Window heads must be within 6 in. of the ceiling. The ratio of glass to floor area must be 20 per cent. or more, or, if glass blocks are used, the ratio must be at least 25 per cent. The window head must be at least one-half of the room width, less 1 ft. (which apparently means ceiling heights of 11 ft. plus, which are said to be unusually low). Windows must face east or west. Bays must be narrow and painted white. Walls must have a reflection factor of 50 per cent., increased to 65 per cent. for the top 2-3 ft. Chalkboards must have 30 per cent., and also furniture.

The references to artificial lighting are comparatively vague.



Exhibition hall at  
Turin, Italy. See  
20.161.



## Announcements Buildings Illustrated

As from January 15, 1950, imported insulation board held in stock by the Board of Trade will be taken by The Sundry Materials Directorate, Board of Trade, Empire House, St. Martin's-le-Grand, E.C.1, to whom all enquiries and applications to purchase after January 14, 1950, should be addressed. This stock has hitherto been held by the Associated Boards Ltd., 2, Norfolk Street, Strand, W.C.2, acting as the Board of Trade's agents. All enquiries should continue to be addressed to them until the above date.

In view of the recent announcement by the President of the Board of Trade that from January 16, 1950, open individual import licences will be issued for hardwood from a large number of countries, including those where the HOP III Scheme has been operating, there is no object in the timber trade continuing to submit applications for specific licences under the HOP III Scheme in respect of these countries. The Timber Control, therefore, does not propose to deal with any further applications of this kind unless the timber is likely to arrive in the United Kingdom before January 16, 1950.

## Correction

On page 717 of our issue for December 22, 1949, the town of Downham Market was incorrectly shown as Market Downham.

Offices at Ilford. (Pages 44-46.) Architects: Easton & Robertson, F./F.R.I.B.A. General contractors: Hammond & Miles Ltd. Sub-contractors: Demolition, excavation, foundations, damp-courses, plaster, Hammond & Miles Ltd.; asphalt, Val de Travers Asphalte Paving Co. Ltd.; reinforced concrete, Helical Bar & Engineering Co. Ltd.; bricks, W. L. Jackson & Co. Ltd.; artificial stone, Croft Granite Brick & Concrete Ltd.; external tiling, tiling, Carter & Co. Ltd.; structural steel, Redpath Brown & Co. Ltd.; patent glazing, Haywards Ltd.; woodblock flooring, Hollis Bros. & Co. Ltd.; terrazzo paving, Art Pavements & Decorations Ltd.; central heating, Rosser & Russell Ltd.; gas fixtures, Bratt Colbran Ltd.; electric wiring, electric light fixtures, electric heating, bells, clocks, Tyler & Freeman Ltd.; plumbing, sanitary fittings, T. S. Knight & Sons (Plumbing) Ltd.; stairtreads, Stuarts Granolithic Co.; door furniture N. F. Ramsay & Co.; casements, window furniture, C. E. Westead Ltd.; telephones, GPO; acoustic ceiling tiles, Horace W. Cullum & Co. Ltd.; staircase rail, Haskins; joinery, office fittings, D. Burkle & Son Ltd. (flush doors); memorial panel, Laurence A. Turner; signs, London Sand Blast Decorative Glass Works Ltd.

Shop in Sloane Street, S.W.1 (pages 47-49). Architect: Donald Hamilton, Wakeford & Partners, L./A.R.I.B.A. Sub-contractors: Shopfitter, Contemporary Woodwork Ltd.; electric wiring, electric light fixtures, Holliday, Hall & Stinson Ltd.; wallpapers, A. Sanderson Ltd.; furniture, materials, carpets, Sixten & Cassey Ltd., and Hampton & Sons Ltd.

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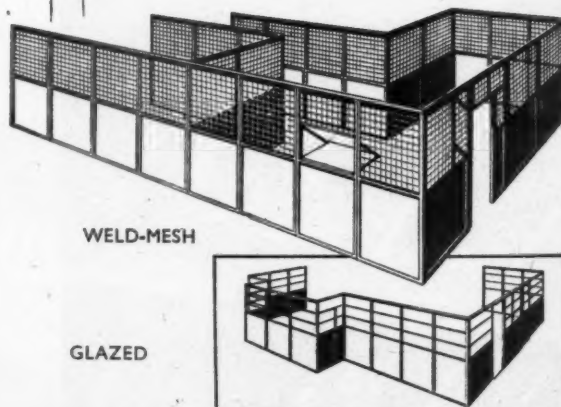
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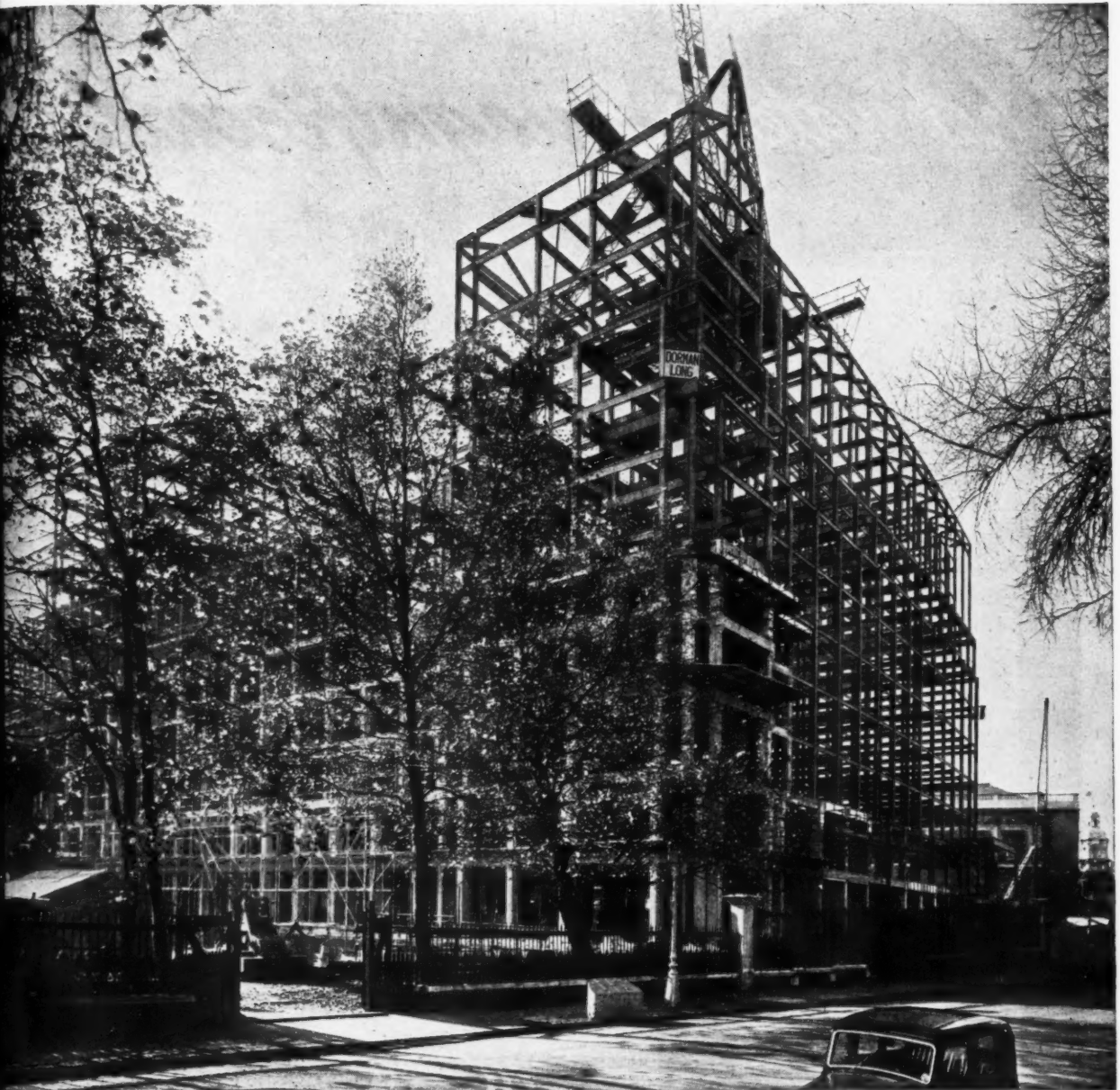
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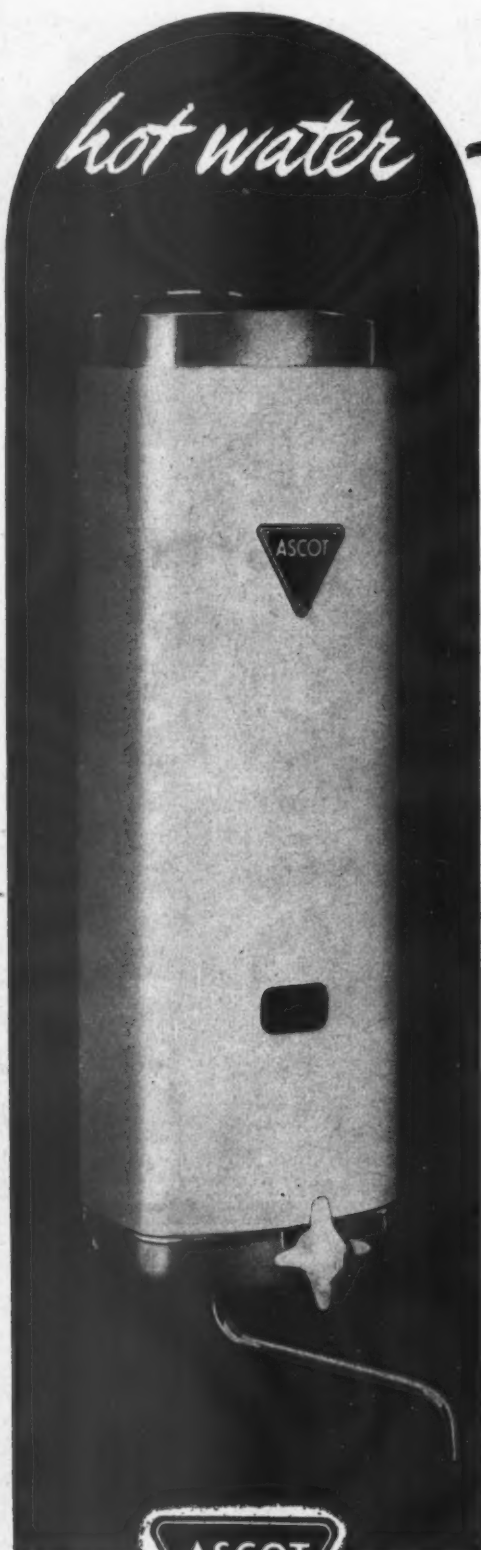




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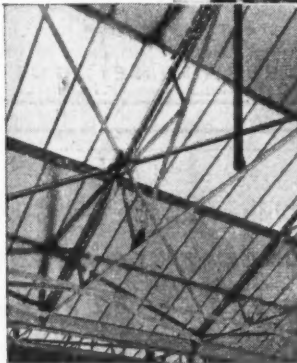


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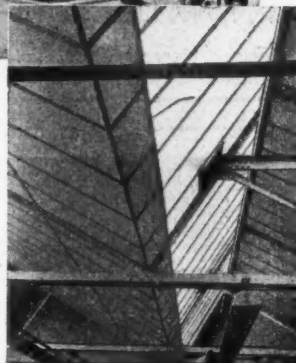
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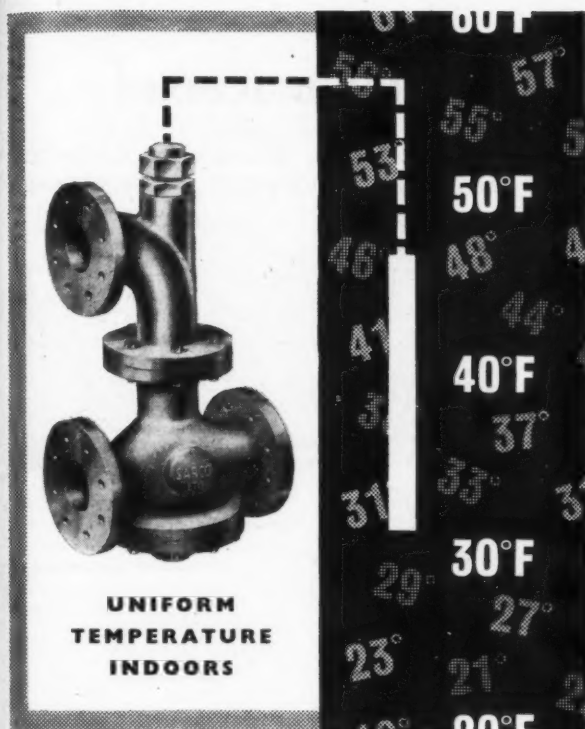
This is the first comprehensive text-book to be published which gives all the practical information required by architects who are either designing a new public house or planning alterations and extensions to existing licensed premises. Mr. Yorke is a specialist with a long and varied experience in the planning and equipment of large and small public houses built on many different types of site. His text is illustrated by an extensive series of plans, each of which is included to show how particular problems were dealt with by well-known architects when designing pubs built during the years immediately preceding the last war.

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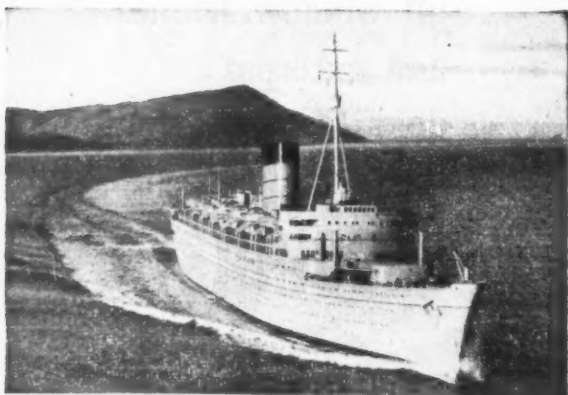
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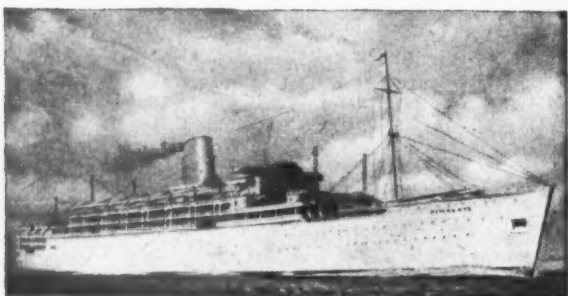
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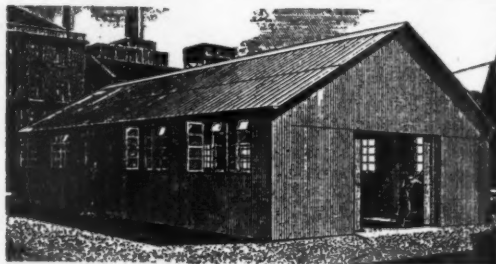


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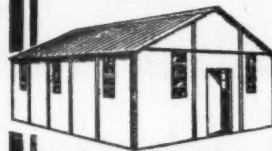
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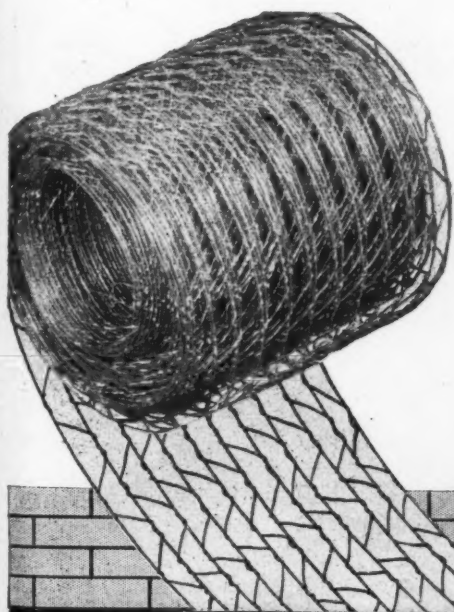
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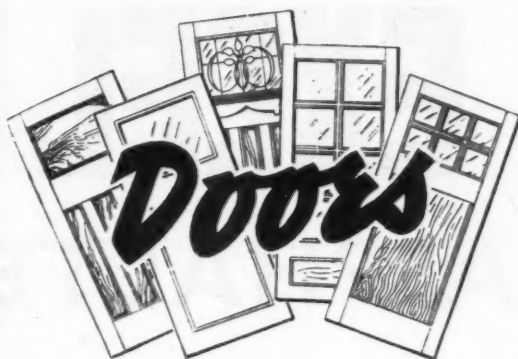
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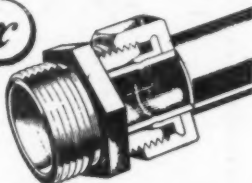
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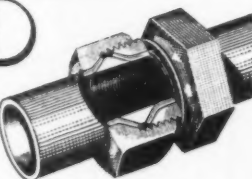
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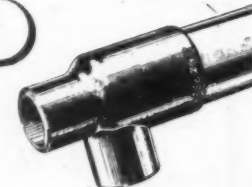
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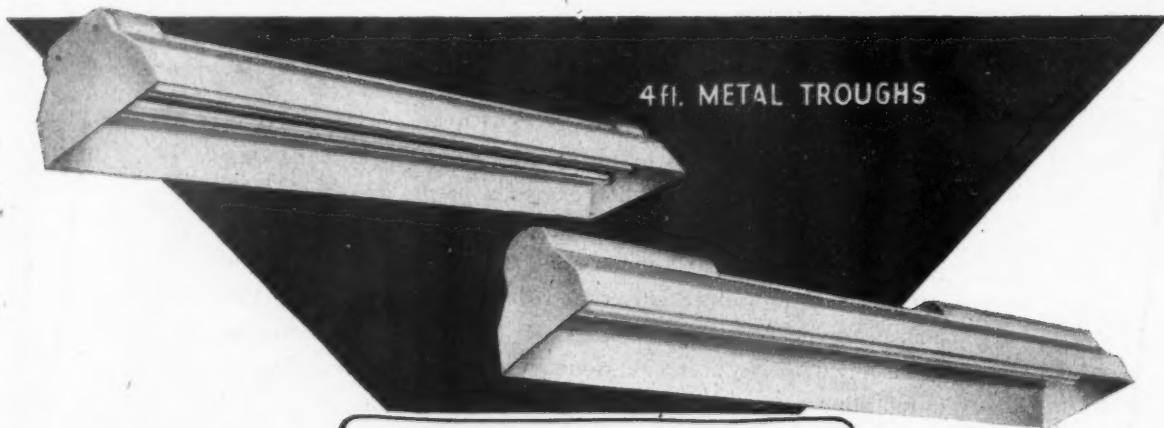
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EDGAR F. O'FALL,

Clerk to the Council.

35, St. Albans Road, Hatfield, Herts. 3046

## CITY AND COUNCIL OF THE CITY OF LINCOLN.

CITY ARCHITECT'S DEPARTMENT.

Applications are invited for the appointment of ARCHITECTURAL ASSISTANT, on Grade IV, A.P. and T. Division of the National Scale of Salaries (£490-£535), on the established staff of the City Architect's Department.

Candidates should have passed the Intermediate Examination of the Royal Institute of British Architects, and preferably have a good knowledge and experience of Schools or Housing.

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

Applications, stating age and experience, together with the names of two persons to whom reference may be made, should be delivered to: E. F. Barridge, F.R.I.B.A., City Architect, Stamp Office, Lincoln, not later than 23rd January, 1950.

Canvassing, either directly or indirectly, will disqualify.

J. HARPER SMITH,

Town Clerk.

Town Clerk's Office, Lincoln. 3029

CAMBRIDGESHIRE COUNTY COUNCIL. COUNTY ARCHITECT'S DEPARTMENT. Applications are invited for the appointment of QUANTITY SURVEYOR, on Grade VII, A.P.T. Division (£635-£710), of the National Scale of Salaries.

Candidates should be qualified and experienced in Taking Off, Abstracting and Billing of Bills of Quantities, Specifications, detailed estimates, valuations for interim certificates, and the settlement of final accounts.

Applications, stating age, qualifications, and experience, accompanied by one recent testimonial, and the names and addresses of two referees, should be sent to the Clerk of the County Council, Shire Hall, Cambridge, not later than Wednesday, 18th January, 1950.

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

CHARLES PHYTHIAN,

Clerk of the County Council.

Shire Hall, Cambridge. 3095

ANGLESEY COUNTY COUNCIL. COUNTY ARCHITECT'S DEPARTMENT. Applications are invited for the following permanent appointments in the County Architect's Department:—

(a) ONE SENIOR ASSISTANT ARCHITECT. Salary Grade VII, commencing at £635 per annum and rising to £710 per annum. Applicants should be Registered Architects and Members of the Royal Institute of British Architects, with considerable experience in the design of Education Buildings, supervision of technical staff, etc.

(b) ONE ASSISTANT ARCHITECT. Salary Grade IV, commencing at £480 per annum and rising to £525 per annum. Applicants should have had good experience in the preparation of working drawings, and preference will be given to applicants who have passed the Intermediate Examination of the R.I.B.A.

(c) ONE ARCHITECTURAL ASSISTANT. Salary Grade III, commencing at £450 per annum and rising to £495 per annum. Applicants should have had good architectural training and be good draughtsmen.

The appointments will be subject to the provisions of the Local Government Superannuation Act, 1937, and will be subject to three months' notice on either side for the Grade VII appointment, and one month's notice on either side for the Grades III and IV appointments. Candidates called for interview will be required to undergo a medical examination by the County Medical Officer.

Further particulars regarding the appointments may be obtained from the County Architect, N. St. Johnson, A.R.I.B.A., M.T.P.I., County Architect's Department, Shire Hall, Llangefni.

Applications, stating age, training, experience, qualifications, past and present appointments, names of two referees, and accompanied by a copy of one recent testimonial, are to be sent so as to reach the undersigned not later than Monday, the 30th January 1950.

WILLIAM JONES,

Clerk of the County Council.

Shire Hall, Llangefni, Anglesey. 3052

STAFFORDSHIRE COUNTY COUNCIL. COUNTY ARCHITECT'S DEPARTMENT.

APPOINTMENT OF ARCHITECTURAL STAFF. Applications are invited for the above on A.P.T. salary Grades I-VIII, ranging from £390-£760 per annum, according to experience and qualifications.

The appointments will be subject to the Scheme of Conditions of Service of the National Joint Government Superannuation Act, 1937.

Applications, giving full details of experience and qualifications, age, etc., together with three recent testimonials, should be delivered to the County Architect, Martin Street, Stafford, within two weeks of the appearance of this advertisement.

Applications must disclose whether or not they are related to any member or senior officer of the Council. Canvassing will be a disqualification.

T. H. EVANS,

Clerk of the County Council.

County Buildings, Stafford. 2992

GOVERNMENT OF NORTHERN IRELAND.

CIVIL SERVICE COMMISSION.

CHIEF ARCHITECT'S BRANCH.

Applications are invited for ASSISTANT ARCHITECT posts in the Ministry of Finance. Subject to a probationary period of two years, the posts are permanent and pensionable.

Remuneration: The scale is £500-£25,750. The entry point to this scale depends on age, viz., £500 at age 26, plus or minus £25 for each year above or below that age. The upper entry point is, however, subject to a limit of £250 per annum.

Qualifications: Candidates must be Registered Architects and have passed the Final Examination of the Royal Institute of British Architects. In addition, they must have had at least two years' experience in an Architect's office or Department in the preparation of working drawings for new buildings.

Preference will be given to candidates who have served in H.M. Forces in wartime, provided that such candidates can, or within a reasonable time will be able to, fill the posts efficiently.

Closing date for receipt of applications: Applications must be made on the prescribed form, which may be obtained from the Secretary, Civil Service Commission, Stormont, Belfast, and must be returned, duly completed, with copies of two recent testimonials, so as to reach him not later than the 17th January, 1950. 3012

COUNCIL OF THE COUNTY OF ABERDEEN. COUNTY PLANNING OFFICER.

Applications are invited for the post of County Planning Officer. Applicants must hold recognised qualifications in Town and Country Planning.

Salary £1,200 per annum, rising by annual increments of £50 to £1,500 per annum. Placing on the scale may be granted as determined by the Council. The appointment is subject to the Local Government Superannuation (Scotland) Act, 1937, and the successful applicant will require to pass a medical examination. Forms of application and conditions relating to the appointment may be obtained from the undersigned, with whom completed application forms should be lodged not later than 12 noon on Monday, 6th February, 1950.

Canvassing of members of the Council, directly or indirectly in connection with the appointment will disqualify the candidate.

CHAS. HORNAL,

County Clerk.

County Buildings, 22, Union Terrace, Aberdeen. 3072

BOROUGH OF PORTADOWN. ARCHITECTURAL ASSISTANT.

Applications are invited for the appointment of an Architectural Assistant to the Borough Architect and Town Planning Officer (Mr. G. Stuart Alderson, Dip. T.P., A.R.I.B.A.), at a salary in the range of £400-£500 per annum, plus cost-of-living bonus (at present £70-£90 per annum).

Applicants should have passed the Intermediate examination of the Royal Institute of British Architects. Applications, stating age, qualifications and experience, accompanied by copies of two recent testimonials, should be sent to the undersigned not later than 31st January, 1950.

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

The Council will assist in finding housing accommodation for the successful applicant.

GEORGE MCGOWAN,

Town Clerk.

Town Hall, Portadown, N. Ireland. 3066

CRAWLEY DEVELOPMENT CORPORATION invites applications from fully qualified Architects for the posts of: (a) SENIOR ARCHITECT, within the range of £1,000 to £1,200 per annum, and (b) ASSISTANT ARCHITECT, Grade IV, £550-£530-£750.

For appointment (a) applicants should have wide general experience in architecture and planning.

For appointment (b) applicants should have had good general architectural experience. A knowledge of town planning is desirable but not essential.

Contributory superannuation will be provided.

Form of application and further particulars should be obtained from the Chief Architect, A. G. Sheppard Fidler, M.A., B.Arch., F.R.I.B.A., A.M.T.P.I., Broadfield, Crawley, Sussex, to whom applications must be submitted not later than the 20th January, 1950.

G. A. C. TURNER,

Chief Executive.

Broadfield, Crawley, Sussex. 3028

COUNTY BOROUGH OF SWANSEA.

BOROUGH ARCHITECT'S DEPARTMENT.

Applications are invited for Established Staff Appointments as hereunder:—

(1) ASSISTANT BOROUGH ARCHITECT. £800 per annum.

(2) SENIOR ASSISTANT QUANTITY SURVEYOR, Grade VII. £635-£710 per annum.

(3) ASSISTANT ARCHITECT, Grade V. £520-£570 per annum.

(4) TWO JUNIOR ASSISTANT QUANTITY SURVEYORS, Grade III. £450-£495 per annum.

(5) JUNIOR ASSISTANT ARCHITECT, Grade III. £450-£495 per annum.

Candidates for the post of Assistant Borough Architect must be Associates of the Royal Institute of British Architects, widely experienced in design and modern constructional methods.

For Quantity Surveying post, Grade VII, Associateship of the Royal Institution of Chartered Surveyors (Quantities), and for Assistant Architect, Grade V, Associateship R.I.B.A., must be held.

For Junior Assistant Quantity Surveyors and Junior Assistant Architect's posts, a certificate of having passed the Intermediate Examination of the R.I.C.S. or the R.I.B.A. must be produced.

Candidates must be under 45 years of age, unless in Local Government Service. The appointments will be subject to the provisions of the Local Government Superannuation Act, 1937, and the successful candidates will be required to pass a medical examination.

The appointments may be terminated by one month's notice on either side.

Forms of application may be obtained from the Borough Architect, Mr. H. T. Wykes, F.R.I.B.A., Guildhall, Swansea, and are to be returned, accompanied by three recent testimonials, to the undersigned, not later than Monday, 23rd January, 1950.

Canvassing, directly or indirectly, will disqualify.

T. B. BOWEN,

Town Clerk.

Guildhall, Swansea. 3068

## CITY OF BRADFORD.

## APPOINTMENT OF CITY ARCHITECT.

Applications are invited for the position of City Architect, at a salary of £1,600 per annum, minimum and maximum salaries and increments to be considered on the introduction of National Scales of Salaries for City Architects.

Candidates should be Members of the Royal Institute of British Architects and should not be more than 50 years of age. They should be capable designers, with administrative experience in a similar capacity.

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

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

Canvassing will disqualify, and an applicant who is related to a member or senior officer of the Council must disclose the fact in his application.

Applications, enclosing copies of two recent testimonials, endorsed "City Architect," should be delivered to me not later than 21st January, 1950.

W. H. LEATHAM.

Town Clerk.

Town Hall, Bradford.

## CITY AND COUNTY OF THE CITY OF EXETER.

Applications are invited for the appointments of ASSISTANT QUANTITY SURVEYORS, on the Permanent Staff of the City Architect's Department. The salary will be within A.P.T. Grade VI (£595 to £660 per annum). Applicants must be thoroughly experienced in the preparation of Bills of Quantities, Interim Valuations and Final Accounts.

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

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

Applications, stating age, qualifications, previous and present appointments and salaries, full details of experience, and the earliest possible date when available, together with copies of recent testimonials, should be sent to H. B. Rowe, F.R.I.B.A., A.M.I.Struc.E., City Architect, 2, Southernhay West, Exeter, not later than the 21st January, 1950.

C. J. NEWMAN.

Town Clerk.

Exeter.

December, 1949.

3083

## BOROUGH OF EALING.

## BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

## APPOINTMENT OF ARCHITECTURAL ASSISTANTS.

Applications are invited for the permanent appointment of two Architectural Assistants, in accordance with Grade VI of the A.P.T. Division of the National Council's Scales, at a salary commencing at £595 per annum, and rising by annual increments to £660 per annum, plus £30 London weighting.

Applicants must either be Associate Members of the Royal Institute of British Architects or possess a recognised equivalent qualification. Preference will be given to candidates with Municipal experience.

The Council is unable to provide housing accommodation for the successful candidate. Forms of application, together with conditions of appointment, may be obtained from the Borough Engineer and Surveyor, Town Hall, Ealing, W.5, and must be returned to me not later than the 16th January, 1950.

E. J. COPE-BROWN.

Town Clerk.

Town Hall, Ealing, W.5.

3033

## BOROUGH OF STOCKTON-ON-TEES.

## APPOINTMENT OF DEPUTY BOROUGH ARCHITECT.

Applications are invited for the appointment of Deputy Borough Architect, at a salary according to Grade VI, A.P.T. Division, namely £595-£660.

Applicants must be Associate Members of the Royal Institute of British Architects, have had experience in the office of a Municipal Architect, and possess a knowledge of all types of buildings carried out by a local authority, including the design of housing estates and schools.

The appointment is subject to the Local Government Superannuation Act, 1937, and the National Scheme of Conditions of Service. The successful applicant will be required to pass a medical examination, and the appointment will be subject to termination by two months' notice in writing on either side.

Consideration will be given, if necessary, to the provision of housing accommodation for the successful applicant.

Applications, endorsed "Deputy Borough Architect," stating age, qualifications, present employment and salary, and previous experience, with the names and addresses of three persons to whom reference may be made, must reach the undersigned not later than Tuesday, 24th January, 1950.

FRANK HILL.

Town Clerk.

Barclay Bank Chambers,  
Stockton-on-Tees.

2nd January, 1950.

3082

## BOROUGH OF WILLESSEN.

## APPOINTMENT OF ARCHITECTURAL ASSISTANTS.

The Council invite applications for the appointment of three Third Class Architectural Assistants on the permanent staff of the Borough Engineer and Surveyor's Department. The salary attaching to the post will be Administrative, Professional and Technical, Grade III, of the National Salary Scales, namely, £450 per annum, rising by £15 per annum to £495 per annum, plus London weighting.

Candidates must have passed the Intermediate Examination of the Royal Institute of British Architects or hold an equivalent qualification, and preferably have general knowledge and experience of architectural work in the service of a Local Authority.

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

Applications, giving age, experience, etc., accompanied by copies of not more than three testimonials, should be addressed to the undersigned, endorsed "Architectural Assistant," not later than 10 a.m. on Friday, 3rd February, 1950.

It will be necessary for the successful candidate to provide his own housing accommodation as the Council is not in a position to assist.

Canvassing, directly or indirectly, will be deemed a disqualification.

(Sgd.) R. S. FORSTER.

Town Clerk.

Town Hall, Dyne Road, Kilburn, N.W.6.

4th January, 1950.

3134

## LONDON COUNTY COUNCIL.

## ARCHITECT'S DEPARTMENT.

Architect to the Council: ROBERT H. MATTHEW.

A.R.I.B.A.

Deputy Architect: J. L. MARTIN, M.A., D.Phil.

A.R.I.B.A.

## APPOINTMENT OF PRINCIPAL HOUSING ARCHITECT AND ASSISTANT HOUSING ARCHITECT.

Following the Council's recent decision to place upon the Architect to the Council the responsibility for the design and erection of all new housing schemes, applications are invited for the following newly-created positions in the Architect's Department—

PRINCIPAL HOUSING ARCHITECT (£1,500 × £100-£1,700). To be responsible to the Architect for a new Housing Division, which will ultimately be responsible for the design and erection of all the Council's housing, and will immediately accept responsibility for new schemes.

ASSISTANT HOUSING ARCHITECT (£1,250 × £75-£1,550).

The Principal Housing Architect must be able to organise, lead, and inspire a large division. The Assistant Housing Architect will assist the Principal mainly in the sphere of design.

No age limit. Experience of public architecture not essential.

Form of application obtainable from the Architect to the Council, The County Hall, Westminster Bridge, London, S.E.1. Stamped addressed foolscap envelope necessary. Applications, marked AR/P.H., must be returned not later than 31st January, 1950. Canvassing disqualifies. (1464) 3144

## COUNTY BOROUGH OF WEST HAM.

Applications are invited for appointment of DEPUTY BOROUGH ARCHITECT and PLANNING OFFICER. Salary £1,200 × £50-£1,300 per annum, inclusive.

Appointment subject to three month's notice in writing on either side, to the Local Government Superannuation Acts, and to the Council's Conditions of Service.

Preference given to applicants with Local Government Service and those with experience in redevelopment of "blitzed" areas.

Details, together with application form, which should be returned not later than 6th February, 1950, obtainable from Borough Architect and Planning Officer, Thomas E. North, F.R.I.B.A., 70, West Ham Lane, Stratford, E.15.

G. E. SMITH.

Town Clerk.

West Ham Town Hall, Stratford, E.15.

3125

## NEW TOWNS ACT, 1946.

BRACKNELL DEVELOPMENT CORPORATION invites applications for the post of ARCHITECT to the Corporation. The officer appointed will be under the direction of the General Manager and will be responsible for the work of the Architect's Department. Applicants must be Fellows or Associates of the Royal Institute of British Architects and should have had experience in large scale development. Possession of a diploma in Town Planning is desirable. The successful applicant will be responsible for the architectural work undertaken by the Corporation and for controlling any such work undertaken by other agencies in the development of the town.

Salary will be within a range of £1,500 to £2,000 per annum, subject, save in exceptional circumstances, to an initial maximum of £1,750 per annum. Applications, stating date of birth, particulars of education, qualifications, particulars of posts held, present salary, and the names of two persons who can speak from recent personal knowledge of the applicant and to whom the Corporation can refer if it so desires, should be sent in an envelope marked "Private" and bearing the title "Architect," to the Acting Secretary, Bracknell Development Corporation, 11, Grosvenor Square, London, W.1, before 28th January, 1950.

3103

## BARNET URBAN DISTRICT COUNCIL.

## SENIOR ARCHITECTURAL ASSISTANT.

Applications are invited for the appointment of a Senior Architectural Assistant, at a salary in accordance with Grade A.P.T. V. of the National Scheme (£520-£570 per annum), plus the appropriate London weighting.

Applicants should have sound experience of housing work, the preparation of working drawings, and the supervision of work under construction, and preference will be given to Associate Members of the 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 successful candidate will be required to pass a medical examination.

The Council may be in a position to assist the successful candidate in obtaining housing accommodation within the district for the design and erection of all the Council's housing. Applications, stating age, qualifications, and particulars of present and previous appointments, together with copies of three recent testimonials, should reach the Engineer and Surveyor, Ravenscroft House, Wood Street, Barnet, Herts, on or before the 28th January, 1950.

ALFRED S. MAY.

Clerk of the Council.

Clerk's Department, Municipal Offices,

Wood Street, Barnet.

3099

## LONDON COUNTY COUNCIL.

Architect to the Council: ROBERT H. MATTHEW.

A.R.I.B.A.

Deputy Architect: J. L. MARTIN, M.A., D.Phil.

A.R.I.B.A.

## ARCHITECTS FOR HOUSING DIVISION.

The following are required for a newly-created Housing Division of the Architect's Department, which will ultimately be responsible for the design and erection of all the Council's housing—

ARCHITECT, PRINCIPAL ASSISTANT (Professional) (£950-£1,100).

ARCHITECT, Grade I (£840-£950).

ARCHITECTS, Grade II (£700-£840).

ARCHITECTS, Grade III (£550-£700).

TECHNICAL ASSISTANTS. Salaries up to £580.

QUANTITY SURVEYOR, Grade I (£840-£950).

This staff is required as soon as possible for preparatory work and for the immediate taking over of new schemes. The Site Organiser's function will be to collate information in regard to sites, act as co-ordinating clerk of works, and assist on the sites in maintaining smooth and rapid production. Some experience of programme work would be a desirable qualification. Those appointed will be required to contribute to the Council's Superannuation and Provident Fund.

Form of application obtainable from the Architect to the Council, the County Hall, Westminster Bridge, London, S.E.1. Stamped addressed foolscap envelope necessary. Applications, marked AR/P.H., must be returned to the Architect. Canvassing disqualifies. (1465) 3145

## BOROUGH OF STRATFORD-UPON-AVON.

## APPOINTMENT OF ARCHITECTURAL ASSISTANT.

Applications are invited for the above appointment, at a salary commencing in accordance with A.P.T. Grade III (£450-£495).

Applicants should have a good general knowledge of building construction and design, and preferably have passed the Intermediate Examination of the R.I.B.A.

The Council will, if necessary, be prepared to provide housing accommodation.

Conditions of the appointment and forms of application may be obtained from the undersigned, to whom completed applications must be returned not later than Monday, 23rd January, 1950.

P. C. SMART, A.M.I.C.E.

Borough Engineer.

Municipal Offices, Stratford-upon-Avon.

3053

## MIDLANDS ELECTRICITY BOARD.

## BIRMINGHAM AND DISTRICT SUB-AREA.

Applications are invited for the position of BUILDING SUPERINTENDENT in the Sub-Area Engineer's Department.

Applicants should be experienced in modern building practice, have served a full apprenticeship with the Building Trade, and be conversant with labour conditions and prices of materials. A knowledge of reinforced concrete work and practical experience as Clerk of Works on building contracts will be considered an advantage.

The successful applicant will be required to take charge, under the Constructional Assistant, of the Building Department, and to supervise all maintenance work and building work undertaken by direct labour, principally associated with offices, showrooms, depots, sub-stations and street transformer kiosks.

The salary will be in accordance with the N.E.B. Schedule, Class O, at a Grade between 9a and 8b, at present £577-£663 per annum, dependent upon qualifications and experience.

The successful applicant will be required to contribute to the Board's Superannuation Scheme.

Applications, giving full details of experience, age, present position and salary, should be forwarded in a sealed envelope endorsed "Building Superintendent," within 14 days, to Mr. Braathen, Manager, Midlands Electricity Board, Birmingham and District Sub-Area, 14, Dale End, Birmingham, 4.

A. STEPHENS.

Secretary.



## MINISTRY OF EDUCATION.

Applications are invited from men and women between 23 and 40 years of age for admission to courses of training as full-time TEACHERS of Building and Allied Subjects in Technical Colleges and similar institutions.

Applicants should have a University degree in Building or Allied Subjects, or qualifications in a profession associated with Building, or a higher National Certificate in Building, or for Craft teaching, a Full Technological Certificate of the City and Guilds of London Institute in a Building Craft. In certain crafts a Final City and Guilds Certificate may be accepted.

Training will be given in the principles and practice of teaching and in the methods of teaching special subjects. The courses will be of 3 years' duration. There will be no fees, and students will be eligible for maintenance grants for the period of the course.

Application should be made on Form 203 R.E., which may be obtained from the Secretary (Teachers R.E.), Ministry of Education, 23, Belgrave Square, London, S.W.1.

Requests for Form 203 R.E. should be clearly marked "Technical". 3107

## CARDIGANSHIRE COUNTY COUNCIL.

Applications are invited for the following appointments in the County Architect's Department, Aberystwyth:—

(a) QUANTITY SURVEYOR. A.P.T., Grade VIII.

(b) ARCHITECTURAL ASSISTANT. A.P.T., Grade VI.

(c) ARCHITECTURAL ASSISTANT. A.P.T., Grade V.

Applicants for (a) should have experience in taking off, abstracting, billing, measuring up, and settling final accounts for school buildings, and should be an Associate R.I.C.S. (Quantity).

Applicants for (b) should have experience in the preparation of general and specialist specifications and in the preparation of Bills of Quantities, measuring up work, estimating and valuing, and the preparation of small water and sewage schemes. Preference will be given to applicants with qualification of the R.I.C.S.

Applicants for (c) should have experience in the design and construction of post-war schools, and preference will be given to applicants with R.I.B.A. qualifications.

The Council is unable to provide housing accommodation.

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

Applications, stating age, qualifications, experience, present appointment and salary, together with two recent testimonials and suitably endorsed, are to be delivered to the undersigned, not later than 24th January, 1950.

ERIC CARSON,

Clerk to the Cardiganshire County Council.

Cambrian Chambers, Aberystwyth. 3112

## PLINTSHIRE COUNTY COUNCIL.

Applications are invited for the appointment of ASSISTANT ARCHITECT in the County Architect's Department, at a salary in accordance with Grade A.P.T., V (£520 per annum, rising to £570 per annum).

Applicants must be Registered Architects, and preferably Associates of the Royal Institute of British Architects; have a good experience in a County Architect's office, and also have a sound knowledge of the design and construction of Schools.

The appointment will be subject to (a) the National Scheme of Conditions of Service, as modified by the County Council, (b) the provision of the Local Government Superannuation Act, 1937, (c) one month's notice of termination on either side, and (d) a satisfactory medical examination.

Applications will be considered from registered disabled persons.

Forms of application obtainable from the undersigned.

Closing date 23rd January, 1950.

W. HUGH JONES,

Clerk of the County Council.

County Buildings, Mold. 3111

## IRLAM URBAN DISTRICT COUNCIL.

ARCHITECTURAL ASSISTANT.

Applications are invited for the appointment of Architectural Assistant, in the Engineer and Surveyor's Department. Salary Grade IV-V.

(£400 to £570). The commencing salary will be within the range of Grade IV, according to qualifications and experience. The appointment will be subject to:—

(a) One month's notice in writing.

(b) Local Government Superannuation Act, 1937.

(c) Passing a medical examination.

Preference will be given to candidates holding recognised qualifications.

Housing accommodation will be provided if necessary.

Applications, stating age, qualifications and experience, and accompanied by copy of one recent testimonial, and the names of two referees, should be received by the undersigned not later than 10 a.m. on Monday, 23rd January, 1950.

EDWIN JONES,

Clerk of the Council.

Council Offices, Irlam, near Manchester. 3126

COUNTY BOROUGH OF DONCASTER.  
BOROUGH SURVEYOR AND WATER  
ENGINEER'S DEPARTMENT.  
APPOINTMENT OF TOWN PLANNING  
ASSISTANTS.

Applications are invited for the following appointments:—

(a) CHIEF TOWN PLANNING ASSISTANT, in accordance with Grade A.P.T., VII (£635-£710).

(b) SENIOR TOWN PLANNING ASSISTANT, in accordance with Grade A.P.T., V (£520-£570), of the National Scale of Salaries.

Applicants for appointment (a) should be Corporate Members of the Town Planning Institute, or possess equivalent qualifications, and should be fully conversant with the Town and Country Planning Acts, Orders and Regulations.

Applicants for appointment (b) should have had previous experience in Town Planning, and preference will be given to applicants who are Corporate Members of the Town Planning Institute, or possess other suitable qualifications.

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

Applications, stating age, qualifications and experience, accompanied by copies of three recent testimonials, and endorsed "Town Planning Assistants," should be delivered to the Borough Surveyor, 2, Priory Place, Doncaster, not later than 19th January, 1950.

H. S. ESSENHUGH,

Town Clerk.

1, Priory Place, Doncaster. 3115

21st December, 1949.

COUNTY OF LINCOLN—PARTS OF  
LINDSEY.

COUNTY ARCHITECT'S DEPARTMENT.

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

(a) ONE SENIOR ARCHITECT, Grade VI, £595 to £660 per annum.

(b) TWO ASSISTANT ARCHITECTS, Grade IV, £480 to £525 per annum.

A subsistence allowance will be paid to married men finding it necessary to obtain lodgings in Lincoln whilst maintaining their homes outside Lincoln, of 25s. per week for six months, plus third-class railway fare to their home each two months.

Applicants need not have had previous Local Government experience, but preference will be given for appointment (a) to Associates of the R.I.B.A.

Applications, stating age, experience, qualifications, and accompanied by two recent testimonials, should be sent to the undersigned not later than the 23rd January, 1950.

A. RONALD CLARK, A.R.I.B.A.,

A.M.T.P.I.,

County Architect.

County Offices, Lincoln. 3090

BOROUGH OF CAMBERWELL.  
BOROUGH ENGINEER AND SURVEYOR'S  
DEPARTMENT.

Applications are invited from suitably qualified persons for the undermentioned established posts:—

ARCHITECTURAL STAFF:

(1) SENIOR ASSISTANT ARCHITECT. A.P.T., VII/VIII (£665 to £790, including London weighting).

Applicants must have had sound experience in general architectural work, and have passed the Final Examination of the Royal Institute of British Architects.

Preference will be given to candidates having Municipal experience, and the duties will include the preparation of sketch designs, working drawings and specifications, and supervision of work under construction.

(2) TWO ASSISTANT ARCHITECTS. A.P.T., V/VI (£550 to £690, including London weighting).

Applicants should have sound general experience in architectural work and be registered Architects, but preference will be given to Associates of the Royal Institute of British Architects.

(3) ASSISTANT ARCHITECT. A.P.T., III/IV (£480 to £555, including London weighting).

Applicants should have passed the R.I.B.A. Intermediate Examination or its equivalent, and have had at least two years' experience in an architectural office.

(4) JUNIOR ASSISTANT ARCHITECT. A.P.T., I/II (£420 to £495, including London weighting).

Applicants should have passed the R.I.B.A. Intermediate examination or its equivalent, and be neat and expeditious draughtsmen.

All the above appointments are subject to:—

(i) National Scheme of Conditions of Service.

(ii) The provisions of the Camberwell and other Metropolitan Borough Councils' (Superannuation) Act, 1908, as amended.

(iii) The passing of a medical examination.

(iv) Termination by one month's notice on either side.

The Council is unable to offer any assistance in obtaining housing accommodation for the successful candidates.

Forms of application may be obtained from Mr. John Clapp, B.Sc., A.M.Inst.C.E., Borough Engineer and Surveyor, Town Hall, Camberwell, and must be returned to the undersigned not later than Monday, the 30th January, 1950.

DARRELL MUSKER,

Town Clerk.

Town Hall, Camberwell, S.E.5. 3122

BOROUGH OF CHELTENHAM.  
APPOINTMENT OF ARCHITECTURAL AND  
QUANTITY SURVEYING ASSISTANTS.

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

(a) SENIOR ARCHITECTURAL ASSISTANT. A.P.T., Grade VII (£635-£710 p.a.).

(b) ARCHITECTURAL ASSISTANT. A.P.T., Grade V (£520-£570 p.a.).

(c) JUNIOR ARCHITECTURAL ASSISTANTS (TWO). A.P.T., Grade I (£390-£435 p.a.).

(d) ASSISTANT QUANTITY SURVEYOR. A.P.T., Grade V (£520-£570 p.a.).

(e) WORKER-UP (Quantity Section). Temporary Scale, Grade A, Class III (£330 ls.-£353 ls. p.a.).

Candidates should fulfil the following conditions:—

Posts (a) and (b) should be Registered Architects and have had good professional training, experience of housing schemes, the layout of estates and general architectural design. Preference will be given to Associates of the R.I.B.A.

Post (c) must have been architecturally trained, be preparing for the R.I.B.A. Examinations, and have had good general experience.

Post (d) must be experienced in preparing Bills of Quantities for Housing and other building works, measuring works in progress for interim and final accounts, and preference will be given to Associates of the R.I.C.S.

Post (e) should have a knowledge of Building Construction, squaring dimensions, checking variations in costs of labour and materials, and similar duties in connection with large Housing Contracts.

All appointments will be subject to the provisions of the National Scheme of Conditions of Service; to successful applicants passing medical examinations, and contributing to the Council's Superannuation Fund; and to one month's notice in writing on either side.

Applications, stating age, training, qualifications, experience and previous appointments, and accompanied by two recent testimonials, should reach the Borough Engineer, Municipal Offices, Cheltenham, not later than Monday, 23rd January, 1950.

The Council will be prepared, in appropriate cases, to consider giving assistance in the provision of housing accommodation.

F. D. LITTLEWOOD,

Town Clerk.

Municipal Offices, Cheltenham. 3127

30th December, 1949.

## CORPORATION OF DUBLIN.

VACANCIES FOR

THREE TEMPORARY GRADE I ARCHITECTS.

It is proposed to make appointments to the above-mentioned temporary posts. Applications on the prescribed form are invited from qualified persons desirous of being appointed.

Salary scale £750×£25-£900 per annum, plus temporary allowance (at present 7½ per cent. of salary).

Application forms and particulars as to qualifications, etc., may be obtained from the Establishment Department, City Hall, Dublin, where applications should be lodged not later than 12 noon on the 24th January, 1950.

P. J. HERNON,

City Manager and Town Clerk.

City Hall, Dublin. 3rd January, 1950. 3104

## COUNTY BOROUGH OF MERTHYR TYDFIL.

APPOINTMENT OF ENGINEER.

Applications are invited for the following appointment in the Borough Engineer's Department:—

SENIOR ENGINEERING ASSISTANT. Salary A.P.T., Grade VI.

Candidates must be Associate Members of the I.Mun.E. or have equivalent qualifications, and have had good Municipal Engineering experience. Preference will be given to candidates who have had Private Street Works experience.

APPOINTMENT OF PLANNING ASSISTANTS:

Applications are invited for the following vacancies in the Town Planning Section of the Borough Engineer's Department:—

(a) TWO SENIOR PLANNING ASSISTANTS. Salary A.P.T., Grade VI.

(b) ONE JUNIOR PLANNING ASSISTANT. Salary A.P.T., Grade II.

Candidates for (a) should be Associate Members of the T.P.I. and have had good experience in a Town Planning Office.

Candidates for (b) should have passed the Intermediate Examination of the T.P.I. and have had some experience in a Town Planning Office.

The appointments will be subject to:—

(1) Scheme of Conditions of Service of the National Joint Council.

(2) Provision of the Local Government Superannuation Act.

(3) The passing of a satisfactory medical examination.

(4) One month's written notice on either side.

Applications, stating age, qualifications and experience, together with copies of three recent testimonials, should be delivered to the undersigned not later than Thursday, the 19th January, 1950.

Canvassing in any form will be deemed a disqualification, and applicants must disclose in writing whether they are related to any member or senior officer of the Council.

EDWARD ROBERTS,

Town Clerk.

Town Hall, Merthyr Tydfil. 3092

2nd January, 1950.

**WARWICKSHIRE COUNTY COUNCIL.  
COUNTY PLANNING DEPARTMENT.**

Applications are invited for the following appointments:  
**THREE PLANNING ASSISTANTS. A.P.T., Grade IV (£480-£525 per annum).**

Applicants appointed will be engaged on the County Development Plan and will be stationed at Warwick.  
Applicants should have had experience in a planning office, and should have passed the Intermediate Examination of the Town Planning Institute. Applications will, however, be considered from graduates in Architecture or Engineering who wish to specialise in this work. The posts will offer good scope and experience to such persons.

The appointments are superannuated, and successful applicants will be required to pass a medical examination.

Applications, giving the names of two persons to whom reference may be made, should be forwarded to J. J. Brooks, M.T.P.I., M.I.Mun.E., County Planning Officer, Northgate, Warwick, not later than Wednesday, 25th January, 1950.

Canvassing, directly or indirectly, will be a disqualification.

**L. EDGAR STEPHENS,**  
Clerk of the Council.

Shire Hall, Warwick.  
4th January, 1950. 3139

**SOUTH-EASTERN REGIONAL HOSPITAL BOARD (SCOTLAND).**

**CHIEF ARCHITECT'S DEPARTMENT.**  
Applications are invited for the following permanent appointment in the Chief Architect's Department headquarters in Edinburgh:—

**PRINCIPAL QUANTITY SURVEYOR.** Salary scale Grade VIII, £685-£725-£760 per annum.

The selected applicant will be required to take charge of the Quantity Surveyor's Section of this Department, and applicants should be Members of the R.I.C.S. and experienced in the administration and organization of a Quantity Surveyor's office in all its various branches.

The post is subject to the National Health Service (Scotland) (Superannuation) Regulations, 1948, and the successful candidate will be required to pass a medical examination.

Applications, giving details of age, training, qualifications, experience, present and previous appointments, accompanied by copies of two testimonials, should be addressed to R. Forbes Hutchison, Chief Architect, 6 Cambridge Street, Edinburgh, 1, on or before 23rd January, 1950. 3142

**COUNTY BOROUGH OF CARLISLE.  
CITY ENGINEER'S DEPARTMENT.  
APPOINTMENT OF SENIOR ASSISTANT ARCHITECT.**

Applications are invited for the above appointment on the permanent staff at a salary of £595-£660 (A.P.T., Grade VI).

Applicants must be Members of the Royal Institute of British Architects.

Housing accommodation will be provided for the successful applicant if required.

Forms of application and conditions of employment may be obtained from the City Engineer, 12, Fisher Street, Carlisle, to whom applications should be returned not later than Monday, 30th January, 1950.

**H. D. A. ROBERTSON,**  
Town Clerk.

Town Clerk's Office,  
15, Fisher Street, Carlisle. 3140

**Amended Advertisement.**

**WELSHPOOL BOROUGH COUNCIL.  
TECHNICAL ASSISTANT.**

Applications are invited for the above-mentioned position in the Borough Surveyor's Department (Temporary), for a maximum period of 2 years, in Grade II of the A.P. and T. Division of the National Conditions of Service, commencing at a salary of £420.

Applicants must state their age, present employment, previous experience and date they could commence duty, and applications must be accompanied by three recent testimonials and endorsed "Technical Assistant," and must reach the undersigned by first post on Monday, 23rd January, 1950.

**J. BEN DAVIES,**  
Town Clerk.

Borough Council Offices, Welshpool, Mont.  
6th January, 1950. 3148

**CITY AND COUNTY OF BRISTOL.  
CITY ARCHITECT'S DEPARTMENT.**

Applications are invited for the following permanent staff appointments:—

**ASSISTANT ARCHITECTS:**

(a) Grade III (£460-£495) (Housing and Education Sections).

(b) Grade II (£420-£465) (Education Section).

**JUNIOR ASSISTANT ARCHITECT:**

(c) Grade I (£390-£435) (Housing Section).

Appointments are subject to provision of Local Government Superannuation Acts, 1937 and 1939, and successful applicants required to pass medical examination. All appointments terminable by one month's notice in writing on either side.

Housing accommodation provided, if necessary, at an economic rent.

Applications, indicating specific appointment applied for, stating age, training, qualifications, experience, present appointment and salary, and the names of two referees, must be delivered to the undersigned not later than Monday, 23rd January, 1950.

**J. NELSON MEREDITH, F.R.I.B.A.,**  
City Architect.

Eagle House, Colston Avenue, Bristol, 1. 3147

**CITY OF STOKE-ON-TRENT.  
CITY ARCHITECT'S DEPARTMENT.**

Applications are invited from suitably qualified persons for the following appointments to the permanent staff:—

(a) **SENIOR ASSISTANT ARCHITECTS.** Salary A.P.T. Div., Grade VI, £595-£660.

(b) **ASSISTANT ARCHITECTS.** Salary A.P.T. Div., Grade V, £520-£570.

(c) **ARCHITECTURAL ASSISTANTS.** Salary A.P.T. Div., Grade I, £390-£435.

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

\*Previous experience of Local Government work is not essential.

Suitable housing accommodation can be made available to the successful candidates for the appointments of Senior Assistant Architects.

Applications, giving date of birth, particulars of training, experience, etc., with copies of two recent testimonials, should be received by J. B. Piggott, F.R.I.B.A., City Architect, Kingsway, Stoke-on-Trent, endorsed with the title of the appointment applied for, not later than Tuesday, 31st January, 1950.

**HARRY TAYLOR,**  
Town Clerk.

Town Hall, Stoke-on-Trent.  
3rd January, 1950. 3110

**WILLENHALL URBAN DISTRICT COUNCIL.  
HOUSING ARCHITECT'S DEPARTMENT.  
APPOINTMENT OF ARCHITECTURAL ASSISTANT.**

Applications are invited for appointments to the Architectural staff of a recently established Architect's Department. Appointments will be made in A.P.T. Salary Grades I-V, and will be subject to one month's notice on either side and to the terms of the National Scheme of Conditions of Service and the provisions of the Local Government Superannuation Act, 1937.

Applications, stating age, qualifications, full details of training and experience, and giving two referees, should be sent to R. T. Chappelle, A.R.I.B.A., Housing Architect, Town Hall, Willenhall, not later than Monday, 30th January, 1950.

Canvassing will disqualify.

**JOHN R. RIDING,**  
Clerk of the Council.

Town Hall, Willenhall. 3100

**HERTFORDSHIRE COUNTY COUNCIL.  
COUNTY ARCHITECT'S DEPARTMENT.**

Applications are invited for the following appointments:—

(a) **CHIEF ASSISTANT ARCHITECT.** Grade IX, £750-£900.

(b) **SENIOR ASSISTANT ARCHITECTS.** Grade VII, £635-£710.

(c) **ASSISTANT ARCHITECTS.** Grade V, £520-£570.

(d) **ASSISTANT ARCHITECTS.** Grade II, £420-£465.

(e) **CHIEF ASSISTANT QUANTITY SURVEYORS.** Grade VII, £635-£710.

(f) **SENIOR QUANTITY SURVEYORS.** Grade VI, £595-£660.

(g) **ASSISTANT QUANTITY SURVEYORS.** Grade V, £520-£570.

Applicants need not have had previous Local Government experience.

Applications, stating which post is applied for, together with three references, should be addressed to the County Architect, County Hall, Hertford, Herts., to be received not later than first post on Friday, 27th January, 1950. 3130

**COUNTY BOROUGH OF BURNLEY.  
BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.**

Applications are invited for the appointment of:—

(a) **SENIOR ARCHITECTURAL ASSISTANT.** Grade VI (£595-£660 per annum).

(b) **ARCHITECTURAL ASSISTANT.** Grade II (£420-£465 per annum).

Applicants for appointment (a) must be Associates of the Royal Institute of British Architects and the holding of additional qualifications will be an advantage. Considerable experience in architectural design and construction of general Municipal work, including housing and educational buildings, is essential.

Applicants for appointment (b) should have passed the Intermediate Examination of the Royal Institute of British Architects, and some experience of educational buildings and/or housing would be an advantage.

Conditions of service are those formulated by the National Joint Council, and the appointments are on the established staff and subject to the provisions of the Local Government Superannuation Act, 1937, the successful applicants being required to pass a medical examination. The appointments are terminable by one month's notice on either side.

Canvassing, either directly or indirectly, will disqualify the candidates, and any relationship to a member or senior officer of the Council must be clearly stated in the applications.

Forms of application may be obtained from the Borough Engineer and Surveyor, Town Hall, Burnley, to whom applications should be returned in the envelope provided not later than 12 noon on Saturday, 4th February, 1950.

**C. V. THORNLEY,**  
Town Clerk.

Town Hall, Burnley.  
January, 1950. 3141

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

Required permanent full-time **STUDIO MASTER AND LECTURER IN ARCHITECTURE.** The post is one of special responsibility in the Department of Architecture and Building, primarily for assisting with full-time day and evening courses for the Intermediate and Final Examinations of the Royal Institute of British Architects. Previous teaching experience is not essential, but the candidate should be experienced in contemporary design. Ability to take classes in "Colour" will be an advantage.

Salary: Burnham Scale, £300-£215-£255, with the addition of a London allowance of £36 or £48, according to age, plus allowances up to £45 for recognised full-time training and £20 for graduation qualifications. In fixing the basic salary, up to twelve increments may be allowed for suitable professional and industrial experience. The allowance in respect of special responsibility may be up to £100 per annum.

Applications (no forms), giving full particulars of training, qualifications, and experience, should be submitted to the Clerk to the Governors, at the College, within two weeks of the appearance of this advertisement.

**D. N. BUNGEY,**  
Acting Chief Education Officer.  
County Offices, Chelmsford. 3094

**BOROUGH OF HORNSEY.  
APPOINTMENT OF TEMPORARY CLERK OF WORKS.**

**ENGINEER AND SURVEYOR'S DEPARTMENT.**

Applications are invited for the post of Temporary Clerk of Works, at the salary of £10 10s. per week, to supervise, under the direction of the Borough Engineer and Surveyor, the erection of Flats and Houses to be built in the Borough of Hornsey.

Applications, giving full details of age, experience, qualifications, and the names and addresses of three referees, must be delivered to J. H. Melville Richards, Esq., A.M.I.C.E., M.I.Mun.E., Borough Engineer and Surveyor, Hornsey Town Hall, not later than Monday, 16th January, 1950.

Canvassing, either directly or indirectly, will disqualify.

**H. BEDALE,**  
Town Clerk.

Town Hall, Crouch End Broadway, N.8. 310

**Tenders for Contracts**

**COUNTY OF LINCOLN—PARTS OF LINDSEY.**

**PROPOSED POLICE BUILDINGS AND MAGISTRATES' COURTS, SCUNTHORPE.**

Contract No. 1: Site Works, Roads, Sewers and Foundations of Buildings to Ground Level.

Contractors, desirous of Tendering for the above Contract No. 1, should submit their names to the Architects, Messrs. C. B. Pearson & R.I.B.A., 12 Dalton Square, Lancaster, not later than 16th January, 1950. (Note:—The Superstructure of the Buildings will be subject to a separate Contract to be tendered for at a later date.)

Bills of Quantities and Specification will be sent to intending Tenderers. Plans may be seen at my office during normal working hours or at the office of the architects. The acceptance of any Tender is subject to the approval of the Home Office, and the Council do not bind themselves to accept the lowest or any Tender.

**HERBERT COPLAND,**  
Clerk to the Council.

County Offices, Lincoln.  
28th December, 1949. 280

**Architectural Appointments Vacant**

4 lines or under, 5s.; each additional line, 1s. 6d.

**ARCHITECTURAL ASSISTANTS** required immediately for varied practice; experience in factory work an advantage; salaries from £400-£450, graded according to experience and ability. Box 2904.

**NORTH THAMES GAS BOARD.—ARCHITECTURAL ASSISTANTS** required, preferably experienced in the design, alteration and maintenance of Industrial buildings, and capable of preparing surveys, working drawings, details and specifications; salary range £400-£650 per annum, according to age and qualifications; the appointment is of a permanent nature, and pension arrangements will be discussed with short list candidates. Applications, stating age and full particulars of training and experience, should be sent to the Staff Controller, North Thames Gas Board, 30, Kensington Church Street, London, W.8, quoting reference 9646.

**YOUNG ARCHITECT/SURVEYOR** required for country town office, chiefly for measured surveys; car driver; single—Reply, with details of experience and salary required, to Box 2904.

**EXPERIENCED ARCHITECTURAL ASSISTANT** required for Country Town office; car driver; salary £450, plus rent free flat (married); £500 (if single). Reply with full details to Box 2974.

**ASSISTANT ARCHITECTS** required by Mr. John Burnett, Tait & Partners; salary by arrangement. 10, Bedford Square, London, W.C.1.



**ARCHITECTURAL ASSISTANT** required; a good draughtsman, and able to take charge of jobs and supervise work inside and outside office; ability in design an advantage. Welch & Lander, F.F.R.I.B.A., 38, Gloucester Place, Portman Square, W.1. **WEL**beck 6551/2. 2985

**SENIOR and JUNIOR ARCHITECTURAL ASSISTANTS**, with Industrial and Housing experience, required in North-West London office; juniors up to Intermediate standard, salary £250-£400; Seniors over Intermediate standard, salary £400-£700, according to qualifications and experience. Apply Sydney Greenwood, A.R.I.B.A., 3, Bunns Lane, Mill Hill, N.W.7. 3065

**ARCHITECT'S EXPERIENCED ASSISTANT**, for busy Country Practice in small town near coast, North Midlands; salary £500 upwards (with bonus), according to qualifications and ability; must be experienced, properly trained, able to carry out all duties; car driver preferred; housing experience and quantity surveying an advantage. Box 3068.

**ESTABLISHED Midland Architect (A.R.I.B.A.)** requires part-time help, F/A.R.I.B.A., on competition work; must be very good draughtsman and designer, preferably competition winner; good remuneration and prospects for the right person. Reply immediately, in confidence, giving details and enclosing two projects (returnable), Box 3071.

**ARCHITECT'S ASSISTANT**, Inter. standard, required shortly in busy and varied practice in Isle of Wight; interesting work and good prospects. Write, stating age, experience, and qualifications, to Box 2999.

**JUNIOR ASSISTANTS** required in Company Architect's Office in London; must be accurate draughtsmen, with a good knowledge of construction. Applicants should state age, training, experience, and salary required, to Box 3006.

**WANTED**, in January, **ARCHITECT'S ASSISTANT**; interesting work and considerable responsibility; accommodation available; salary according to qualifications and experience. Gutch, Saunders & Surridge, High Street, Kettering. Telephone Kettering 3165/6. 3008

**ARCHITECTURAL ASSISTANTS** required immediately; previous experience in industrial work and housing essential. Apply in writing, stating age, experience, references, and salary. Stocks, Sykes & Hickson, 4, St. Peter's Street, Huddersfield. 3024

**LONDON Architects** have vacancies for **TWO ASSISTANT ARCHITECTS**; salary according to experience. Box 3042.

**ARCHITECT'S ASSISTANT** required for permanent position, London office; competent preparation of working drawings for large schemes; open to Lady Assistant; good salary and prospects, those desiring change. Apply W. Braxton Sinclair & Partners, 45, Whitehall, S.W.1. 3014

**ASSISTANTS** required in the Architect's Department of a Multiple Company in Midlands; experience in design, alteration and maintenance of retail shop premises, surveys, working drawings and specifications; permanent appointments, with good prospects. Applicants are requested to state age, experience, and salary required, to Box 3025.

**ARCHITECTURAL ASSISTANT** required in N.E. London; experienced in war damage and conversions of both domestic/commercial nature, to include flats, offices and industrial buildings; interest in contemporary design. Apply Box 3026.

**ASSISTANT ARCHITECT**. APPLICATIONS are invited for a fully qualified Assistant Architect, with experience in Urban and Rural District Council housing and industrial work. Salary offered £750/£800 per annum, subject to qualifications and experience. Candidates about to take the Final R.I.B.A. Examination will be considered.

Full details in writing to Husband & Company, Chartered Civil Engineers and Architects, 338, Glossop Road, Sheffield, 10. 3027

**ASSISTANT ARCHITECT** required by a well-known firm of Contractors in a rapidly expanding world-wide business; great scope for originality; permanency and good prospects for the right man; commencing salary £200; applicants must be Associate Members of the Royal Institute of British Architects. Write, stating age, experience, etc., to Box 3031.

**ARCHITECTURAL ASSISTANTS, R.I.B.A.**, required in progressive modern office to deal with interesting industrial and commercial work, at home and overseas; excellent opportunities for suitable applicants, with facilities for further studies, and widening of experience; salaries in accordance with R.I.B.A. scale. Applications to: Company Architect, Dunlop Rubber Co. Ltd., Birmingham, 24. 3032

**ARCHITECT'S SENIOR ASSISTANT** required; should have experience in domestic architecture, contemporary design, and knowledge of light industrial work; good salary paid to right man. Write, stating age and experience, to L. F. Halton, L.R.I.B.A., B. O'Sullivan, Ltd., Cray Avenue, St. Mary Cray, Kent. Phone Orpington 3757. 3048

**ARCHITECTURAL ASSISTANT** required; preferably experienced in design of industrial buildings and capable of preparing surveys, working drawings and details. Write, stating age, education, experience, salary required. Reference "EMA," Cadbury Brothers, Ltd., Bournville. 3021

**ARCHITECTURAL ASSISTANT**, with previous office experience and up to Intermediate standard, required for an office with varied general practice; able to work up schemes and details under supervision; salary by arrangement. Apply Herbert Ward & Partners, Architects and Surveyors, 4, Bute Street, South Kensington, S.W.7. Telephone: KENington 8826. 3086

**IMPERIAL CHEMICAL INDUSTRIES, LTD.**, Alkali Division, have vacancies on their Engineering Staff at Northwich, Cheshire, for **ARCHITECTURAL ASSISTANTS**, who are fully qualified and experienced; conditions of service, salary, etc., will be discussed at interview; housing can be made available in 3-4 months' time in pleasant rural district. Applications, stating age, details of experience, qualifications and salary expected, should be forwarded to Staff Manager, Imperial Chemical Industries, Ltd., Alkali Division, Winnington, Northwich, Cheshire. 3080

**ANYONE** interested in old Churches and able to draw them, with sound knowledge of building construction and some office experience, please write, stating age, training, references, and salary, to Lawrence Bond, 11, Elmer Street, Grantham. 3116

**JUNIOR ARCHITECTURAL ASSISTANT** required by Architect, with offices in Central London; work interesting and varied. Write, stating age, experience, and salary required, Box 3117.

**EXPERIENCED ARCHITECTURAL ASSISTANT** required by Brighton firm of Architects; salary according to ability; permanency for suitable man. Box 3118.

**CONTRACTS MANAGER** required by well-known Architectural Woodwork and Furniture Managers, to organise and build up Contract Department; experience estimating and control essential; excellent opportunity for man of administrative ability. Box 3121.

**ARCHITECT'S and Surveyor's ASSISTANTS** required by important Institution in London; applicants should be Associates of R.I.B.A., age 30-35, with good general experience, and capable of making building surveys; salary up to £600, according to age and experience. Write only to Box 6721, c/o Streets, 110, Old Broad Street, E.C.2. 3132

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**GESCO CORK FLOOR TILES**

Attractively Grained, Neutral in Colouring, Durable, Warm, Non-Slip, Ideal Wall Covering.

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LFORD 0122/4

SCRAFTON ROAD WORKS  
ILFORD

**THE CIVIL SERVICE COMMISSIONERS** give notice of an Open Competition under Normal Regulations for appointment to professional posts in Government Departments, to be filled by Competitive Interview in London and Edinburgh during 1950.

The estimated number of vacancies to be filled is:—

- 40 ARCHITECTS.
- 20 MAINTENANCE SURVEYORS.
- 75 QUANTITY SURVEYORS.
- 80 ESTATE SURVEYORS.
- 174 CIVIL ENGINEERS.
- 10 SANITARY ENGINEERS.
- 40 LANDS OFFICERS.

The vacancies, which are in the basic (Assistant) Grade, are likely to occur in a number of Departments, notably Admiralty, Air Ministry, Home Office, War Office, Department of Scientific and Industrial Research, the Ministries of Works, Transport, Education, Agriculture and Fisheries, Supply, the Department of Agriculture for Scotland, the Department of Health for Scotland, the Commissioners of Crown Lands, Prison Commission and War Damage Commission.

All candidates must be at least 25 and under 35 years of age on 1st January, 1950, with extension for regular service in H.M. Forces, and, up to two years, for voluntary service in H.M. Forces otherwise than on a regular engagement or for compulsory National Service under the National Service Act. All candidates must have the appropriate professional qualifications and experience.

The London salary scale for men aged 30 and over is £600 × £25—£750. Lower starting salary for younger entrants (from £475 at age 25).

(The next higher grades are:—Main Grade £750 × £25—£1,000, Senior Grade £1,050 × £35—£1,270.)

Salaries for women and for officers appointed to the provinces will be somewhat lower.

Forms of application and copies of the regulations, with full details of qualifications required, from the Secretary, Civil Service Commission, Scientific Branch, 7th Floor, Trinidad House, Old Burlington Street, London, W.1, quoting No. 2901. Completed application forms must be returned by 10th March, 1950. Application forms from candidates overseas will be accepted up to 7th April, 1950.

**ARCHITECT** requires **ASSISTANT**; passed Intermediate, with office experience; must be speedy draughtsman, with flair for good contemporary design; good prospects; salary up to £500, according to experience. Write Sidwell, A.R.I.B.A., 27, Union Street, Coventry. 3131

**MAN or Woman ARCHITECTURAL ASSISTANT** required; Intermediate or Final standard; good draughtsman, for work in connection with housing. Clifford Duke, A.R.I.B.A., 111, Haverstock Hill, Hampstead, N.W.3. Primrose 2512. 3135

**ASSISTANT ARCHITECTS** required for work of great variety; applicants should be qualified, preferably school trained, with office experience, and able to assume responsibility for all stages of work. Write, stating age, experience, and salary required, to T. P. Bennett & Son, 45, Bloomsbury Square, W.C.1. 3119

**ARCHITECTURAL ASSISTANT** required; capable of accepting responsibility; quick draughtsmanship and knowledge of detail essential; salary by arrangement. Apply Box 3089.

**SENIOR ARCHITECTURAL ASSISTANT** required immediately; must be capable of handling jobs to completion; experience in school buildings an advantage, but not essential; salary up to £700 p.a., according to ability and experience; Chartered Architect preferred. Apply to J. Kennedy Hawkes, A.R.I.B.A. (Escher 1142). 3091

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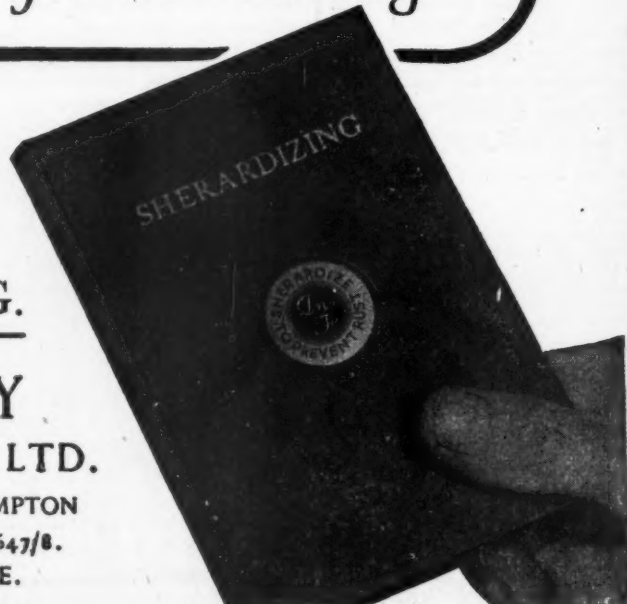
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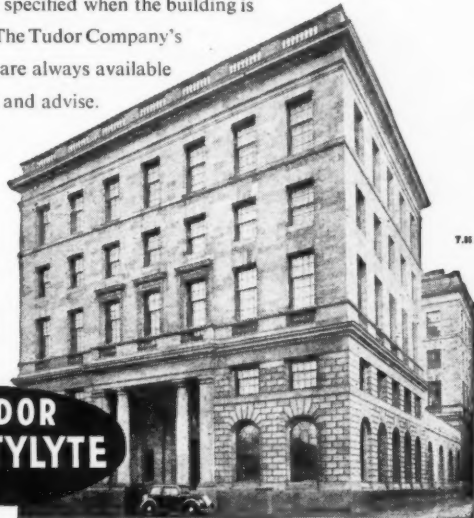
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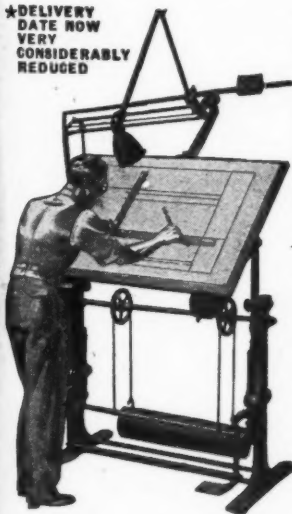
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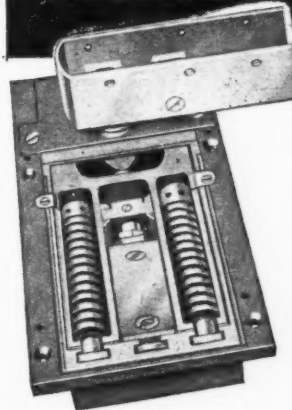
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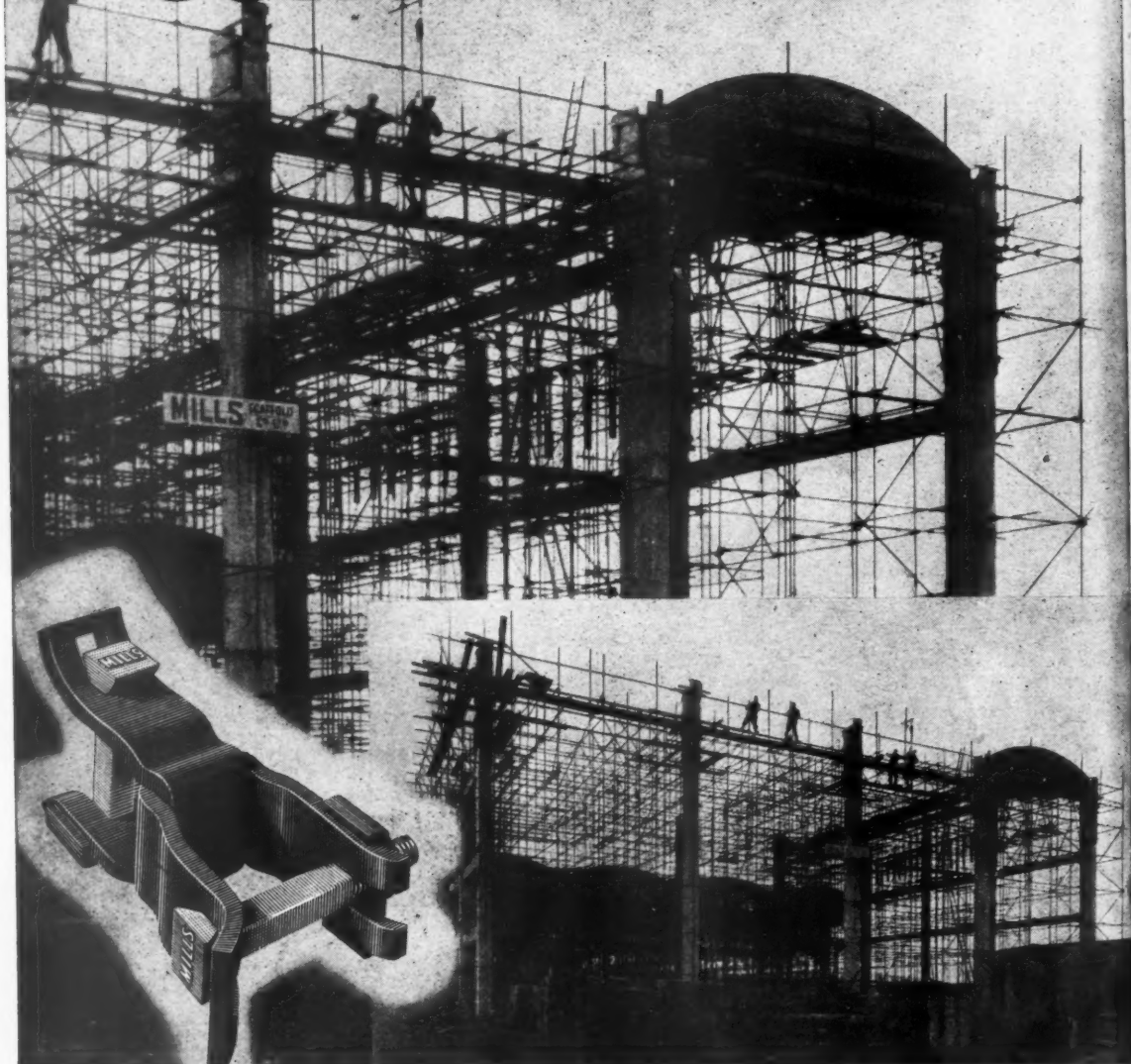
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