

THE
STACK

standard contents

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

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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.

AA	Architectural Association, 34/6, Bedford Square, W.C.1.	Museum 0974
AAI	Association of Art Institutions. Secy.: W. Marlborough Whitehead, Castle Hill Avenue, Berkhamstead, Herts.	"Dyneley,"
ABS	Architects' Benevolent Society, 66, Portland Place, W.1.	Langham 5721
ABT	Association of Building Technicians, 5, Ashley Place, S.W.1.	Victoria 0447-8
ACGB	Arts Council of Great Britain, 4, St. James' Square, S.W.1.	Whitehall 9737
ADA	Aluminium Development Association, 33, Grosvenor Street, W.1.	Mayfair 7501/8
APRR	Association for Planning and Regional Reconstruction, 34, Gordon Square, W.C.1.	Euston 2158-9
ArchSA	Architectural Students' Association, 34 36, Bedford Square, W.C.1.	
ARCUK	Architects' Registration Council, 68, Portland Place, W.1.	Welbeck 9738
ASB	Architectural Science Board of the Royal Institute of British Architects, 66, Portland Place, W.1.	Langham 5721
AScW	Association of Scientific Workers, 15, Half Moon Street, Piccadilly, W.1.	Grosvenor 4761
BAE	Board of Architectural Education, 66, Portland Place, W.1.	Langham 5721
BATC	Building Apprenticeship and Training Council, Lambeth Bridge House, S.E.1.	Reliance 7611, Ext. 1706
BC	Building Centre, 26, Store Street, W.C.1.	Mayfair 5400
BCC	British Colour Council, 13, Portman Square, W.1.	Welbeck 4185
BCCF	British Cast Concrete Federation, 17, Amherst Road, Ealing, W.13.	Perivale 6869
BCIRA	British Cast Iron Research Association, Alvechurch, Birmingham.	Redditch 716
BDA	British Door Association, 10, The Boltons, S.W.10.	Flaxman 7766
BEDA	British Electrical Development Association, 2, Savoy Hill, W.C.2.	Temple Bar 9434
BIA	British Ironfounders' Association, 145, Vincent Street, Glasgow, C.2.	Glasgow Central 2891
BIAE	British Institute of Adult Education, 29, Tavistock Square, W.C.1.	Euston 5385
BID	Building Industries Distributors, 52, High Holborn, W.C.1.	Chancery 7772
BINC	Building Industries National Council, 11, Weymouth Street, W.1.	Langham 2785
BOT	Board of Trade, Millbank, S.W.1.	Whitehall 5140
BRS	Building Research Station, Bucknalls Lane, Watford.	Garston 2246
BSA	Building Societies Association, 14, Park Street, W.1.	Mayfair 0515
BSI	British Standards Institution, 28, Victoria Street, S.W.1.	Abbey 3333
BTE	Building Trades Exhibition, 4, Vernon Place, W.C.1.	Holborn 8146/7
CABAS	City and Borough Architects Society, C/o Johnson Blackett, F.R.I.B.A., Borough Architect, Town Hall, Newport, Mon.	Newport 3111
CAS	County Architects Society, C/o F. R. Steele, F.R.I.B.A., County Hall, Chichester.	Chichester 3001
CCA	Cement and Concrete Association, 52, Grosvenor Gardens, S.W.1.	Sloane 5255
CCP	Council for Codes of Practice, Lambeth Bridge House, S.E.1.	Reliance 7611
CDA	Copper Development Association, Kendals Hall, Radlett, Herts.	Radlett 5616
CIAM	Congrès Internationaux d'Architecture Moderne, Dolderal, 7, Zurich, Switzerland.	
COID	Council of Industrial Design, Tilbury House, Petty France, S.W.1.	Whitehall 6322
CPRE	Council for the Preservation of Rural England, 4, Hobart Place, S.W. Sloane 4280	
CUJC	Coal Utilization Joint Council, 3, Upper Belgrave Street, London, S.W.1.	Sloane 9116
CVE	Council for Visual Education, 13, Suffolk Street, Haymarket, S.W.1.	Reading 72255
DGW	Directorate General of Works, Ministry of Works, Lambeth Bridge House, S.E.1.	Reliance 7611
DIA	Design and Industries Association, 13, Suffolk Street, S.W.1.	Whitehall 0540
DOT	Department of Overseas Trade, 35, Old Queen Street, S.W.1.	Victoria 9040
EJMA	English Joinery Manufacturers' Association (Incorporated), Sackville House, 40, Piccadilly, W.1.	Regent 4448
EPNS	English Place-Name Society, 7, Selwyn Gardens, Cambridge.	
FAS	Faculty of Architects and Surveyors, 8, Buckingham Palace Gdns., S.W.1.	Sloane 2837
FASSC	Federation of Association of Specialists and Sub-Contractors, 5, Arundel Street, Strand.	Temple Bar 6633
FBI	Federation of British Industries, 21, Tothill Street, S.W.1.	Whitehall 6711
FC	Forestry Commission, 25, Savile Row, W.1.	
FCMI	Federation of Coated Macadam Industries, 37, Chester Square, S.W.1.	Sloane 1002
FDMA	The Flush Door Manufacturers Association Ltd., Trowell, Nottingham.	Ilkeston 623
FLD	Friends of the Lake District, Pennington House, nr. Ulverston, Lancs.	Ulverston 201
FMB	Federation of Master Builders, 26, Great Ormond Street, Holborn, W.C.1.	Chancery 7583
FOB 1951	Festival of Britain 1951, 2, Savoy Court, Strand, W.C.2.	Waterloo 1951
FPC	The Federation of Painting Contractors, St. Stephen's House, S.W.1.	Whitehall 3902
FRHB	Federation of Registered House Builders, 82, New Cavendish Street, W.1.	Langham 4041
FS (Eng.)	Faculty of Surveyors of England, Buckingham Palace Gdns., S.W.1.	Sloane 2837
GC	Gas Council, 1, Grosvenor Place, S.W.1.	Sloane 4554
GG	Georgian Group, 27, Grosvenor Place, S.W.1.	Sloane 2844
HC	Housing Centre, 13, Suffolk Street, Pall Mall, S.W.1.	Whitehall 2881
IAAS	Incorporated Association of Architects and Surveyors, 75, Eaton Place, S.W.1.	Sloane 5615
ICA	Institute of Contemporary Arts, 17-18 Dover Street, Piccadilly, W.1.	Grosvenor 6186
ICE	Institution of Civil Engineers, Great George Street, S.W.1.	Whitehall 4577
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

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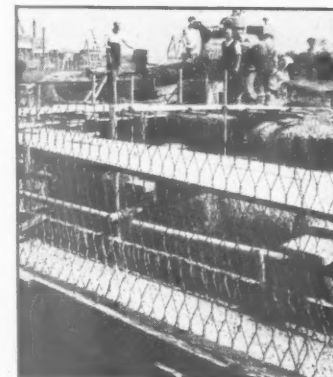
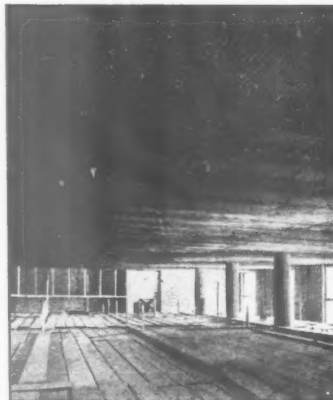
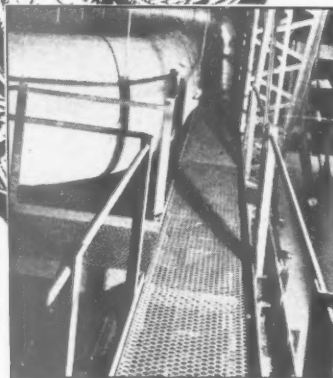
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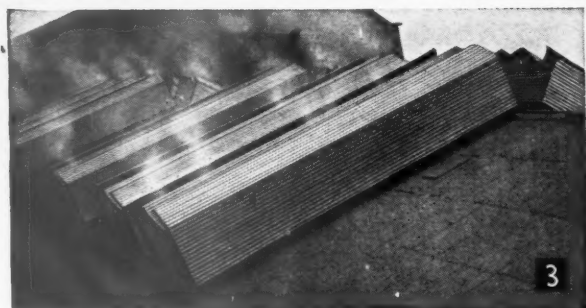
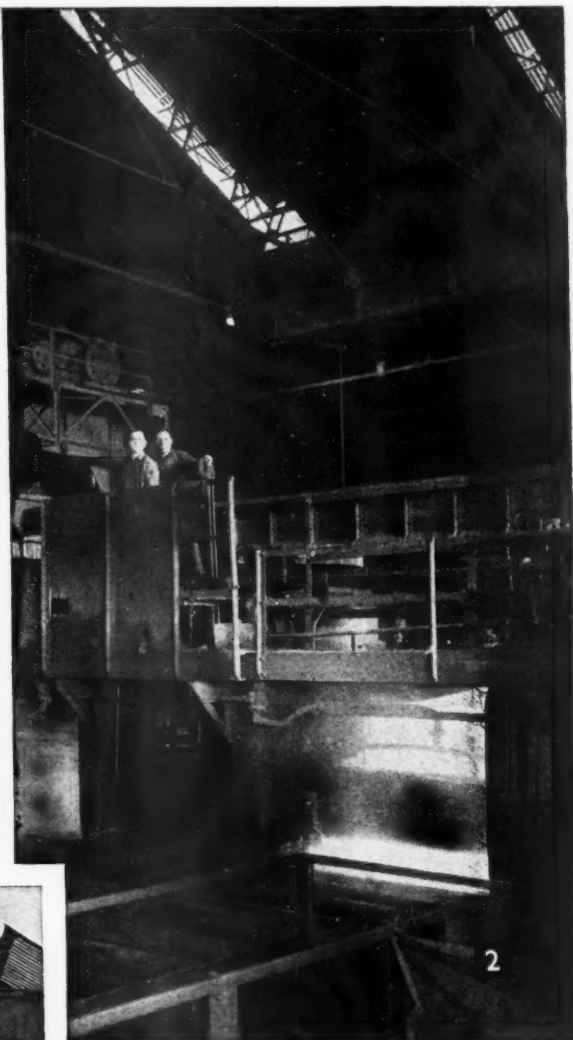
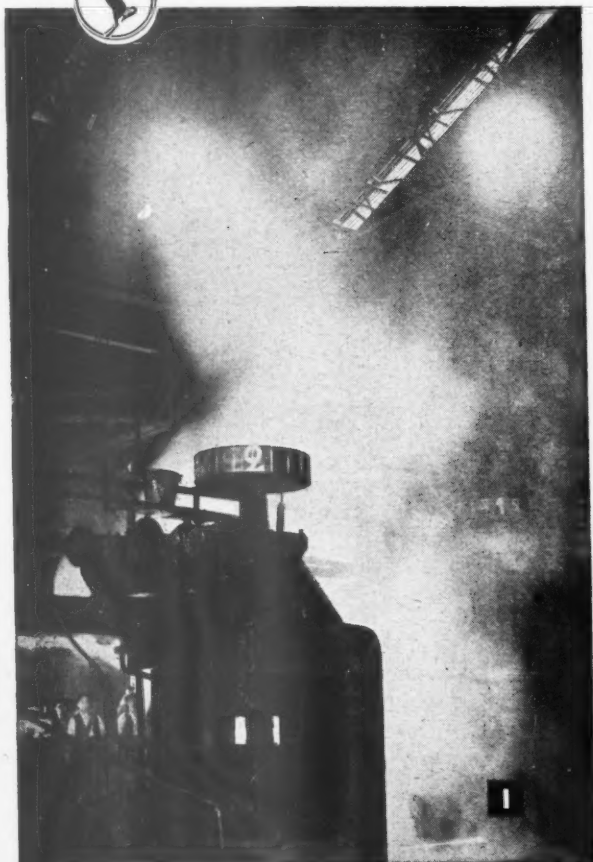
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● Photographs illustrate (Top) Expanded Metal walkways in the Royal Festival Hall. (Centre) "BB" Lathing ceiling at Bow Road Methodist Church, London. Architects: Messrs. Mauger & May, F|F.R.I.B.A. (Bottom) Reinforcement for concrete — Electricity Sub-station, Brentford, for the Southern Electricity Board.



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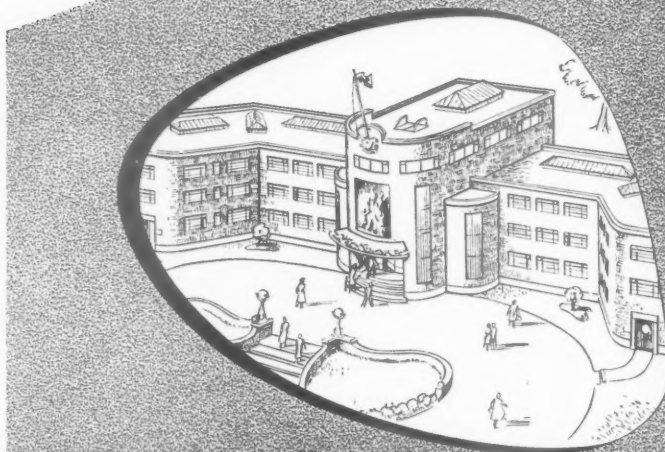
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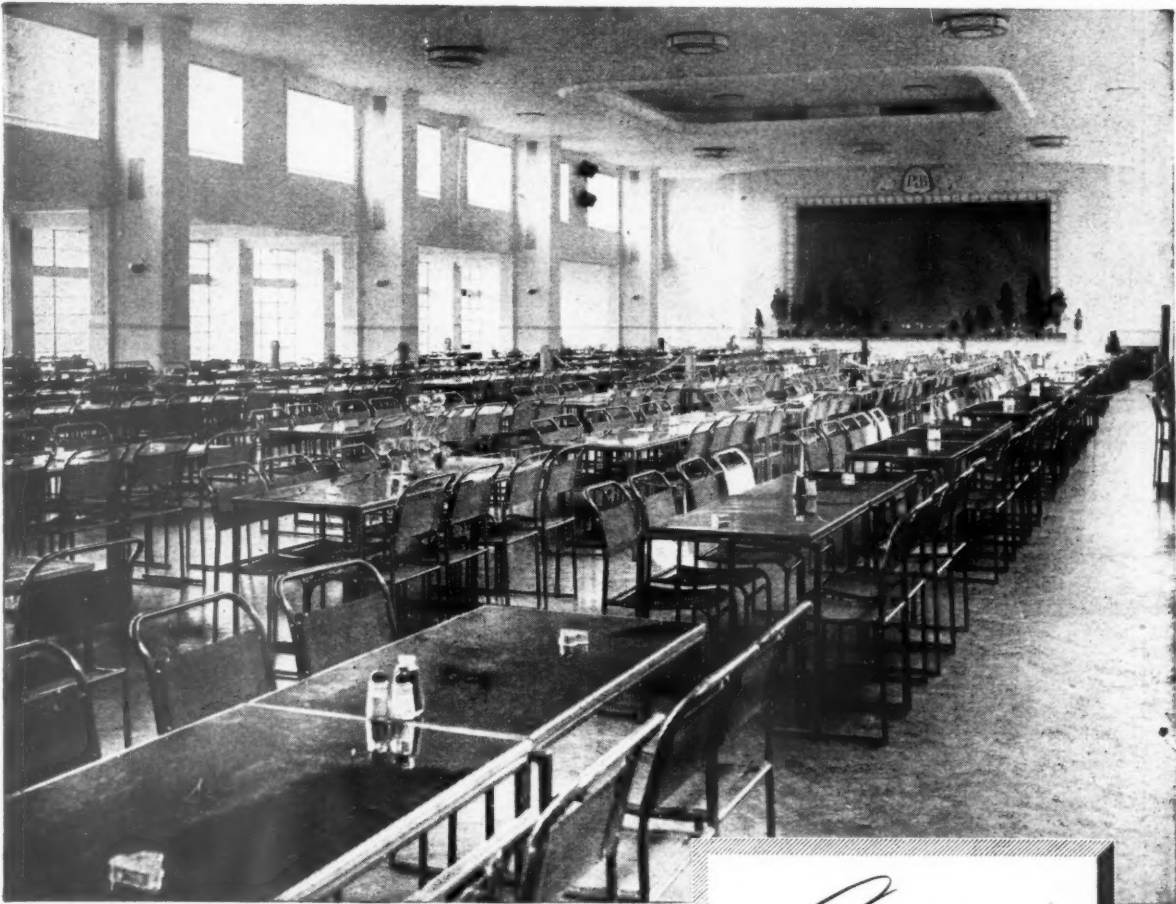
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from whom may be obtained technical literature and the name of the nearest supplier



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 Queen Anne's Lodge, London, S.W.1.



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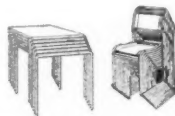
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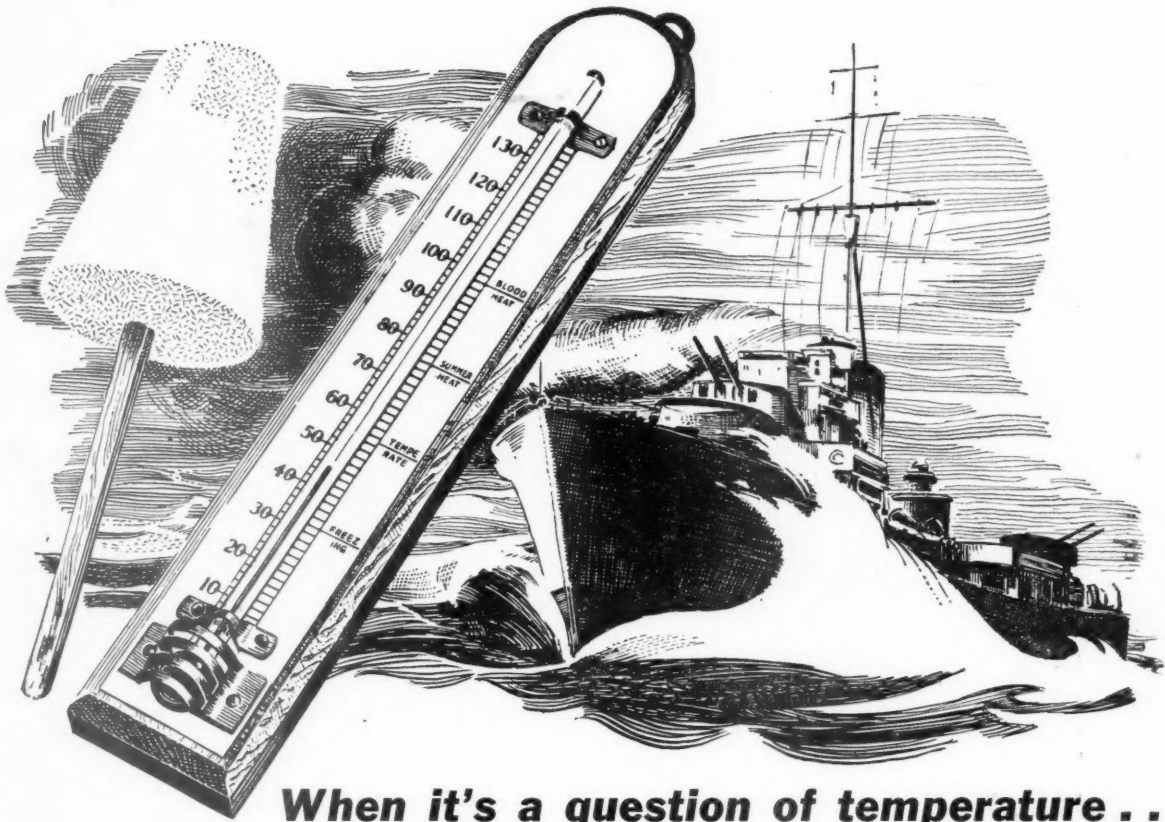
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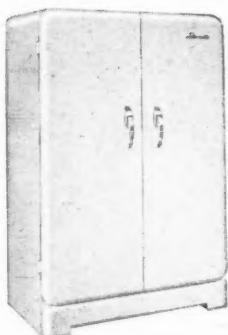




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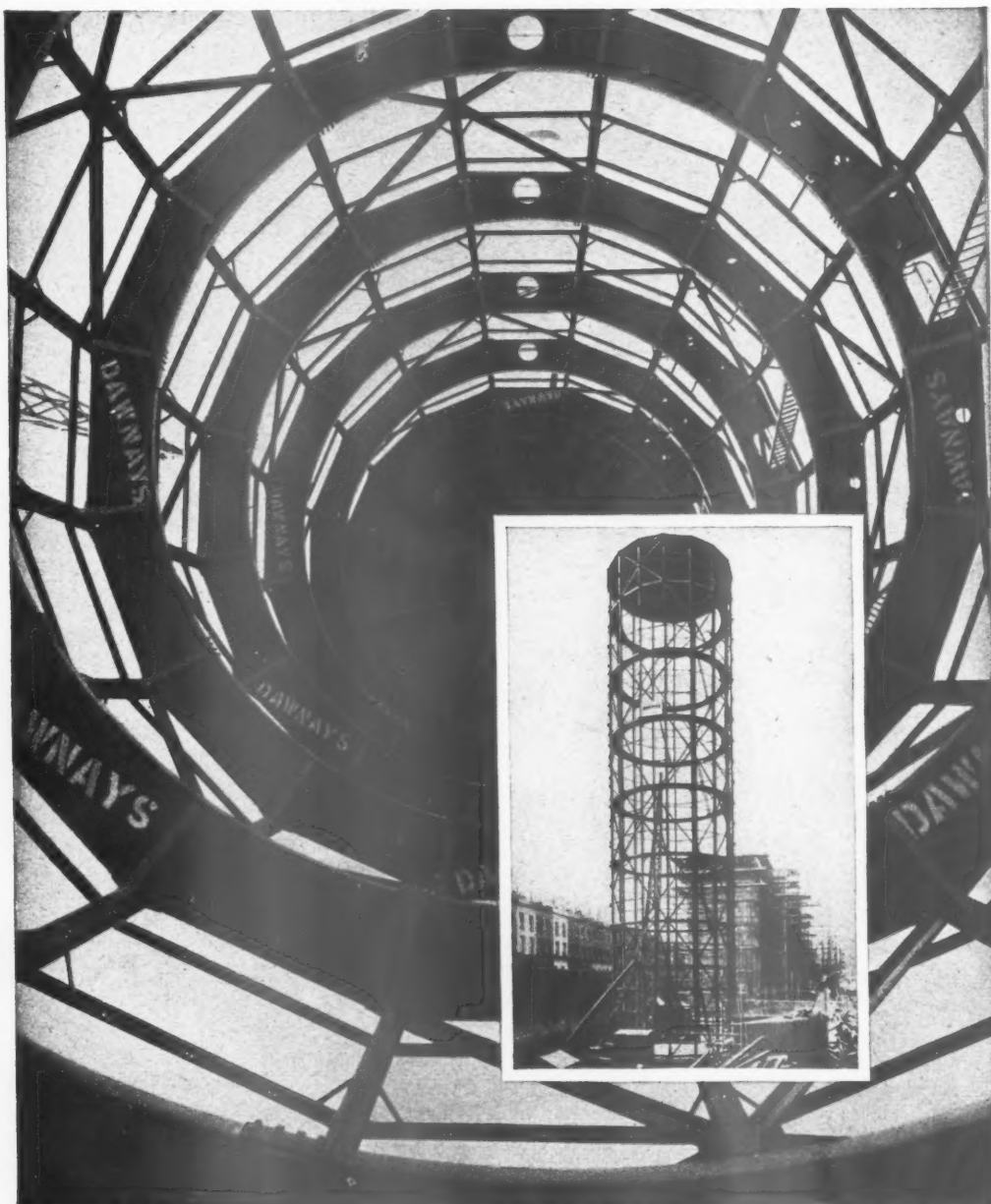
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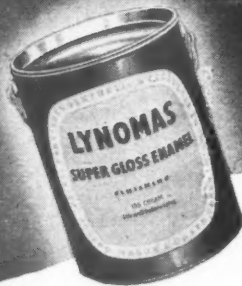
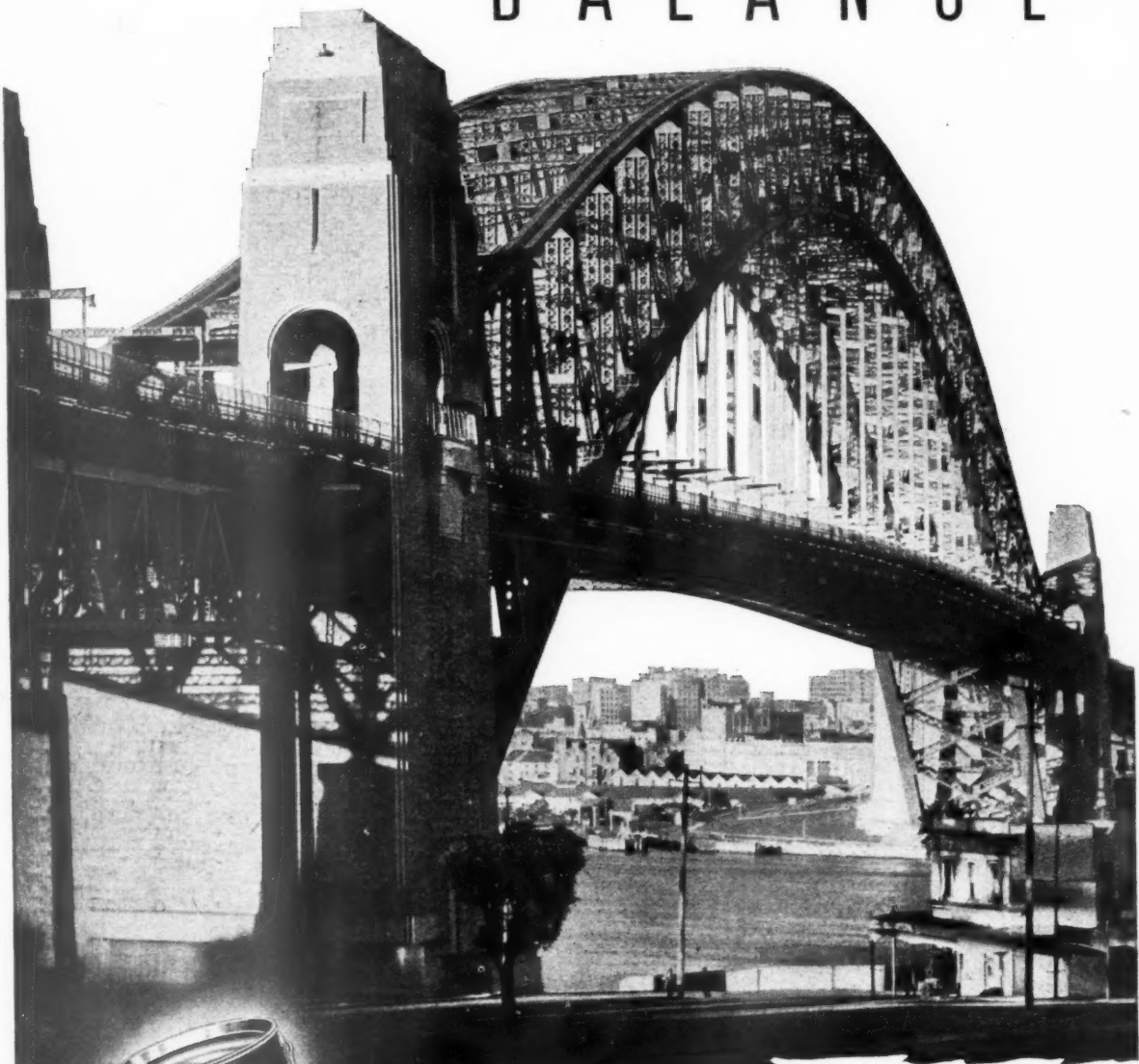
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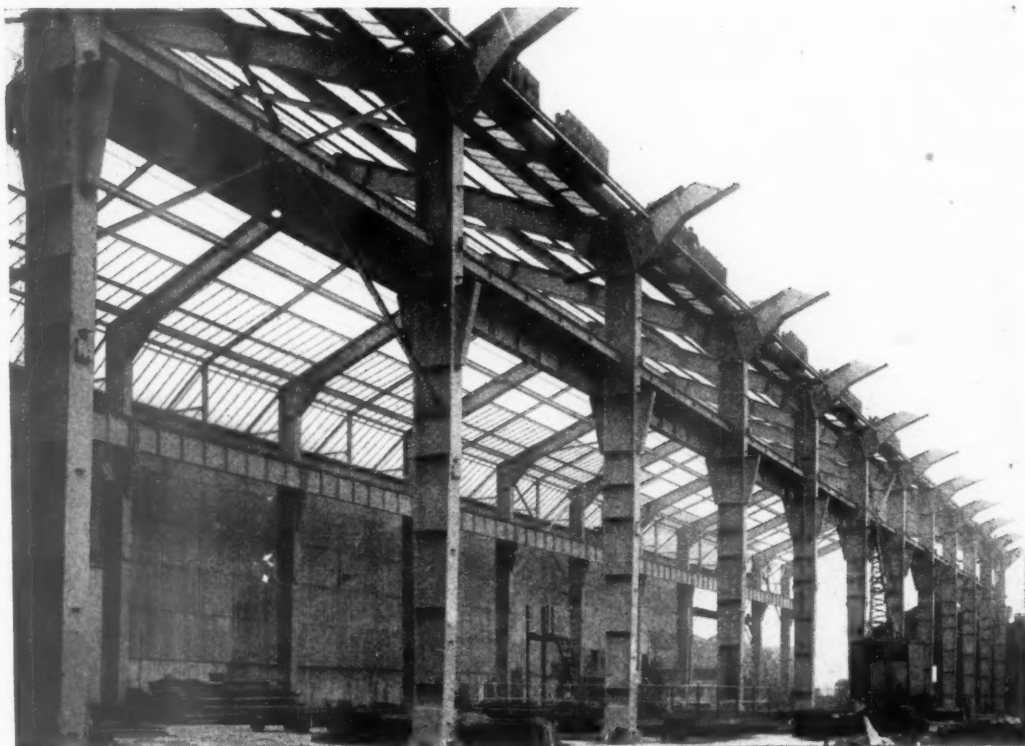
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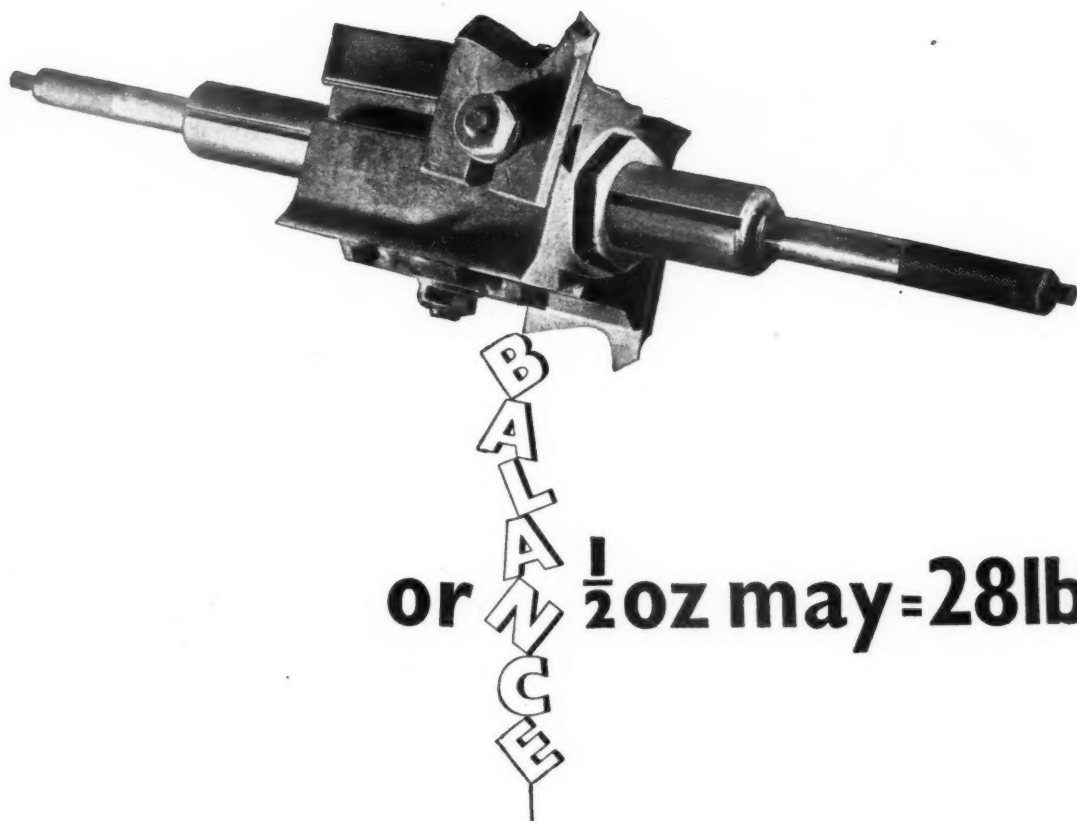
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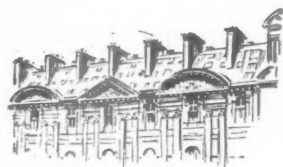
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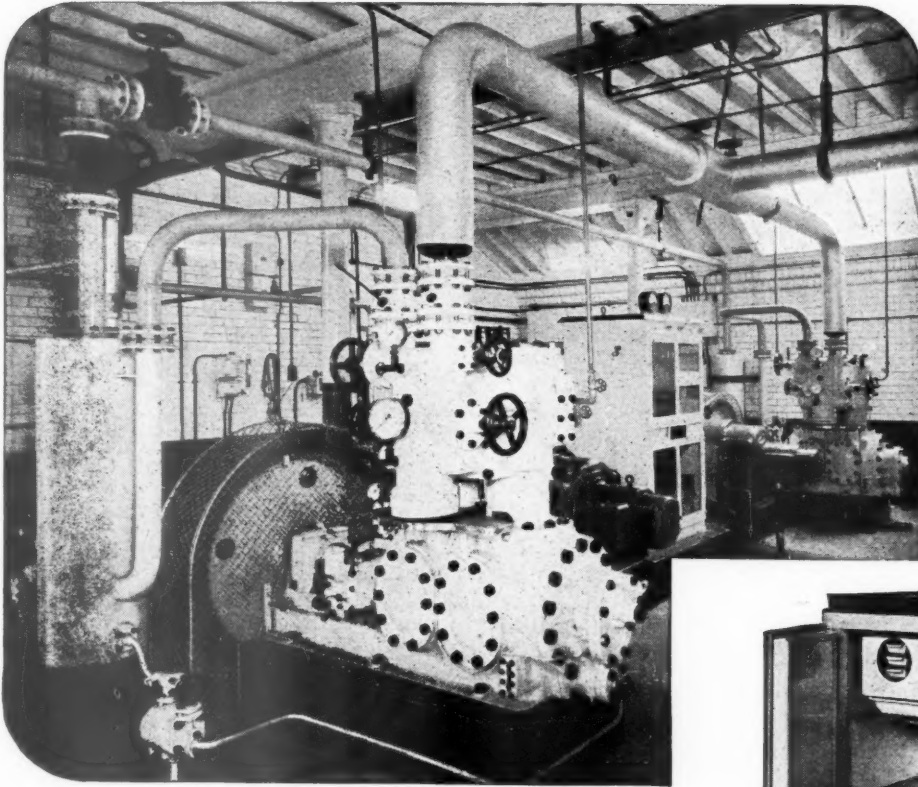
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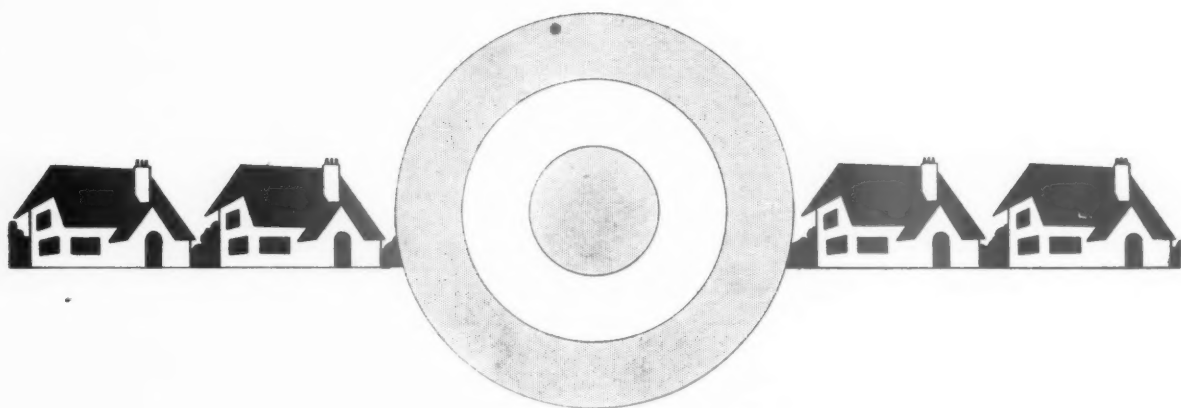
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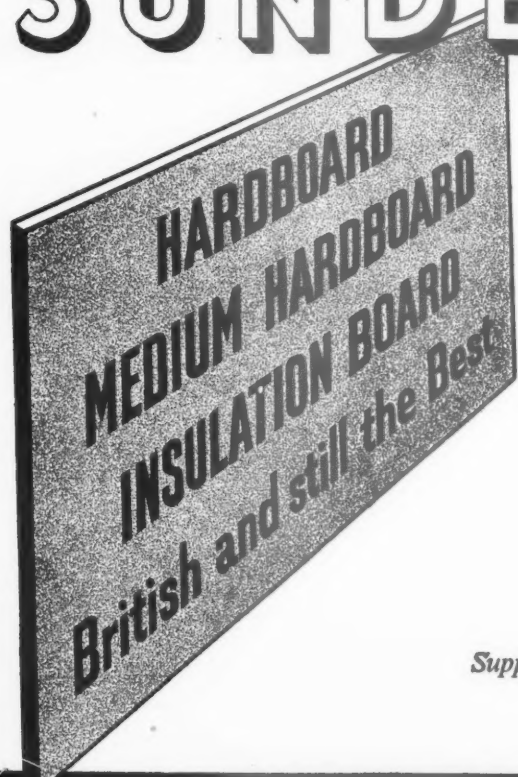
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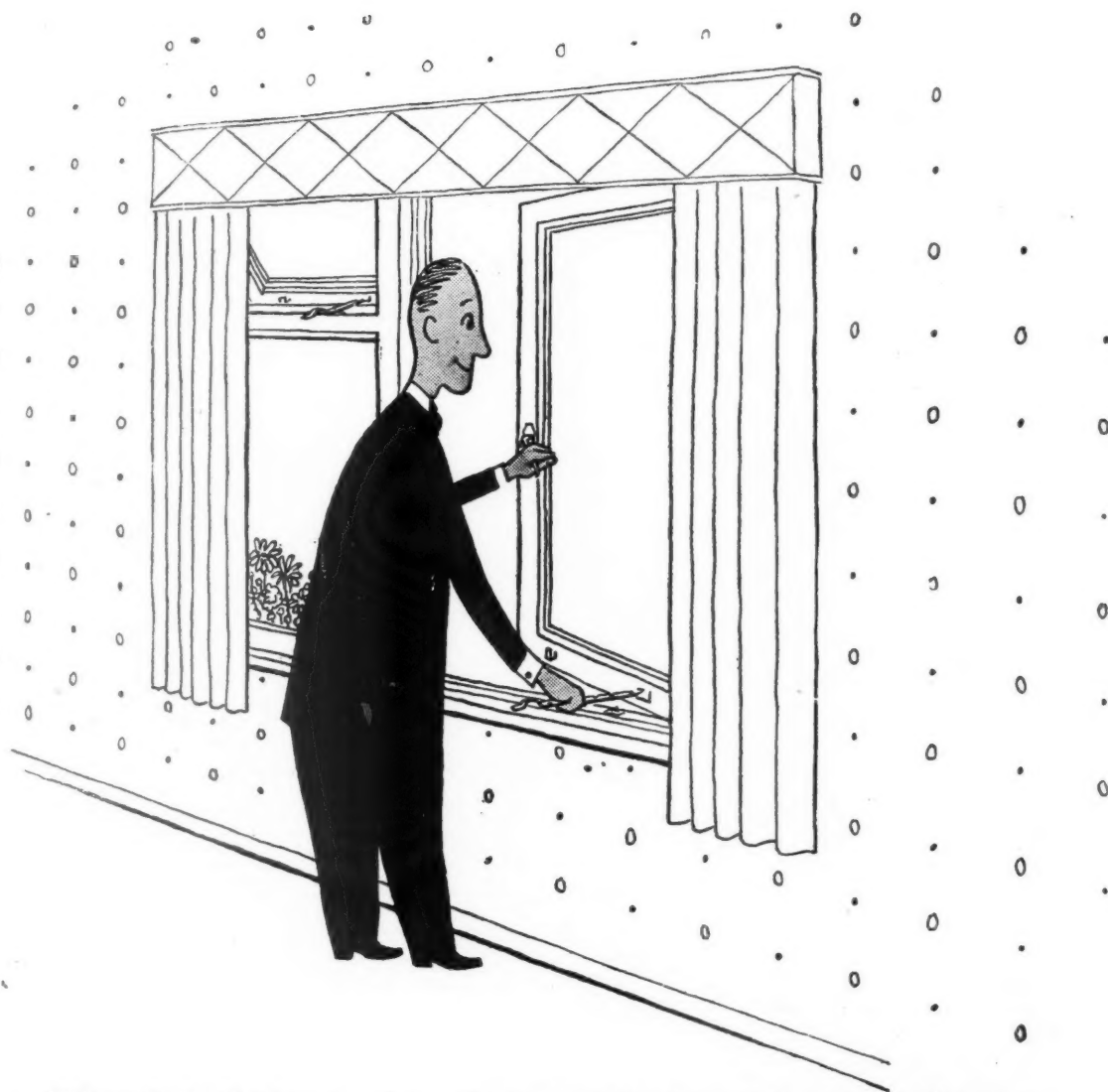
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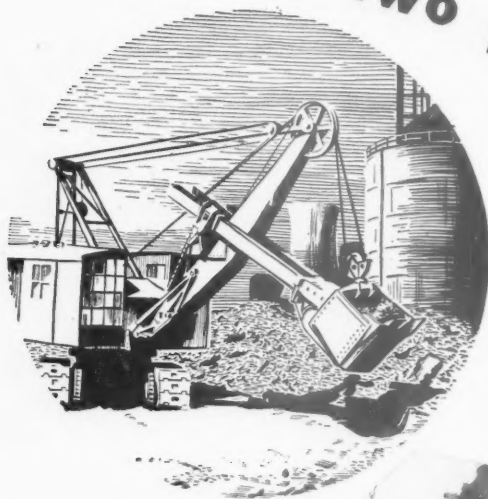
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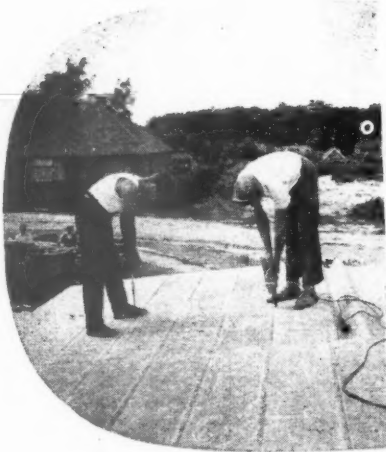
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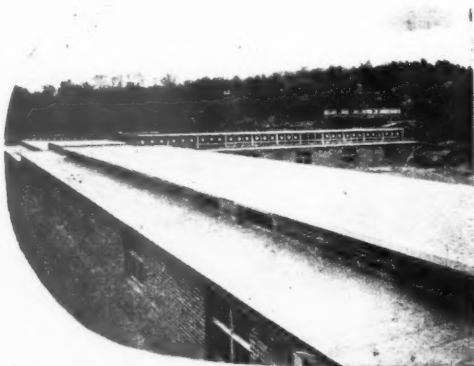
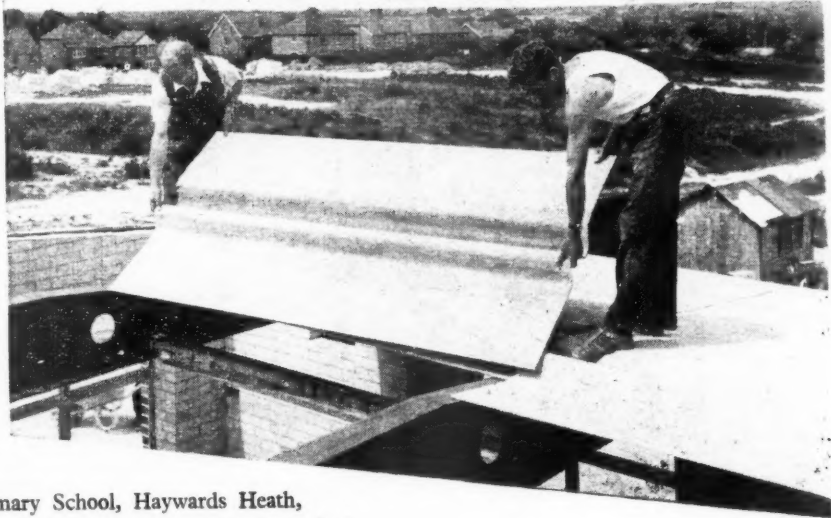
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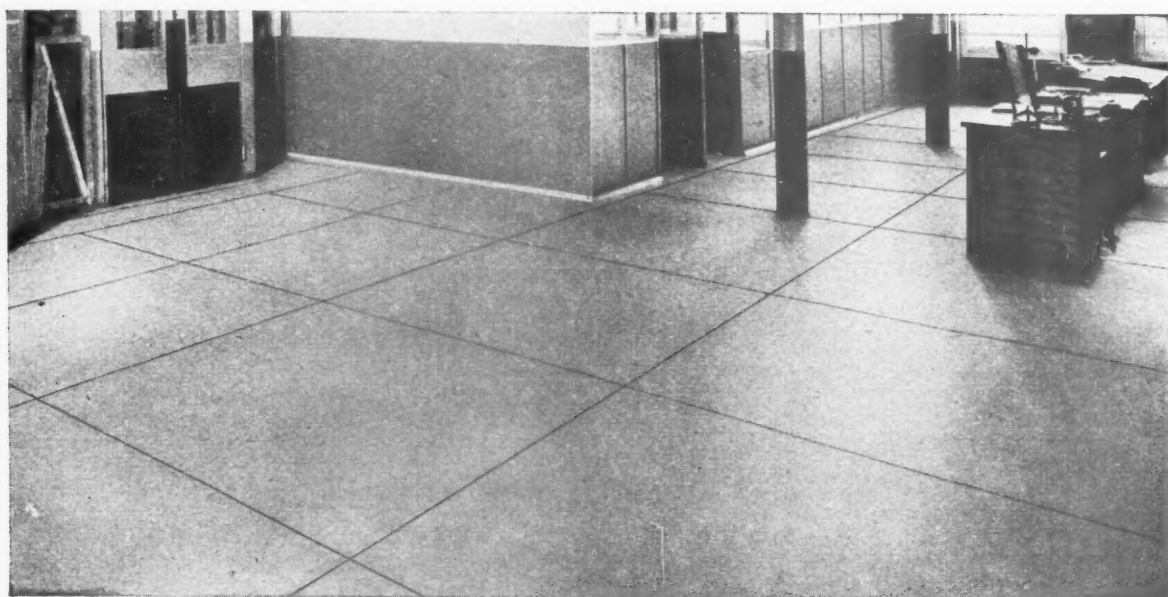


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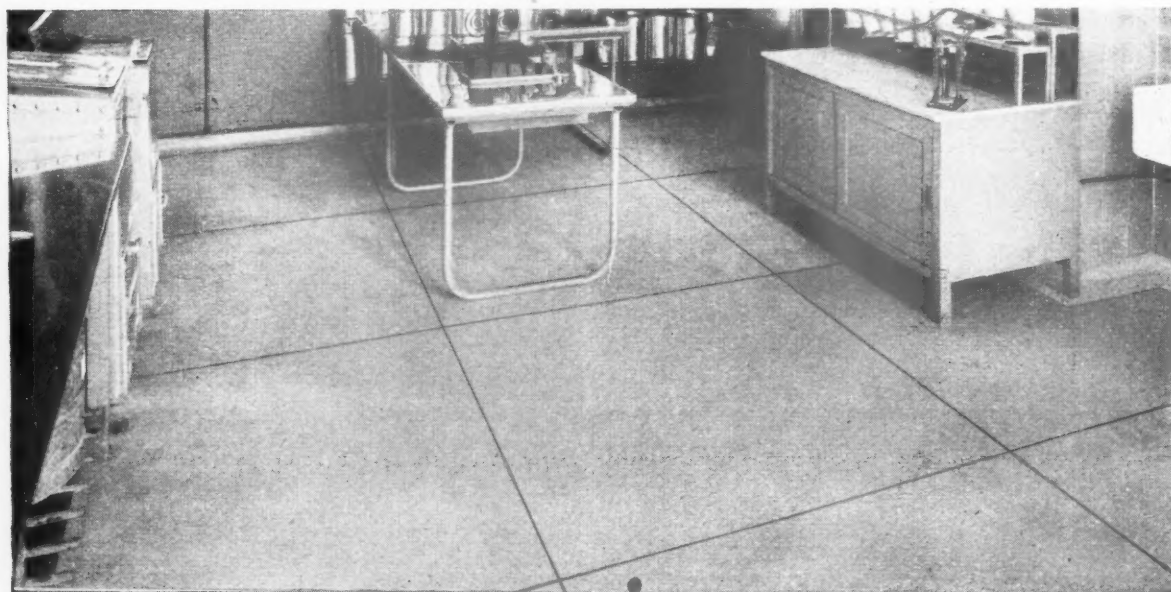
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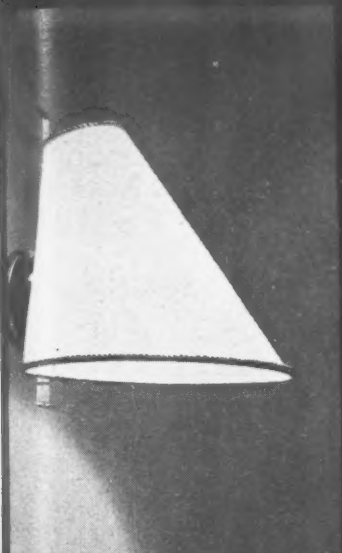
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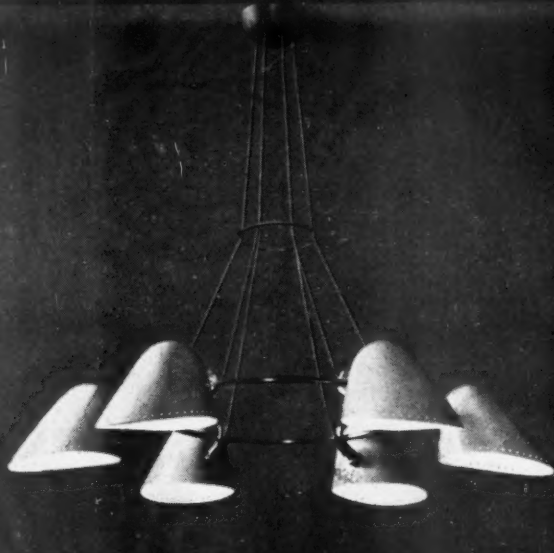
both in the factory and offices, and Marbolith was chosen because of its ability to stand continuous heavy wear including truck traffic, for its comfort under foot, and for its ease of cleaning—an essential feature in a factory of this kind.



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FV.116/R PENDANT. Six-light ring with large metal reflectors. Finishes: reflectors and supports, off-white; remainder, satin brass; flexible cords, white. Lamps: up to 6 x 100 watts.



FV.3/R BRACKET. Fixed. Small metal reflector. Finishes: reflector, off-white; backplate, satin brass or satin chromium. Lamp: up to 60 watts.

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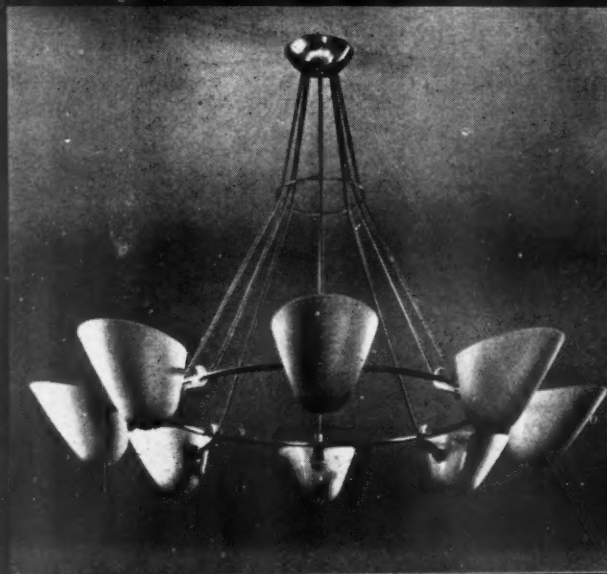
The Lighting Centre

143 KNIGHTSBRIDGE, LONDON, S.W.1. TELEPHONE: KENSINGTON 7457 (15 LINES)

FV.8/R TABLE LAMP. Adjustable arm. Small metal reflector. Finishes: reflector and top of base, off-white; arm and base, satin brass or satin chromium. Wired complete with three yards visible of 3-core flexible cord and switch. Lamp: up to 60 watts.



FV.118/R PENDANT. Eight-light ring with large metal reflectors. Finishes: reflectors and supports, off-white; remainder, satin brass. Flexible cords, white. Lamps: up to 8 x 100 watts.



FV.51/R BRACKET. Adjustable metal reflector. Finish: all off-white. Lamp: up to 150 watts.



Design in Switchsockets



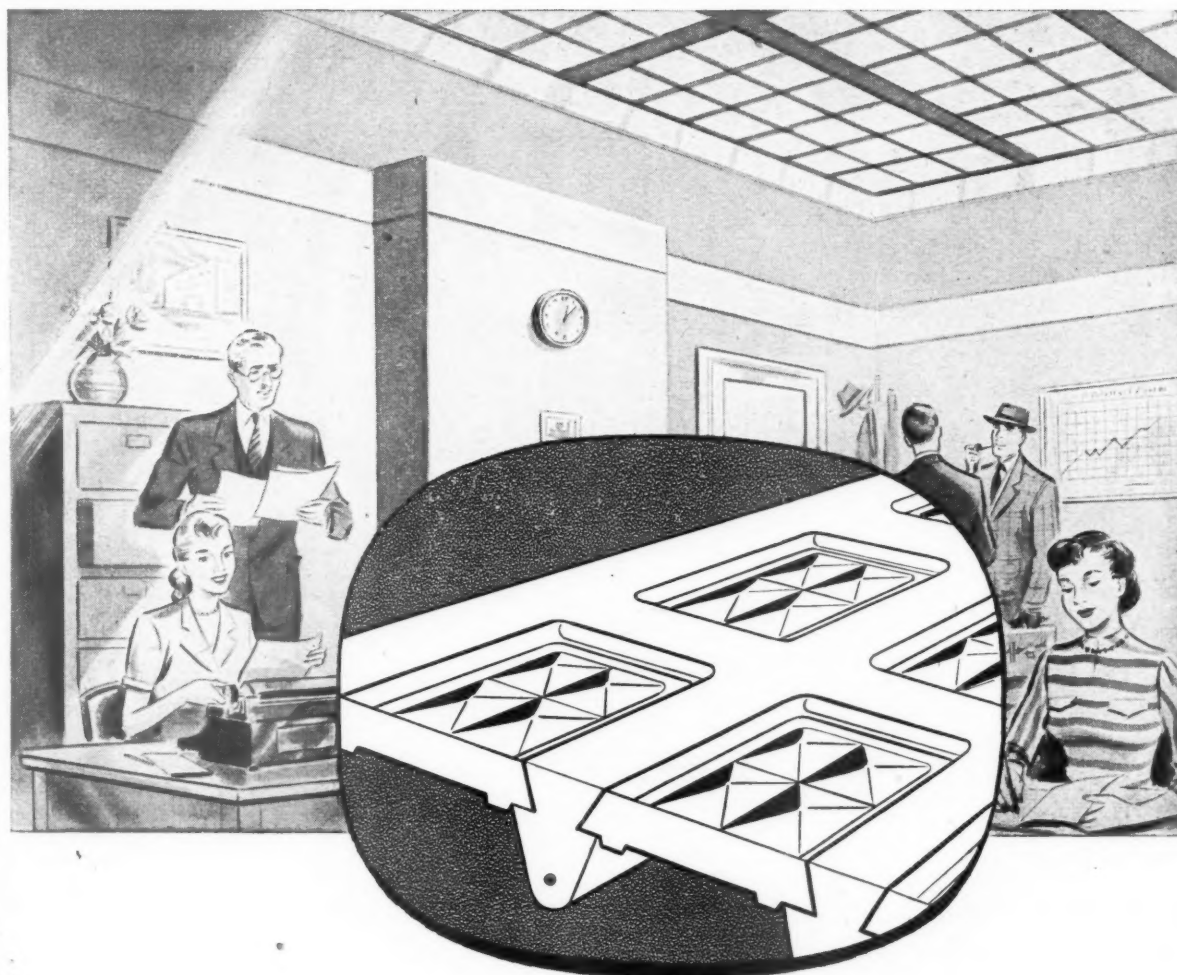
*These few examples from
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MK have a long experience in the manufacture of electrical accessories conforming to British Standards. Engineers know that, whatever the requirement, there is an MK switchsocket designed to do the job reliably and unobtrusively.

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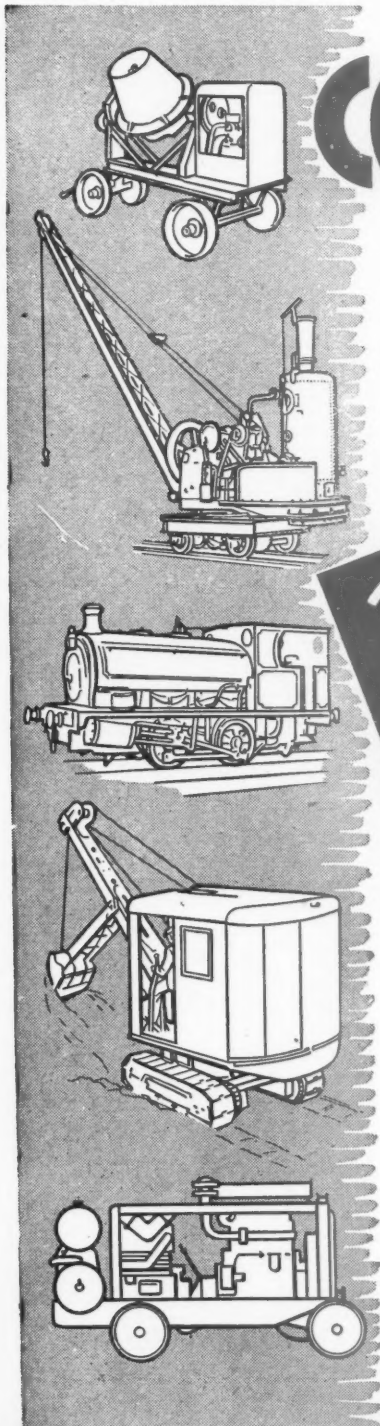
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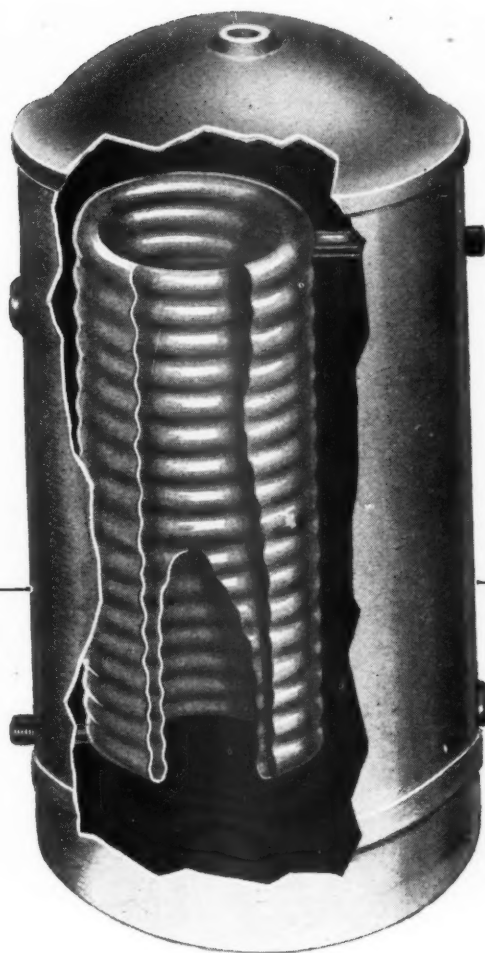
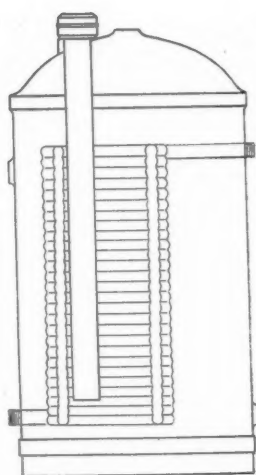
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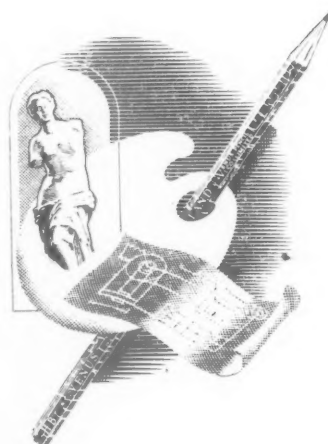
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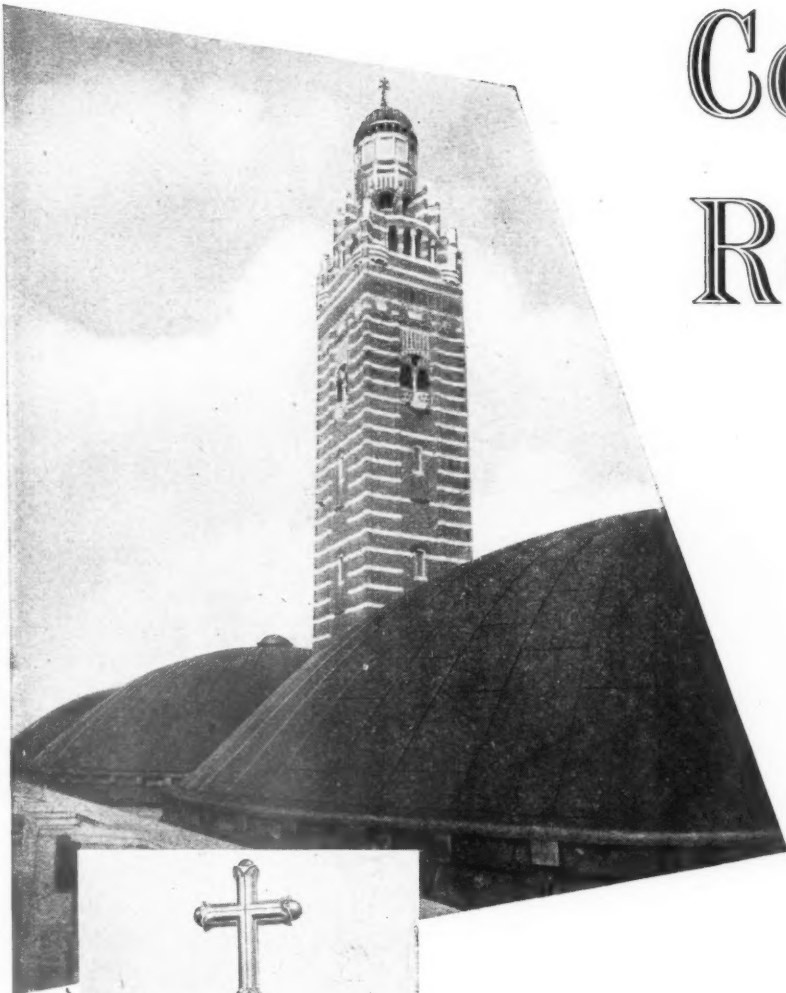


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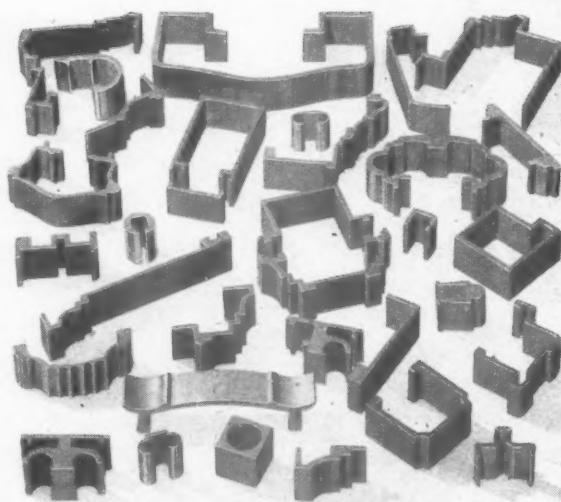
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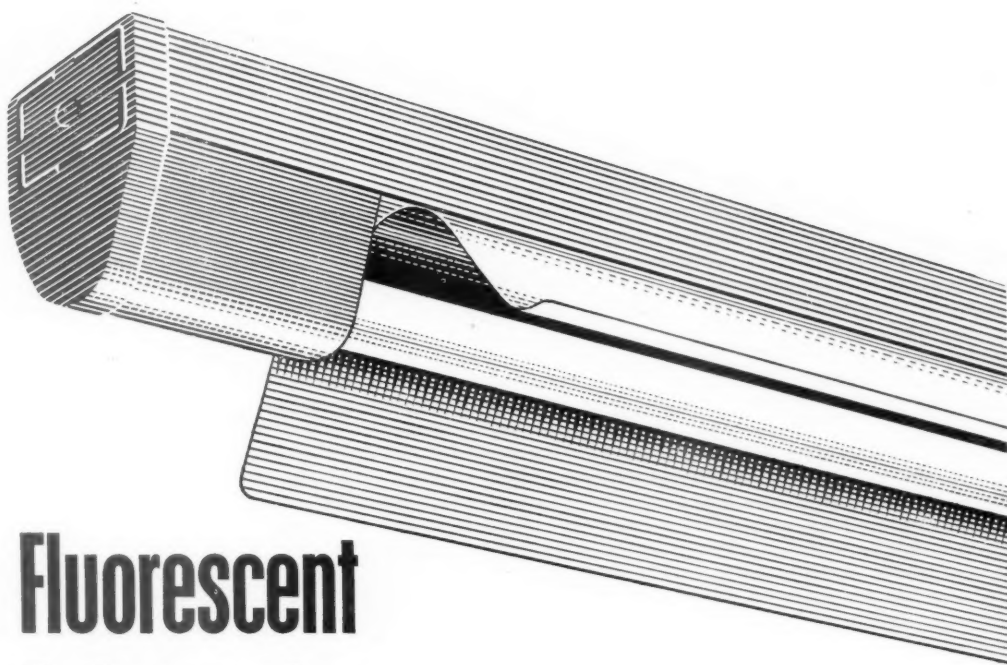
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Embossed end-plates interlock with adjacent fittings; knock-outs are provided for through wiring.

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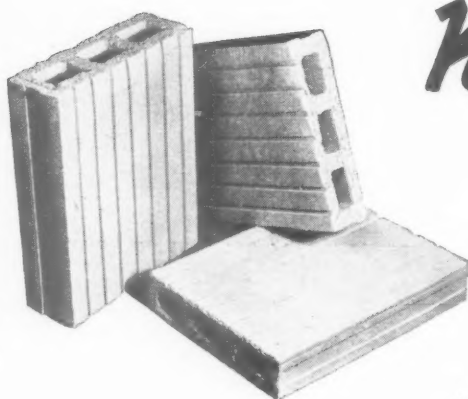
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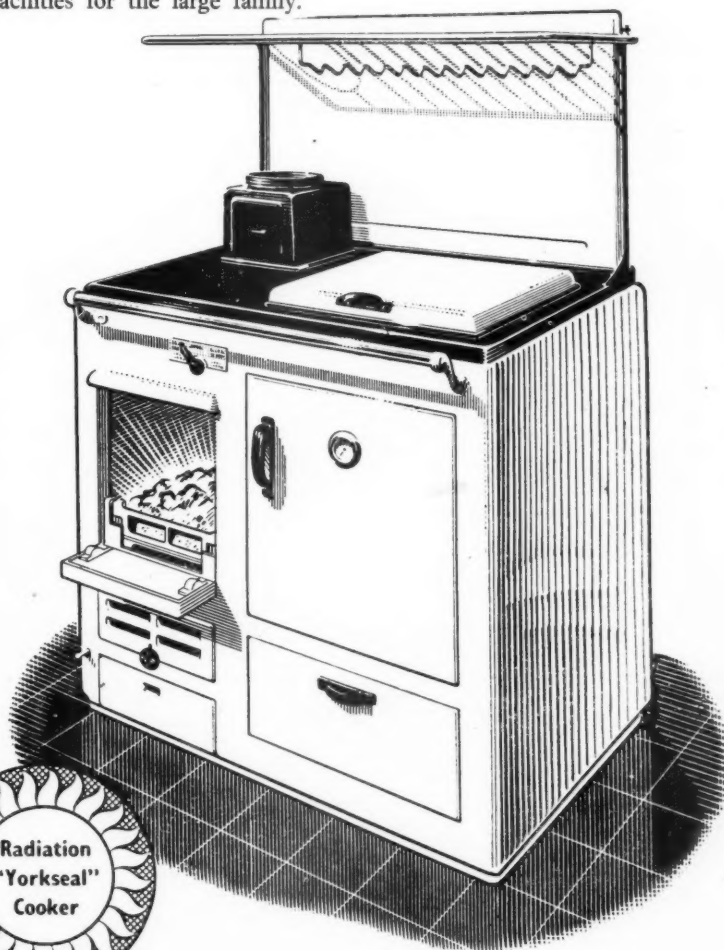
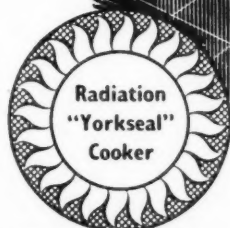


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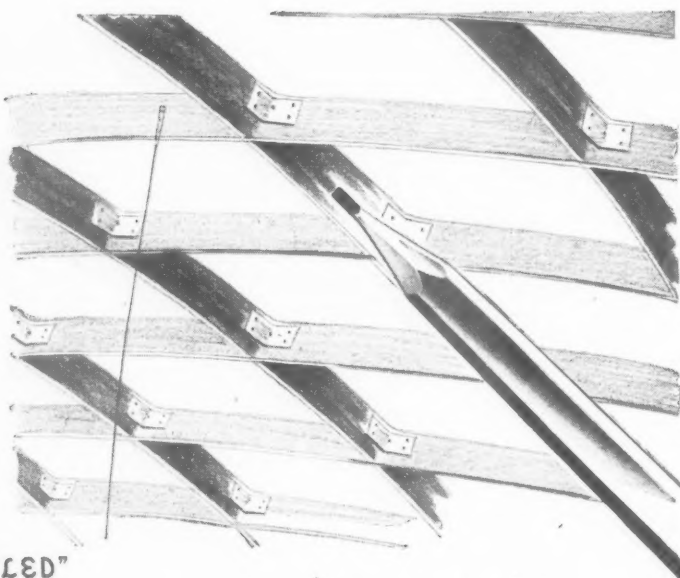
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Architects: James & Bywaters, R.A., F.R.I.B.A., F.R.I.C.S.

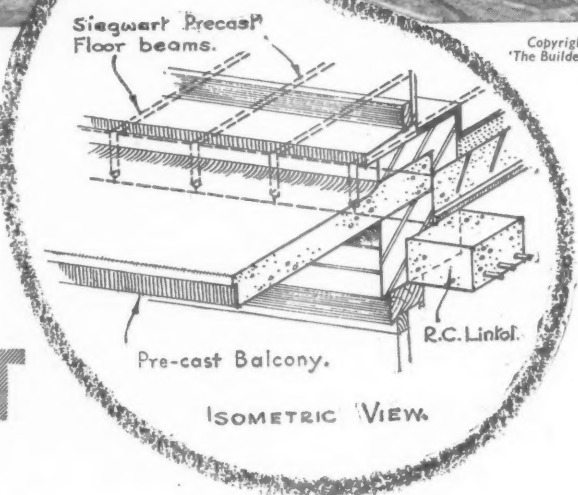
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No. 2966 3 JANUARY, 1952 VOL 115

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* To preserve freedom of criticism these editors, as leaders in their respective fields, remain anonymous

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A VAISEY ACTION IN THE MALVERNS

I am sorry to see that the National Trust has lost its case in the High Court. You will remember that the Trustees had brought an injunction against the Midlands Electricity Board to stop the erection of electricity cables across that part of the Malvern Hills over which the National Trust held restrictive covenants. Mr. Rathbone has since written a sensible letter to *The Times* saying that the Trust will accept the decision of the Court and will not appeal. I think this a pity, not only because the case is a serious one in that the covenant has failed to stop what it was obviously meant to stop, but also because the judgment of Lord Justice Vaisey contained such very curious points.

*

For instance, His Lordship con-

sidered that the covenant failed in its purpose on account of vagueness, in that it only referred to "matters which might prejudice the amenities of Midsummer Hill." Had it referred to "matters which in the opinion of the National Trust prejudiced the amenities," then, it would seem, the case might have gone differently. Thus we see that, at last, amenities and prospect and things of that kind, can come within the law if only the legal drafting is cunning enough. The judges themselves cannot or, at least, will not exercise judgment in the matter.

*

Oddest of all was His Lordship's opinion that although the works of man might be held to detract from the amenities of a natural preserve, it is impossible to distinguish between one such work and another—between, say, a litter-basket, which presumably already exists on the Malvern Hills, and two poles tied together with wire. It was a distinction, at any rate, which His Lordship was not prepared to take upon himself. I find this remarkable. There is now, apparently, nothing to stop the erection of a gasometer in Windsor Great Park on the general grounds that a work of man, *i.e.*, a field-gate, is already there.

EVENING STANDARDS IN LONDON
TRANSPORT

I don't often find myself able to say something nice about *The Evening Standard*. Although not the most unashamedly sensational of papers, it does manage in some mysterious way to reach and maintain a consistently disagreeable journalistic tone. (It takes a pointless but malicious delight, for instance, in publishing people's private

incomes.) For once, however, it seems to me that *The Standard* is doing a good job in publicising once again that major social evil—the London rush hour. And a social evil it is. No one is ever killed, beaten or melodramatically crushed to death—that would be normal grist to *The Standard's* mill—but every day, all through the year, thousands are irritated, frustrated, humiliated and exhausted. The price of all this in bad health, bad temper and wasted energy must be fabulous. In submitting himself to the torture of Oxford Circus Station at 6 p.m. *The Evening Standard* reporter must be regarded as having placed himself among the martyrs of Fleet Street.

*

Obviously there is no quick remedy; but there is a long-term one. It is one which—when it does come—*The Evening Standard* will, I suspect, howl down: PLANNING. In proclaiming the facts about the rush hour *The Standard* has put on my files some very nice hostages to fortune. It may be years before I can use them, but I shall, I shall.

DESIGN AND PRODUCTIVITY

No such crowds, unfortunately, stormed up Portland Place the other day to hear L. W. Elliott discussing the influence of design on productivity.* The few who did, however, were presented with a most excellent appendix to the report of the US Productivity Team. I knew that the building owner in America is often the contractor, which explains why the contractor is often in at the sketch plan stage, but I hadn't realized be-

*A summary will appear in next week's Technical Section.

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*Rep
March

fore the extent to which structural design is today conditioned by high labour costs. Apparently it is quite common for stanchions to be of the same section for the whole height of buildings of up to 14 storeys or more, and this even though the mills roll a far greater range of sizes than we have here. In the same way concrete work, both frame and slab, tends to keep the same sections, irrespective almost of their possibly different tasks, so that it is easy to make use of standardized shuttering.

*

Lots more interesting facts emerged which I haven't space to mention here. Read it *all*—when it appears in the (RIBA) *Journal*: it isn't often one has a chance to listen to an architect who is a qualified engineer as well, and who can speak with such authority in both fields.

THE NEW TOWN STAKES . . .

Elliott's lecture was an admirable preface to the study of another productivity problem—the New Towns.

*

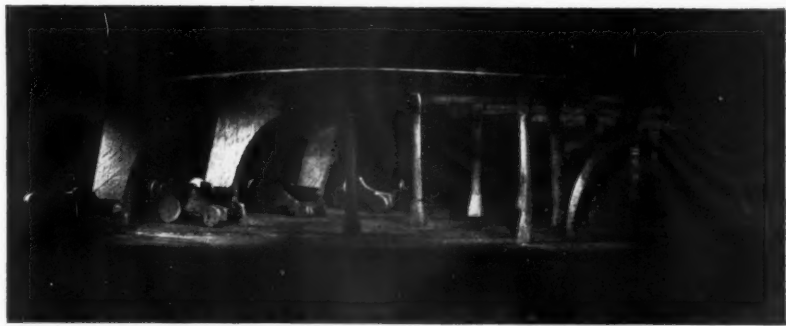
Those of you who have a couple of evenings to spare and who appreciate the austere humours of Blue Books will enjoy the annual reports of the New Towns*—published as usual six months late.

*

Some chairmen or general managers follow the usual Parliamentary Question rule in the civil service—"tell 'em as little as you can." Others make a brave show of candour. Others, most humanly, forget that their readers may be few but will (for the most part) be expert, and rashly try a little smoke-screen work. *Dwellings under construction* is, for example, a very crude phrase and might be held to have a definite meaning: "*in hand*" or "*out to contract*" give just that little bit of scope needed for a rosier and perhaps hazier picture. Actual numbers of architects and civil engineers are also figures which might fall into bad hands, and some Corporations think that a single figure for all staff looks much better.

*

The difficulties and setbacks met by the corporations must have included



A model of one of John Piper's settings for the opera "Billy Budd": the berthdeck of H.M.S. Indomitable. Astragal comments: the "innards" are no more than a bleached skeleton of beams and ribs but these white bones of the ship are solidly and beautifully built. The photograph cannot do justice to the scene—the two blues of officers', and bosuns' coats, the red of the marines' and the more variegated hues worn by seamen and powder-monkeys are tremendously colourful.

all possible post-war obstacles met by other building agencies and many peculiar to themselves. Most of them have now been overcome or dodged. But everyone has his worries, and the outside world is apt to be uninterested in the worries of New Towns and in the higher standards they are trying to achieve. It will ask sternly: How long have you been at it? What staff have you got? How many houses have you completed?

. . . RUNNERS AND BETTING

It would be an exaggeration to say that the answers to these questions leap to the eye from the reports. But ASTRAGAL is not easily put down. He has extracted his own answers and here (subject to errors in simple arithmetic) is the result. Only towns which have completed one or more dwellings are included:

New Town	Date Set Up	Arch. Staff	Civil Eng. Staff	Number of Dwellings Completed	Average Monthly Number of Dwellings*
Aycliffe ..	2.7.47	10	7	168	3.7
Crawley ..	26.2.47	48†	45†	190	3.9
Harlow ..	16.5.47	not stated	187	4.1	4.1
H. Hempstead ..	6.3.47	" "	292	6.0	6.0
Peterlee ..	22.3.48	" "	26	0.7	0.7
Stevenage ..	5.12.46	16	33	36	0.7
Hatfield ..	14.6.48	not stated	1	0.03	0.03

* Total output up to 31.3.51 divided by number of months since Corporation was set up.
† Probably includes secretarial staff, clerks of works, etc.

ASTRAGAL confesses surprise at this result. His money was firmly on Crawley, trained and managed under the knowing eyes of Sir Thomas Bennett and Lawrence Neal. Though of course it was foolish to forget Henry

Wells of Hemel Hempstead. I feel like Lord Curzon when told that Mr. Baldwin was to be Prime Minister: "*Baldwin! . . . ah, yes . . . I had forgotten Baldwin.*"

*

But all is not yet lost for those who are with me:

Dwellings under construction				
Crawley ..	..	..	..	587
Harlow ..	..	..	..	Not very clear
H. Hempstead ..	..	..	..	543

Don't miss this column next year.

THE MINIMUM HOUSE

But before New Town managers and government spokesmen (or their over-enthusiastic supporters) say much more about ways by which they hope to build more houses, it would be wise for them to visit Northampton, as I have done somewhat belatedly, where four of the Hopley houses—the winning design in the *Builder* competition—have now been built (see the *JOURNAL* for November 8).

*

I was greatly impressed. Both externally and internally the houses are much better than the published drawings and even the photographs led one to expect: in fact, it is only by inspection that the thoroughness and skill of the detailed design can be appreciated.

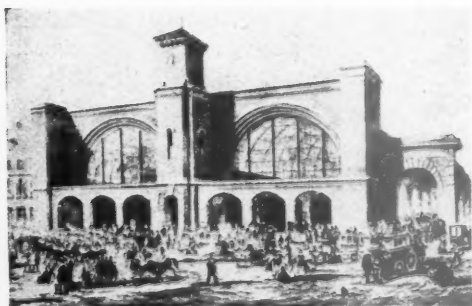
*

The outstanding feature is the vertical heating and hot water assembly. One "heaped fire" with a back boiler heats the living room, the hot water, two radiators on the first floor, the linen cupboard and a towel rail:

* Reports of the (12 New Towns) for the period ending March 31, 1951. H.M.S.O. Price 10s.



New Year Resolution



1952 is the centenary year of the opening of King's Cross station. What better New Year resolution, therefore, could be made by London planners and by the British Railways than to restore to King's Cross the setting which it deserves and which, indeed, it originally had, as the engraving on the left shows. This station, designed by engineer Lewis Cubitt, is perhaps the finest in the country, and is certainly the most often quoted today as an example of early functionalism in design. It is a tragedy, therefore, that the line of the expressive twin arches should be obscured by a jumble of squalid single-storey shops filling what was once a spacious forecourt. Let us hope that planning authorities will make at least one New Year resolution, and give, this year, King's Cross its due as a monument to our Railway Age.

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POINTS FROM THIS ISSUE

while the main flue runs through and takes the chill off the best bedroom as well. Except for short runs to the sink and lavatory basin the whole assembly is on the internal wall where no heat will be lost to the outside air. As there were five degrees of frost at the time of visiting all these points were readily appreciated.

*

Other good points included the roomy first floor landing, where there is room to swing furniture or coffins around, the internal soil and waste pipes and the thoughtful detail everywhere. (e.g., what can you do with a 15-in. slope in a cupboard where the bottom corner has been cut off to give head-room on the staircase? *Answer:* You put a small rail across it and turn it into a shoe rack.)

*

The only drawbacks noticed were the inadequate screen walls for the dust bins, a cramped entrance lobby, and the down draught from the large, perhaps too large, living room window. Unless, of course, one adds the fact that there is no room to make a mess in a minimum house. But this I suppose cannot be helped. Those who live in small houses, or boats and caravans and bed-sitting rooms for that matter—learn to keep tidy or are soon sunk without trace. And even if you agree with Mumford that space is more valuable than gadgets, a small space is still presumably better than no space at all.

DEAN'S SWIFT VISIT

Frustrated young architects, particularly those who like travel and who rather fancy themselves as teachers—and don't we all?—are advised to study the advertisement pages of this issue, where particulars will be found of the lectureships now being offered in the newly established but obviously expanding School of Architecture at Hong Kong University. Dean Gordon Brown—remember?—is expected in London any day now to interview candidates for these jobs which seem to offer great opportunities for doing work where it is really needed in a very agreeable and picturesque, if overcrowded, city.

[P.S.—There is still a lot of life left, I believe, in the local building boom.]

ASTRAGAL

New Year Honours List : Knighthood for Hugh Casson	page 7
RIBA Royal Gold Medal awarded to G. Grey Wornum.....	page 7
3-bedroom private house at Little Chalfont, Bucks	pages 10 and 11
News from Northern Ireland : report from Robert McKinstry	page 12 ff.
4- and 5-storey flats in the Royal Borough of Kensington	page 18 ff.
Hospital at Zurich	page 23 ff.

The Editors

LONDON'S HOUSING PROBLEM

THE solution of London's housing problem must involve building outside the County. That is one of the main conclusions of the Report of the Survey which accompanies the London County Council's Development plan. If this statement only confirms what for some time has been a commonly accepted view, it has the merit of focusing public attention on one of the most urgent problems inherent in the County plan.

By the end of the first five years of the plan the Council aim to have found new homes outside the County for 145,000 Londoners. Of these, 69,000 can be housed in the Council's out-county estates, the Oxhey's, St. Paul's Cray's and Harold Hill's and those other large post-war estates, the size of a small town, which lie in the fringe areas of the Green Belt.

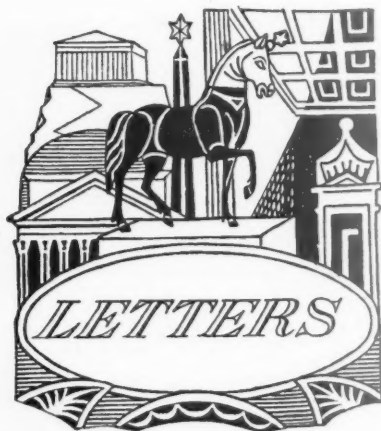
In the out-county estates there are sites remaining for 19,160 houses. And it has been said that in three years time no further sites on the out-county will remain for development. If a break in the continuity of the policy of providing homes for Londoners outside the County boundary is to be avoided it is clear that, after the completion of the out-county estates, the New Towns must take over the outgoing flow of residents from London. Can this be done?

According to the Council's report the new and less-expanded towns will not be able to do this unless production of houses is increased rapidly. Alternatively, the London County Council considers that it may have to face this urgent need by building additional out-county sites in the near future.

In the years when the New Town Development Corporations were hardly set-up, let alone in action, the development of the out-county estates had to be countenanced. Yet in a period when the New Town organizations are getting into their stride and, theoretically, should soon be reaching their peak effort, to contemplate further out-county estates is to court disaster for both the London plan and the New Towns.

How can this be prevented? The answer must certainly be to use facilities for expansion where they exist, i.e., London's new towns. But there is a missing link in the chain of organization. That is the link in the relations between the London County Council and the Development Corporations. There

is, on the one hand, the existence of the Council which numbers among its functions the duties of the world's largest housing authority with a large and efficient building organization and with an architects' department whose standards of design are rising rapidly, and, on the other hand, the New Town Corporations whose standards in every respect are high but whose achievements are, so far, small. The increase in output of houses and related building might well be achieved in the New Towns if some of the ability, drive and experience of the senior organization could be harnessed to the junior organizations without detriment to their individual status. The present situation calls for a major feat of diplomacy in the sphere of local government.



H. C. Harris

Kenneth Jack

Robert A. Steane

R. G. Hollis

Ernest Watkins

The Failure of Lead Soil Pipes

SIR.—There are some statements by your correspondent, W. E. Wright, (AJ, Sept. 20) which for the sake of accuracy demand some further comment. It is misleading to refer to sudden temperature changes, and the statement that "lead does not contract as much as it expands" is incorrect.

What is the sudden difference in temperature between the discharges from the fittings mentioned? The effluent from the w.c. would, in all probability, be at room temperature, say 55°F. The hottest discharge will in all probability be from the sink, but is not likely to exceed 120°F. The discharge from the bath and basin is not likely to exceed 75°F. Therefore, the greatest difference is 65°F. The waste pipe should be ventilated and it is unlikely that the effluent will be contained in one part of the pipe for a period long enough to raise the temperature of the pipe itself as much as the temperature difference, and it is reasonable to assume that the heat absorbed by the lead to cause expansion will not be much greater than to raise its temperature by, say 30°F.

A piece of lead that is raised in tempera-

ture by this comparatively small amount will expand slightly. If one end of the lead is fixed the other end will move; if both ends are fixed it will move between the fixed points, but on cooling will contract to its original size in each case. If, however, the lead is unsupported and the movement of the lead caused by the expansion is enough to disrupt its shape, on cooling it will shrink to its original size but will not necessarily recover its shape. This will be due to the metal undergoing plastic flow under stress. It follows, therefore, that if a lead pipe is properly supported, yet free to move the slight amount caused by thermal changes that it will expand and contract without losing its original shape, and will be retained in its proper position and continue to function as intended.

If we examine the example quoted of a long bath waste it is obvious that the pipe was insufficiently supported, and that the pipe has suffered deformation and sagging, simply because the support was not enough to keep the pipe in its original position, irrespective of whether the pipe carried a hot discharge or not.

There are so many examples throughout the country of lead disposal plumbing pipe giving satisfactory service for very considerable periods that it would be very wrong to infer from a few instances of faulty work that there is no practical way of using lead pipe to take full advantage of the special properties of the material—corrosion resistance, flexibility and ease of handling.

H. C. HARRIS.

Lead Technical Information Bureau,
London.

Linking Studies

SIR.—With reference to Astragal's comment on the linking of schools of architecture and engineering (AJ October 11), an alliance does, in fact, exist at Cambridge University. Not only do architectural students receive lectures by members of the staff of the engineering faculty, but also they have an even closer connection with engineering students through their various colleges.

London.

KENNETH JACK.

Trade Catalogues Wanted

SIR.—I have been working on specifications and drawings for 1,000-Bed Hospitals for the US Armed Forces in Germany since July, 1951.

This work has been greatly facilitated by reference to the American Sweet's File (Architectural and Engineering). This is a file of trade catalogues in 8 volumes, clearly indexed and tabulated, covering all

building components. It is published every year, thus keeping up to date. It is extremely easy and quick to refer to.

Can we not introduce a similar system in Britain, thus obviating endless searching and fumbling about in loose trade pamphlets which is arduous, however neatly arranged.

ROBERT A. STEANE.

Frankfurt.

"Dethroned by Inadequacy"

SIR.—I have been reading a number of recent architectural books and journals, and I observed what I thought to be a rather singular tendency for architects to become preoccupied to an alarming degree with theoretical and philosophical pursuits. It is as though it is a form of hypnosis brought about by a too long exposure to the fascination of "progress." There would seem to be, as it were, a general over-readiness to apply this irresistible force of "progress" against an immovable object, like the Building Trade, always in the fond belief that the irresistible force will win the day—eventually.

Such an attitude of mind is I feel a singularly virulent potential danger, not only to the architectural profession as a whole, for this attitude can be shown to be self-destructive, but also to the value of architecture as an art in the established sense, implying the skilful manipulation of simple or fundamental components. We have reached a stage when building as a science embraces a great variety of subjects. Add to these the number of the major specialist subjects together with the number of their myriad of subsidiary specialist sciences, new branches and researches, and the inconceivable extent of the field of knowledge applicable to building can perhaps be appreciated.

This constant extension of knowledge and progress is inevitable, and that such activity is irresistible cannot be denied, but I am horrified at the indecent haste and lack of understanding exhibited by those whose vocation should have provided them with a deep reverence for the subtleties of their art, and who, having mercilessly stripped it firstly of its glamour, subtlety and virtue secondly denuded it of device and ornament and plastered it instead with stifling layers of heterogeneous information and half baked theories, now, having done irreparable damage and mutilated it almost beyond recognition, conceive of the possibility of complete reconstruction by the simple substitution of the word "building" by the word "prefabrication" or whatever catch phrase would imply something new. The human ingredients of building have changed little, but the confusion of mind is apparent. The sharp edge of certainty has been turned by indecision, the art has been desecrated, its supremacy and vitality challenged, and its prestige dethroned by inadequacy.

London.

R. G. HOLLIS.

Dreamboat for Astragal

SIR.—Why does Astragal, in his note on Bekonscot (AJ, October 25), suppose that the building of a house in a tree will enable him to escape the long arm of the Town and Country Planning Act? "Development," as defined by the Act, includes any "building operation . . . over . . . land," with or without artificial foundations. Not only may Astragal not build, unplanned, in a tree, he may not build, unplanned, even a castle in the air. He can, of course, be content with a castle in Spain or take his dreamboat out to sea (beyond the limit of territorial waters).

London.

ERNEST WATKINS.



RIBA

Royal Gold Medal Awarded to G. Grey Wornum

The King on the recommendation of the RIBA has awarded the Royal Gold Medal for Architecture to G. Grey Wornum. Grey Wornum was elected a Fellow of the RIBA in 1923 and was a Vice-President in 1950-1951. From 1929-1930 he was President of the AA and is a director of the Building Centre. In 1938 he won the London Architecture Bronze Medal for his design for the Highways Depot for the City of Westminster. He is an Honorary Corresponding Member of the American Institute of Architects.

In describing his work the late Professor Reilly said of him: "Wornum is himself a craftsman as well as an architect, with an inherited love of making things." Grey Wornum has designed many different types of buildings but probably his best known is the headquarters of the RIBA in Portland Place. This building was the subject of a competition in 1932 and Mr. Wornum's design was adjudged best from amongst 284 entries received from all parts of the world. In 1948 a sculptured bust of Grey Wornum, designed by Charles Wheeler, was presented to the Institute by Edward Maufe, himself a Gold Medallist.



Grey Wornum was born in 1888. After school at Bradfield Mr. Wornum spent a year at the Slade and was then articled to his uncle R. Seldon Wornum. During 1906 and 1909 he attended the AA evening school where he won a bronze and silver medal and a travelling studentship. After working with Messrs. Simpson and Ayrton for a year he set up his own practice in 1911 at the age of 23. His first jobs were altering city premises and designing work for the Duke of Santo Mauro in Spain. For a number of

years he was Reader to Herbert Batsford and editor of some 5,000 plates, photographs and excerpts from old books for a series of books on architectural details, chiefly of the eighteenth century. In the 1914-18 war Mr. Wornum was wounded on the Somme, losing his right eye. After the war he went into partnership with P. D. Hepworth, and with him did much alteration work in the City and West End. Subsequently he went into partnership with Louis de Soissons, and did much domestic work.

Mr. Wornum is the one hundred and third recipient of the medal.

NEW YEAR HONOURS

Architects, Designers and Others Listed

Knights Bachelor—Hugh Casson, lately Director of Architecture, FOB. Dr. J. K. M. Rothenstein, Director and Keeper, Tate Gallery.

C.B. (Civil)—F. J. Root, Under-Secretary, MOW. A. Wilson, Chief Inspector of Audit, MOHLG.

C.B.E. (Civil)—W. E. Adams, General Manager, Harlow New Town. J. Compton, Chairman, 1951 Committee, Arts Council, for services to FOB. R. C. Cooke, lately Director of Exhibitions, FOB. I. H. Cox, lately Director of Science, FOB. R. Freeman, lately Consulting Civil Engineer, South Bank Exhibition. F. M. Lea, Director, BRS. H. L. V. Lobb, lately Chairman, Council for Architecture and T.P., FOB. R. H. Matthew, Architect to LCC, for services to FOB. D. Rebbeck, lately Deputy Chairman, N. Ireland Festival Committee. B. C. Sendall, lately Controller, FOB. Off. C. H. Walker, Director of Housing and Valuer, LCC.

O.B.E. (Civil)—J. W. R. Adams, Planning Officer, Kent CC. J. M. Bannerman, Pres. An Communn Gaid-Healach, for services to FOB. J. Barber, Hd. of Lon. Licensing Off., MOW. Ald. H. Barks, lately Chairman, FOB Committee, Stoke-on-Trent. Ald. D. Bevers, lately Chairman, FOB Committee, Leeds. R. G. Berry, Town Clerk, Battersea, for services to FOB. H. G. Carter, Head of Typ. Design and Layout Section, HMSO. G. H. Chettle, Inspector of Ancient Monuments. W. Connor, painter. E. G. S. Elliot, Senr. Planning Officer, MOHLG. W. R. Fell, Reg. Dir. for E. Anglia, Arts Council, for services to FOB. Lady Fermoy, lately Chairman, King's Lynn Arts Festival Society. W. J. Fitt, lately Chief Arch. Display Construction, FOB. F. J. Forty, lately member of FOB Council for Arch., T. P. and Building Research. A. E. Francis, lately Director of 1951 Liverpool Festival. G. T. Friend, sculptor and engraver. E. C. Godwin, Supt. Arch. Sect., Air Min. R. R. H. Hammond, lately Chairman, FOB Committee, Southampton. A. D. Harcus, FOB Advisory Committee of Christian Churches, Mrs. Jacqueline Hawkes, lately specialist adviser in archaeology to FOB. J. L. Hodgkinson, Reg. Dir. for N.W. Counties Arts Council, for services to FOB. J. S. Holland, lately Head of Design Branch, FOB. E. Ingham, lately Director of FOB Publicity Campaign. R. T. James, lately Consulting Engineer, South Bank Exhibition. S. Jennings, lately Chairman, FOB Committee, Canterbury. Lt.-Col. W. Law, City Surveyor, Rochester. R. Levin, lately Designer, FOB Land Travelling Exhibition. R. D. McLeod, Contract Manager, Holland Hannen & Cubitts Ltd., for services to FOB. H. K. Martin, Chief Acct., FOB. J. Martin, Fleet Civil Engineer, Malta. D. E. Milner, Principal, W. of England College of Art. W. A. Nicholson, late Member Publicity Panel, Scottish Committee, FOB. M. P. O'Hara, General Manager, Festival Gardens. Miss M. Owen, Acting Director in Wales for Arts Council, for services to FOB. M. R. Page, lately landscape architect for Festival Gardens. J. C. Ratcliff, lately Assis-

tant Director, Arch. Dept., FOB. A. V. Robertson, Prin. Reg. Arch., Newcastle, MOHLG. W. A. Rogerson, County Surveyor, Holland CC. Ald. G. H. Routledge, Mayor of Carlisle, for services to FOB. A. S. Rymer, lately Chairman of York Festival Society. R. S. Tubbs, lately co-ordinating architect for FOB. H. P. Wheldon, lately Rep. of Arts Council on FOB Executive Committee. J. W. Whiter, Dir., R. Costain Ltd., for services to FOB. T. Scott, Asst. Dir. (Architect), Public Works Dept., Nigeria. A. L. Simpkins, lately Director of Public Works, N. Rhodesia.

DSIR

1950 Report

"Building Research, 1950," published last week by HMSO for DSIR (price 4s., by post 4s. 2d.), gives details of work done by the DSIR's Building Research Board during 1950.

The Board has been concerned during the year with investigating the possibilities of making much more use of mechanization, new techniques and new materials in the building industry. A special study has been made of building costs and the factors that influence them. A survey was completed during which local authorities and private firms made available for analysis the records of costs and labour for 200 contracts. The data collected are being used to prepare standards of comparison for the use of the industry.

During the year the responsibility for economic and sociological research on building was transferred from the MOW to the DSIR. This work includes the study of building methods and the consideration of problems concerning the specialized needs of various types of user besides that on cost analysis.

The work on building methods includes the study of the mechanization of building, the various ways of building now available and the use of prefabricated internal fittings.

In examining the needs of the users of various buildings the effects of design, construction, space distribution, services and equipment are considered.

Research work on building materials has included a study of stone-built houses. It was found that cost could be saved by reducing the thickness of external walls from the usual 16-18 in. to about 12½ in. The loss of thermal efficiency can be compensated for by substituting lightweight blocks for brick backing.

Work has also been done on the effects of time and temperature in the curing of clays and on the chemistry of cements and silicates. Experimental work has been carried out on the problem of increasing supplies of cheap lightweight aggregates for concrete by the use of clinker from power stations. Ways of removing unburnt fuel from the clinker by screening or by pneu-

from a cold emulsion. A method of analysing the elastic stresses in concrete shell roofs has been found which removes many of the uncertainties of other methods of design. Selected typical cases have been worked out in detail and the results verified by means of small-scale plastic models.

During the year test panels representing part of the steel road deck of the proposed Severn Bridge were tested for the Ministry of Transport.

Work on soil mechanics has included investigations in the laboratory of physical and mechanical properties of soils in order to obtain more information to apply to problems in the field.

The distribution of the bearing capacity of piles between skin friction and point resistance has been studied by means of model tests. The results of the tests agreed closely with calculated values and showed that in granular sands skin friction is small,

but in cohesive soils it is the major component and point resistance is small.

New information about the mechanics of failure in soil subjected to seepage has been obtained by means of electrical analogy studies and model tests in a seepage tank. The tests showed that thin horizontal layers of gravel, fine sand or silt can help to bring about failure in a cofferdam.

Mechanical aids to building have been studied and the work included the study of the behaviour of machines on site and collaboration with manufacturers in the development and testing of suitable plant. The machines considered include long-reach tower cranes for handling materials, powered vehicles for carrying concrete, mortar mixers, building jigs and a transporter boom for concrete.

Study of prefabrication has included not only problems concerned with the application of this technique to the shells of buildings but to those met in applying the principle to the production of internal fittings needed to complete the building. In this connection arrangements are under consideration with a local authority by which different types of prefabrication will be used in the course of erection of some 400 houses for the authority to see what savings can be made in this way on the cost of house construction.

Among subjects bearing on the efficiency of buildings which have been studied are lighting and glare, colour schemes, working temperatures, ventilation, sound insulation and plumbing.

Surveys have been made of houses, flats, schools, hospitals, factories and public buildings and the results of the investigations have been made available to designers of new buildings. Recommendations based on the surveys are to be published.

BSI

Fire-check Doors

British Standard for Fire-Check Flush Doors and Frames (BS 459, Pt. 3:1951) is a revision undertaken in order to provide for a further type of door which would be effective for one-hour fire resistance as the previous edition covered only a type of door having a half-hour resistance. The standard is not intended to include all types of doors which would fulfil fire-check requirements but the doors described can be produced under modern conditions with the assurance that they will provide the necessary protection. The standard includes requirements for wood and metal frames as the performance of the doors themselves is dependent on the use of suitable frames. The requirements of this specification describe fully the construction for both internal and external situations.

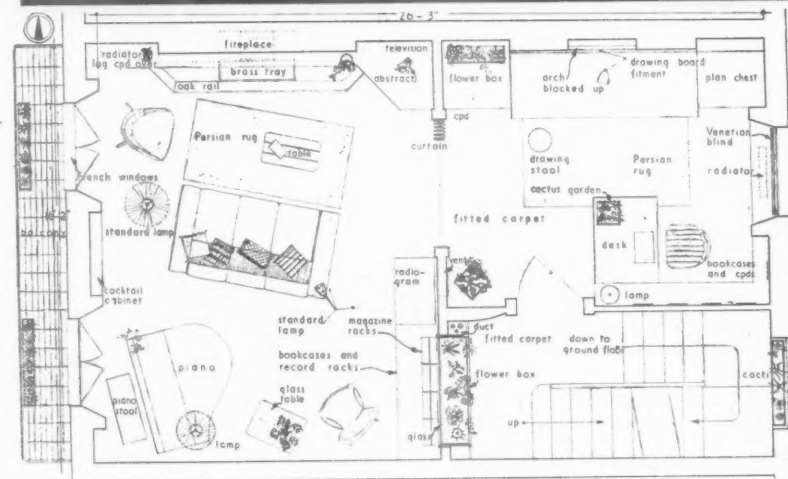
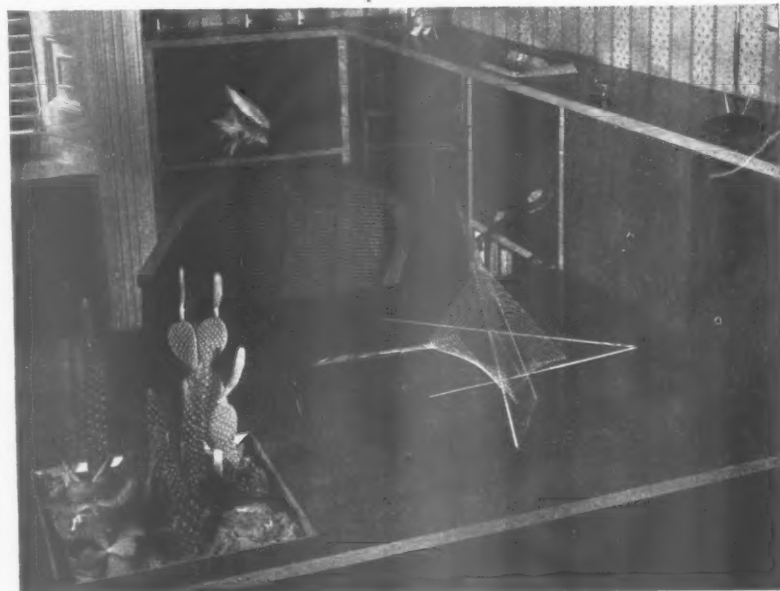
Copies of this standard may be obtained from the British Standards Institution, Sales Department, 24, Victoria Street, London, S.W.1, price 2s., post free.

Steel Door Frames

British Standard Metal Door Frames (Steel) (BS 1245:1951) is a revision of a British Standard originally published in 1945, and has been prepared to take account of changes in practice which have occurred since the original issue. The range of frames for use with external doors has been extended and the requirements of the clauses relating to the finishes have been amplified. The standard covers three basic profiles of frame. The requirements included cover quality of material, construction, range of finishes, together with details of fittings such as fixing lugs, hinges, mortar guards, lock strike plates and shock absorbers.

Copies of this standard may be obtained from the British Standards Institution, Sales

HOUSE CONVERSION IN BROMPTON



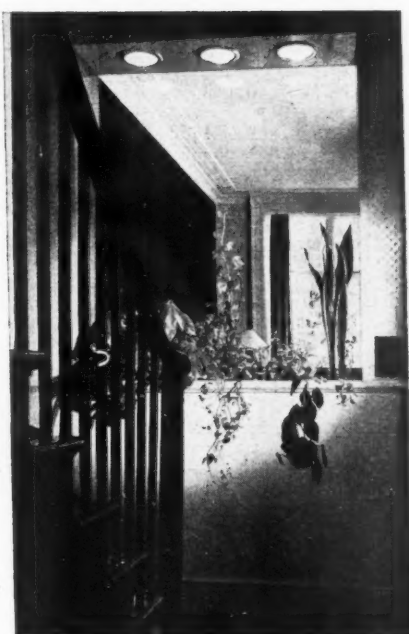
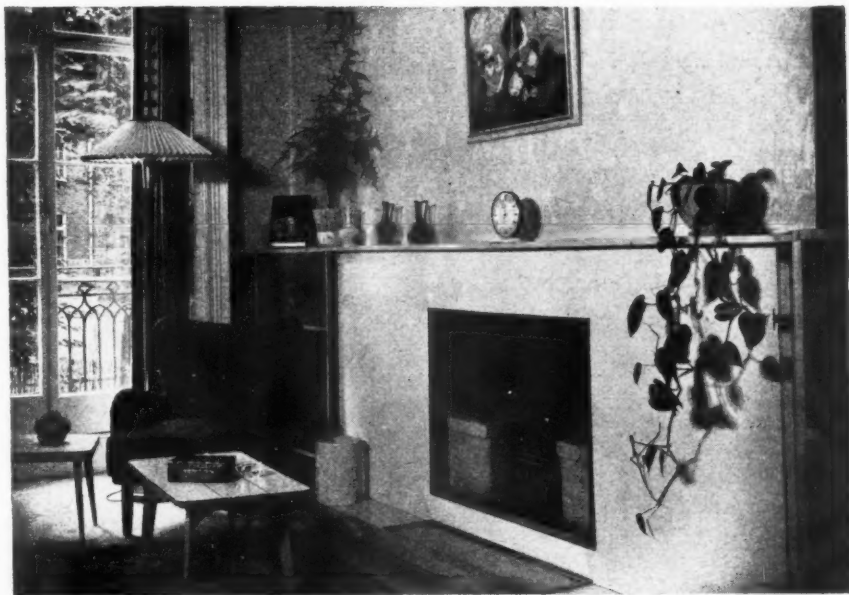
First floor plan

A small Georgian house in Brompton Square with five floors has been converted by Michael Lyell for his own occupation and contains, mainly in the first floor living room, built-in, purpose-made furniture to the architect's own designs. The front facade

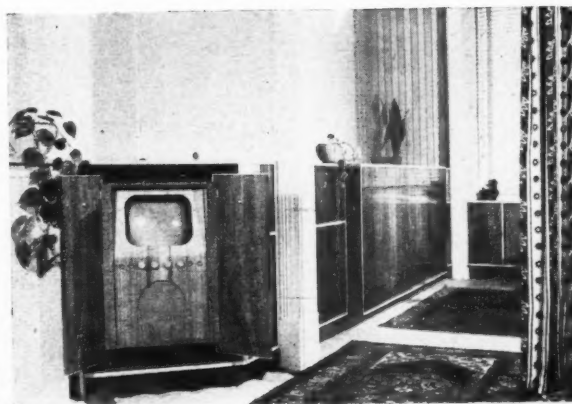


SQUARE, LONDON S.W.3

facing the square is seen bottom right on this page; the photograph centre left shows the staircase up to the third floor; otherwise all the illustrations are of the L-shaped living room, which has been opened up to the first floor landing by a large panel of clear glass above a deep flower box. On the room side of this "window" is a fitting containing a radiogram, bookcase and record storage for 118 12-in. records and 240 10-in. each divided by $3\frac{1}{32}$ -in. duralumin rods at $5\frac{1}{32}$ -in. centres and numbered by machine stamped plastic strips. The small arm of



the L-shape is used as a study and contains a fitting, seen open, centre right and closed, bottom left, large enough to hold two double-elephant drawing boards and large drawers and shelves underneath. The desk with recessed cactus-garden (top, on the opposite page) is removable, having folding sycamore legs and locks on the wall fitting side. All built-in fittings are constructed of blockboard veneered French walnut, with frames of veneered sycamore. For list of contractors see page 30.

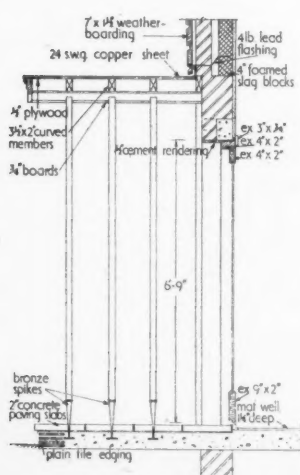


HOUSE AT LITTLE CHALFONT, NEAR AMERSHAM,

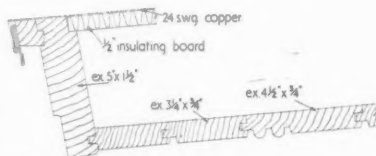
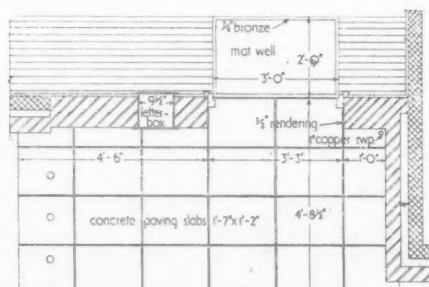
The site of this house, designed by Stillman and Eastwick-Field, is in Beechwood Avenue, Little Chalfont, and overlooks a fine view eastwards. The licence allowed a floor area of only 1,250 sq. ft., therefore there had to be economy in circulation space. A large living room, small separate dining room and three bedrooms are provided and the clients required all rooms to face the view and have large windows. The load-bearing cavity walls are of facing bricks and foamed slag blocks. The west facade has a panel of weatherboarding in oiled ekhimi, giving contrast to the brick work. The roof

Ground and first floor plans [Scale: $\frac{1}{8}'' = 1' 0''$]

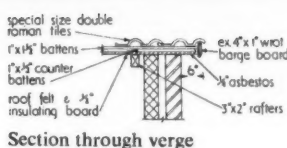
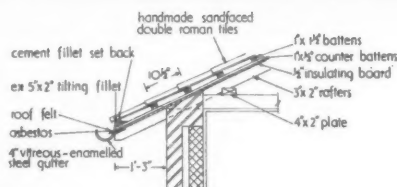
is covered with handmade double roman tiles of unusual pattern at a pitch of 25° . This low pitch, instead of the usual 30° - 35° for single lap tiles, was chosen to reduce the height of the ridge, and thus to improve the proportions of the house. The chief danger of the low pitch, rain penetration, is avoided by the use of battens, counter battens and good felting on insulating board, and handmade tiles minimize the risk of lamination. The east window of the living room is a fixed light with a low cill so that



Section through centre of door

Section through side porch fascia [Scale: $2'' = 1' 0''$]Plan of entrance porch [Scale: $\frac{1}{8}'' = 1' 0''$]

BUCKINGHAMSHIRE



Section through verge

Cross section through eaves (Scale: 1/4" = 1' 0")

the view can be seen by persons sitting near the fireplace. Windows have extra large *EjMA* type sections fitted with specially-made brass butts and polished brass window furniture. The floors of the living room, dining room and hall are beech block. There is a closeable convector grate in the living room and a semi-automatic boiler in the kitchen serving three radiators and a calorifier. The views above and below show the south and west facades; on the opposite page, top and bottom, the main entrance on the west facade and, centre, the living room fireplace. The general contractors were Gullett & Sons Ltd. For sub-contractors see page 60 in next week's issue.



Department, 24, Victoria Street, London, S.W.1, price 2s. 6d., post free.

Electric Lifts

The Council for Codes of Practice for Buildings has now issued in final form code 407.101 (1951), "Electric Lifts for Passengers, Goods and Service." The code has been drawn up by a committee convened by the Institution of Mechanical Engineers on behalf of the council, and is a revision, following comments received, of the draft code previously issued.

The code deals with the installation in flats, shops and department stores, hospitals, and industrial premises of lifts operated by electric power for passengers, goods and service. It indicates the information which should be exchanged between interested parties and the sequence of events from the enquiry stage to the handing over of the installation.

General guidance is given on the conditions which govern the choice of equipment, the location of lifts and machine room, and the service requirements from, and co-operation with, other trades. Structural requirements are also dealt with.

The code carries the usual warning that, in the present abnormal conditions, it may not be practicable to carry out all the recommendations. Copies may be obtained from the British Standards Institution, 24-28, Victoria Street, London, S.W.1, price 4s., post free, reference CP 407.101 (1951).

MOH

Building Licences

As from January 1, applications for building licences made by or on behalf of medical supplies firms should be referred to the MOH for sponsorship. The only exception to this general rule will be applications in respect of new works costing £1,000 or less and repair and maintenance work. These should continue to be addressed to the MOW.

DIARY

How the South Bank Exhibition was Planned and Built. Hugh Casson. Third lectures to children. (Tickets on application.) At 66, Portland Place, W.1. (Sponsor, RIBA.) 3 p.m.

JANUARY 4

Expression in Modern Architecture. Frederick Gibberd. At 66, Portland Place, W.1. (Sponsor, RIBA.) Also announcement of award of prizes and studentships. 6 p.m.

JANUARY 8

10th Annual General Meeting of the LMBA. At Derry & Tom's Restaurant, Kensington High Street, W.8. 2 p.m. (Preceded by luncheon at 12.45 p.m.)

JANUARY 9

Neighbourhood Planning in the New Towns. Lecture by S. L. G. Beaufoy. At 13, Suffolk Street, S.W.1. (Sponsor: Housing Centre.) 6 p.m.

JANUARY 15

Modern Materials and their Uses. Lecture by G. I. Goulden. At the Building Centre, Store Street, W.C.1. 6.30 p.m.

JANUARY 16

15 Young Sculptors. Exhibition at 17-18, Dover Street, W.1. (Sponsor, ICA.) Daily, 10 a.m.-6 p.m. Sundays, 2 p.m.-6 p.m. Admission 1s. 6d.

UNTIL FEBRUARY 3

R. J. McKINSTRY Ulster Newsletter

Culturally speaking, Dublin has always queened it over Belfast, that "city of mixed grills and double whiskies," as Sean O'Faolain has called her. But Eire's capital must now look to her harp-strings, for during our Festival summer Belfast has had something more to think about than her precious industries and has even favoured architecture with more than a glance. At the end of May the RIBA Conference, the opening of the Ulster Architects' own Exhibition and the Festivals' official Farm and Factory Exhibition followed each other in such rapid succession that before long it was quite clear that architecture was on show and that for the first time an inquiring Ulsterman might gain a nodding acquaintance with contemporary design.

THE RIBA CONFERENCE

The RIBA Conference enjoyed such wonderful weather that some English visitors even seemed sorry that there was no romantic Irish drizzle to soften many a too-raw building, but real disappointment was felt by all local architectural students who had hoped that the question of a Chair of Architecture at Queen's University would no longer be a vague promise.

Our Minister of Finance, Major Sinclair, did, however, state at the conference dinner that the government was going into the question of granting a number of scholarships which would give Ulster students an opportunity of training at schools of architecture across the water. One of the conditions of this scholarship will be that the student, when qualified, must return to work in Ulster for a while and so lay his school-trained talent at the feet of his benefactor. The cynics amongst us claim that once the young architect has tasted the delights outside our shores he won't want to come back at all. I don't think this is true, but it would be a shame to curb the chances of a brilliant young architect who showed every sign of making his way amid the best international names. Say such an architect did gain a reputation out of Ulster, then no one here would object if one of our large public concerns who usually show such affection for architects with English addresses on top of their writing paper called instead on the services of our own white-headed boy. But the question of how to give a good training to the average student here at home is a very serious one. The students themselves still do what they can and last October they held a week-end conference at Castle Rock at which every possible visual aspect of architecture was eagerly discussed.

The architectural exhibition on a blitzed site in Fountain Street closed at

the end of July, and I'm told by the organizer, J. V. T. Scott, that it would cost far too much to have the existing building damp-proofed and converted into permanent exhibition rooms for CEMA as was suggested. This is a pity, as the architectural exhibition might have been the first of many similar ones. It did prove most emphatically that there are young designers in Belfast fully aware of the latest trends in exhibition technique and endowed with lively imaginations that have kicked aside at last the proverbial "time-lag" whereby any new idea takes a long time to trickle across the several dividing seas.

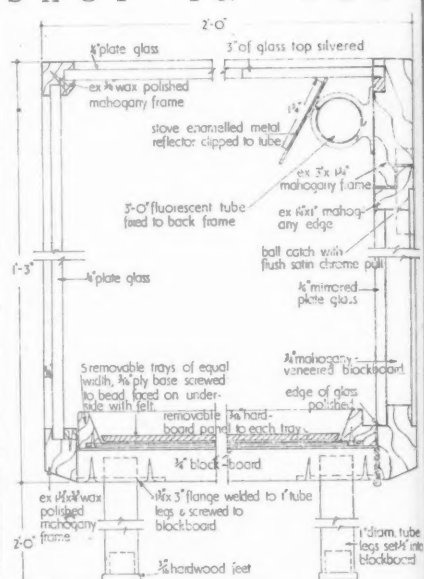
PUBLICITY, BUT TOO LATE

But such a really excellent exhibition as this should have received far more publicity than it did. This was partly the fault of the organizers who, perhaps, because they were all well-brought-up architects, hesitated to make their exhibition the most-talked-of in town. And the Press could have helped far more than they did. Why did Ulster's most widely read evening paper *The Belfast Telegraph* publish a leader about the exhibition on August 4 after the exhibition had closed? This article described the different features of the exhibition in the most glowing terms, but it also said that it "deserved a larger number of visitors than it obtained." It does seem that the public (especially in Ulster where nearly every exhibition in the past has been a trade show) can be easily frightened off by too high-minded and abstract a tone in its advertising. Certainly the Castlereagh Exhibition (which closed at the end of August) stated its true purpose clearly and proudly, but at the same time it claimed to be "the Ideal Summer Show amid lagoons and gardens and open-air restaurants" with free band and film show thrown in as well. Such tangible, even seductive, publicity does bring the man-in-the-street in from the street.

Another point in an exhibition like Castlereagh is the apparent ease with which members of the public misinterpret some obvious feature. Take for instance the case of "Realist" who wrote to the *Belfast News Letter* to point out that the reconstructed farmhouse of 1851 was not typical of the farm of today. Nobody said it was and when the architect, Henry Lynch-Robinson, replied that it "represented the prosperous farm of a hundred years ago," this shocked *Realist* even further and also another correspondent, who called himself "Fair play" and claimed that no prosperous farmer of the period would have lived "in the poverty stricken hovel shown at Castlereagh".

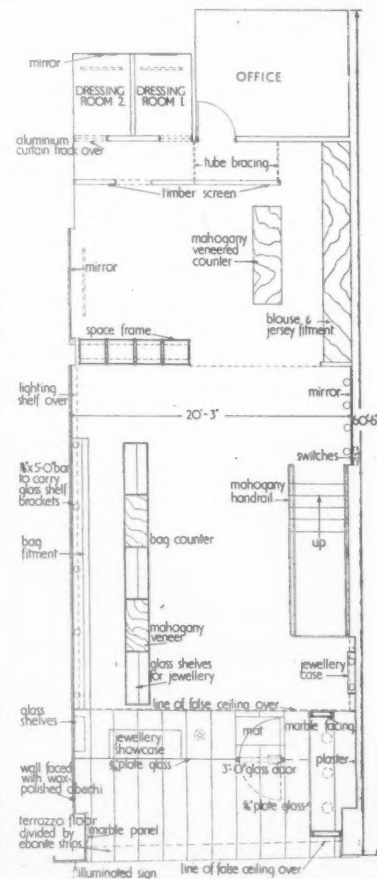
Certainly it would have been more correct to reconstruct the two-storey white-washed simple Georgian farmhouse of 1851, though it would have

SHOP IN NEW



Section through jewellery show case
(Scale: 3" = 1' 0")

The reconstruction of 4, New Bond Street has been designed by Sadie Speight in association with Leonard Manasseh, assistant architect, Lois Hutchings. This shop, selling accessories, is deep, with a



Plan (Scale: 1/2" = 1' 0")

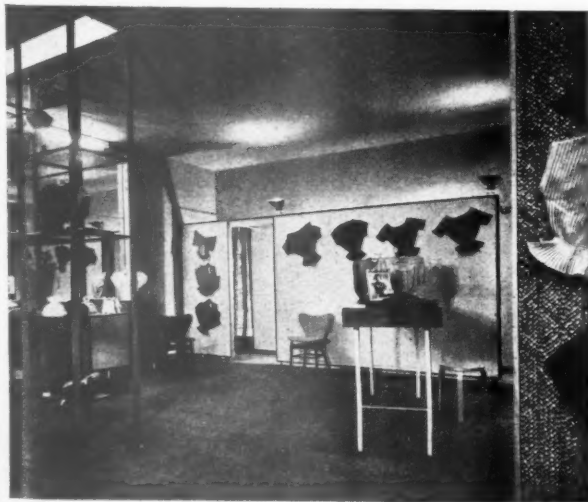
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BOND STREET, LONDON W. 1



narrow frontage and the new design opens a view of the whole display space to the street. The main colours used were lavender grey for the carpet and pale grey on a white ground for the curtains; different planes of walls and ceilings are white, pale blue, pink, yellow and bottle green; chairs are covered in bright red and lemon yellow material and the woodwork is mahogany. The main window, seen above, is a single sheet of plate glass approximately 12 ft. 6 in. sq. Below are two views of the main display

space, lit partly by spot-light fittings. The general contractor was Alexander Black. For sub-contractors see page 30.



been far less colourful. It would, however, have shown clearly how the Farm of the Future with its white-washed walls and clear crisp lines did not represent the complete break with tradition that has been suggested and could readily take its place in the Ulster countryside. I hear that this Farm of the Future may even fit into the tropics for when the Kabanga of Buganda visited the Farm he was so impressed that he has asked the architect, Lynch-Robinson, to let him have a complete set of plans.

Just before the exhibition closed, Ulster's own Ideal Home Exhibition was opened at the King's Hall, the central feature being the Ideal Home Festival Bungalow, erected by J. and R. W. Taggart Ltd., one of the largest firms of speculative builders in Ulster. (The firm has new housing estates at Edenmore and Mount Pleasant, overlooking Belfast Lough, and at Newcastle "on the gentlest slopes of the Mourne Mountains.") The bungalow, "this most modern of dwellings" as the catalogue calls it, was curiously planned with two splayed side wings enclosing the entrance door, complete with coloured lead-lights that make a picture of a peacock perched on a tree. Every corner of the house was sliced off by the insertion of a corner window, an enormous brown-tiled roof sits on top as heavy as a platitude and nowhere inside was there the restraining influence of contemporary furniture design. It is depressing to think that this bungalow will influence the taste of many a prospective householder in spite of a whole summer when so much good design was on show.

THE GOVERNMENT AS CLIENT

The city of Belfast, encouraged by the Minister of Health and Local Government, Dame Dehra Parker, is still trying to extend its boundaries and acquire new housing estates for its citizens. Negotiations with the Co. Antrim authorities broke down when it was found that the land that they proposed to hand over to Belfast needed too comprehensive a scheme of land drainage. Now the housing department has turned to the blitzed housing areas and is at last working on definite redevelopment plans. The redevelopment of the Disraeli Street area has been causing much criticism because the houses here are to be rebuilt to minimum standards which may mean that in ten years or less they will be the new slums. Dame Dehra was a most enthusiastic visitor at the RSUA Architectural Exhibition and saw for herself the vivid photographs of our squalid 19th century housing, but she has always made it clear that her policy above all is to produce more houses at low rents.

Belfast is still far too timid about

RILEY — NEWSUM

PREFABRICATED



This single-storey prefabricated house, with a floor area of approximately 1,060 sq. ft., was designed to suit the varied climate of Australia. An Australian architect, A. B. Armstrong, acted as consultant to the manufacturers. The principal material used for the house is timber, of Swedish and Finnish origin. Wall and partition panels, 8 ft. high and 3 ft. 4 in. wide, are made of timber studding faced with plasterboard; external facing consists of 3-in. vertical weatherboarding over a layer of building paper. The windows and doors are incorporated in the prefabricated panels. The roof consists of folding timber trusses, prefabricated in halves; purlins, notched for self-



TIMBER HOUSES, AS EXPORTED TO AUSTRALIA

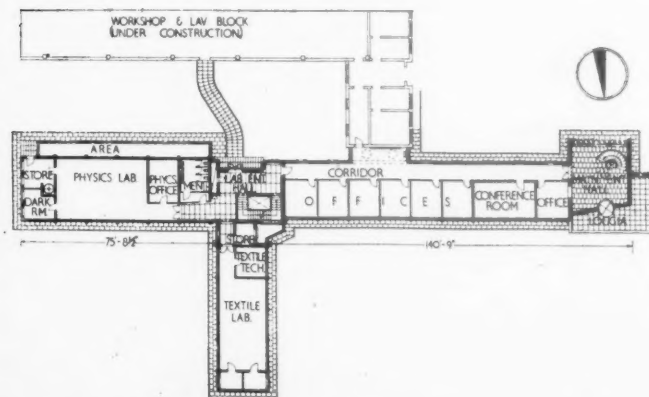
location over the trusses; and a covering of patent aluminium sheeting. Flooring (1-in. tongued and grooved boarding), ceiling joists, plasterboard ceiling sheets, wall plates, purlins, etc., are all pre-cut to size, and cupboards and fitments are specially designed for packing in sections ready for site assembly. The prefabricated parts are crated in 8-house sets of 104 crates and 64 bundles of pre-cut pieces. The Australian practice is to build these houses with the floor level about 18 in. above the ground; the house rests on a series of concrete piles. The only brickwork in the house is the hearth and the chimney; the hearth is in the living room and the chimney also accommodates the flue from a wood-burning cooking stove. Hardwood bearers of local timber are placed on the concrete piles, and the house rests on these bearers; its weight being approximately 12 tons. Metal flashings at the tops of the concrete piles protect the house against ants. Roof insulation consists of glass wool quilt laid over the ceiling between the joists, and the roof space is ventilated through the 18-in. wide eaves soffit and out through the gable ends. Photographs show, opposite page, top, exterior of type of house being exported to Australia (plan below); bottom, partially completed house showing construction. This page, right, the hall seen from the front door; below, looking into the living-room through the window, with the fly screens open.



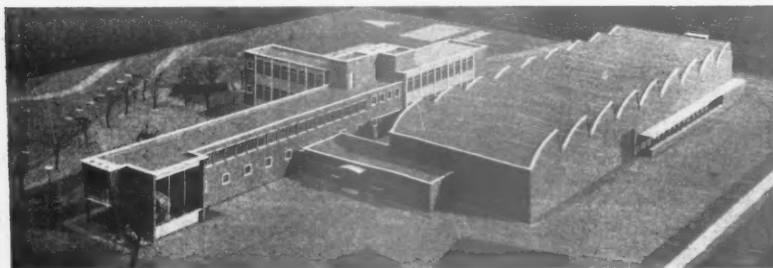
FACTORY EXTENSION AT ST. HELENS, LANCs.



The first instalment of an extensive new development for Fibreglass Ltd. at St. Helens, consisting of laboratories, offices and an experimental workshop, is now under construction, has been designed by W. and J. B. Ellis. The model is seen from the south-east in the photograph above and from the south-west below. The offices and laboratories are planned on two floors mainly with a north and south aspect and the main entrance will be at the western end of the office block. The external covered ramp on the south side of the workshop block will lead to the substation and boiler house. The office block will have mainly 14-in. load-bearing brick walls and the laboratory wings a R.C. frame with terrazzo facing slabs to brick panel infilling. The general contractors are W. Thornton & Sons, Ltd. For sub-contractors see page 30.



Ground floor plan of laboratory block (Scale: $\frac{1}{4}$ " = 1' 0")



building flats over two storeys in height though they are the obvious answer to the shortage of building sites within the city boundary. One Belfast councillor has been known to express the opinion that multi-storey flats "like those on the Continent" are positively immoral. The obsolete bye-laws existing in Belfast are regarded as obstacles in the way of more flat building but it is interesting to note that though many do not take into account modern building construction, plumbing or ventilation, there have been instances where waivers were made. In fact a committee has been investigating the revision of the bye-laws, which were originally based on the Irish Public Health Act of 1878 (following the English earlier) and on numerous local bye-laws that have accumulated over the years.

TRANSPORT

The corporation transport department is much more enterprising and is at present reorganizing all the public transport of Belfast, gradually scrapping the existing 200 trams still on the roads. To cope with the large increase in omnibus and trolley bus services they plan to have three depots for the city at Short Strand, Windsor and Ardoye. The architects appointed to carry out all this work are the private firm of Gibson and Taylor. Already the sketch design stage for the depot at Windsor has been passed and working drawings are being prepared. This depot will have a main building in steel frame and brick construction with monitor roof-lights and open marshalling yards to accommodate four hundred vehicles. This is very different from English practice, where all the buses are parked under cover, but there is little danger of the buses freezing up in winter for their off-duty period is short and, anyway, each bus will have its own electric immersion heater.

The public works department for the Ministry of Finance recently constructed a strangely elongated wooden ramp with framed-up handrail over the old muddy, stone-strewn approach to the Norman Carrickfergus Castle, our best preserved Ancient Monument. The local mayor objected to the new "approach" (as it was officially called) on æsthetic grounds and at the opening ceremony he rather aptly compared it to "a gangway on the cross-channel steamers for driving cattle on board" and wonder what the Minister of Finance (whose wife was performing the official opening) would say if this structure was put up against Stormont—the Ulster Parliament. The Mayor felt so strongly on the matter that he declined to have anything more to do with the ceremony, and so his place was taken by the Deputy-Mayor, who had presumably no æsthetic qualms. There is no doubt (as my photograph shows) that the ramp looks like a temporary structure and the very new natural-coloured

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WORKING DETAIL

COVERED WAYS AND CANOPIES : 4

CONNECTING BRIDGE AT FIRST FLOOR LEVEL: UNIVERSITY BUILDINGS, DES MOINES, IOWA

Saarinén, Swanson and Saarinen in collaboration with Brooke-Borg, architects.



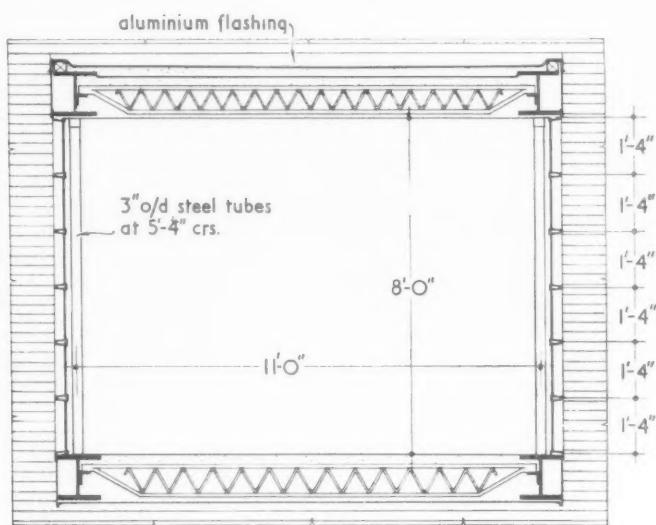
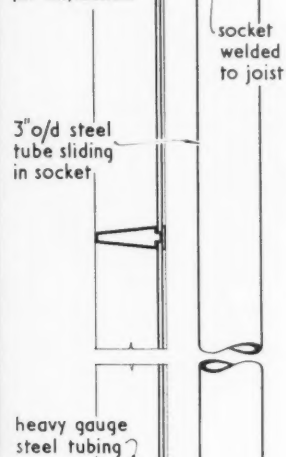
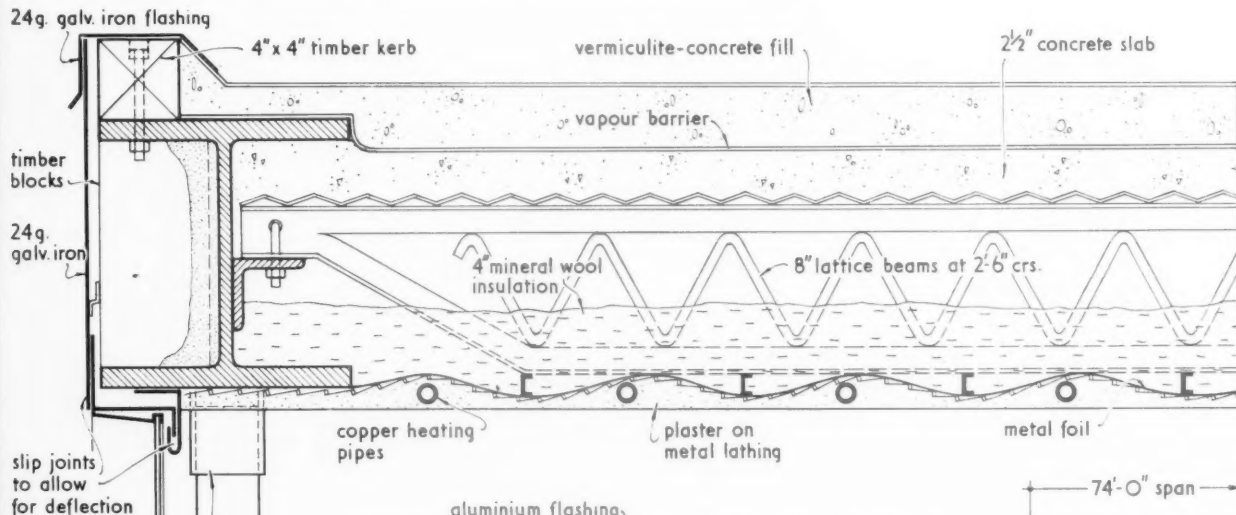
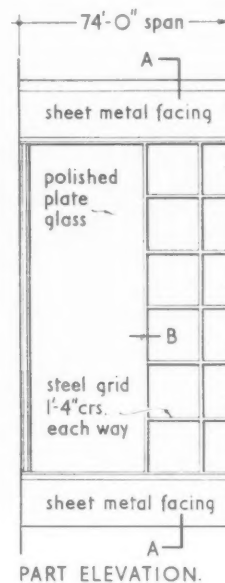
The bridge connecting the two-storey buildings at first floor level has walls of glass panes framed in a steel grid, with plate-glass panels extending the full height of the corridor at each end.

WORKING DETAIL

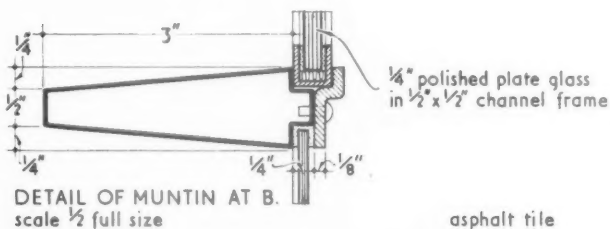
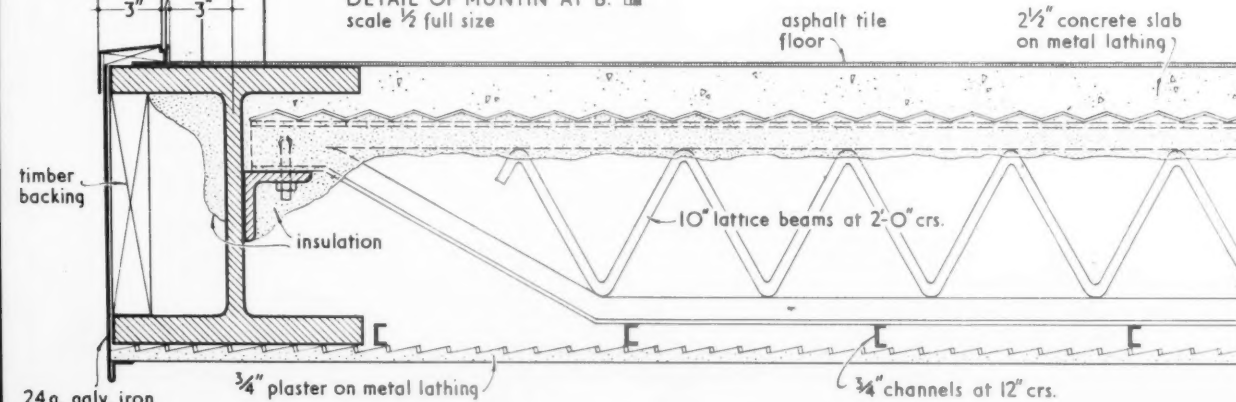
COVERED WAYS AND CANOPIES : 4

CONNECTING BRIDGE AT FIRST FLOOR LEVEL: UNIVERSITY BUILDINGS, DES MOINES, IOWA

Saarinen, Swanson and Saarinen in collaboration with Brooke-Borg, architects.

SECTION THRO' BRIDGE AT A-A scale $\frac{1}{4}'' = 1'-0''$ 

PART ELEVATION.

DETAIL OF MUNTIN AT B.
scale $\frac{1}{2}$ full sizeENLARGED SECTION A-A scale $1\frac{1}{2}'' = 1'-0''$

WORKING DETAIL

FURNITURE AND FITTINGS : 11

MOBILE PRACTICAL LECTURE DESK : NURSES HOME AT LEWISHAM

Bertram Carter, architect.



The desk is constructed of plastic panels and has a removable top which conceals a stainless steel sink and fittings. Connections are provided for water, gas and electricity.

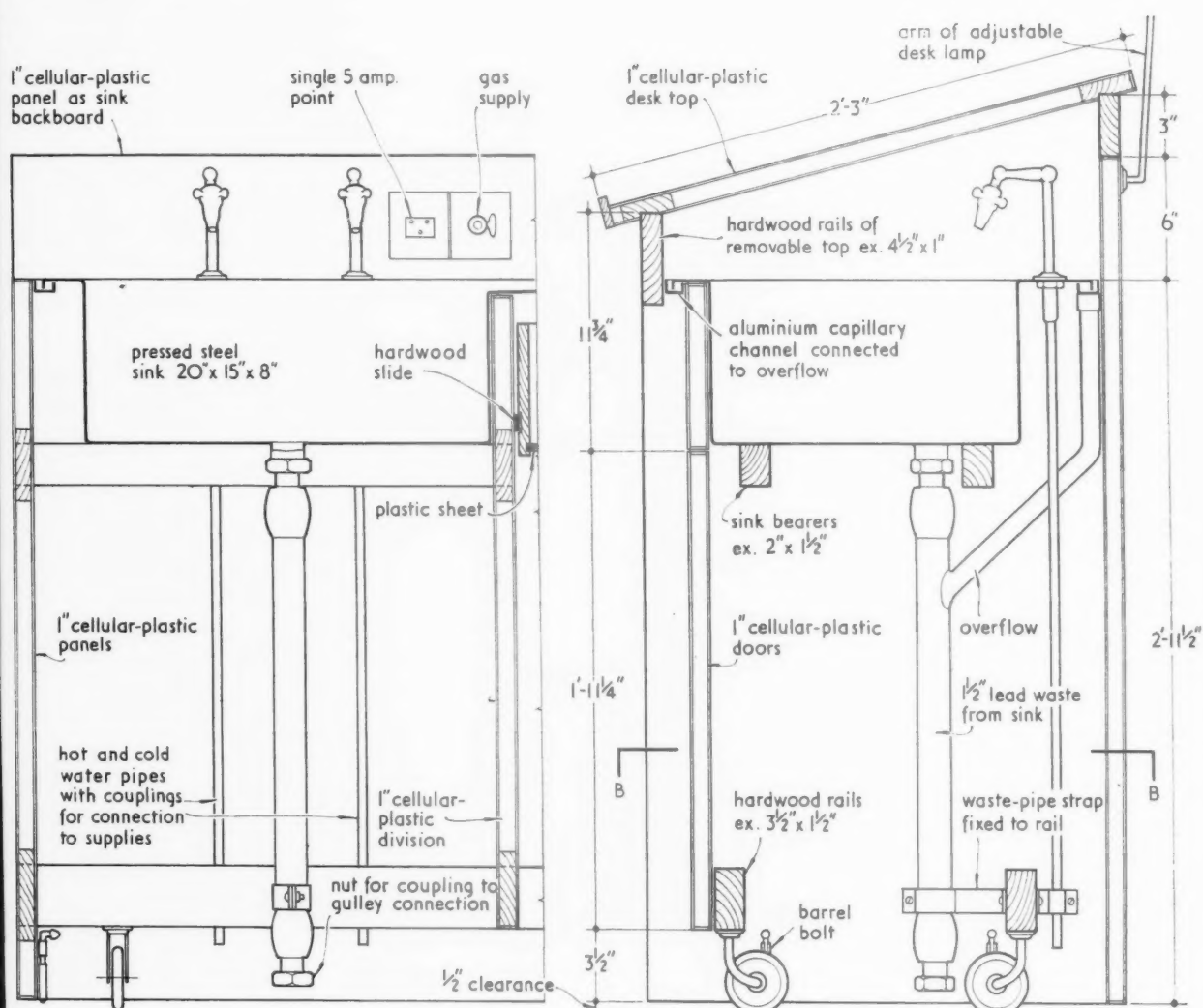


WORKING DETAIL

FURNITURE AND FITTINGS : 11

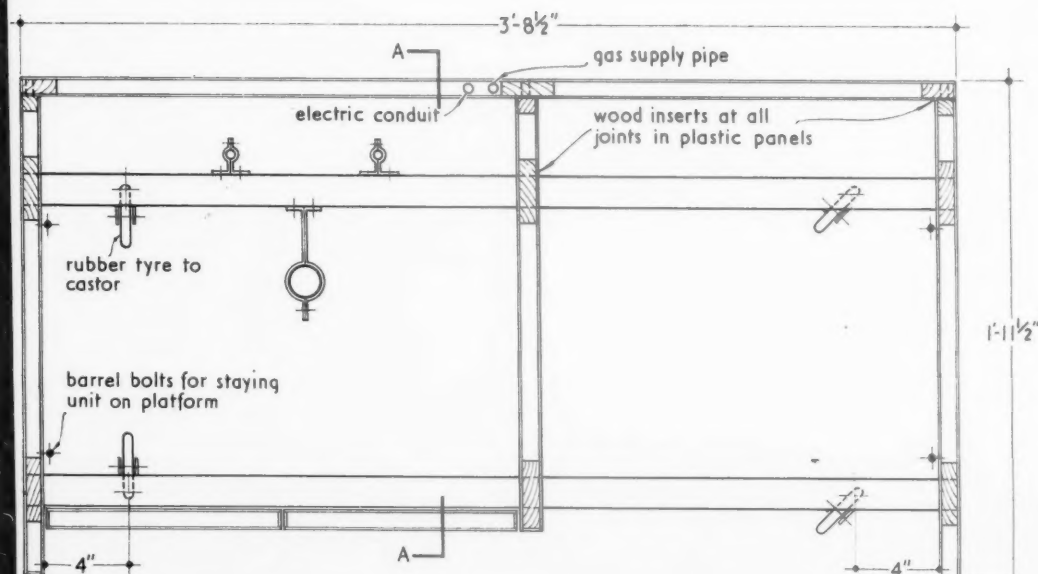
MOBILE PRACTICAL LECTURE DESK : NURSES HOME AT LEWISHAM

Bertram Carter, architect.



PART LONGITUDINAL SECTION.

SECTION A-A.



SECTION B-B scale: 1 1/2" = 1'-0"

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wood emphasizes this fact. If the obvious solution, a flight of stone steps, would have interfered with the excavations below, then surely it would have been just as feasible to have replaced the long portion of the ramp stretching over the grass by a flight of stone steps.

ULSTER FOLK ART

At Carrickfergus, King William of Orange landed on his campaign against James II over two centuries ago. This memorable period in Ulster history is still fiercely celebrated as if it were yesterday by all loyal protestant Ulstermen, and on July 12 Orange Processions file past streets hung with decorations strangely similar to the street carnival art of southern Europe. In fact the primitive bravura of the designs can be traced back to a pre-puritan Ulster. The great feature of these decorations is the

Mountains, which have been widely appreciated and were used at the South Bank Exhibition and the Architectural Exhibition in Belfast. Moreover, Robin Day chose several black and white wool rugs from here to cover the floor of the British furniture room at the Milan Triennale this year. These Mourne textiles are woven by a Norwegian, Mrs. Hay-Edie, who has worked in all parts of the world and now has four looms (one half-Norwegian in design, one half-Chinese and one made by the local coffin maker). She plans to settle in Ulster. Mrs. Hay-Edie weaves materials such as jute and cane into mats of high textural content. All her wool is dyed locally to her own colour specification and the effects she achieves are in the best Scandinavian tradition, startling maybe to the Ulster eyes, but certainly stimulating to architects here who are



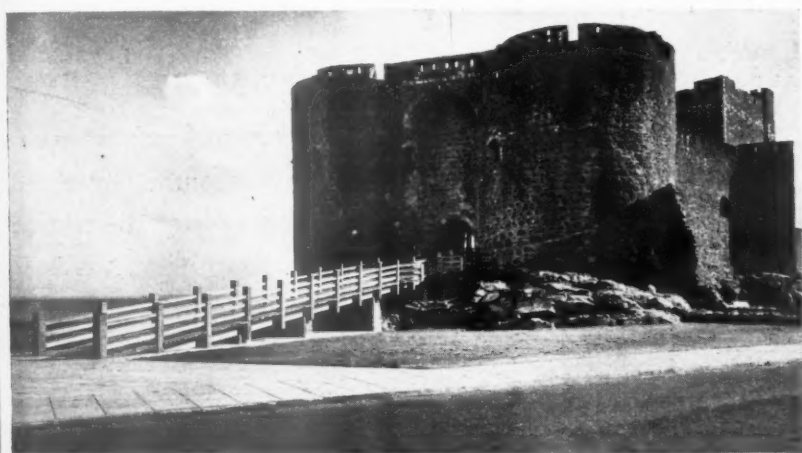
"Ulster folk art," street decorations for July 12 celebrations.

paratively few restrictions nearly every contractor is in such demand that he can charge higher prices than in England and may refuse to tender at all. Architects are, therefore, finding it more and more difficult, for instance, to keep the 2,000 sq. ft. house within the permitted £5,000 maximum, with the result that the small builder with few overheads is being brought in so as to keep the price down. But whereas the small man may be cheaper, the finish is rarely so good and the time taken over the job is certainly much longer.

If the prosperity of architects can be judged by the number who are at present having houses built for themselves, then it would seem that all is well here. I have counted at random ten architects who have designed their own houses recently. Henry Lynch-Robinson has under construction a one-storey house around two sides of a terrace overlooking Selsham Harbour on the lonely shores of Lough Neagh; I believe the County Antrim Planning Officer made a model of the house before he would pass it. Both partners of the firm of Houston & Beaumont (probably the most contemporary-minded of all our local architects) have built their own houses. The work of all the ten architects, unhampered by the tastes or notions of conservative clients, should prove interesting, at least fifty per cent. will be frankly contemporary in design and, by the number of times I have used this phrase, it will be clear that good modern architecture still occurs too infrequently here in Northern Ireland.



"Triumphal" arch in Bradford Street.



The "new" approach" to the ancient monument, Carrickfergus Castle.

triumphal arch, shown on this page, framing the neat perspective of drab red-brick houses and symbolizing the Gates of Derry slammed in the face of James II by the bold apprentice boys. Painted grey with mock stonework, the gates are decorated with loyal orange symbols and hung (like the walls of the parlour) with framed texts and pictures of King Billy, the present King and Queen, and the Ulster Prime Minister. They are made by the handymen of the street (many of whom are expert electricians and aircraft fitters); lighting plays an important part in the decorative scheme and in nearly every case the houses on each side right along the street are also decorated with orange window boxes and coloured lights. The huge murals of King Billy on his white horse which used to decorate the white-washed gable of many a protestant street have now vanished, but today the street decorations still flourish, and I heard of one street spending as much as £300 on their July 12 Orange Arch.

In contrast to this as yet unchronicled aspect of the unsophisticated arts there are some hand-woven textiles and rugs being made at Kilkeel near the Mourne

only beginning to discover these original textiles so near at hand.

On the other side of the Mourne Mountains, at the seaside resort of Newcastle, the local Council has recently erected a new fountain in the promenade gardens to replace the old Edwardian rockery-fountain which has been crumbling to pieces. The council has decided that the new fountain will commemorate the name of Percy French, who wrote "The Mountains of Mourne." But this crude concrete cone of three diminishing discs in no way pays tribute to our famous songwriter and gentle water colourist.

At Newcastle, too, there is talk of the council building a concert hall which would, of course, greatly add to its status as a resort. Now here is a chance for an architectural competition. Another concert hall project on a much bigger scale for Belfast has been suggested as the Northern Ireland war memorial for the last war and again there are hopes that this scheme will take the form of a competition.

PRIVATE BUILDING

The cost of building continues to increase here and because of the com-

FLATS

in PORTOBELLO ROAD, LONDON, W.II

designed by EDWARD ARMSTRONG and FREDERICK MACMANUS

associate-in-charge PETER COOKE

consulting engineer BYLANDER and WADDELL

Portobello Court, a scheme which lies on a site of $3\frac{1}{2}$ acres at the junction of Westbourne Grove and Portobello Road, is being built for the Royal Borough of Kensington. When completed the scheme will accommodate 680 persons in six blocks and 158 dwellings. The eight-storey block, which is being built along the north boundary of the site, will be illustrated at a later date.

View looking north-east across Westbourne Grove.

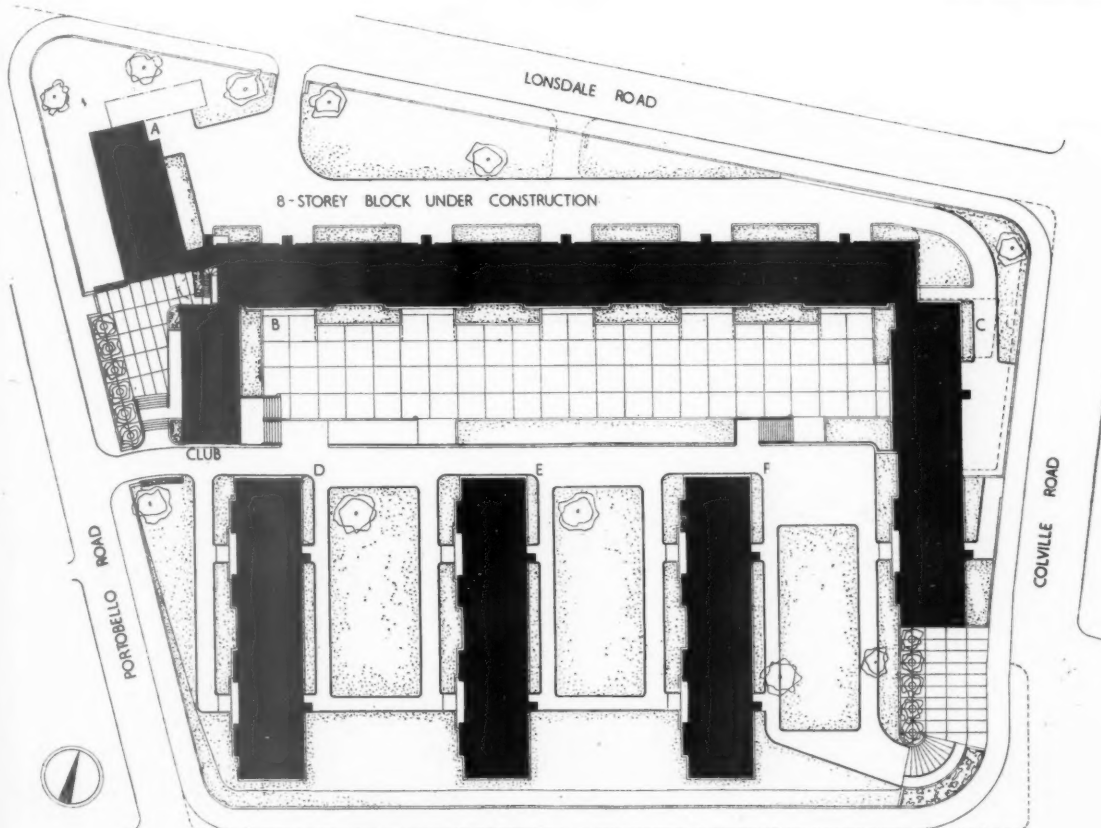


SITE.—This was, before the war, an area of out-worn terrace houses, small shops and costermongers' sheds, the dilapidation of which was completed by bombing during the war. The site levels are irregular with a maximum fall of 15 ft. from south to north. These changes in level have been exploited by terracing the layout and varying the heights of blocks. The eight-storey block B along the northern edge of the site rises above and shelters the lower buildings and grassed courtyards, which adjoin Westbourne Grove on the southern boundary.

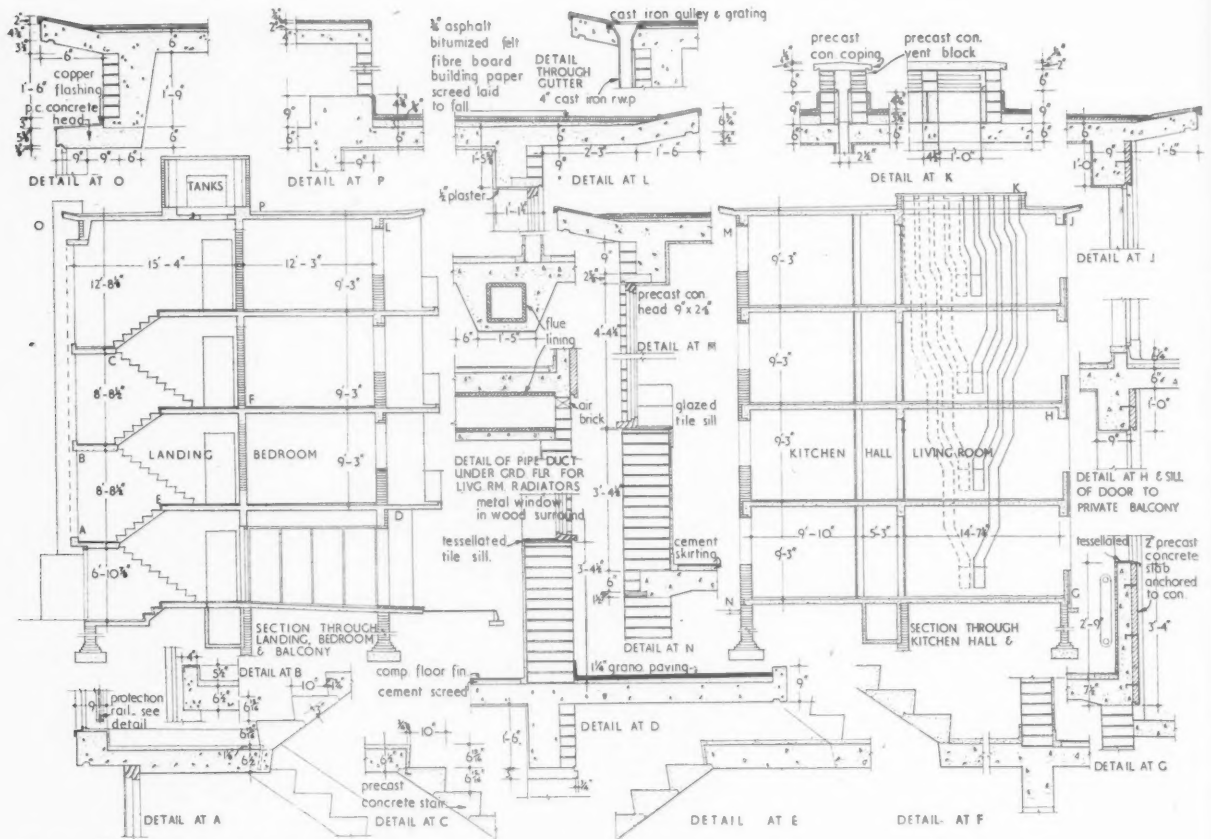
PLAN.—Of the six blocks all but one have internal staircase approach serving two flats at each level and in the case of the eight- and five-storey blocks passenger lifts are also provided. (The north end of block C has five storeys due to the drop in site level.) Each of the larger family dwellings has its own private store for prams and bicycles planned within the block adjoining the ground floor entrance lobby. All family flats have private balconies and the one-room flats for old persons are planned on the ground floor of the tall block. The larger flats are provided with a utility bathroom, larger than the usual bathroom which accommodates (in addition



West and south facades of block C.



Site plan

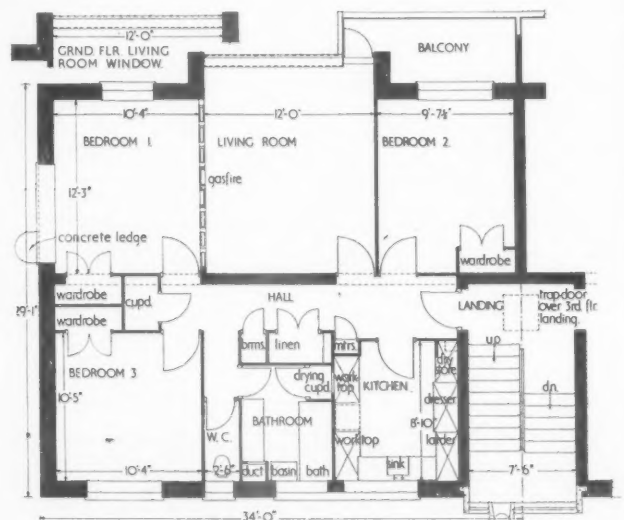


FLATS

in PORTOBELLO ROAD, LONDON, W.11
designed by EDWARD ARMSTRONG
and FREDERICK MACMANUS



Left, private balconies on the west facade of block C.





Above, part of the west facade of block A.

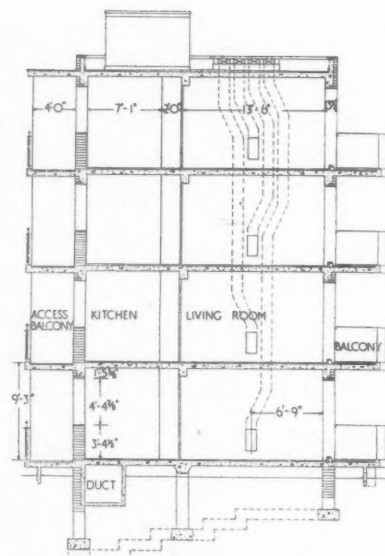
to bath and basin) home laundry equipment and a gas drying cabinet, an arrangement which has proved popular with tenants. Laundry facilities for the smallest flats are in a separate annexe. In all there are 11 bed-sitting rooms for old people, 13 two-room flats for married couples, 84 three-room flats for families of 4 persons, 42 four-room flats for 6 persons and 8 five-room flats for 7 persons.

CONSTRUCTION.—Walls are of load-bearing brickwork, floors and roofs of reinforced concrete and hollow tiles, partitions of breeze concrete blocks.

FINISHES.—The facing bricks are brown Sussex. Balcony fronts and copings are in fair-faced concrete, painted, and window spandrels are panelled in



Above, the junction of blocks A and B.



Cross section through block A [Scale: $\frac{1}{8}$ " = 1' 0"]

painted, fluted asbestos. Internally floors are finished with cork-plastic composition throughout; walls are generally plastered and decorated with special one-coat distemper; staircase walls have a glazed plastic paint finish.

SERVICES.—Constant hot water and central heating to living rooms and halls is provided on the individual calorifier system from a central boiler plant under the eight-storey block. In rooms without radiators there are gas fires or power points. Refuse chutes are at the rear of the buildings.

The general contractors are Y. J. Lovell & Sons, Ltd. For sub-contractors see page 30.

Below, the west and south facades of block A.



FLATS

in PORTOBELLO ROAD, LONDON, W.11

designed by EDWARD ARMSTRONG and FREDERICK MACMANUS



Typical 1-bedroom flat, block A [Scale: $\frac{1}{8}$ " = 1' 0"]

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QUESTIONS AND ANSWERS · CURRENT TECHNIQUE
THE INDUSTRY · PRICES · TECHNICAL ARTICLES

TECHNICAL SECTION

The Canton hospital at Zurich, completed last year, is one of the foremost hospitals in Europe. In the following five pages it is described and illustrated, and readers may find it profitable to compare a typical ward unit from it (plan on page 24, photographs on page 25) with the designs of the Nuffield Provincial Hospitals Trust Investigation (see JOURNAL for November 15 and page 703 of the issue for December 13).*

THE CANTONAL HOSPITAL AT ZURICH

The new buildings of the Cantonal hospital in Zurich, which were formally opened on July 14, 1951, were designed by six firms of Swiss architects, who formed a co-operative partnership under the directorship of R. Steiger, H. Fietz and M. E. Haefeli, for the purpose. The firms selected had all been prizewinners in a hospital design competition in the early 1930's. The plans were approved in 1940, building has been in progress since 1942, and the work is now virtually complete.

The Cantonal Departments of Health Services and of Education were responsible for the planning; the Department of Public Works, for the erection of the buildings. Among the many consultants was the late R. Maillart.

THE DESIGN OF THE NEW BUILDINGS

The new buildings accommodate all departments of the hospital, with the exception of the gynaecology and dermatology units, the children's psychiatric unit and the medical and surgical convalescent wards. The site is that of the old hospital, extended by the acquisition of adjacent land.

The design centres round the two ward

blocks; one containing the medical and surgical wards and the surgical unit; the other, the specialist departments. Circulation is horizontal; examining and treatment rooms being in the adjoining wing, so that each department forms an independent, self-contained unit. This arrangement reflects the basic organization of the hospital services. Similarly, the operating theatres, which are, in general, not related to out-patients' departments, all communicate directly with the specialist departments which they serve. Service rooms, such as the central kitchen, staff dining rooms and workshops, are housed on the perimeter of the site.

ENTRANCES AND LEVELS

The site slopes to such a degree that floor levels have had to be designated by letters. However, this has had the effect of simplifying the organization of independent traffic routes. Visitors and out-patients entering the hospital by the entrance in the Rämistrasse on floor "A" reach the lifts to the two ward blocks, by-passing the waiting room and dispensary and administration rooms. Casualties are received in a courtyard opening on to the Schmelzbergstrasse which communicates directly with the surgical casualty unit, the ward for the reception of patients during the night and the lifts to the wards. The isolation, psychiatric observation and rheumatic departments are all approached through separate entrances. The main entrance for students is on the same floor as that for casualties but on the other side of the building. Adjacent to this are the students' cloak-rooms, central medical library and the case-history archives. The staff entrance is through the staff dining rooms, which are on floor "F," communicating with the building linking the two ward blocks. Food is distributed from the central kitchen on floor "E" to the ward kitchens by way of a special corridor, which is carried over the Sternwartstrasse and leads

to the food lifts without touching any other thoroughfare. Goods are delivered to the kitchen at ground level on floor "E" and all other stores arrive on floor "U" in the courtyard north of the west ward block. From this goods entrance there is access to a system of underground passages which link all the buildings, including the older ones, the staircases and the lifts. The corridors are 2.7 m. to 2.9 m. wide; both these and the ramps connecting floors "V," "U" and "A" carry wheeled traffic. There is a screened entrance to the mortuary.

WARD UNITS

The two ward blocks accommodate a series of nursing units of from 18 to 26 beds. The latter type of unit comprises: two large wards, each containing eight beds, with a communal balcony and anteroom; five two-bed wards; a patients' sitting-room and, on the other side of the building, a series of ancillary rooms (tea-kitchen, sluices, bathroom, lavatories, etc.). All nursing units have been laid out on this plan and the aim throughout has been to reduce to a minimum the distances covered by nurses between wards and ancillary rooms. Rooms such as nurses' stations and consulting rooms may serve two or three units. The two-bed and six-bed wards in the west ward block are somewhat narrower, the additional space in the east block being provided to allow a larger number of students to visit these wards. Ceiling height in all wards is 3.05 m.

ISOLATION DEPARTMENT

The isolation department is on floor "A" of the east ward block. Each ward has its own bath and lavatory and every room is provided with a sluice with sink, cooking facilities and cupboards. As an additional precaution, the entire department is segregated from the rest of the hospital. It has its own treatment and examination rooms. Tuberculosis departments are on floors "C" and "D" of the east ward block and are likewise segregated, with their own staircase.

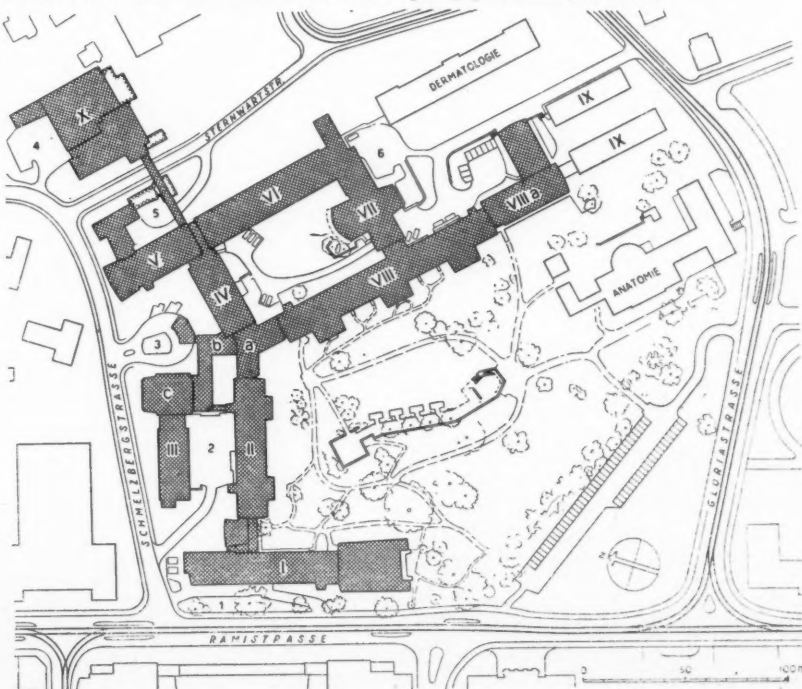
LECTURE THEATRES

The medical school lecture theatre in the students' wing seats 286 and is shared by the medical and surgical departments. It also

* The text of this article is an abridged translation from the Swiss journal *Schweizerische Bauzeitung*, to the publishers of which we are indebted for the photographs illustrating the article.

Right, site and block plan, key below.

- I. Polyclinic block
- II. West ward block
- III. Radio-therapy wing and garage
- IV. Admissions and reception block
 - a. Link block
 - b. Entrance hall and waiting room
 - c. Surgical polyclinic
- V. Pathological block
- VI. Operation theatre block
- VII. Lecture theatre block
- VIII. East ward block I
- VIIIa. East ward block II and physiotherapy wing
- IX. Pavilions
- X. Kitchens and staff dining room





Fuel requirements are 5,300 ton of solid fuel per year. Heat will be supplied from the district heating plant of the Swiss Federal Institute of Technology and from a new boiler plant, installed to meet cold-weather requirements. In addition, a 6,000 kW electric heating plant with a hot water storage vessel of 130 cu.m. capacity, for use in conjunction with all three heating systems, will supply all summer heating requirements. Work on the installation of a heat pump has already begun; this will supply most of the space heating requirements. Heat generated by these installations is supplied in the form of steam or hot water to a centre in the kitchen wing whence it is relayed in the required form to the individual sub-centres. A 385 kW power plant in the kitchen building is provided for emergency lighting, lift operation, heating, etc. There are fifteen refrigerators.

The telephone exchange in the admission block has 50 lines and about 1,000 extensions. Each department has a staff location system; the wards are fitted with light call systems.

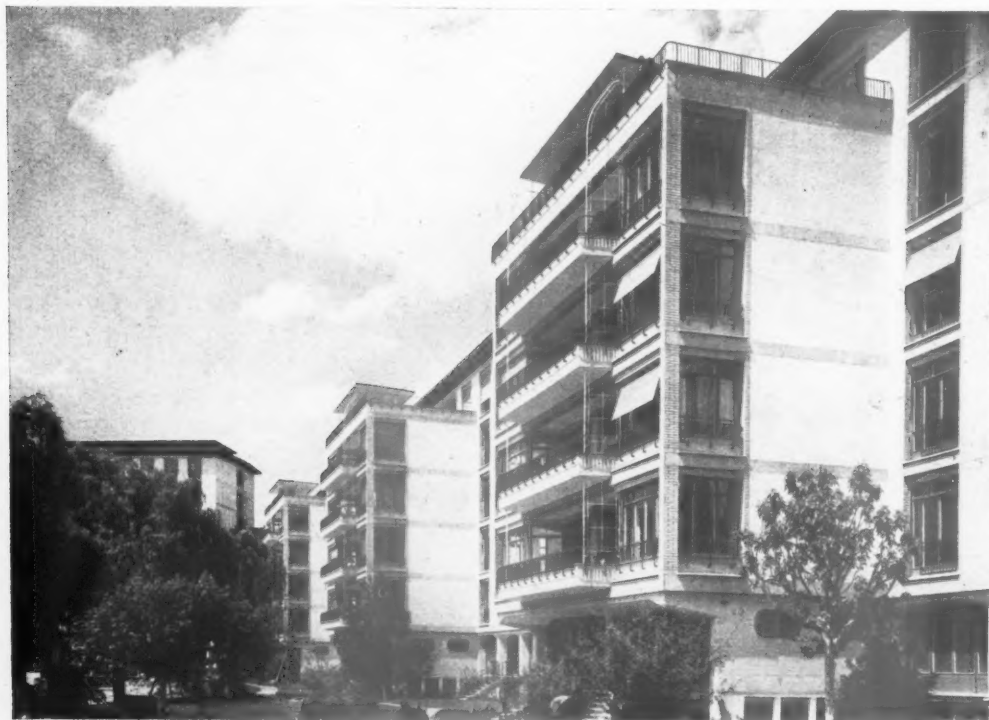
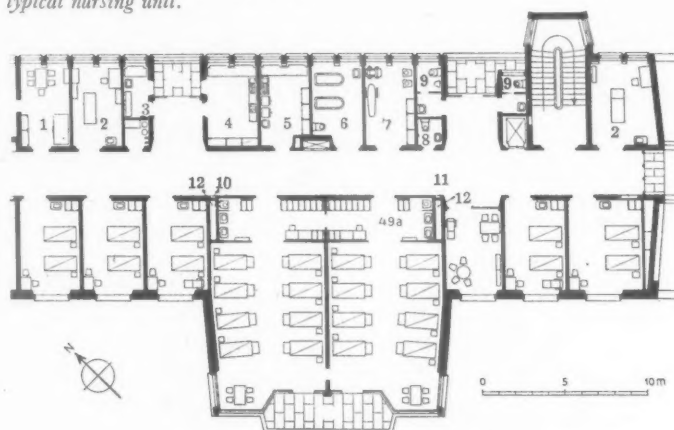
serves for post-graduate courses and conferences. The space beneath the tiered seating is used for the exhibition of specimens. Patients can be wheeled into the hall in their beds. The teaching centre situated between the out-patients' wing and the west ward block serves mainly the specialist departments. It includes a lecture hall seating 144, a demonstration theatre and a laboratory. The pathology institute has a histology lecture room seating 201 and a microscopy room accommodating 124 students.

SERVICES

The central kitchen lies on floor "E." Above it are the self-service staff dining rooms with food lifts to the kitchen. Ward kitchens, each serving 150-200 patients, are arranged one above the other in the building connecting the ward blocks.

The annual heating requirements for the entire hospital equal 26,300,000,000 calories, of which the new buildings require 18,600,000,000.

Above, lecture theatre, with operation block on left. Below, plan of typical nursing unit.

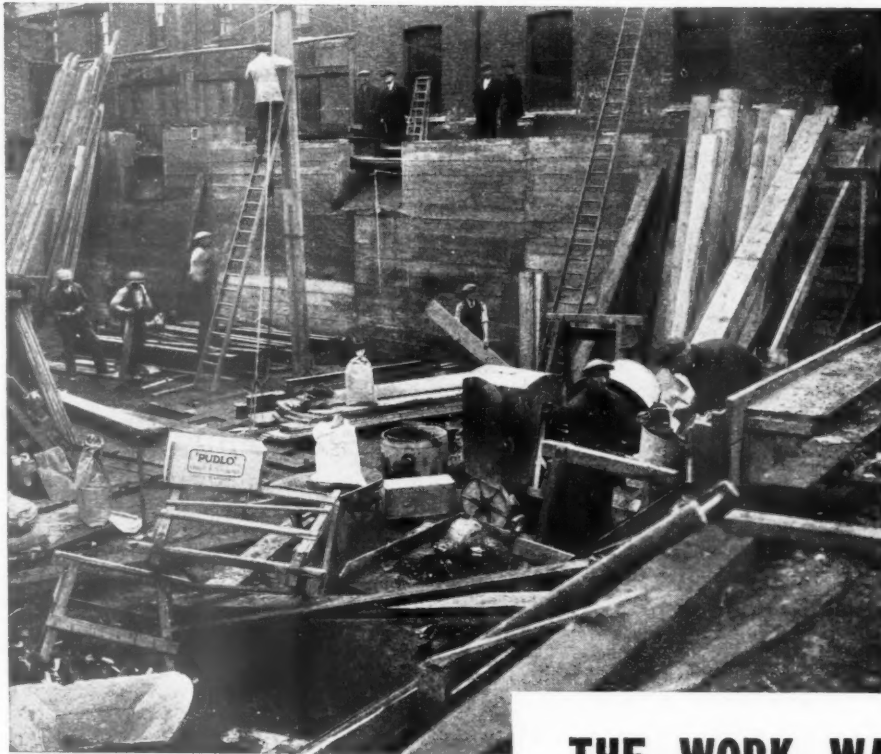


KEY

1. Sister's room
2. Examination room
3. Flowers
4. Kitchen
5. Servery
6. Bathroom
7. Equipment store
8. Staff w.c.
9. Patients' w.c.
10. Signal lights
11. Telephone
12. Ventilation duct

East ward block 1, seen from south. In the left background is the west ward block.

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one man is able to excel in everything and in the field of human endeavour the final product is inevitably the result of co-operation by specialists. So it is with architectural planning. Working under the captaincy of the architect, the team of specialists all play their part and take responsibility for different sections of the project.

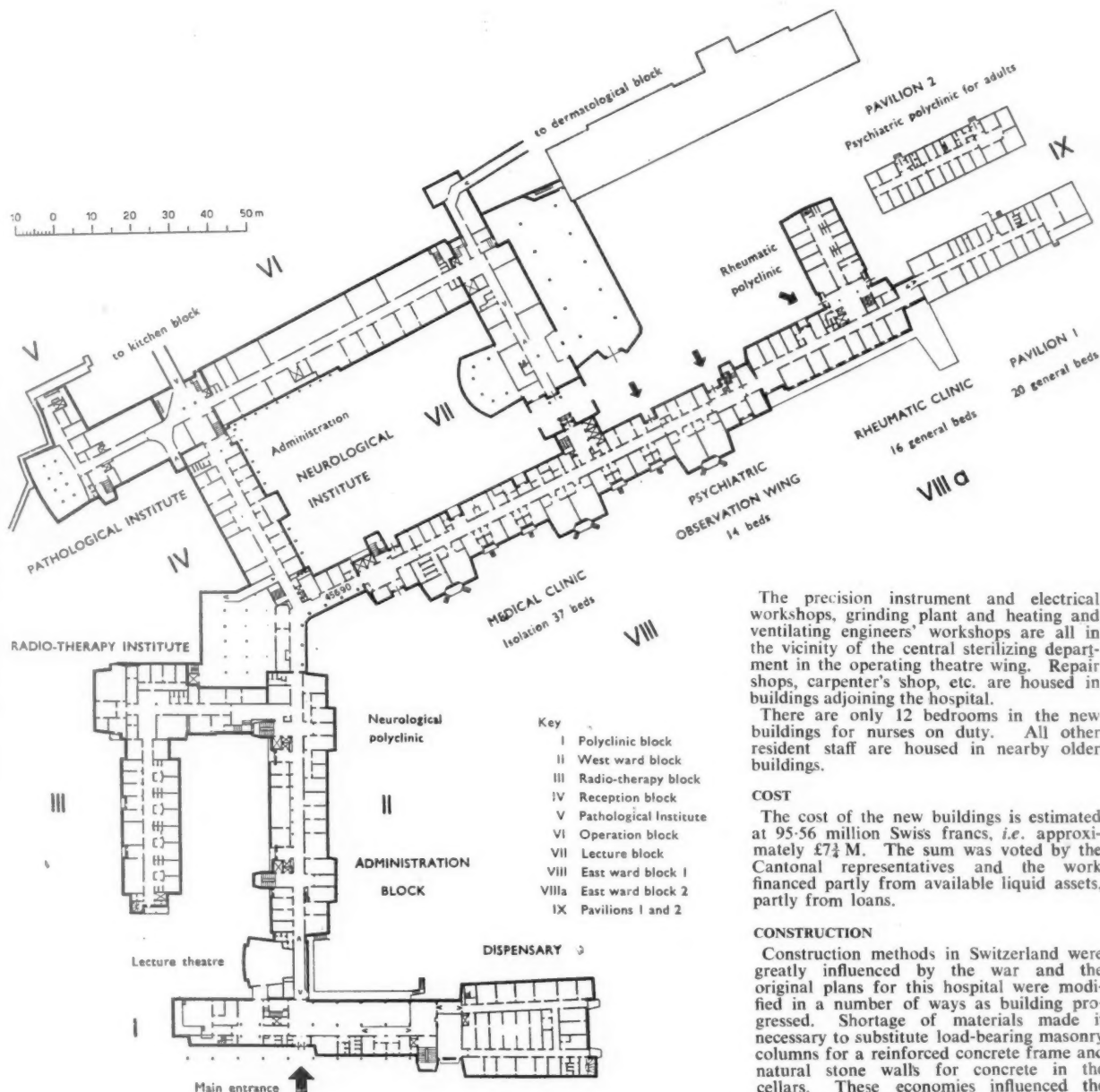
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Eight-bed ward in east ward block I; below, looking towards balcony; below right, looking towards ante-room. Plan above is of floor "A".



The precision instrument and electrical workshops, grinding plant and heating and ventilating engineers' workshops are all in the vicinity of the central sterilizing department in the operating theatre wing. Repair shops, carpenter's shop, etc. are housed in buildings adjoining the hospital.

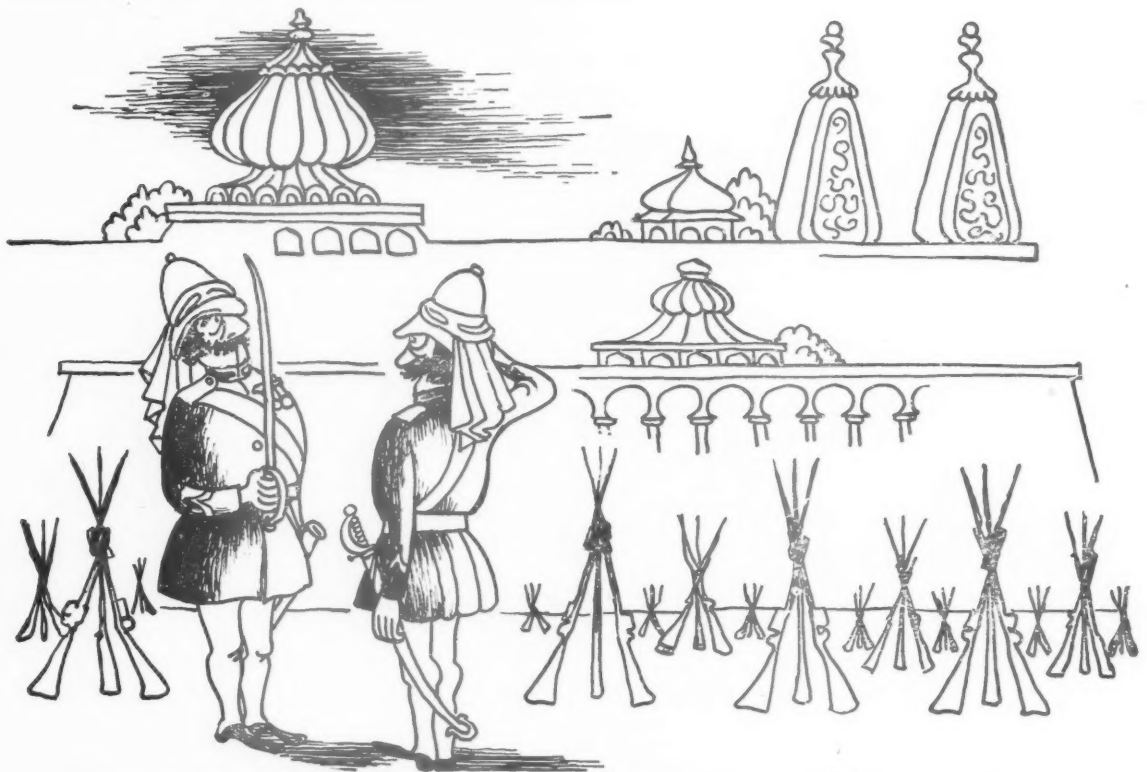
There are only 12 bedrooms in the new buildings for nurses on duty. All other resident staff are housed in nearby older buildings.

COST

The cost of the new buildings is estimated at 95.56 million Swiss francs, i.e. approximately £7½ M. The sum was voted by the Cantonal representatives and the work financed partly from available liquid assets, partly from loans.

CONSTRUCTION

Construction methods in Switzerland were greatly influenced by the war and the original plans for this hospital were modified in a number of ways as building progressed. Shortage of materials made it necessary to substitute load-bearing masonry columns for a reinforced concrete frame and natural stone walls for concrete in the cellars. These economies influenced the design of the outpatients' wing, where the columns are of sand-lime bricks, spaced at 1.62 m. This module was adopted throughout the building, single units being employed



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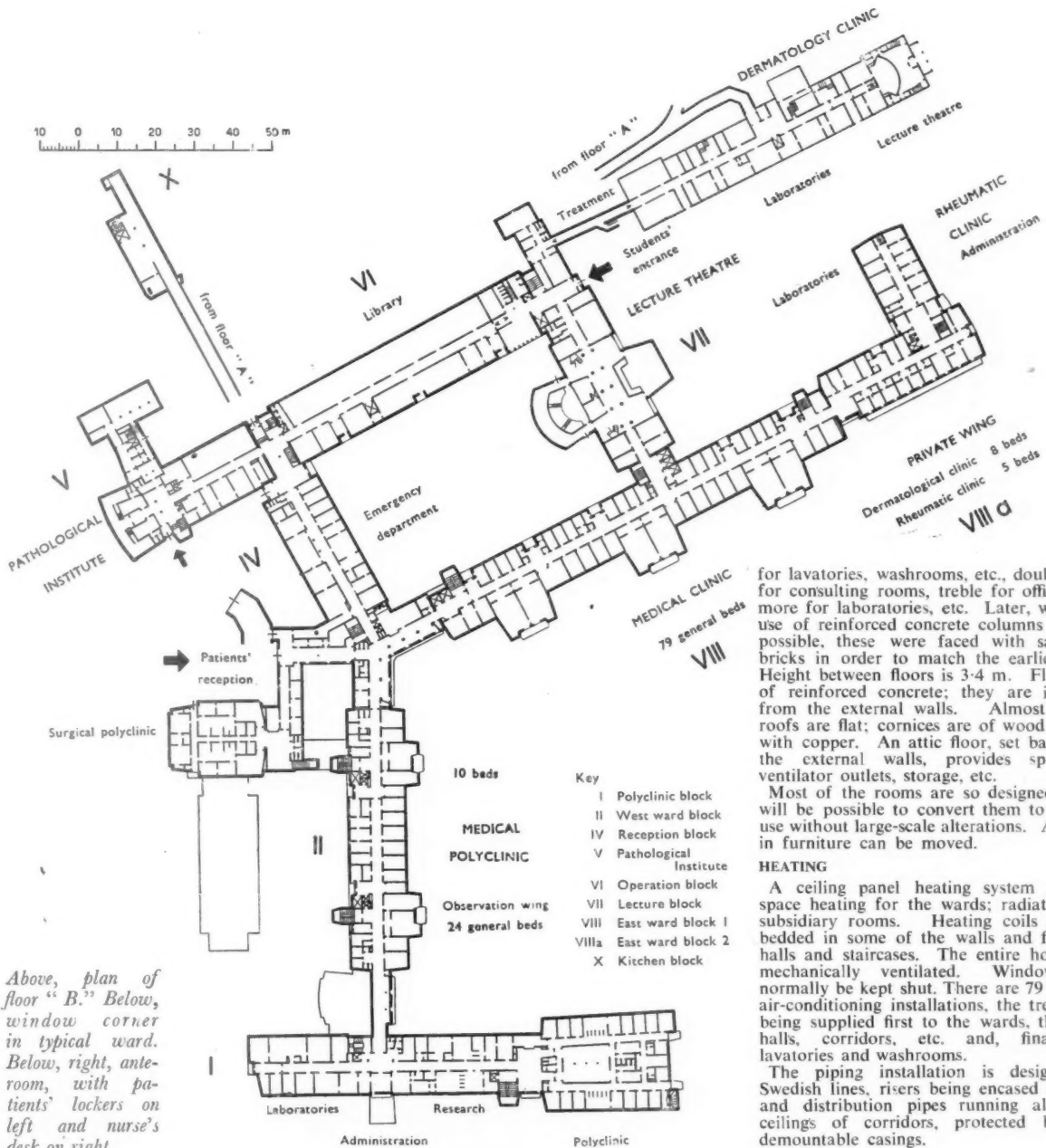
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Above, plan of floor "B." Below, window corner in typical ward. Below, right, ante-room, with patients' lockers on left and nurse's desk on right.

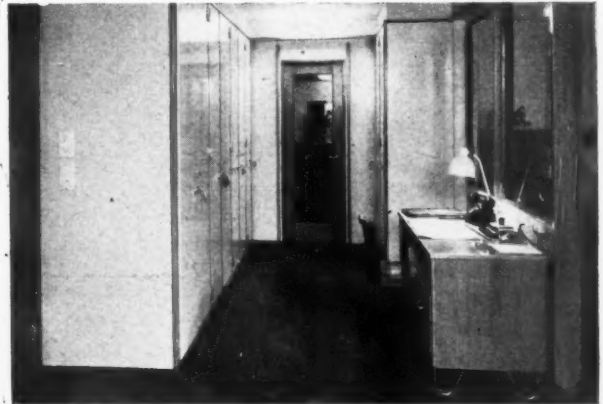
for lavatories, washrooms, etc., double units for consulting rooms, treble for offices, and more for laboratories, etc. Later, when the use of reinforced concrete columns became possible, these were faced with sand-lime bricks in order to match the earlier work. Height between floors is 3.4 m. Floors are of reinforced concrete; they are insulated from the external walls. Almost all the roofs are flat; cornices are of wood covered with copper. An attic floor, set back from the external walls, provides space for ventilator outlets, storage, etc.

Most of the rooms are so designed that it will be possible to convert them to another use without large-scale alterations. All built-in furniture can be moved.

HEATING

A ceiling panel heating system provides space heating for the wards; radiators heat subsidiary rooms. Heating coils are embedded in some of the walls and floors of halls and staircases. The entire hospital is mechanically ventilated. Windows will normally be kept shut. There are 79 separate air-conditioning installations, the treated air being supplied first to the wards, thence to halls, corridors, etc. and, finally, to lavatories and washrooms.

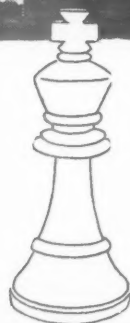
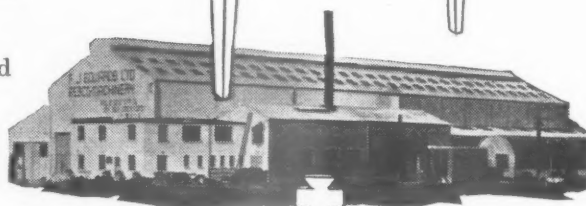
The piping installation is designed on Swedish lines, risers being encased in ducts and distribution pipes running along the ceilings of corridors, protected by light demountable casings.





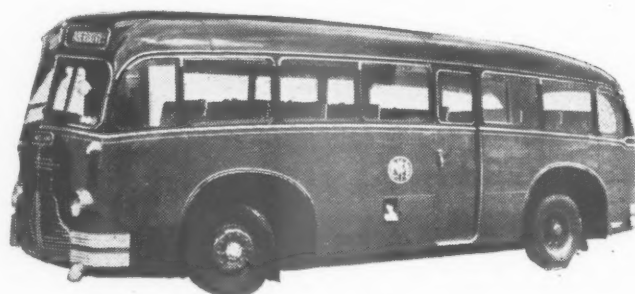
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FINISHES AND EQUIPMENT

Walls are finished internally with hard plaster; water-proof finishes were avoided to prevent condensation. Sound absorbent materials have been used extensively; the granite slabs on the terraces rest on rubber pads laid over the asphalt. Wards and most other rooms have cork-tile flooring, but the operating theatres, kitchens and lecture halls have glass mosaic floors. Where ceiling panel heating is installed, floors are insulated with a layer of brick-rubble concrete. The door-openings of all rooms into which beds are to be wheeled have double doors with a clear width of 1.35 m.

Much new equipment has been developed by the architects, including shutters which may be regulated automatically from within, an apparatus for washing bedpans and other receptacles and a bed the angle of which can be regulated by the patient.

ORGANIZATION

The departments of the Cantonal hospital consist of the nursing unit (1,491 beds), the out-patients' departments and the central examining and treatment department. At the head of each out-patients' department is a director who also occupies the professorial chair for his particular branch of medicine at the university.

The out-patients' departments are linked with the corresponding specialist units and can, in fact, be attended by patients without the intermediary of a general practitioner. In general, out-patients' departments have their own facilities for diagnosis and treatment, but a few examining and treatment units are centralized; for example, the X-ray therapy department. Pathology, histology, bacteriology and serology services are centralized in two institutes under the control of the university.

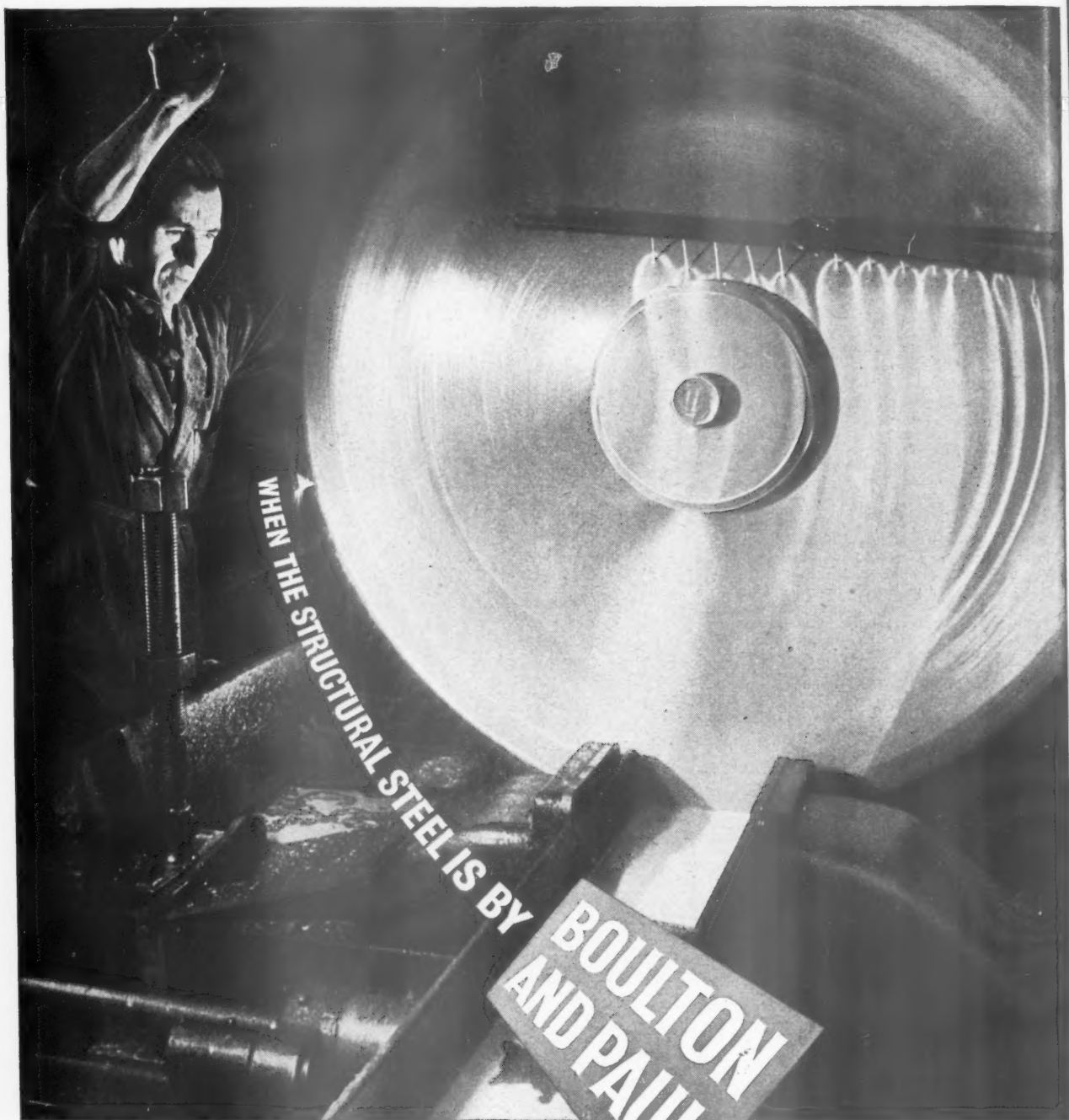
The medical faculty of Zurich University comprises 800 students who are trained in the hospital, which also provides post-graduate courses. The hospital possesses admirable facilities for research. It has a large number of well-equipped laboratories, and is very close to the university quarter of Zurich.

Welfare services are attached to each out-patients' department; they are not centralized.

The hospital staff number 1,410, apart from staff employed on subsidiary services, such as catering. Service departments consist of a central kitchen, six ward kitchens and workshops. Laundry and ambulance services are provided by the cantonal prison and the local authorities respectively.



Top, patients' entrance, with admission block on left, drive for ambulances in foreground and surgical block on right. Above, west ward block seen from the south-east, with polyclinic block on left. Left, link block, with west ward block on left and east ward block on right.



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Below are reviewed three books and one article on hospitals and allied subjects. The first two reviews are by Eugene Rosenberg of Yorke, Rosenberg and Mardall, whose hospital at Londonderry in Northern Ireland is now under construction. These reviews have been given Information Centre classification numbers so that readers may paste them up with normal Information Centre items.

INFORMATION CENTRE

10.88 design: building types HOSPITALS

Hospitals: Integrated Design. Isadore Rosenfield (2nd Edition, 1951. New York: Reinhold Publishing Corporation, USA \$15.00; London: Chapman & Hall Ltd., 120s.)

When Isadore Rosenfield's first edition of "Hospitals, Integrated Design" was published in 1947 it was at once recognized as the most authoritative book on the subject. This second edition is larger and even better.

The functions of a hospital are complicated and change more rapidly than those of most other buildings. (How many hospitals become obsolete even before they are finished?) Yet it is extremely difficult to find out what goes on in a hospital. Doctors, nurses, administrators and architects contradict each other, and there is a dearth of reliable books on the subject. One must wade through a mass of books, medical journals, publications on hospital management and architects' journals and read hundreds of pages of generalizations in order to find one small item of genuine information, which could have been explained much better by means of a small diagram or plan. The most frequently-voiced requirement is that all departments must be in a "cul-de-sac" and "next" to everything else in the hospital.

The realization that research into hospitals cannot be the task of any one individual is quite recent. The US Public Health Service published recently "The Elements of the General Hospital"—a pamphlet of about 50 pages which "resulted from innumerable consultations with doctors, nurses, hospital consultants, dietitians, architects, manufacturers. . . . Excellently reproduced and dimensioned plans illustrate the elements of the small general hospital. A small plan with its legend showing the "Central Sterilizing and Supply Room for a 200-bed General Hospital," for instance, tells one more than dozens of pages of text full of "ifs" and "buts." Whether you agree with it or not makes no difference—there it is, showing clearly and unambiguously a solution. It is written in a language all architects and many intelligent laymen can read—in the form of plans. We owe a great deal to Marshall Shaffer for this breath of fresh air into the field of hospital planning.

In this country, the Nuffield Provincial Hospital Trust started investigations into the functions and design of hospitals in 1949. The first result of this work is the hospital ward block designed by the director and architect, R. Llewelyn Davis, and described and illustrated in the JOURNAL for November 15. Research is being brought much nearer to reality in this case, by building experimental wards as "working laboratories for

the study of ward design." The plan is most interesting and it is to be hoped that the wards will be built without delay.

There are also other parts of the world where valuable work has been done (Cöderstrom in Stockholm, Basle and Zurich). All this is, inevitably, slow, and we cannot always wait for the latest results. There was, therefore, a great need for a concise and intelligent book on hospitals. Isadore Rosenfield filled this gap when he wrote his book "Hospitals, Integrated Design," first published in 1947.

The second revised and enlarged edition, published recently, starts with a short introduction of rather interesting statistics. We learn, for instance, that, according to the World Health Organisation of UNO, the number of beds per 1,000 of population is the highest in Switzerland (15.8), Great Britain being fourth with 10.5 and the USA seventh (9.9); that there are 879,000 "existing acceptable" beds in the United States, and that the figure for additional beds needed is higher (898,000); and that 71 per cent. of US hospital facilities are in the hands of the government and 49 per cent. of all beds are for mental patients.

The book is divided into 22 chapters. The first two deal with the integration of hospital facilities (purely American) and general considerations (selection of architect, site orientation, budgeting and programme making). They are full of useful and practical advice. Mr. Rosenfield raps the architect's knuckles, too, for being "frequently ready to swallow whole directions either from the building committee, or the administrator, or an articulate doctor on the staff." In hospital design the architect is "the doctor" and it is his task "to design the building anatomically so that it can function properly physiologically"—he must produce a building that will work.

The next six chapters deal with the elements of the hospital and are the best. Each part of the hospital is analysed and the main components well defined. The parts seem to fall logically together and the argument is very well illustrated by examples.

Special hospitals for tuberculosis, communicable diseases, cancer, chronic diseases, psychiatry, cardiac and the small hospital, take up five chapters. To treat these complicated subjects exhaustively on some sixty odd pages is too ambitious an undertaking.

In the last six chapters Mr. Rosenfield has a great deal to say about daylighting, artificial illumination, mechanical plant, construction, finishes and costs. These chapters are both too short and too long. Too short to give the whole story and too long because they contain technical data which are better dealt with in specialist literature.

This is a well and profusely illustrated book. The illustrations of plans are legible, often dimensioned and to scale (very useful) and, with a few exceptions, not too small. It is competently written, by a man with a "long, uninterrupted experience in hospital planning" to quote from the dust jacket.

Mr. Rosenfield's experience must indeed be tremendous—his work can be seen, we are told, not only in the USA but also in "England, Russia, Israel, Japan, Newfoundland and Colombia." There are only a few illustrations, out of the 500 plans and photographs, under which Mr. Rosenfield's name does not appear either as architect, hospital consultant, senior architect or chief architect.

E. ROSENBERG.

10.89 design: building types HOSPITALS

Handbuch für den Neuen Krankenhausbau (Manual for new Hospitals). (Paul Vogler and Gustav Hassenpflug. Urban and Schwarzenberg, Munich, 1951, 68 DM. London: John Tiranti Ltd., 119s.)

This book contains a great deal of interesting and useful information. It is, however, so studiously hidden that it is a job to find it.

The nineteen authors of this book have not kept the promise, printed on the dust jacket, that everything "unessential" has been left out and the individual chapters made as "short as possible." There is too much repetition, generalisation and long-winded writing. The same subject is belaboured by several authors—a learned professor of medicine informs us, for instance, that air conditioning can be automatically controlled.

Of the large number of illustrations many are bad and, most irritating, plans are often too small to be readable. What useful purpose does the illustration of an obsolete ciné-projector serve? Why illustrate a girl sitting in front of a small telephone exchange? A number of minutely-dimensioned photographs of hospital furniture are shown, such as a tubular chair called "DINFANOK 5," and one can only hope that this type of furniture will never again find its way into a hospital.

Good editing and ruthless cutting could make this book readable and valuable.

E. ROSENBERG.

10.90 design: building types SANATORIA

Design for Sanatoria. Report of the National Association for the Prevention of Tuberculosis Architectural Committee. (NAPT, 1951. 12s. 6d.)

Intended for architects and members of regional hospital boards, this report covers a wide field, but in a very elementary manner. Illustrated.

Any report containing 100 pages of text must, inevitably, contain some information of use to those concerned with the subject it covers. Unfortunately, this book deals with such a wide range of subjects in such a cursory fashion that very little it contains will be of much help to architects. Although there were some architects on the Committee, the report appears to have been written by someone insufficiently aware of the general training of architects to be able to distinguish either what they need in the way of special information or the form in which they like it. Moreover, on many controversial matters, opinions are given without sufficient supporting evidence.

10.91 design: building types CARE OF THE AGED

Planning for the Aged and Chronic Sick. Donald A. Goldfinch. (Journal of the Royal Sanitary Inst. pp. 689-711, Nov., 1951.)

Very useful paper by the architect to the Birmingham Regional Hospital Board. The task of planning for old people, especially the chronic sick, is extremely difficult. This class of hospital patient has, in the past, received little attention in research programmes. The first part of the paper describes the results of research in Sweden, Denmark and Holland; in the second, the problem in Great Britain is considered and some proposed solutions described. Illustrated by plans.

In the sections on Sweden, Denmark and Holland are outlined, first, the problem; secondly, government policy; and thirdly, some of the latest building schemes. In the section on Great Britain the architectural requirements, which result from the classifications and proposals of the Special Committee of the BMA on the care and treatment of the elderly and infirm, are analysed briefly. The author stresses that in spite of building restrictions, conditions can be greatly improved by alterations to and modifications of existing buildings, including the old workhouses and Poor Law institutions.

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Buildings Illustrated

House in Brompton Square, S.W.3. (Pages 8-9.) Architect: Michael Lyell, A.R.I.B.A. General contractors: A. Mitchell (general work) and Sandells Ltd. (furniture). Sub-contractors: radiator grilles, Expanded Metal Co. Ltd.; electric light fixtures, Troughton & Young Ltd.; Merchant Adventurers of London Ltd.; electric heating, Berry's Electric Ltd.; wallpapers, Arthur Sanderson & Sons, Ltd.; Cole & Son (Wallpapers) Ltd. (flock paper); furniture, Dunns of Bromley, Neil Morris Ltd., Ernest Race Ltd., W. H. Barnes Ltd. (piano); fireplace surround, drawing board fitting top, cock tail cabinet, sideboard tops, Thomas de la Rue & Co. Ltd. ("Formica").

Gay Kaye Shop, 4, New Bond Street, W.1. (Pages 12-13.) Architect: Sadie Speight, M.A., A.R.I.B.A., F.S.I.A., in association with Leonard Manasseh, A.R.I.B.A. Assistant architect: Lois Hutchings, A.R.I.B.A. General Contractor: Alexander Black. Sub-contractors: glass, James Clark & Eaton Ltd.; carpet, J. Haim & Co.; electric light fixtures, Merchant Adventurers of London Ltd., General Electric Co. Ltd.; plaster, metalwork, joinery, stonework, Alexander Black; marble, Anselm Odling & Sons Ltd.; textiles, Morton Sundour Fabrics Ltd. ("Borogrove" designed by Karin Williger); chairs, Scottish Furniture Manufacturers Association, through Heals Contracts Ltd.; indoor plants, Mrs. Norman Jones, The West End Flower House; signs, L. Bloom.

Proposed Development Building & Laboratory Block at Ravenhead, St. Helens, Lancs. (Page 16.) Architect: W. & J. B. Ellis, F./A.R.I.B.A. General contractors: Furber & Sons, W. Thornton & Sons, Ltd. Clerk of works: W. Henderson. Sub-contractors: dampcourses, William Briggs & Co. Ltd.; asphalt, The General Asphalt Co. Ltd.; reinforced concrete, Twistell Reinforcement

Ltd.; bricks, Greengate Bricks; patent glazing, Crittall Manufacturing Co. Ltd.; central heating, Richard Crittall & Co. Ltd.; electric wiring, Higgins & Cattle Ltd.; plumbing, W. A. Crawford.

Flats in the Portobello Road, London, W.11 for the Royal Borough of Kensington. (Pages 18-22.) Architects: Edward Armstrong & Frederick MacManus F./R.I.B.A.; associate-in-charge, Peter Cooke; consulting structural engineers, Bylander & Waddell; quantity surveyors, William C. Inman & Partners. General contractors: Y. J. Lovell & Sons Ltd. Sub-contractors: asphalt, Permanite Ltd.; reinforced concrete, Y. J. Lovell & Sons Ltd.; artificial stone, Joseph Mears Ltd.; Marley Tile (London) Ltd.; roofing felt, Permanite Ltd.; partitions, Broad Acheson & Co.; glass, Aygee Ltd.; patent flooring, Whitney-Fairchild Ltd.; central heating, Young, Austen & Young Ltd.; gas fires, "Radiation" panel fires supplied by the North Thames Gas Board; gas installation, North Thames Gas Board; electrical installation and light fixtures, Berkeley Electrical Engineering Co. Ltd.; electric fires, Bratt Colbran Ltd.; supplied by Berkeley Electrical Engineering Co. Ltd.; plumbing, Richard J. Audrey Ltd.; sanitary fittings, John Bolding & Sons Ltd.; door furniture, Nettlefold & Moser Ltd.; metal casements and door frames, Crittall Manufacturing Co. Ltd.; escape staircases, balustrading and site rails, St. Peter's Metal Works; plaster, W. A. Telling Ltd.; internal and external decorations, South London Decorators Ltd.; balcony railings, S. W. Farmer Ltd.; standard doors, Montague L. Meyer Ltd.; carved stonework, James Walker Ltd.; tiling, Carter & Kernham Ltd.; grass areas and tree planting, Garden Landscapes (London) Ltd.; kitchen fittings, W. Crosby Ltd.; lifts, Express Lift Co.; lettering and signwriting, Buckleys (London) Ltd.

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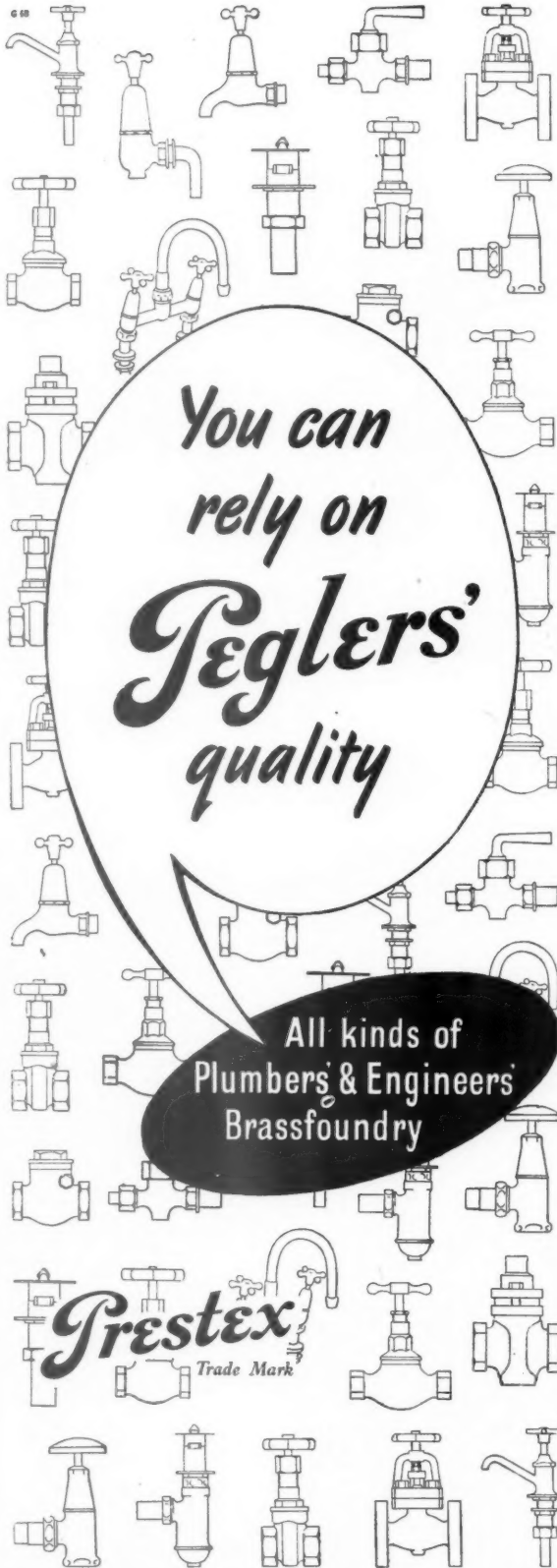
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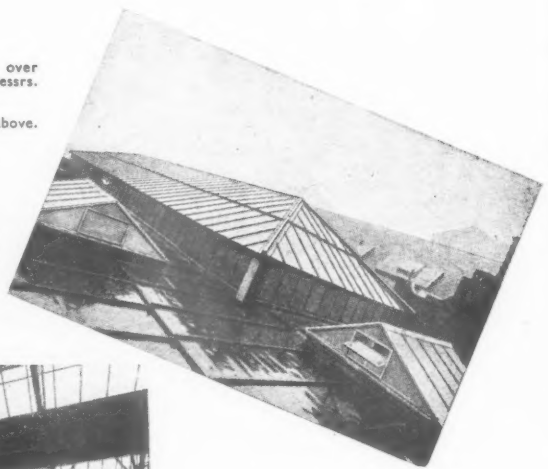
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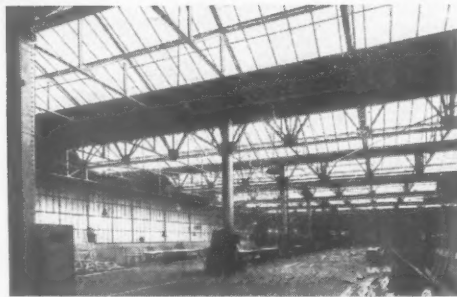


RIGHT: Lantern Lights over Drawing Office of Messrs. Bodec Ltd., Battersea.

LEFT: Interior view of above.



BELOW: Roof Glazing over Joiners Shop of Messrs. Harland Wolff Ltd. North Woolwich.



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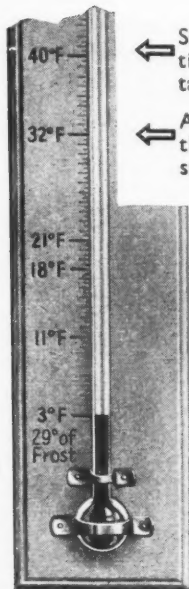
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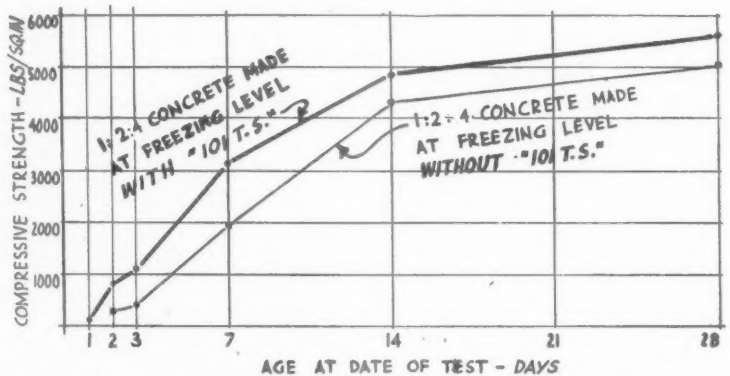
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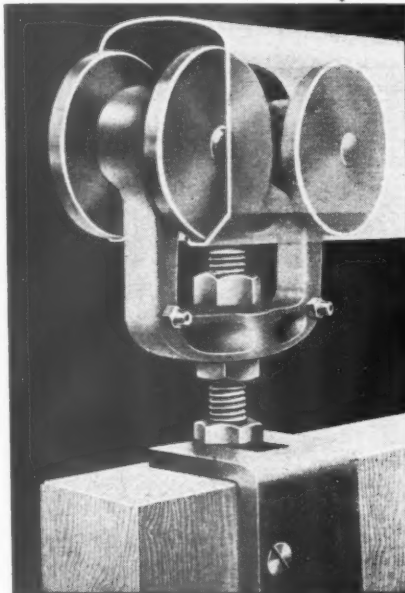


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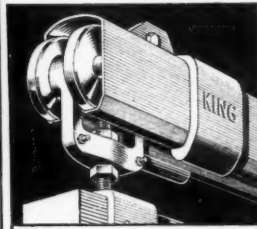
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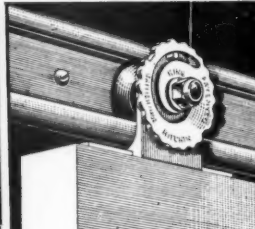


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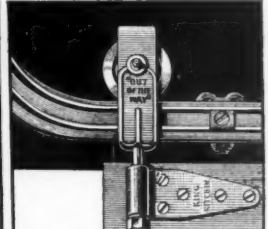
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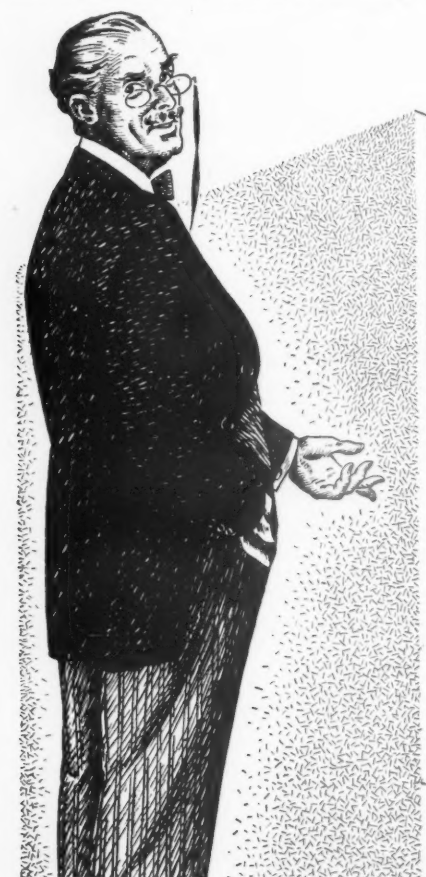
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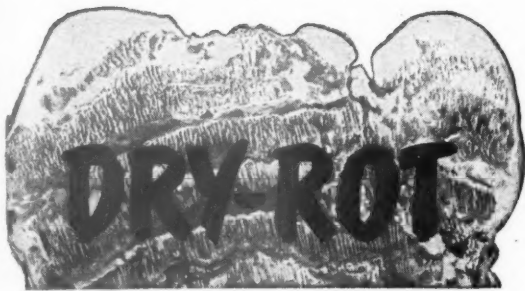


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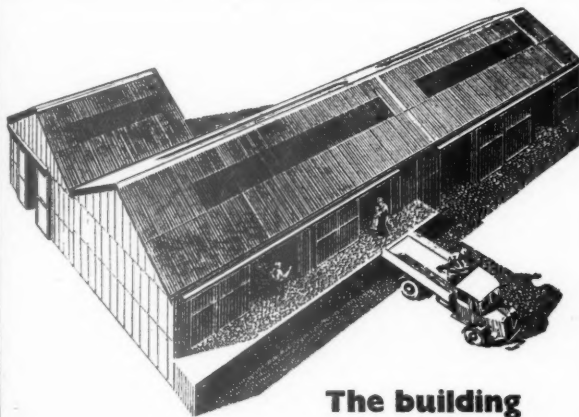
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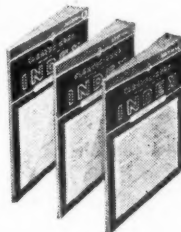
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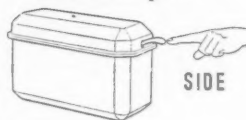
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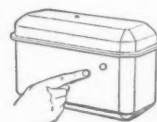
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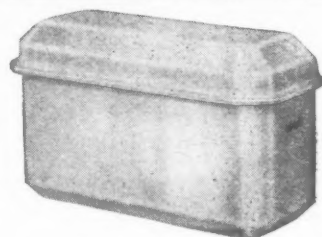
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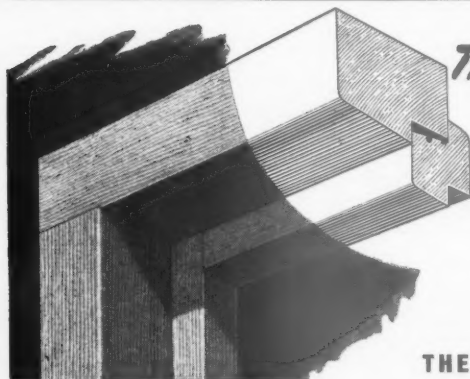


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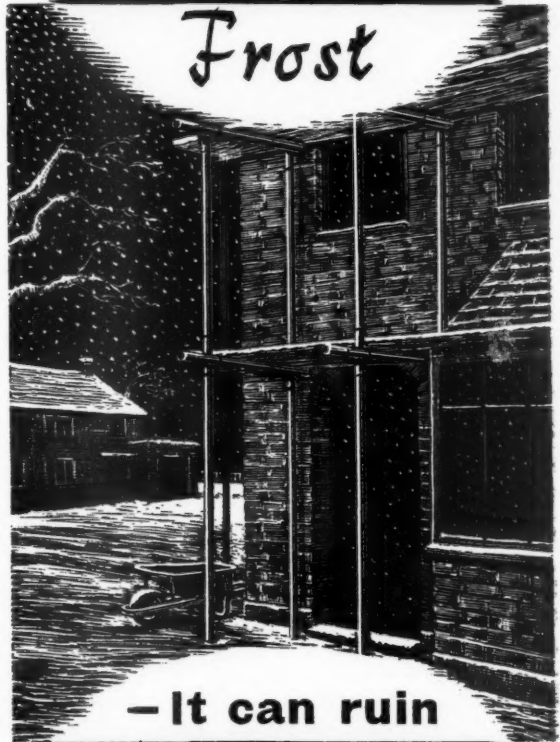


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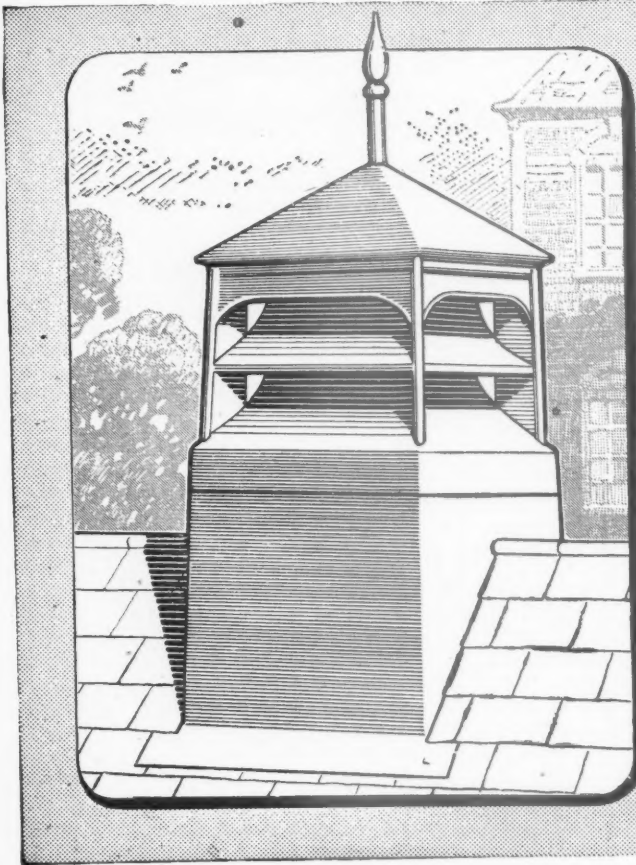
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CLASSIFIED ADVERTISEMENTS

Advertisements should be addressed to the Advt. Manager, "The Architects' Journal," 9, 11 and 13, Queen Anne's Gate, Westminster, S.W.1, and should reach there by first post on Friday morning for inclusion in the following Thursday's paper.

Replies to Box Numbers should be addressed care of "The Architects' Journal," at the address given above.

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MINISTRY OF WORKS.

There are vacancies in the Chief Architect's Division for ARCHITECTURAL ASSISTANTS and LEADING ARCHITECTURAL ASSISTANTS, with recognised training and fair experience. Successful candidates will be employed in London and elsewhere on a wide variety of Public Buildings, including Atomic Energy and other Research Establishments.

Salary: Architectural Assistants, £340-£575 per annum; Leading Architectural Assistants, £570-£675 per annum. Starting pay will be assessed according to age, qualifications and experience. These rates are for London; a small deduction is made in the Provinces.

Although these are not established posts, many of them have long term possibilities, and petitions are held periodically to fill established vacancies.

Apply in writing, stating age, nationality, full details of experience, and locality preferred, to Chief Architect, Ministry of Works, Abell House, John Islip Street, London, S.W.1, quoting reference WG10/BS. 4304

UNIVERSITY OF SYDNEY.
SENIOR LECTURESHIP OR LECTURESHIP
IN ARCHITECTURE.

Applications are invited for an appointment to the teaching staff of the Faculty of Architecture. The status and commencing salary will be fixed according to qualifications and experience.

The salary range for a Senior Lecturer is £1,050-£1,300 per annum; for a Lecturer, £650-£1,000 (Australian) per annum; to which is added a cost-of-living adjustment (at present £159 males, £121 females), with annual increments of £50. The salary is subject to deductions under the State Superannuation Act.

The successful applicant will be required to take up duties as soon as possible.

Further particulars and information as to the method of application may be obtained from the Secretary, Association of Universities of the British Commonwealth, 5, Gordon Square, London, W.C.1.

The closing date for the receipt of applications is 3rd March, 1952. 5138

COUNTY OF DERBY

and
PEAK DISTRICT NATIONAL PARK.

Applications are invited for the under-mentioned appointments:—

(a) DEPUTY PLANNING OFFICER to the Peak Park Planning Board. A.P.T., Grade IX (£790-£910).

(b) PLANNING ASSISTANT. A.P.T., Grade VI (£645-£710).

(c) PLANNING ASSISTANT. A.P.T., Grade IV (£530-£575).

(d) CHIEF CLERK. A.P.T., Grade V (£570-£620).

The Officer appointed will be required to carry out planning duties in the Peak District National Park and in certain county areas (including the boroughs of Buxton and Glossop) outside the national park but adjacent thereto.

The area planning office and the planning office of the Board are situated in Bakewell.

Applications, which must be made on forms obtainable, together with further particulars of the appointments, on request to the undersigned, will be received up to and including 26th January, 1952.

D. G. GILMAN,

Clerk of the County Council and Clerk of the Peak Park Planning Board.

22nd December, 1951. 5137

BOROUGH OF FINCHLEY
HOUSING AND TOWN PLANNING
DEPARTMENT.APPOINTMENT OF TEMPORARY
ARCHITECTURAL ASSISTANTS.

Applications are invited for the appointment of two Temporary Architectural Assistants in the above-mentioned Department at salaries in accordance with Grade IV, A.P. & T. Division (£530×£15-£575) and Grade II (£470×£15-£515) plus London Weighting according to age.

Candidates must be suitably qualified and have had practical experience in housing or general architectural work.

The appointment is subject to the provisions of the National Scheme of Conditions of Service and to the provisions of the Local Government Superannuation Act, 1937, for which purpose the successful candidate will be required to pass a medical examination.

Applications, stating age and giving full particulars of qualifications and experience, and accompanied by copies of two testimonials (or the names of two referees) should be sent to the Borough Housing and Town Planning Officer, The Avenue, Finchley, N.3, by not later than first post on Monday, 14th January, 1952.

R. M. FRANKLIN,

Town Clerk.

Municipal Offices, Finchley, N.3. 5129

CITY OF WAKEFIELD.
APPOINTMENT OF CHIEF ARCHITECTURAL
ASSISTANT.

Applications are invited for the above appointment in the City Engineer's Department at a salary in accordance with Grade VIII (£735×£25 (3) to £810 per annum).

Applicants will be required to supervise the Architectural and Quantity Surveying staff, and must have a wide experience in Municipal work, including Housing, Schools and General work. Applicants must be A.R.I.B.A.

The appointment will be subject to the Local Government Superannuation Act, 1937.

Each applicant must disclose in writing whether to his knowledge he is related to any member or senior officer of the Corporation. Canvassing will disqualify.

Applications, stating age, whether married or single, qualifications, present and previous appointments with dates and salaries, and full particulars of experience, together with the names of two persons to whom reference can be made, should be sent to the undersigned not later than Saturday, 12th January, 1952.

Favourable consideration will be given to the provision of housing accommodation to the successful applicant if married.

W. S. DES FORGES,

Town Clerk.

Town Hall, Wakefield. 5135

19th December, 1951.

EDINBURGH CORPORATION.
SENIOR DEPUTY CITY ARCHITECT.

The office of City Architect will become vacant in October, 1953. The Corporation invite applications for the appointment now of Senior Deputy City Architect, salary approx. £1,750 p.a.

Qualifications: A.R.I.B.A., administrative experience. Six copies of applications and relevant documents (with names of at least two referees) to be lodged with the subscriber not later than 11th February, 1952.

J. STORRAR,

Town Clerk.

City Chambers, Edinburgh. 5140

3rd January, 1952.

NORTH THAMES GAS BOARD.
A JUNIOR ARCHITECTURAL ASSISTANT

is required in the Architectural Section, Chief Engineer's Department, Westminster.

Applicants should be studying for, or have passed the Intermediate Examination of the R.I.B.A. and have had at least three years' practical experience in an Architect's office.

Starting salary, depending on age and qualifications, will be within the range of £415-£555 per annum. The appointment is of a permanent nature and pension arrangements will be discussed with short list candidates.

Applications, giving age, qualifications and experience, should be sent to the Staff Controller, North Thames Gas Board, 30, Kensington Church Street, London, W.8, quoting reference number 666/6. 5134

COUNTY BOROUGH OF DERBY.
BOROUGH ARCHITECT'S DEPARTMENT.

Applications are invited for the following appointments on the permanent staff in accordance with the National Scale of Salaries:—

(a) ONE JUNIOR QUANTITY SURVEYOR, GRADE III/IV (£500-£520). Commencing salary £500 per annum. Applicants should be of R.I.C.S. Intermediate Examination standard, and be fully experienced in abstracting and billing, measuring on site, preparation of final accounts and taking-off quantities for small building works.

(b) TWO JUNIOR ARCHITECTS, GRADE I/II (£440-£515). Commencing salary £440 per annum. Applicants should be not less than 21 years of age and should have passed the Preliminary Examination of the R.I.B.A. and have had experience in general architectural work.

The appointments will be subject to one month's notice in writing on either side and to the terms of the National Joint Council's Scheme of Conditions of Service and the provision of the Local Government Superannuation Act, 1937, and the successful applicants will be required to pass a medical examination.

Forms of application may be obtained from The Borough Architect, The Council House, Corporation Street, Derby, and should be returned when completed together with a copy of one testimonial and the names of two persons to whom reference may be made, to arrive not later than Monday, 21st January, 1952.

Canvassing directly or indirectly will be a disqualification.

E. H. NICHOLS,

Town Clerk.

5141

LONDON ELECTRICITY BOARD.
ARCHITECTURAL DRAUGHTSMEN.

Applications are invited for the above positions in the Architect's Section of the Chief Engineer's Department in Central London.

Applicants should be neat draughtsmen and preferably have had several years experience in an architect's office.

The posts have been graded under Schedule "D" of the National Joint Board agreement as Grade VI (£438-£574 7s. per annum inclusive of London Allowance).

Application forms from Establishments Officer, 46, New Broad Street, E.C.2, to be returned duly completed by 14th January, 1952. Please enclose addressed foolscap envelope and quote reference V/1256/A on all correspondence. 5128

HERTFORDSHIRE COUNTY COUNCIL.
COUNTY PLANNING DEPARTMENT.

Applications are invited for the appointment of (two) PLANNING ASSISTANTS in the West Herts Divisional Planning Office at Watford. Salary £530-£575 per annum (Grade IV, A.P.T.).

Corporate membership of the Town Planning Institute is desirable. Previous experience in the preparation of a County Survey and Development Plan, and in control of development, together with skill in draughtsmanship, is essential. Qualifications in architecture, municipal engineering, survey or landscape design will be an advantage.

The appointments are established posts on the permanent staff of the County Council, and are subject to the provisions of the Local Government Superannuation Act, 1937.

Forms of application are obtainable from the County Planning Officer, County Hall, Hertford, and these are returnable not later than 18th January, 1952. 5126

BOROUGH OF FINCHLEY
HOUSING AND TOWN PLANNING
DEPARTMENT.APPOINTMENT OF
SENIOR ARCHITECTURAL ASSISTANT.

Applications are invited for the appointment of Senior Architectural Assistant on the permanent staff in the above-named Department at a salary in accordance with Grade VII, A.P. & T. Division (£685×£25-£760) plus London Weighting according to age.

Candidates must be Registered Architects, with practical experience in housing and general architectural work, and be used to control of staff and site supervision of contracts.

The appointment is subject to the provisions of the National Scheme of Conditions of Service and to the provisions of the Local Government Superannuation Act, 1937, for which purpose the successful candidate will be required to pass a medical examination.

Applications, stating age and giving full particulars of qualifications and experience, and accompanied by copies of two testimonials (or the names of two referees) should be sent to the Borough Housing and Town Planning Officer, The Avenue, Finchley, N.3, by not later than first post on Monday, 14th January, 1952.

R. M. FRANKLIN,

Town Clerk.

Municipal Offices, Finchley, N.3. 5130

CAMBRIDGESHIRE COUNTY COUNCIL.
ARCHITECT'S DEPARTMENT.

ARCHITECTURAL ASSISTANT required on Miscellaneous III Division (£355×£15-£415). Particulars to be obtained from the Clerk of the County Council, Shire Hall, Cambridge, not later than 17th January, 1951. 5136

BOROUGH OF TWICKENHAM.
SENIOR ASSISTANT ARCHITECT.

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

Senior Assistant Architect, Grade V-Va-VI-VII (£570-£760 plus London Weighting).

Applicants must be Associates R.I.B.A. and experience with a Local Authority will be an advantage.

Applications endorsed "Senior Assistant Architect" stating age, qualifications, present and previous appointments and giving details of experience should be accompanied by copies of two testimonials and delivered to Mr. A. S. Knolles, B.Sc., M.I.C.E., York House, Twickenham, Middlesex, not later than Tuesday, 15th January, 1952.

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

Canvassing directly or indirectly will disqualify and applicants must state whether they are related to any member of the Corporation or Senior Officer.

W. H. JONES,

Town Clerk.

Municipal Offices, Twickenham. 5131

31st December, 1951.

HUYTON WITH ROBY URBAN DISTRICT
COUNCIL.

Applications are invited for the following posts:—

(a) JUNIOR QUANTITY SURVEYOR, A.P.T., I-II, £440-£485, £470-£515. Preference will be given to candidates who have had experience with a Local Authority and have passed or are preparing for the Intermediate of the R.I.C.S.

(b) ARCHITECTURAL ASSISTANT. General Division to A.P.T. III. Candidates should have served their articles or be probationers of the R.I.B.A., have had experience of housing design, and should have had some practical experience of site work. Preference will be given to candidates who have had some experience with a Local Authority.

The above appointments will be subject to the provision of the Local Government Superannuation Act, 1937, and of the National Scheme of Conditions of Service, and will be determined by one month's notice on either side.

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

Applications, stating age, qualifications, and full particulars of experience, together with the names of two persons to whom reference may be made, must reach the undersigned not later than the 22nd January, 1952.

H. E. LAWTON,

Clerk of the Council.

Council Offices, Derby Road, Huyton, near Liverpool. 5144

SURREY COUNTY COUNCIL.
COUNTY ARCHITECT'S DEPARTMENT.
Applications are invited for the appointment of **QUANTITY SURVEYING ASSISTANT, Grade V**, at a commencing salary of £570 per annum, rising by annual increments of £15/£20 to a maximum of £620 per annum, plus London allowance of up to £30 per annum, according to age.
Preference will be given to applicants who are Members of the Royal Institution of Chartered Surveyors (Quantities Sub-Division) and who have an adequate experience in the preparation of Bills of Quantities, site measuring, and in settlement of final accounts.
The appointment will be subject to the provisions of the Local Government Act, 1937, and the successful applicant will be required to pass a medical examination.
Applications, stating age, qualifications and experience and accompanied by copies of three recent testimonials, should be sent to the County Architect, Surrey County Council, County Hall, Kingston-upon-Thames, not later than 18th January, 1952.
Canvassing, either directly or indirectly, will disqualify candidate from consideration.
The Council will be unable to provide any housing accommodation, and the successful applicant will be expected to make his own arrangements in this direction.

T. W. W. GOODERIDGE,
Clerk of the Council.
County Hall, Kingston-upon-Thames. 5133

BOROUGH OF RAWTENSTALL.
JUNIOR ARCHITECTURAL ASSISTANT.
Applications are invited for the above position at a salary in accordance with A.P.T., Grade III (£500, rising to £545 per annum).
Applicants for this position should preferably have passed the Intermediate Examination of the Royal Institute of British Architects. The appointment will be subject to the Local Government Superannuation Act, 1937, the National Joint Council's Scheme of Conditions of Service, and the passing of a medical examination, and will be terminable by one month's notice on either side. Housing accommodation will be made available if required.
Applications, stating age, qualifications, experience, and the names and addresses of two referees, to be sent to the undersigned not later than 14th January, 1952.

J. W. BLOMELY,
Town Clerk.
Town Hall, Rawtenstall, Rossendale, Lancs. 5190

DEVON COUNTY COUNCIL.
COUNTY ARCHITECT'S DEPARTMENT.
Applications are invited for the undermentioned appointments on the permanent staff. Conditions of service and salaries are in accordance with the National Joint Council Scheme for Local Authorities.—
ASSISTANT ARCHITECTS, Grade A.P.T., VI (£645-£710 per annum).
ASSISTANT ARCHITECTS, Grade A.P.T., III (£500-£545 per annum).
DRAWING OFFICE JUNIORS, G.D. (M) (£220 at 20, £335 at 25, £425 at 30).
JUNIOR SURVEYING ASSISTANT, Grade A.P.T., I (£440-£495 per annum).
"REPAIRS" ASSISTANT, Grade A.P.T., II (£470-£515 per annum).
Application forms, with full particulars of qualifications and experience required for the various posts, are obtainable from the County Architect, 97, Heavitree Road, Exeter, and must be returned to him by Monday, the 21st January, 1952.
Canvassing, directly or indirectly, will disqualify.

H. A. DAVIS,
Clerk of the County Council.
The Castle, Exeter.
20th December, 1951. 5132

WESTMORLAND COUNTY COUNCIL.
COUNTY ARCHITECT'S DEPARTMENT.
Applications are invited for the appointment of **SENIOR ASSISTANT ARCHITECT**. The appointment will be made either within A.P.T., Grade VI (£645-£710) or on the minimum of A.P.T., Grade VII (£685), according to experience. The main qualification for the appointment will be sound general architectural training and experience; a knowledge of modern school design and construction, and previous local authority experience will be an advantage but are not essential.
The appointment will be subject to the terms and conditions of service of the National Joint Council, the Local Government Superannuation Act, 1937, and one month's notice on either side expiring at the end of a calendar month. The successful candidate will be required to pass a medical examination.
Applicants should state whether they are married or single, and should give particulars of age, education, technical training, qualifications, previous appointments, present salary and appointment, and full details of experience, in that order.
Applications should be forwarded, together with a copy of one recent testimonial and the names of two referees, to R. H. Crompton, A.R.I.B.A., A.M.T.P.I., County Architect, County Hall, Kendal, to reach him not later than 22nd January, 1952.

K. S. HIMSWORTH,
Clerk of the County Council.
County Hall, Kendal.
28th December, 1951. 5156

CROWN AGENTS FOR THE COLONIES.
ARCHITECTURAL DRAUGHTSMAN (male or female) required by the Government of Tanganyika for the Public Works Department for one tour of two to three years in the first instance. The appointment will be on probation for permanent and pensionable employment. Salary (including present temporary allowance of 20 per cent.): (Male), £804, rising to £1,008 a year; (female), £643, rising to £806 a year. In certain cases incremental credit may be granted for war service. Outfit allowance up to £45. Free passages. Liberal leave on full salary. Candidates must be expert draughtsmen with considerable experience in a large drawing office, and must be able to prepare finished architectural plans, working drawings and tracings from original designs. Female candidates must be single. Apply at once by letter, stating age, full names in block letters, and full particulars of qualifications and experience and mentioning this paper to the Crown Agents for the Colonies, 4, Millbank, London, S.W.1, quoting on letter M.27895-A. The Crown Agents cannot undertake to acknowledge all applications, and will communicate only with applicants selected for further consideration. 5143

BURGH OF CLYDEBANK.
ARCHITECTURAL ASSISTANT.
Applications are invited for the post of **ARCHITECTURAL ASSISTANT** in the Burgh Surveyor's Department. The applicant must be a neat and expeditious draughtsman and capable of undertaking the preparation of Plans, Specifications and Bills of Quantities relevant to building works. The salary applicable to the post, which is a permanent and superannuable one, is in accordance with Grade IV of the A.P.T. Division of the National Scale of Salaries (£520 x £15-£565 per annum); placing on scale according to ability and experience.
Applications, stating age, qualifications, etc., and accompanied by three recent testimonials, to be lodged with the undersigned not later than 14th January, 1952.

E. CORNOCK, M.I.Struct.E.,
Burgh Surveyor.
Municipal Buildings, Clydebank. 5151

GOVERNMENT OF NORTHERN IRELAND.
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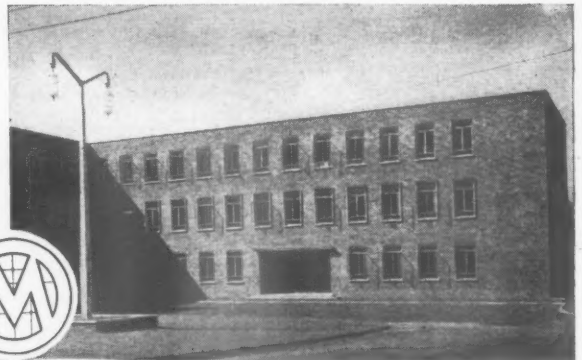
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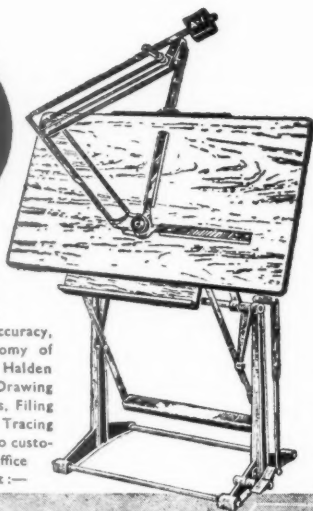
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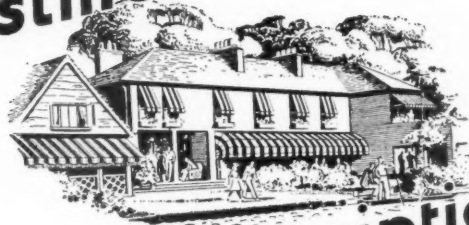
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