

# THE ARCHITECTS' JOURNAL



## standard contents

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

## NEWS and COMMENT

Diary

News

Astragal's Notes and Topics

Letters

Societies and Institutions

## TECHNICAL SECTION

Information Sheets

Information Centre

Current Technique

Questions and Answers

Prices

The Industry

## PHYSICAL PLANNING

## SUPPLEMENT

## CURRENT BUILDINGS

## HOUSING STATISTICS

Architectural Appointments  
Wanted and Vacant

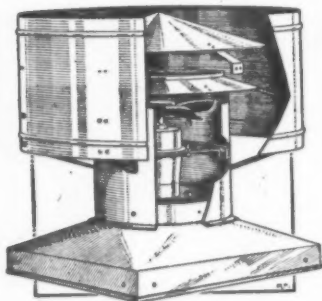
★ A glossary of abbreviations of Government Departments and Societies and Committees of all kinds, together with their full address and telephone numbers. The glossary is published in two parts—A to Ic one week, Ic to Z the next. In all cases where the town is not mentioned the word LONDON is implicit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

AA	Architectural Association, 34/6, Bedford Square, W.C.1.	Museum 0974
AAI	Association of Art Institutions. Secy.: W. Marlborough Whitehead, "Dyneley," Castle Hill, Avenue, Berkhamstead, Herts.	
ABS	Architects' Benevolent Society. 66, Portland Place, W.1.	Welbeck 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. Department of Architecture, School of Building, Ferndale Road, Brixton, S.W.4.	Brixton 7048
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.	Welbeck 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.	Welbeck 5721
BATC	Building Apprenticeship and Training Council. Lambeth Bridge House, S.E.1.	Reliance 7611, Ext. 1706
BC	Building Centre. 9, Conduit Street, W.1.	Mayfair 8641/6
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. 43, George Street, Croydon.	Croydon 5452
BEDA	British Electrical Development Association. 2, Savoy Hill, W.C.2.	Temple Bar 9434
BGF	British Gas Federation. 1, Grosvenor Place, S.W.1.	Sloane 8266
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. Buc'alls 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 A. Guy Chant, F.R.I.B.A., Salop County Council, 5, Belmont, Shrewsbury.	Shrewsbury 3031
CCA	Cement and Concrete Association. 52, Grosvenor Gardens, S.W.1.	Sloane 5255
CDA	Copper Development Association. Kendals Hall, Radlett, Herts.	Radlett 5616
CIAD	Central Institute of Art and Design. 41, 42, Dover Street, W.1.	Regent 3074
CIAM	Congrès Internationaux d'Architecture Moderne. Doldertal, 7, Zurich, Switzerland.	
CID	Council of Industrial Design. Tilbury House, Petty France, S.W.1.	Whitehall 6322
CPC	Codes of Practice Committee. MOW, 42, Onslow Gardens, S.W.7.	Kensington 8161
CPRE	Council for the Preservation of Rural England. 4, Hobart Place, S.W.	Sloane 4280
CUJC	Coal Utilization Joint Council. 13, Grosvenor Gardens, London, S.W.1.	Victoria 1534
DGW	Directorate General of Works, Ministry of Works, Lambeth Bridge House, S.E.1.	Reliance 1761
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
EC	Electricity Commission. Savoy Court, Strand, W.C.2.	Temple Bar 7565
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
FB 1951	Festival of Britain 1951. 2, Savoy Court, Strand, W.C.2.	Waterloo 1951
FASSC	Federation of Association of Specialists and Sub Contractors. 21, Tothill Street, S.W.1.	Whitehall 9606
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
FRHB	Federation of Registered House Builders. 82, New Cavendish Street, W.1.	Langham 4041
FS (Eng.)	Faculty of Surveyors of England. 8, Buckingham Palace Gdns., S.W.1.	Sloane 2837
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
ICE	Institution of Civil Engineers. Great George Street, S.W.1.	Whitehall 4577

No. 2872] [Vol. 111  
THE ARCHITECTURAL PRESS  
9, 11 and 13, Queen Anne's Gate, Westminster,  
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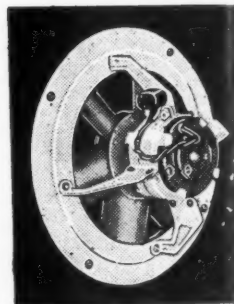
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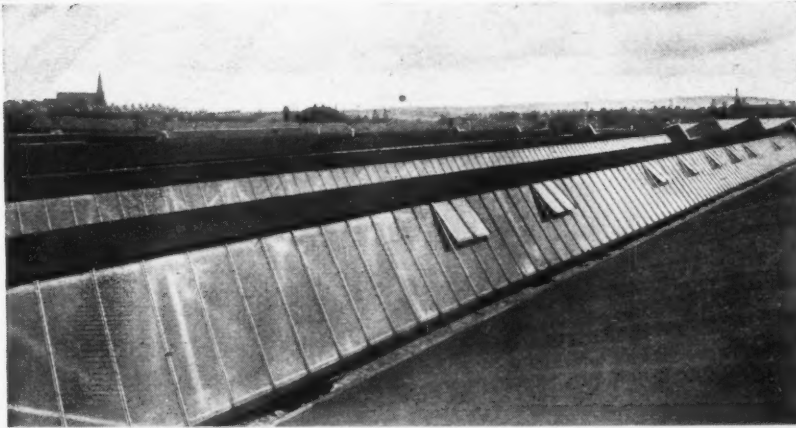




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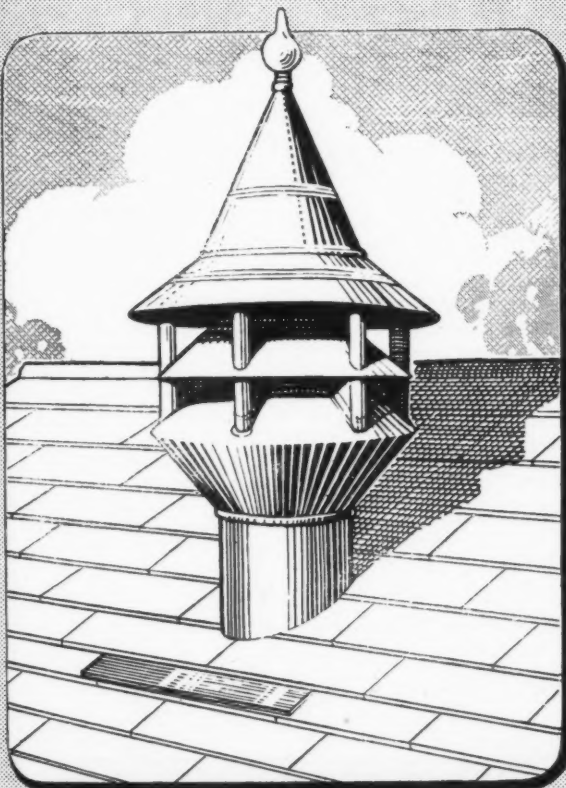


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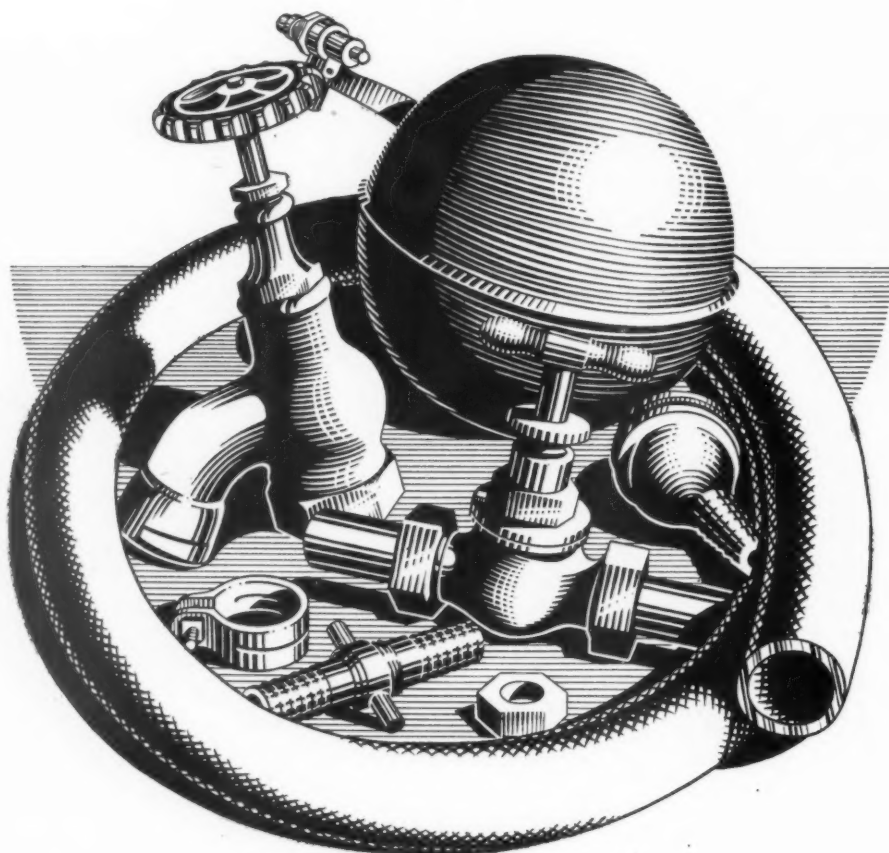
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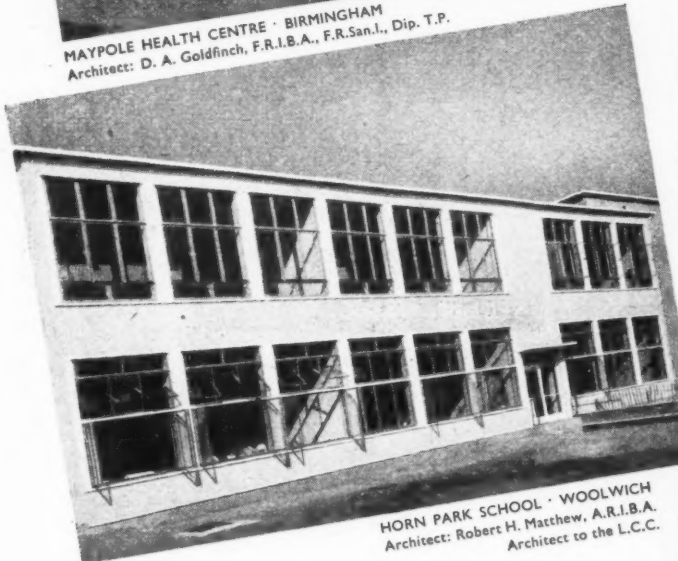
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HORN PARK SCHOOL · WOOLWICH  
Architect: Robert H. Matthew, A.R.I.B.A.  
Architect to the L.C.C.

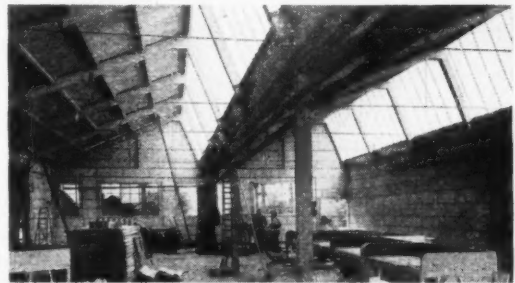
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Borough Engineer: D. J. Howe, M.I.C.E., M.I.Mun.E.  
Architect: P. Billington, A.R.I.B.A., A.M.T.P.I.



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Borough Engineer: Harold Cliffe, B.Sc. (Eng.) Lond.  
M.Inst.C.E., M.Inst.M. & Cy.E., A.M.T.P.I.

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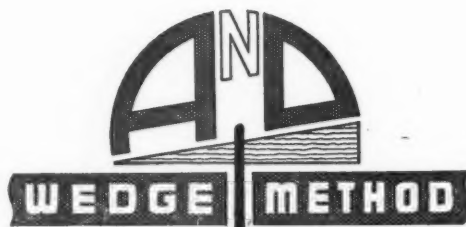
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Patent No. 519406

## 'AND' WEDGE METHOD

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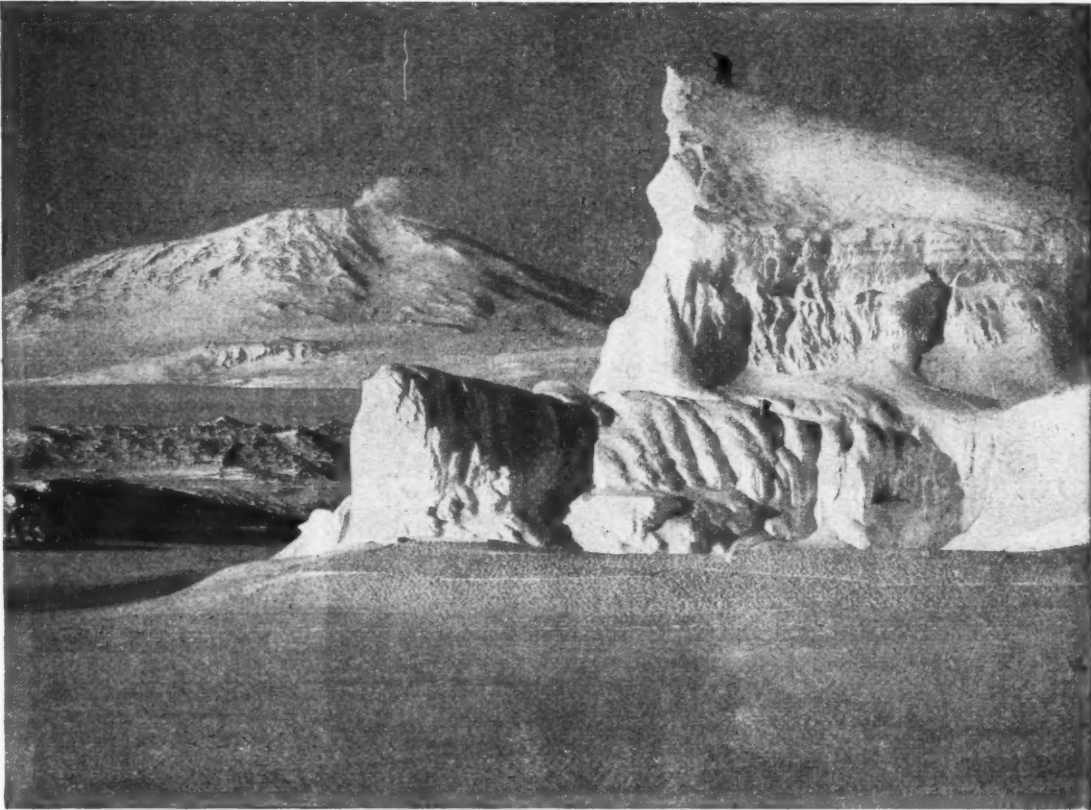


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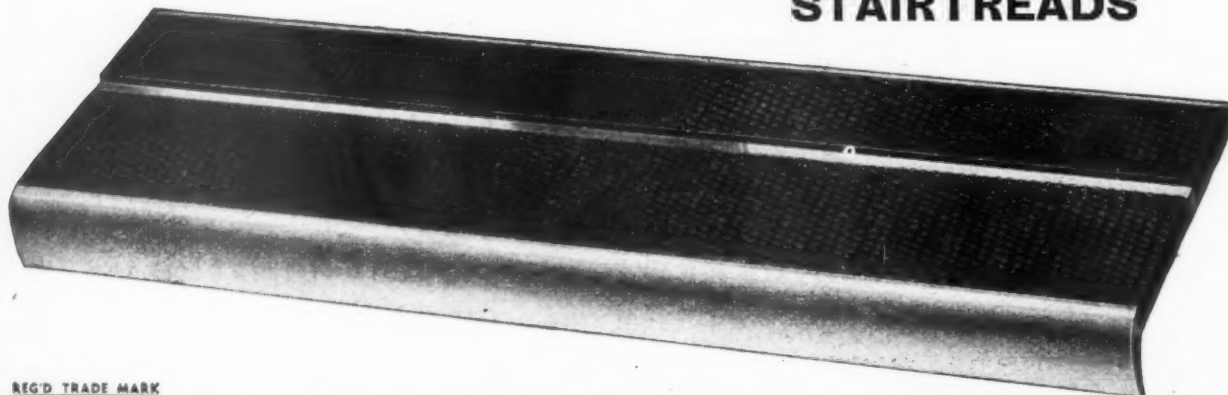
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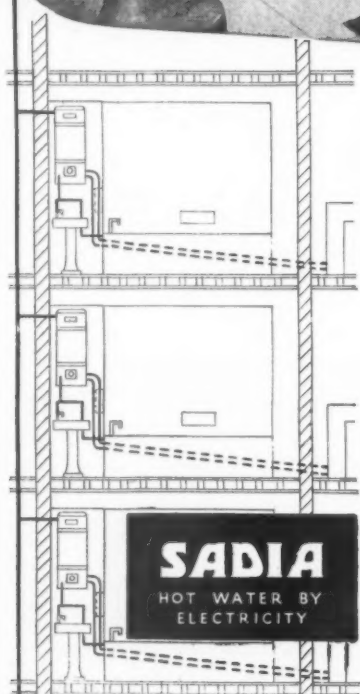
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# Unwritten letters to a young architect

## No. 2

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My dear Roger,

Last time I wrote to you I said that building is a partnership between the architect and the builder, but I have been thinking over that aphorism of mine—or was it a platitude—because there is someone else to be considered, the Clerk of Works.

You originally asked me for a piece of death-bed advice to a young architect and I've been wondering whether "Serve three years as a Clerk of Works" might not be a good injunction.

There are two sorts of C. of Ws. and I think I've met most shades and varieties of each sort. First, there is the type a builder loves; he knows his architect's mind, and he knows his own; he knows when he can make decisions off his own bat and when something is beyond his responsibility. Then he sees that his architect gives an answer promptly so as not to keep the builder hanging about; finally, he won't let any shoddy work go by nor allow himself to be talked into anything.

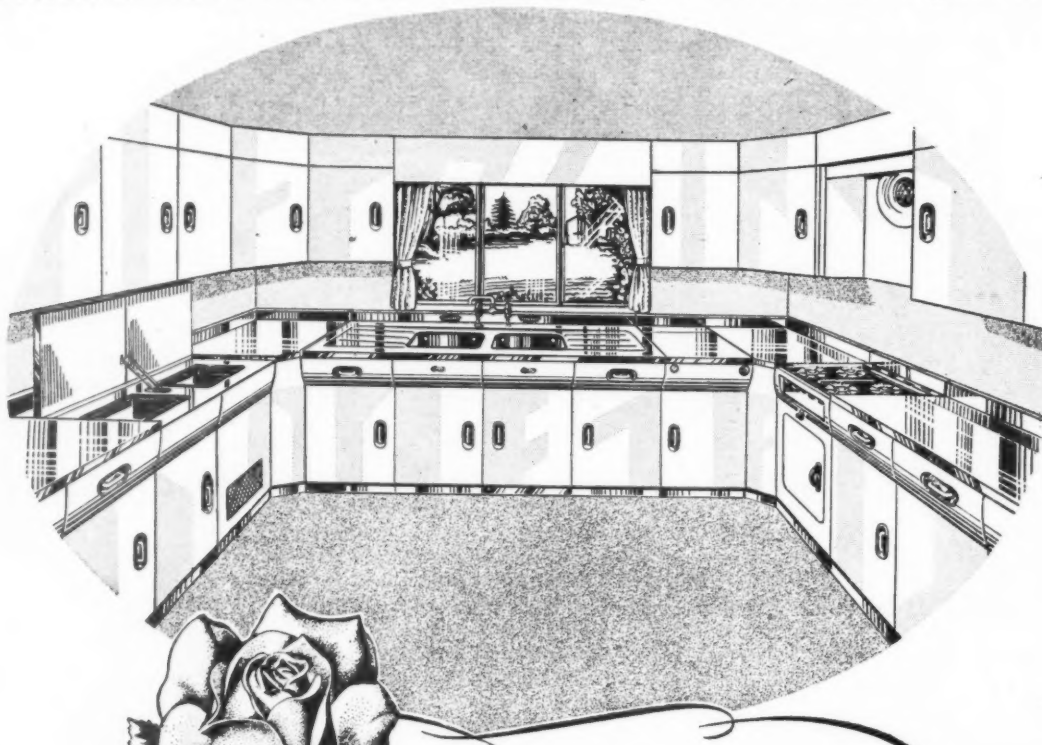
The next sort a builder hates. He never knows his own mind; refuses to take responsibility for anything; refers everything back to his architects and never chivvies up the answers; always tries to avoid confirming anything in writing; says "that'll be all right" leaving you wondering whether to go ahead and risk having to rip everything out or not to go ahead and risk coming to a standstill. In fact, he's the complete antithesis of the other fellow.

Yes, a dose of Clerk of Workshop would never hurt you, Roger. I wonder it's not on the curriculum of every architectural school. It would be fine practical training.

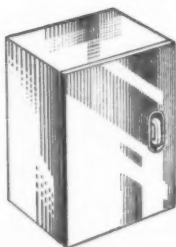
Yours very truly,

*J. W. Christie*

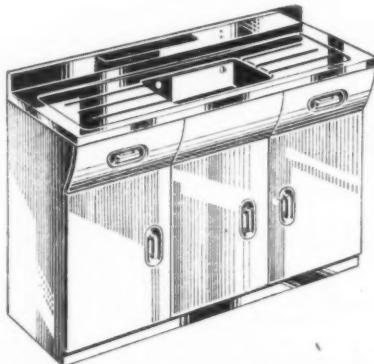
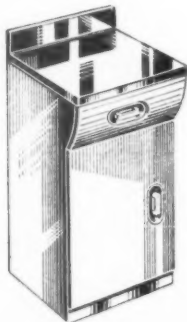
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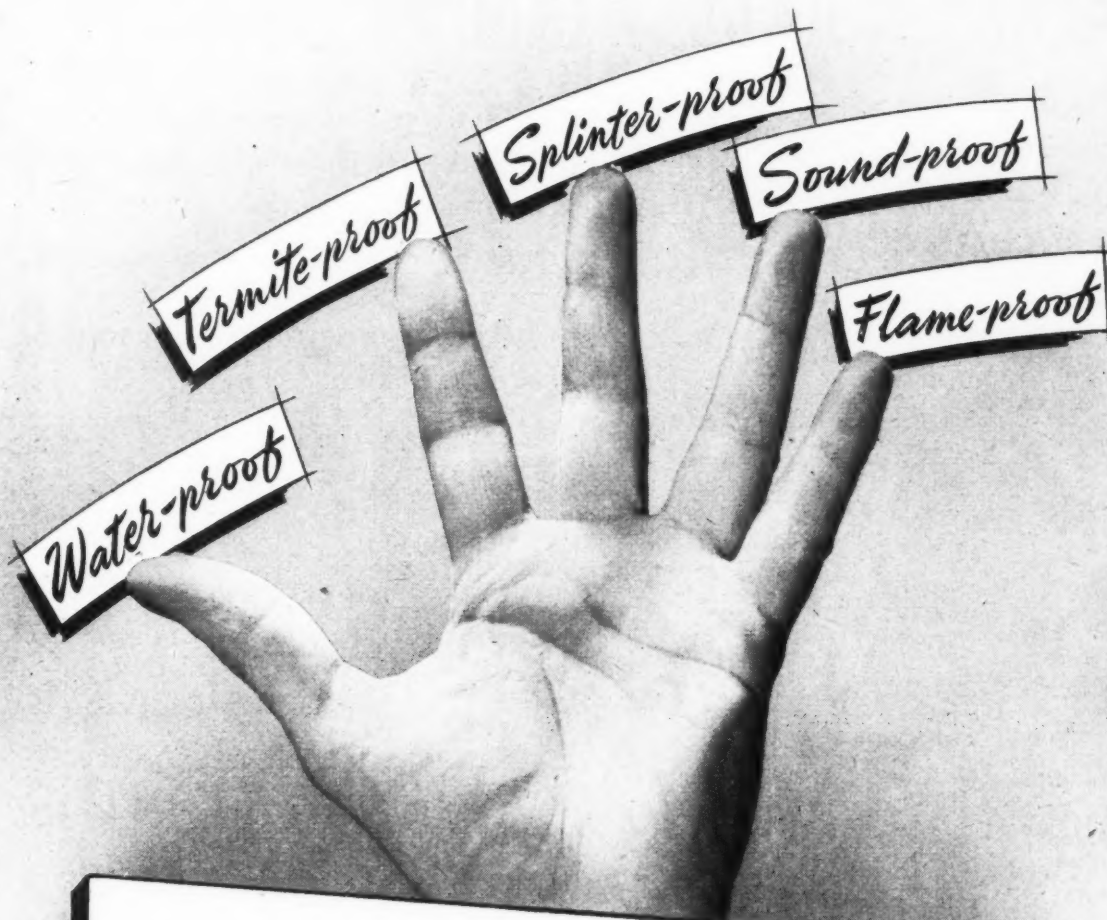
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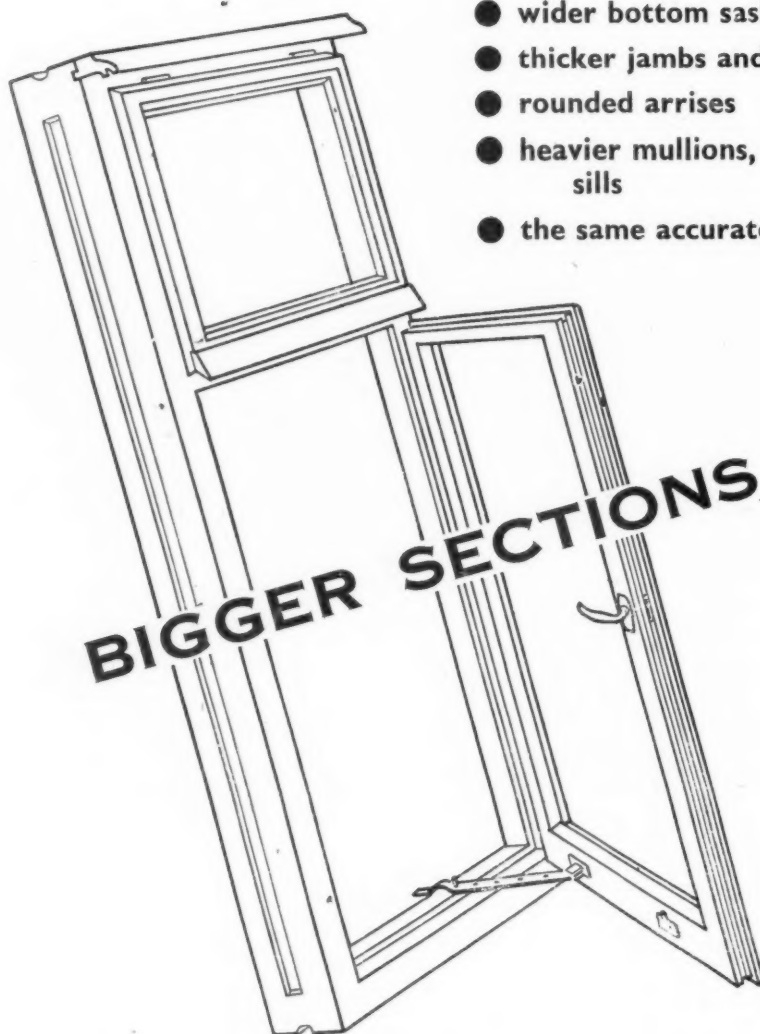
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- heavier mullions, transoms and sills
- the same accurate workmanship

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SILLS ..  $3'' \times 3''$   
MULLIONS &  
TRANSOMS ..  $2\frac{1}{2}'' \times 3''$   
CASEMENT  
BOTTOM RAILS ..  $2\frac{1}{2}'' \times 1\frac{3}{4}''$

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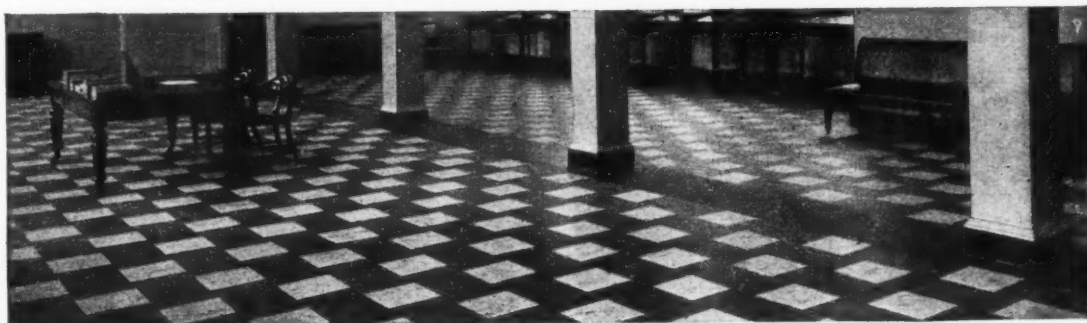
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# ARMSTRONG'S ACCOTILE



*Alkali-resistant, ideal on  
concrete sub-floors*

*This Armstrong's Accotile floor was laid in 1939 at the offices of the London Provision Exchange, 1 London Bridge, S.E.1. After ten years' service, it is still in excellent condition.*

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A NEW and attractive tile flooring material is now available in Britain. Low in first cost, it is nevertheless exceptionally durable.

Now in full production at the new Tyneside factory of Armstrong Cork Co. Ltd., Armstrong's Accotile Flooring has been tested and proved during 20 years of successful experience in the United States. And Accotile floors laid in Britain before the war show little sign of 10 years' hard use.

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Accotile is a composition of inert asbestos and ground rock fillers, fadeless mineral pigments, and asphalt or resin binders.

Since it is entirely non-absorbent and alkali-resistant, it is perfectly suitable for use on concrete sub-

floors without damp-course, at ground level or below it, provided there is no pressure of water. For such applications it offers an unusually attractive floor which withstands the hardest usage, either in domestic kitchens, entrance halls, etc., or in shops and public buildings.

#### **Quickly laid, easily cleaned**

Accotile floors are quickly laid, and can be used immediately. The tiles are available in a wide range of pleasing marbled or plain colours, giving ample scope for individual design. These colours are permanently fresh, and since they are an integral part of the composition, they cannot wear off. Warm and quiet to the tread, Accotile is easily washed or polished. It resists staining—even cigarette

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We feel sure that you will be interested in this versatile new flooring. We shall be pleased to send sample tiles on request, with full information.

#### **SKILLED INSTALLATION BY APPROVED ACCOTILE SPECIALISTS**

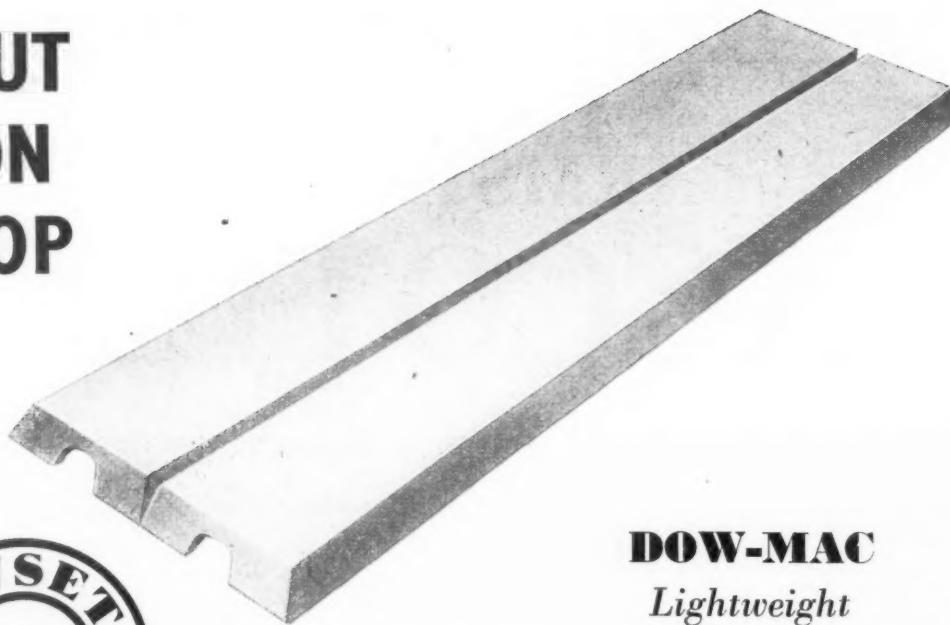
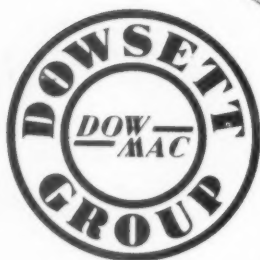
**T**O ENSURE that every Accotile floor shall be entirely satisfactory, installation is carried out by workmen who have been trained at the Armstrong's Accotile Laying School.

## ARMSTRONG CORK COMPANY LTD.

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Telephone: Colindale 7080

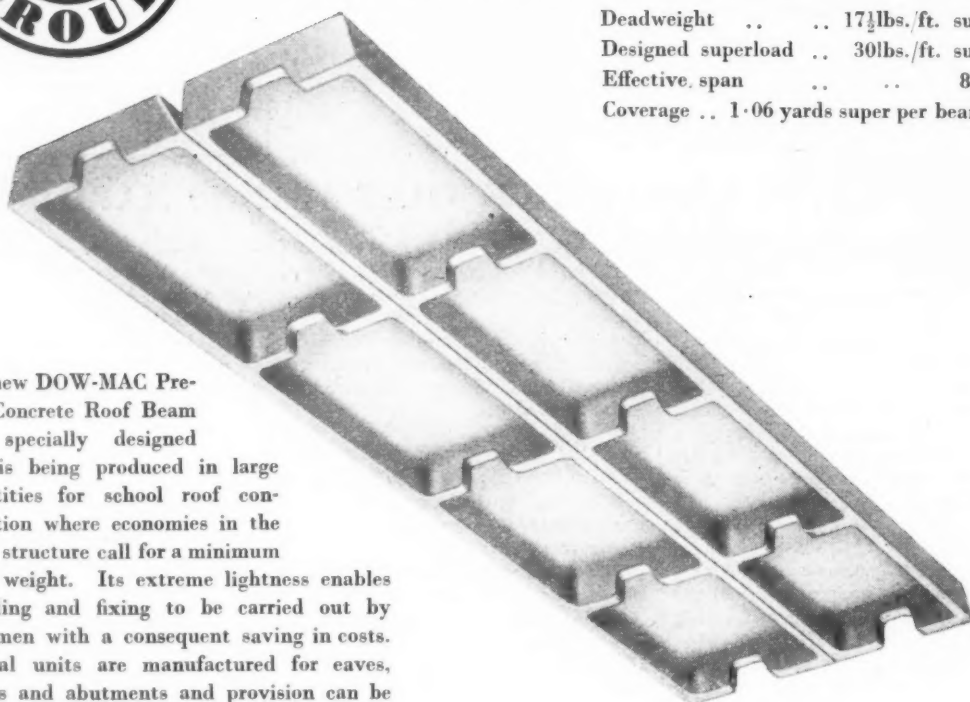
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Effective span .. .. 8 ft.  
Coverage .. 1.06 yards super per beam.



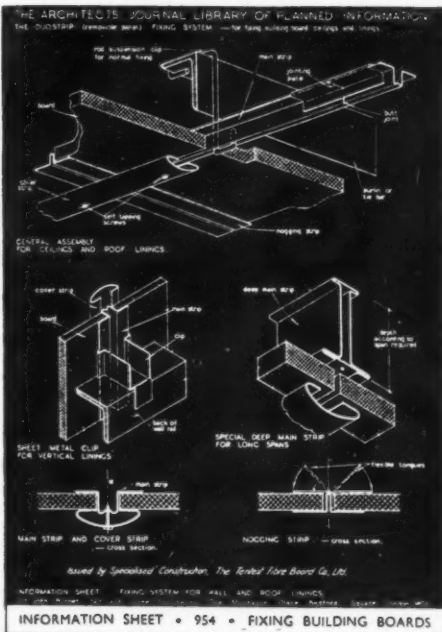
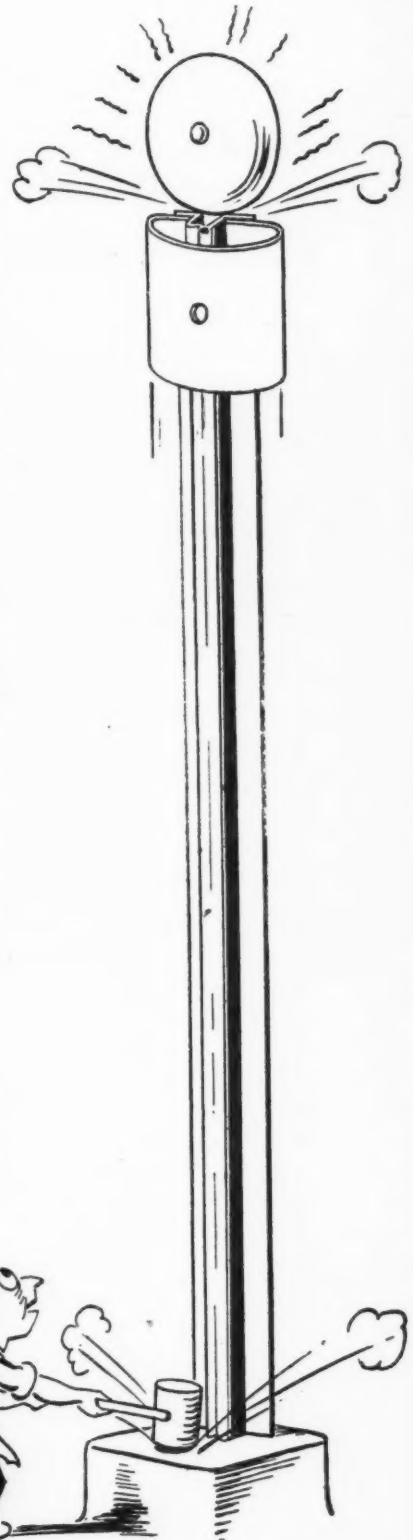
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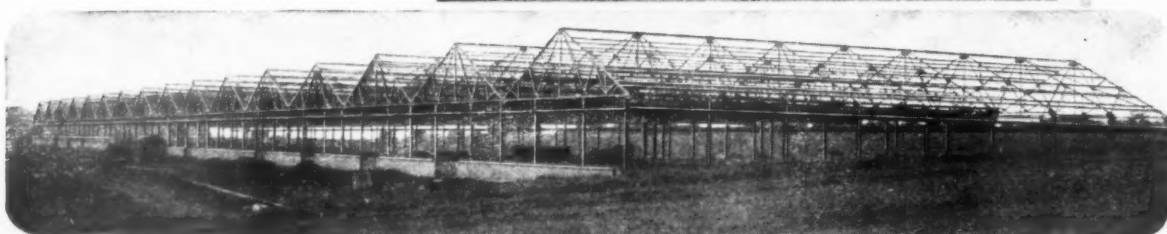
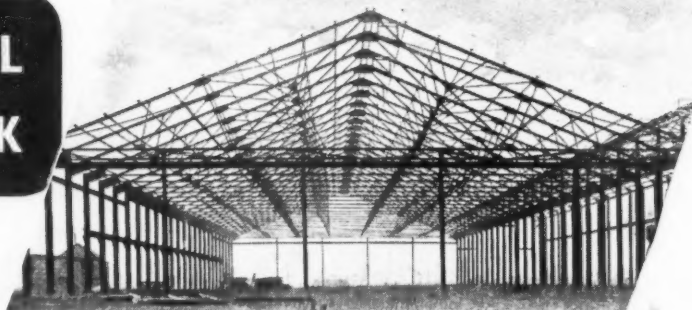
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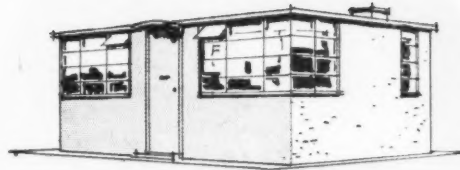
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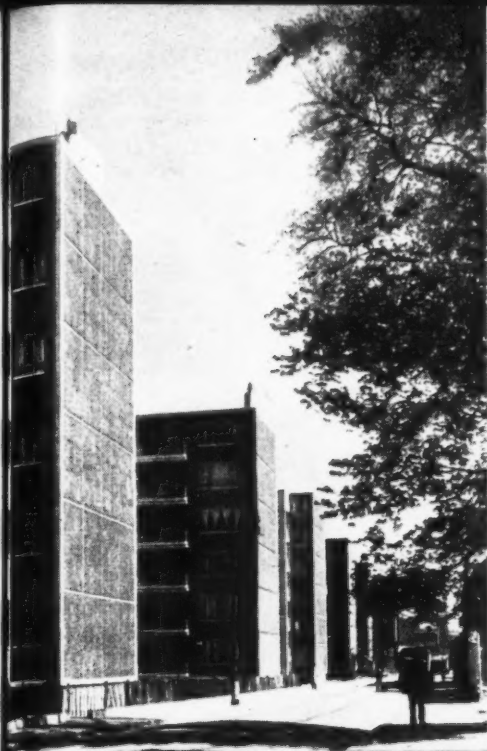
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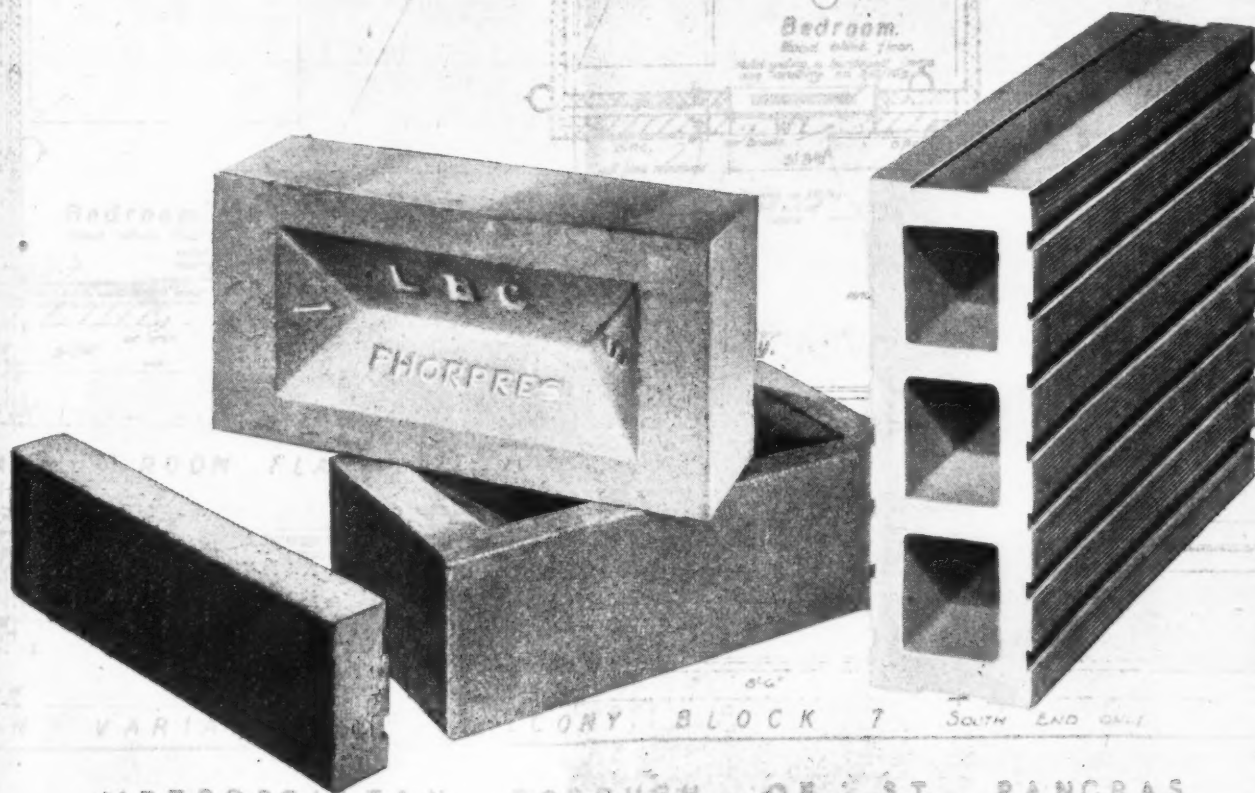
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(Architects: F. R. S. Yorke E. Rosenberg R. C. S. Mardall)

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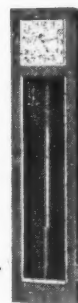
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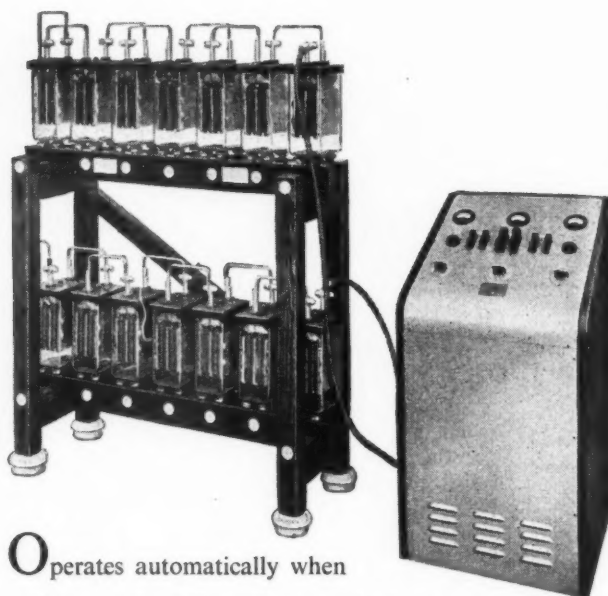
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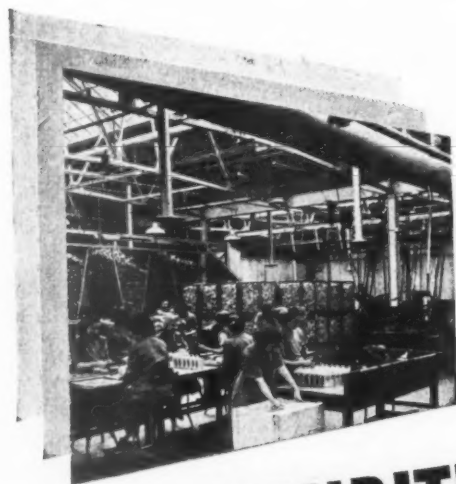
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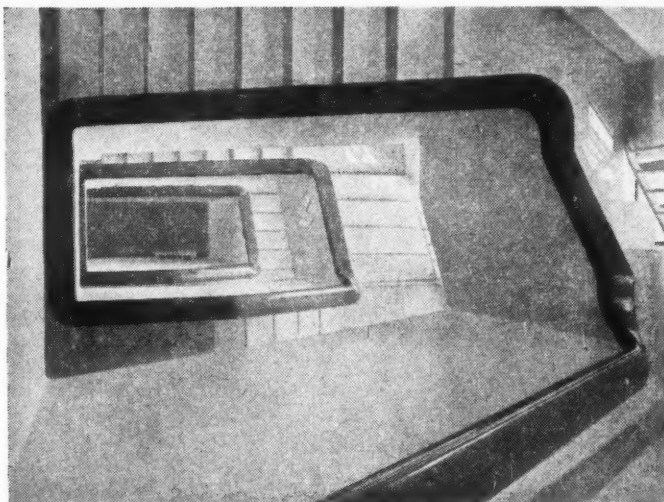
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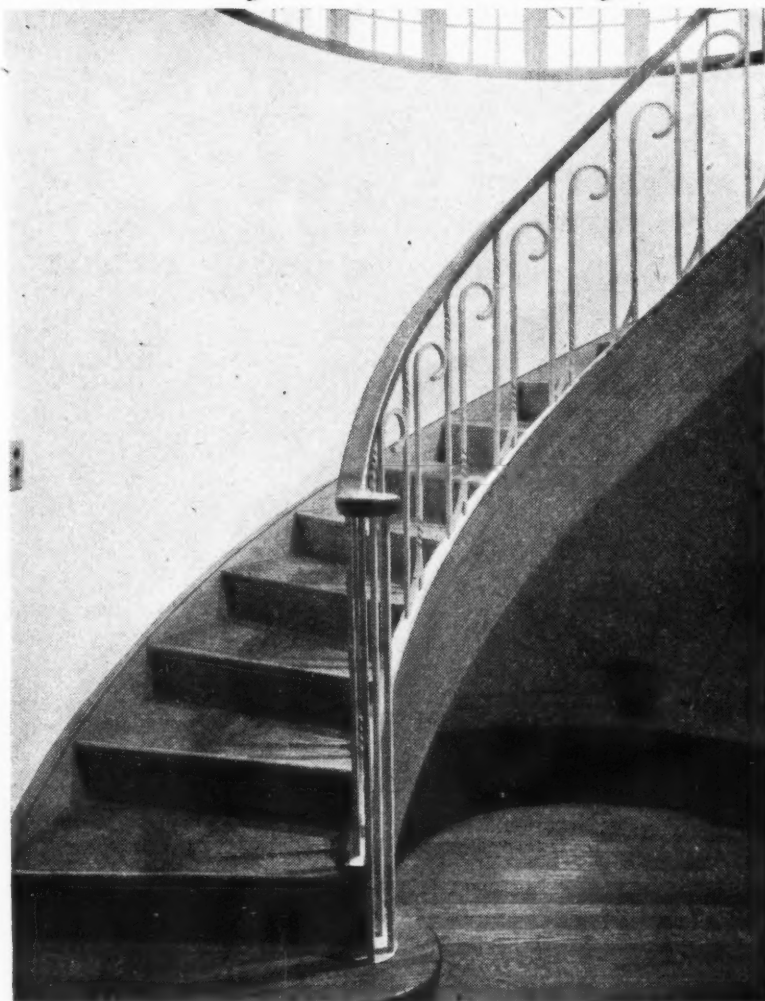
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*Right:* Continuous handrail round three floors of an open well staircase. Its construction, as well as that of the interesting semi-circular flight of stairs shown below, involved many problems of craftsmanship, which Sadds knew how to solve. At the same time, their works are equipped for economical production of long runs of staircases for housing schemes.



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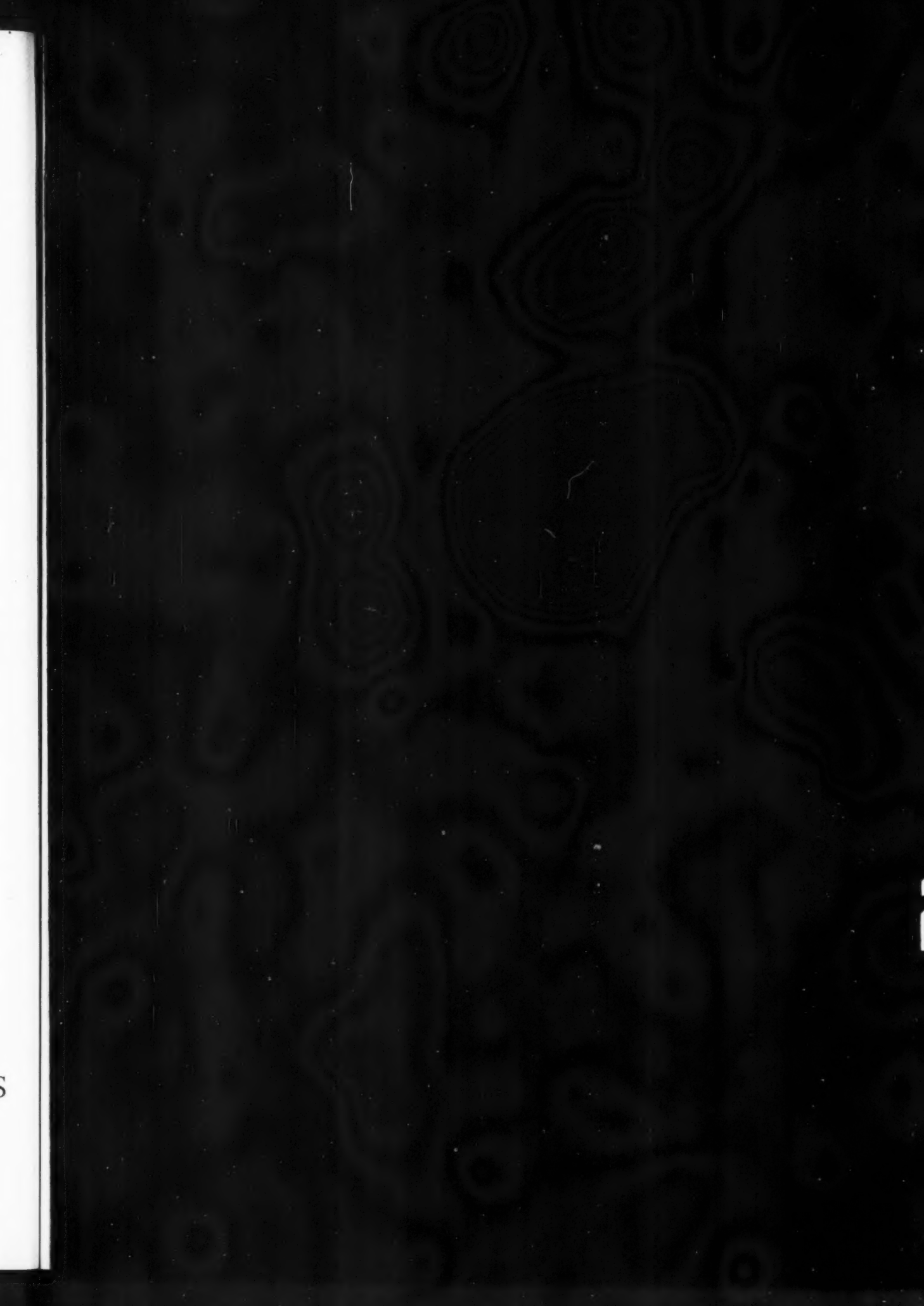
*A. R. Whitear drew this impression of the welding of metal window frames. It forms part of a series, "Window Makers at Work" by artists commissioned by Williams & Williams Ltd.*

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Mary Brown sends eight thousand amperes through the  
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Mary and her fellow workers are highly  
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Williams & Williams work is considered a complete  
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in his building, says "Now get busy on my next job."

W I L L I A M S      &      W I L L I A M S

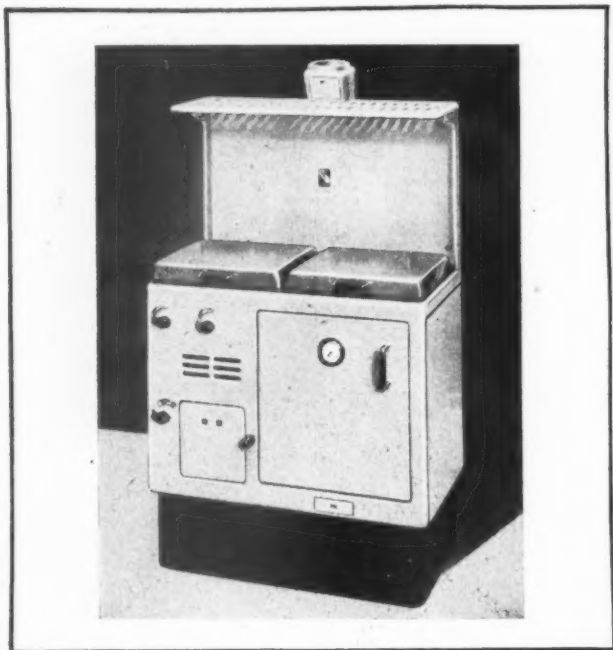
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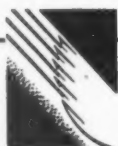
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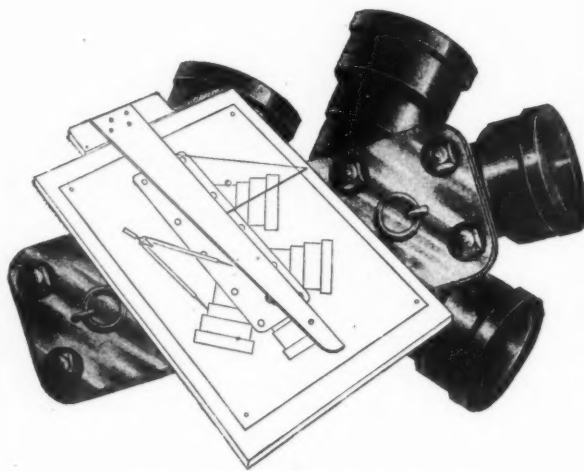
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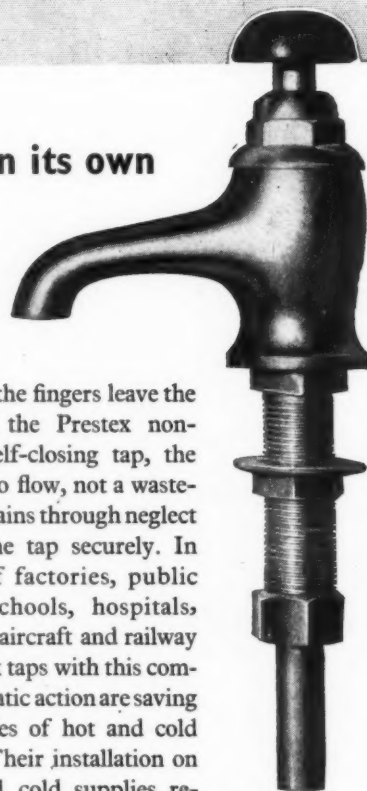
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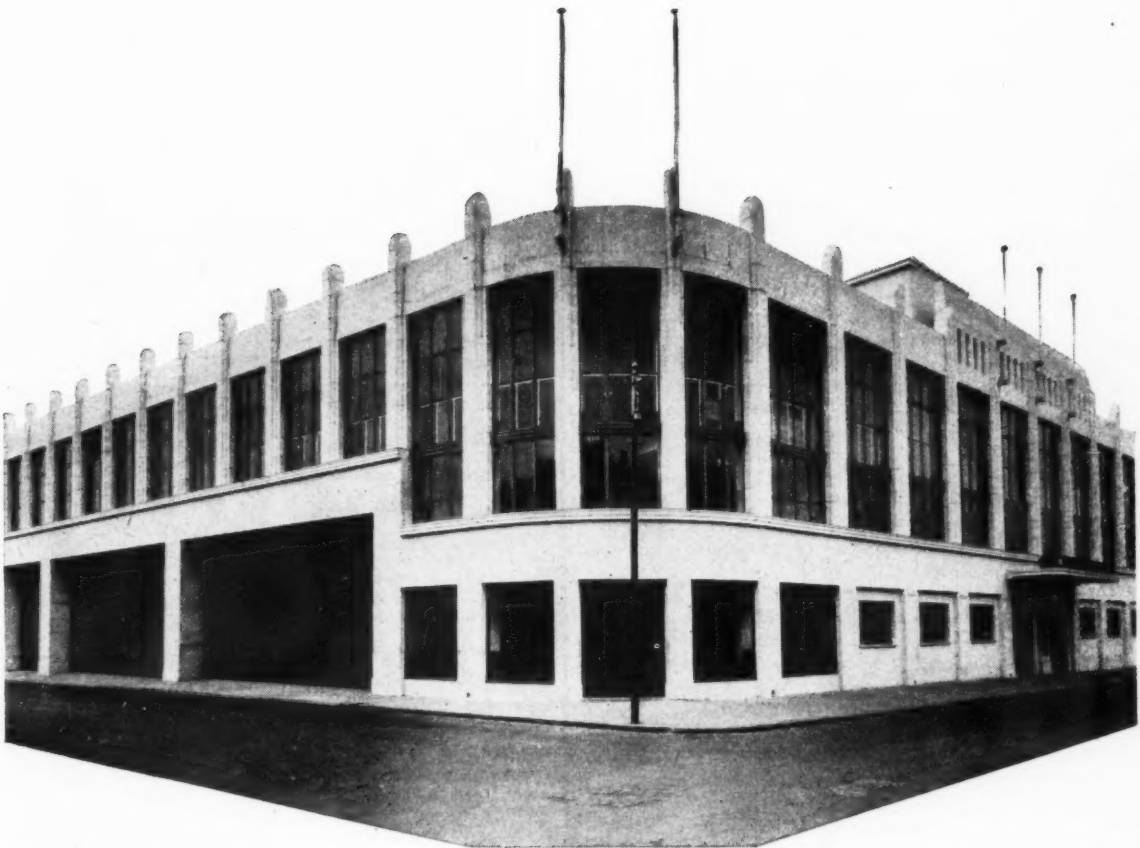
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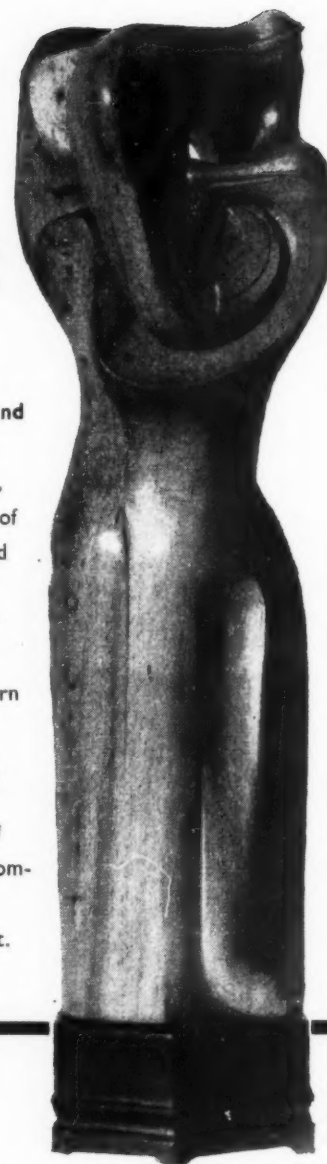
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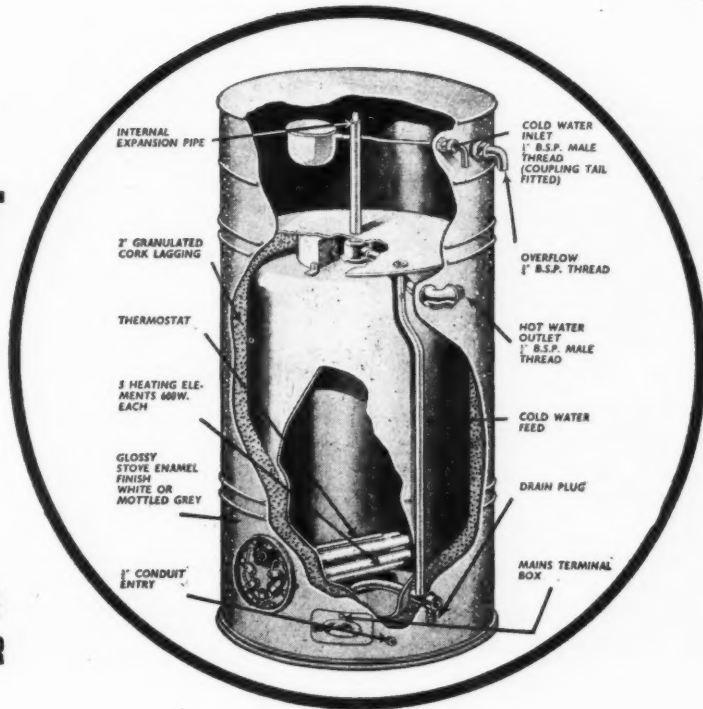
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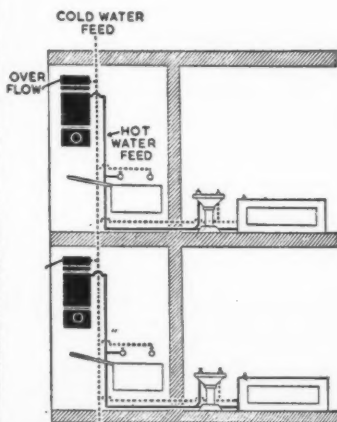
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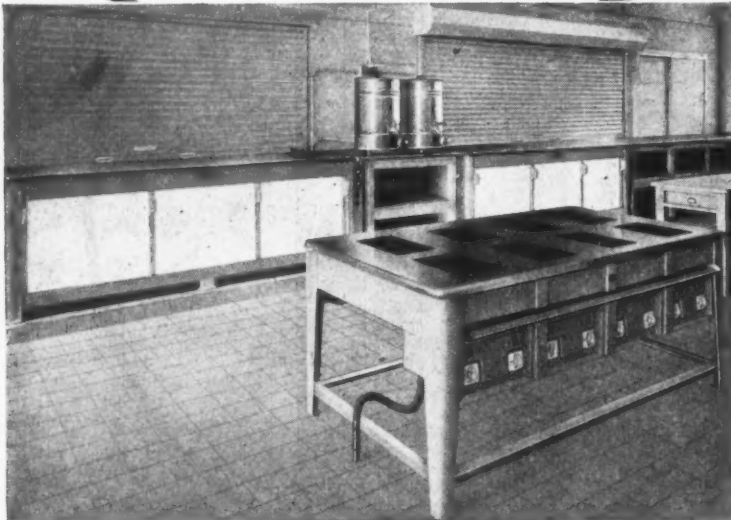
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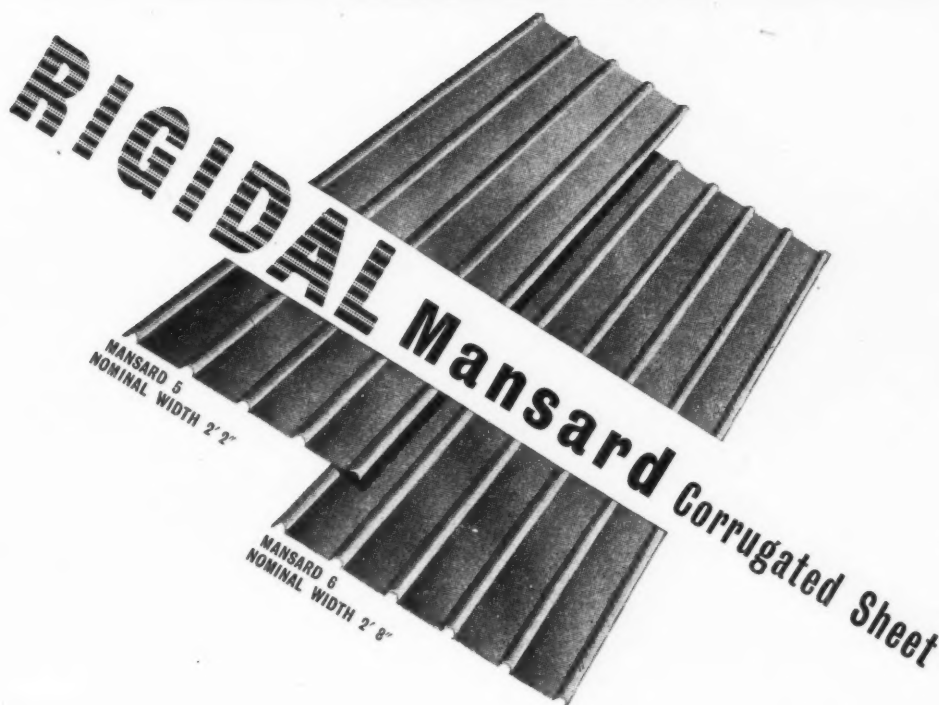
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*Recommended maximum design loads (in lb. per sq. ft.)*

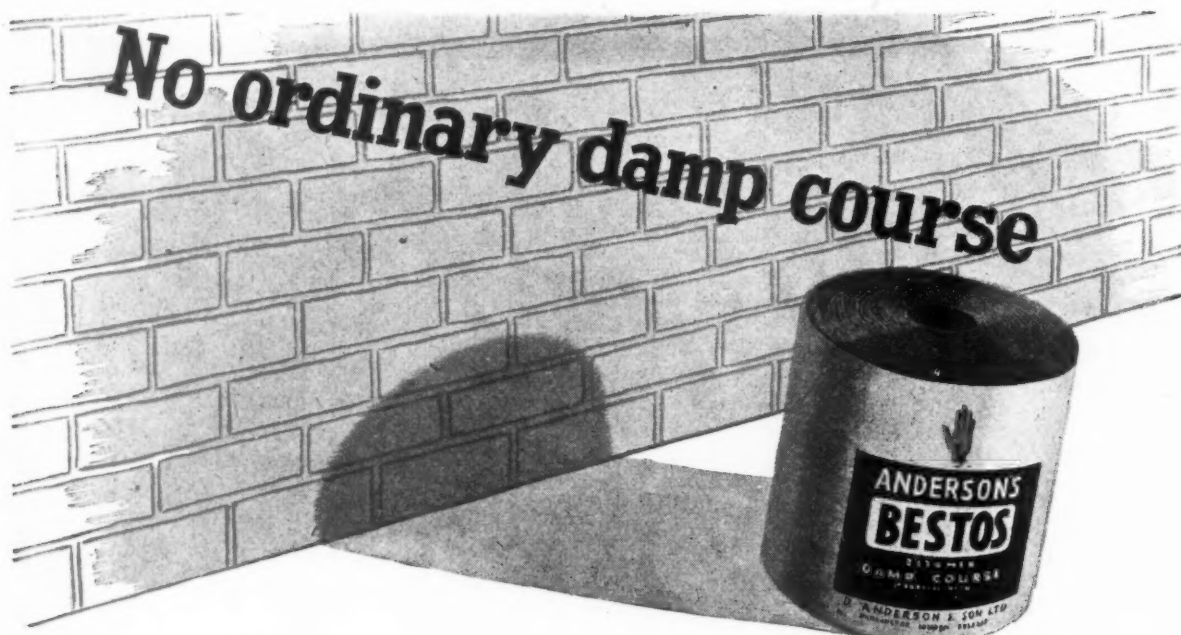
PURLIN SPACING	20 SWG	22 SWG	24 SWG
3' 0"	52	46	39
3' 6"	39	33	29
4' 0"	30	26	22
4' 6"	24	20	—
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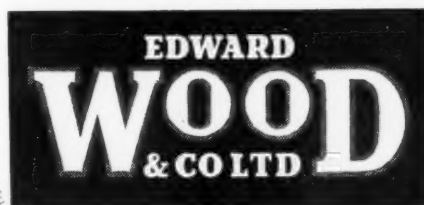
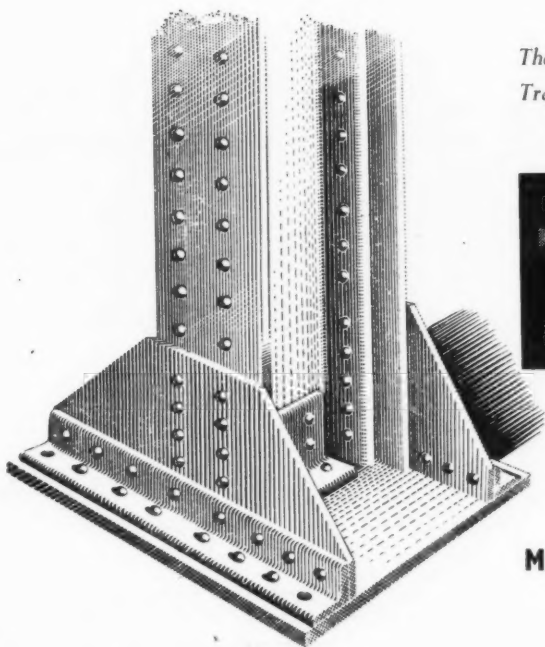
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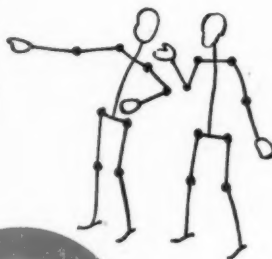
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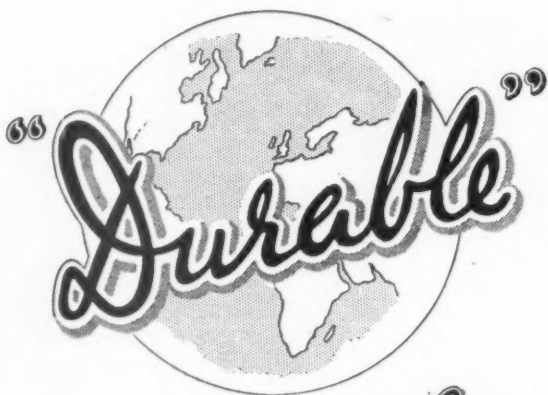
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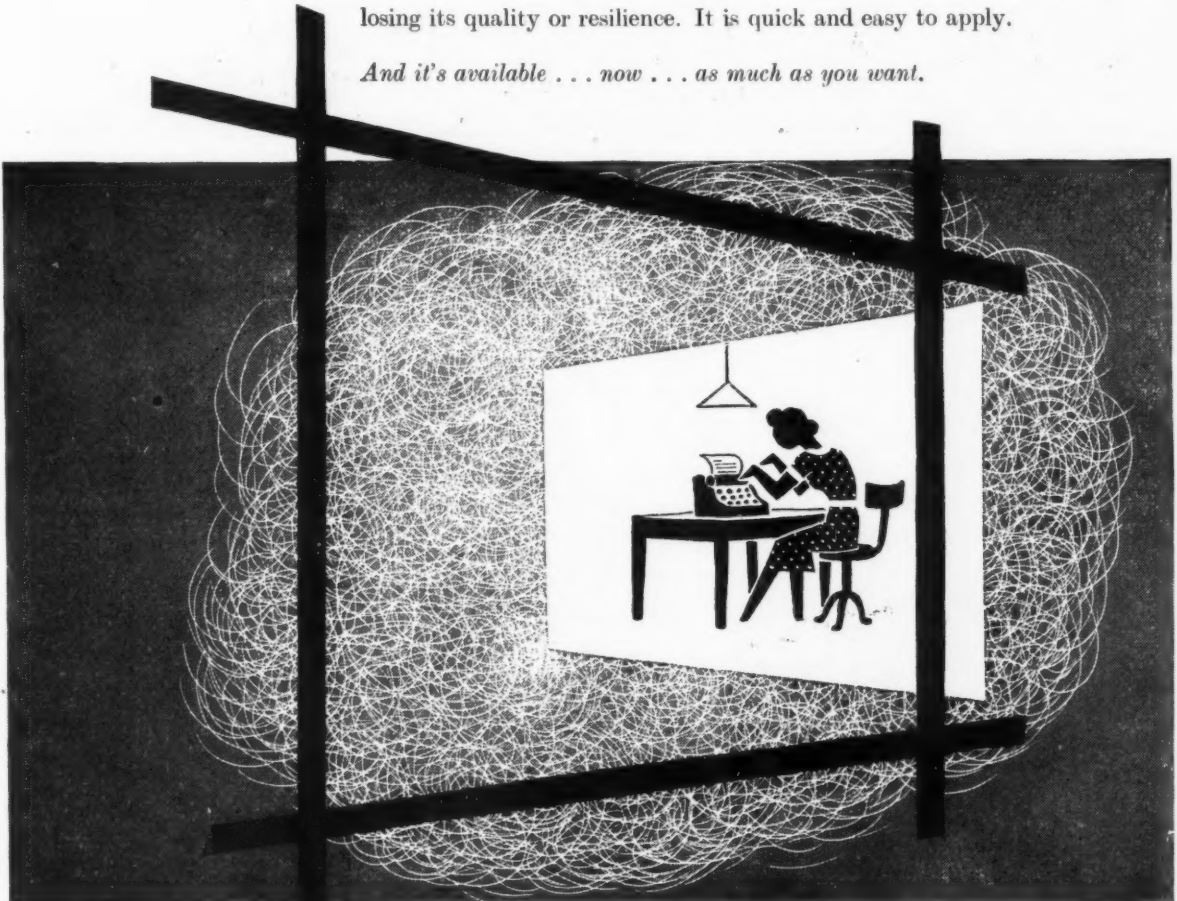
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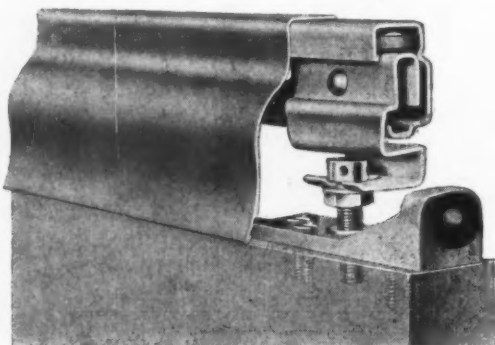
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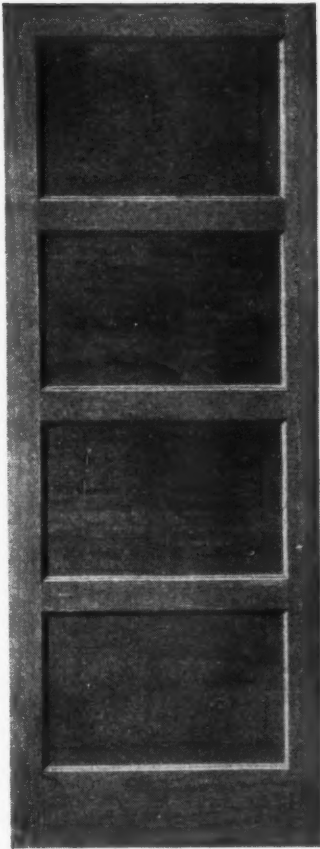
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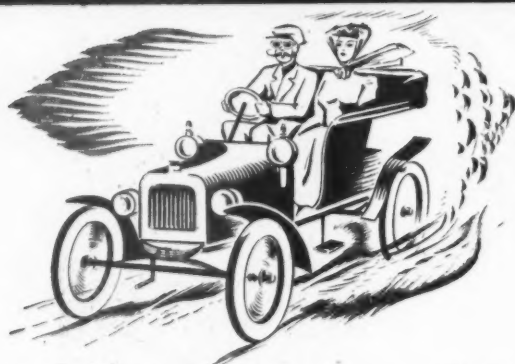
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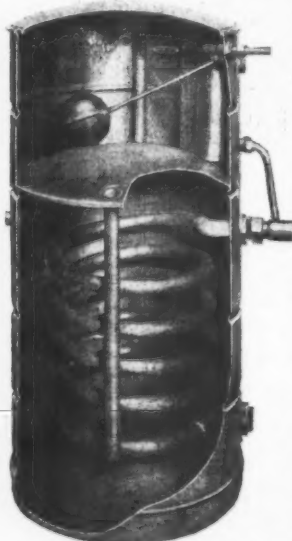
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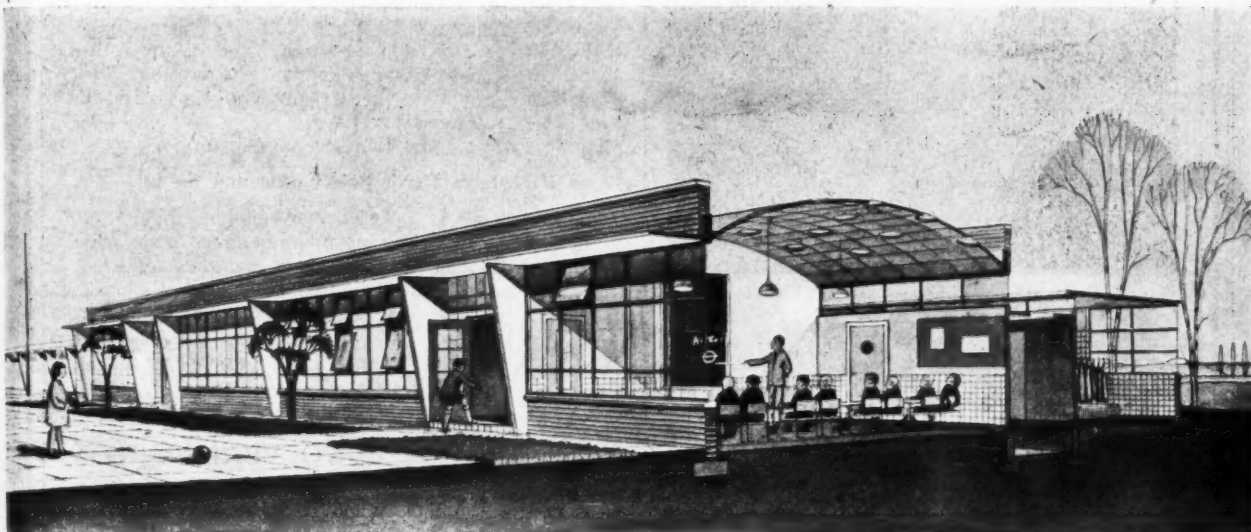
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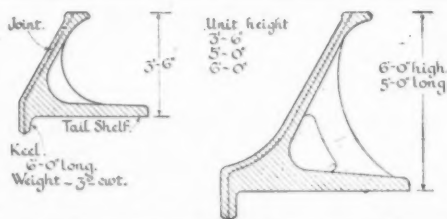
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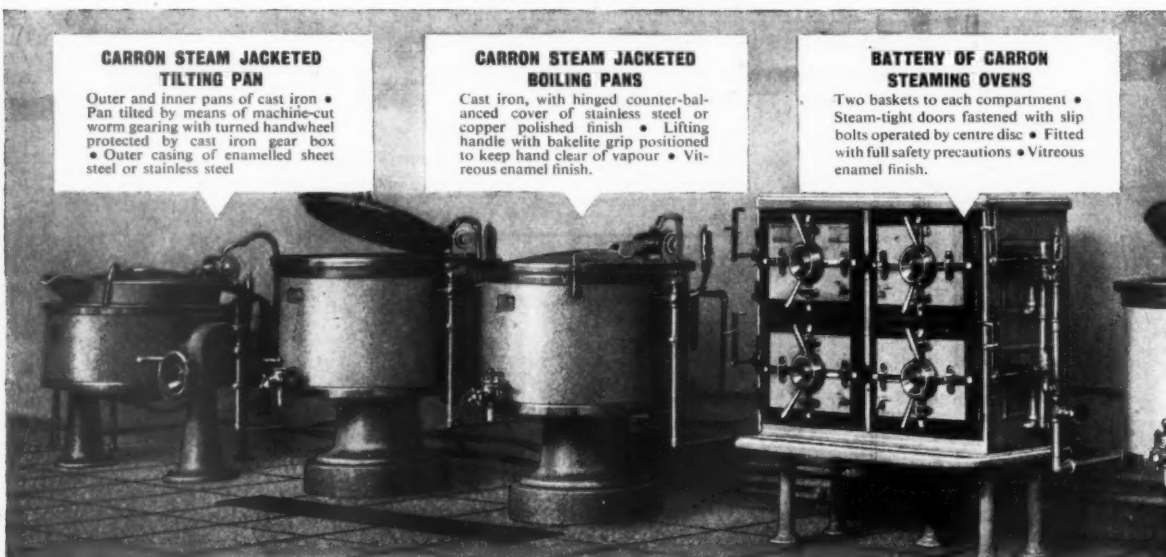
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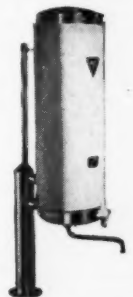
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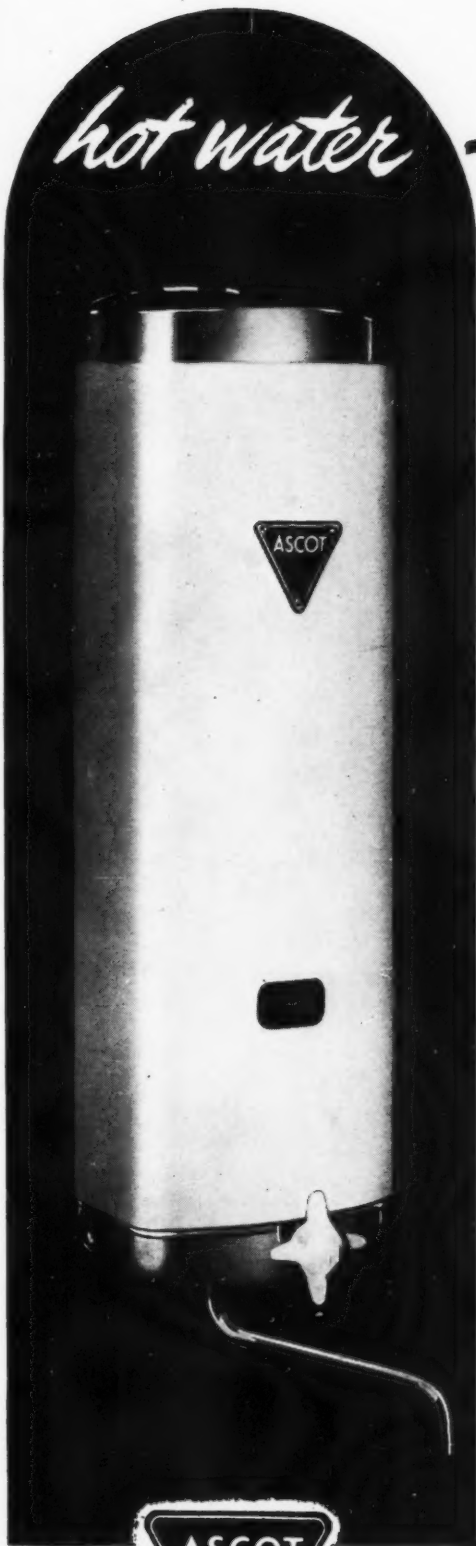
An illustrated technical leaflet describing the new Ascot 503 in detail will be sent on request.



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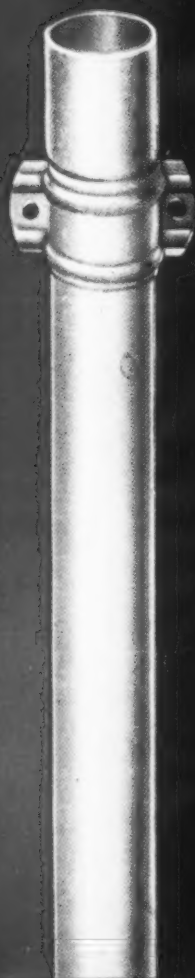
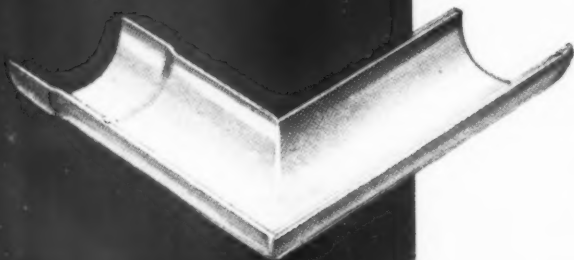
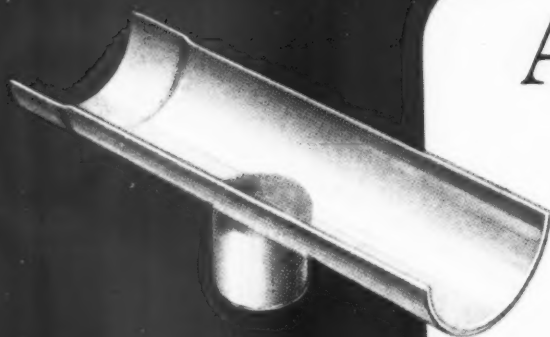
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THE ARCHITECTS' JOURNAL

No 2872 23 February 1950 VOL 111

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Subscription rates: by post in the U.K. or abroad, £1 15s. 0d. per annum. Single copies, 9d.; post free, 11d. Special numbers are included in subscription; single copies, 1s. 6d.; post free, 1s. 9d. Back numbers more than 12 months old (when available), double price. Half-yearly volumes can be bound complete with index in cloth cases for £1; carriage 1s. extra.



## VOTE FOR . . .

Nearly all readers of this column will vote today. I hope that some have been fitting themselves for this responsible duty. I decided some time ago that one could be deceived fairly easily over questions of food subsidies, who was responsible for inter-war unemployment and trade balances, but that if I kept a sharp eye on references to building, housing, town planning and such like I ought to be well equipped by polling day to cast my vote wisely. Unfortunately most questions of interest to the building industry seem to be regarded by all candidates as being in the hot potato class.

Take housing, for example. Nothing needed more than a separate accommodation for every family. But as Professor Bowen pointed out in his

recent article in the JOURNAL, we are getting in a dreadful mix over rents. Is it really just that several million families (a lot of whom are in houses too large for them) should have their rents subsidized by several million other families of equal or smaller income? This seems a question of universal interest. Yet no candidate appeared anxious to tackle it. Secondly, Astragal is all for free and full competition in building, but no candidate he has heard or read about has said that he would advocate a 50-50 proportion of local authority and private enterprise house building and attempted to forecast what would happen if this was tried.

So Astragal, as usual, will be driven to the poll by the party he is not going to vote for and will hope earnestly that his selection, if elected, will prove more sensible than we have been given reason to expect by statements made in the last few weeks.

## FURNITURE EXHIBITION

A walk around the Furniture Trades Exhibition at Earl's Court awakened in me a nostalgia for war-time utility and stick-back chairs. I trust the boys are still whittling them back in those Buckinghamshire hills even if they are not bringing them to town. I begin to wonder if posterity will decree "English utility" as a collector's piece, symbolizing our most worthwhile contribution to 20th century furniture. For in this Sargasso Sea of boarding house brown and Golders Green Gothic, the only island of refuge is the display by Neil Morris, whose work is illustrated elsewhere in this issue. Mr. Morris, who wisely calls his furniture tax-free instead of utility, is continuing to create graceful looking units which can stand singly or be combined to give multi-purpose as well as multi-appearance.

Gordon Russell maintains his usual standard, both tax-free and otherwise, and there seems some hope for the second half of the century in the LCC technical college display. And, by the way, I liked the salesman who explained that the Ernest Race tables and chairs on the stand were simply for writing and sitting down and no real part of the montage.

I felt rather sad when I recollected that Svedberg—the Swedish packaged furniture king—told me four years ago that his country's work was simply a development of the English 18th century tradition. Now the boot seems to be on the other foot plus a strong Scottish brogue.

On my way home I slipped into the V and A to bolster up my ego, but although I found delight there, I could not easily remove the depressing memory of what I had seen at Earl's Court.

## SMASHING DESIGN

A colleague of mine has shown me a photograph, reproduced at the bottom of page 235, of Frank Lloyd Wright's car, taken last September at Taliesin East. That is to say, it was his car then, but, as readers of his autobiography will recall, that doesn't mean it is now. It must leap to the eye, or at any rate to those eyes familiar with American car design, that here is a car with a difference; this not just number blankety-blank from a never ending stream of wheeled, chromium-plated automatic toasters.

The unusual feature, in case you are still looking and wondering, is the roof and the rear window. This peculiarity

# RUSTY WINDOWS

cause extensive glass breakage from expansion, are dangerous, and make unsightly stains on cills. Constant scraping and repainting is expensive and no cure.

*Specify*

# HOPE'S

HOT-DIP GALVANIZED

# WINDOWS

*and*

*Avoid Corrosion*

came about as the result of a motor smash. When the car was being repaired Frank Lloyd Wright noticed (I can hardly put this down) in a corner of the works yard an old, old (yes, you've guessed it), a very old coach. He so much admired the shape that he asked the car body-builder to copy it, with the result you see here. The only thing I cannot add to the photograph is the colour, which is "purpose-mixed" and, apparently, Frank Lloyd Wright's favourite. It can also be seen in the rubber flooring of the Johnson Wax Building at Racine. It is a subtle shade of red-brown, and has been described to me as a mixture of Devon earth and Derbyshire clay, which to me means something between strawberry roan and a bay. Jingle bells, Mr. Wright, jingle bells, if I remember aright, jingle all the way.

#### TRADE LITERATURE

A letter published, I am told, this week, from N. C. Stoneham, who was Chairman of the BSI Committee for the sizes and arrangement of the contents of trade literature reminds me of what a JOURNAL editorial said in 1946, and of what I should have said in this column a fortnight ago when I announced the AIA competition to improve building products catalogues in America.

\*

Half a beat out, as usual, but struggling to get into step, I hasten to add my commending toot to the editorial fanfare by saying the *size* of trade literature is only important up to a point. Not too little, not too much, to borrow a phrase, but just right for fitting into normal office folders and filing cabinets without getting lost or crumpled. That is all the standardization required there.

\*

What really matters is the *kind* of material which is prepared for architects. I like my facts dry and terse, easy to find and read, and no intricate layout. Architects are expected to know such a tremendous amount nowadays that I find it simpler to keep detailed information in a filing cabinet and release my fluffy brain for the happy task of creating a synthesis of materials (A to M) with construction (N to Z). If manufacturers want architects to remember them in a non-technical way, the usual flora and fauna should do the trick.



*Astragal cannot find words with which to comment on the above picture, which shows a new block of flats at Calais.*

The success of the Information Sheet library is a perfect example of the demand for the right kind of literature. I hear that over 4,000,000 sheets of the current series are in circulation, not a large figure to present-day economists and financiers, but to architects accustomed to one project per draughtsman per year and similar simple sums it seems quite a large number.

\*

Incidentally, may I call the reader's attention to the form on page 240? Those who want an alphabetical index covering items published in the Information Centre feature during 1949 should complete this form and post it before March 6.

#### SUBURBAN DICTATORSHIP

Council Estates seem to be hedged about by more and more restrictions, which the dailies pick up as interfering with individual freedom. I am quite prepared to admit that it may be reasonable to forbid chickens and other livestock (perhaps even cats and dogs), and lots of leases forbid the hanging out of washing, though nobody seems to take any notice. But at least one Council forbids tenants to paper their walls and others won't have television aërials. And now Bridlington have forbidden fences and gates in front of the 700 houses on the new Bessingby Estate. Everyone must have lawns and flowers and no bird-baths, sun-dials, rockeries "or similar structures stand-



*This unusual looking car is the property of Frank Lloyd Wright. See "Smashing Design."*



### *Danish Post-war Architecture*

Housing is still the great architectural problem of today, and is the major concern of architects in every quarter of the globe. The exhibition of Danish architecture which opens at the RIBA next week on February 28, provides an opportunity for architects in this country to study Danish attempts to build houses and flats despite

even more severe shortages of materials than in England. Above are typical blocks of flats in Gentofte, built in 1947-48, and designed by Arne Jacobsen. The exhibition at the RIBA, which closes on March 29, will also cover town planning, civic centres, churches, schools, factories and commercial buildings. See also pages 240-241.

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ing above the ground," while there may be no shrubs or flowers above a height of nine inches.

This seems monstrous. I have no doubt that the estate will look more pleasant, but the tenant who wants a fence to stop her children wandering all over the roads is (to me, at any rate) the unanswerable reply. I dislike, as much as you do, lead gnomes and china toadstools, but if one of my clients really likes them, have I any right to do more than try to dissuade him?

#### THE RIGHT ROADS FOR BRITAIN

The British Road Federation is carrying on its campaign for better roads and sign posting in a not too propagandist way, tackling it mainly by asking whether we can really afford to have anything but a first-class trunk road system. I agree that London signposting is a disgrace and that if you want any major town, you have to get well beyond the suburbs before you find that you have gone the wrong way. The tax paid by motorists has for so long been used to swell general revenue that most of us have forgotten it was once called the Road Fund, and was meant, oddly enough, to be used for building roads.

The BRF's latest publication\* shows British roads in a rather poor light, compared with those in Germany, France, America, Sweden and far too many other countries, while traffic here now seems to be quite as jammed as it was in 1939. The remedy must be a fairly drastic use of overbridges and roundabouts, but the cost, at any rate in towns, would be pretty fierce. I don't think there is a single true roundabout within five miles of Piccadilly Circus. Would anyone like to guess the cost of making one at, say, the Elephant and Castle?

#### AN APOLOGY

In my Review of 1949 on January 19 I said that the Basingstoke Canal was sold to the Inland Waterways Association last March. In fact, it was sold to the Basingstoke Canal Purchasing Committee, and its ownership has since been transferred to the New Basingstoke Canal Company. My apologies.

ASTRAGAL

\* Roads, the New Way, by Harold Knockolds.

## The Editors

### STANDARDS IN RETREAT

A YEAR ago no architect wanting to avoid being called reactionary would dare suggest that the standards of post-war housing estates were too high. Now, the first daring murmurs against extravagance are to be heard. At the last meeting of the Housing Centre, in a discussion on the 1949 Housing Manual, two of the speakers advocated reduced standards in site layout. M. B. Blackshaw, senior architect of the MOH suggested that the width and construction of ordinary development roads were unnecessarily extravagant in many estates, and pointed out the immense savings in capital costs which could be made if roads were related in size to the amount of traffic they were expected to carry.

This is an economy, a reduction in standard, which the JOURNAL has repeatedly advocated recently. A study of new housing estates shows a complete misunderstanding of the road usage of a residential area. Local authority housing, without garages, or the space to build them, are today placed alongside roads wide enough for three vehicles abreast, with, in addition, broad pavements on either side.

A residential road should not be used by wheeled traffic except for transporting residents and service vans. There should be no temptation for through traffic, or encouragement to speed. Such a road, used only by tradesmen's vans, the occasional car and the coal and dust cart, a traffic density of about one vehicle an hour, need only be sixteen feet wide. The addition of pavements to this width is a luxury, provided it can be ensured that the road is not used by through traffic taking a short cut from one part of a town to another.

By such a reduction of "standard" several worthy aims would be achieved. Roads would be cheaper to make and repair, and could be safer. Rents could be lower and, not least, the appearance of the estates improved. The removal of the civil engineer's pride, the broad concrete or tarmac strip, which is a hang-over from our Roman heritage and a feeble offspring of the by-pass, would be a triumphant result of a policy of "reducing standards."

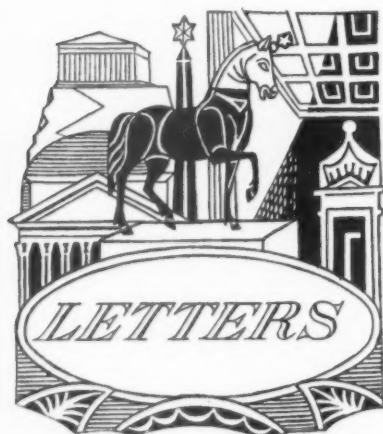
No. 10

### CHANGES IN TECHNIQUE

In our Leader of the JOURNAL for July 28, 1949, we referred to the gradual changes in technique which are apt to occur almost unnoticed apropos cavity walls and solid floors. The recent publication of a BRS Digest dealing with *Plastering on Insulation Board*\* is a reminder of another gradual change which is occurring. For some years before the last war the use of plasterboard as an alternative to lath and plaster was increasing. Since the war, both because of the shortage of plasterers and because of the increase in pre-fabricated or partially pre-fabricated systems of construction, this usage of

\* BRS Digest No. 10. "Plastering on Insulation Board" 1949.

plasterboard has increased. Insulating fibre boards are also used in a somewhat similar way. It is therefore worth considering the problems raised by this changing technique. Insulating fibre boards can sometimes be used without a plaster finish, but quite often they, as well as plasterboards, are considered for use as a base for plaster. If plastering is to be carried out on a background of board two points need special consideration—the adhesion of the plaster and the possibility of movement of the boards which might cause subsequent cracking. Generally speaking, there is not much difficulty when plasterboards are used, but problems of moisture movement do arise in the case of fibre insulating boards. The BRS Digest No. 10 discusses methods of using fibre insulating boards in this way. Among the important points is the need for proper fixing to ensure adequate support for the boards and to minimize the effect of moisture movement. Not only must fixing supports be at sufficiently close centres but nails also must be closely spaced. The correct surface of the board must be used and this surface must be clean and dry. One or two coats may be used, but for single-coat jobs the surfaces must be true and level, which in practice means that the backings to which they are fixed must also be level. The type of plaster is also important and it seems that the requirements are for a strong and quick-setting material. The BRS Digest discusses suitable types and methods of application and also mentions the important point that a crack between the fibre-board and its junctions with adjacent areas of other materials is difficult to avoid and must therefore be taken into account in designing. It is surprising how many people seem to be adopting this new practice in building without fully appreciating the technical points involved. The Digest provides a useful reminder and guide.



### Standardized Trade Literature

SIR.—Your Newcastle correspondent who complains of the varied shapes and sizes of the publicity matter which is poured into his office, and very often into the waste-paper basket, is right; and the

tragedy is that after nearly four years he or others like him are still complaining.

In May, 1946, a committee of the British Standards Institution on which architects, engineers, manufacturers, advertising agents and printers were all represented, produced a British Standards Specification No. 1311:1946 entitled "Sizes and Contents Arrangement for Manufacturers' Trade and Technical Literature (Building Industry)." The sizes recommended in this Specification—I say recommended because no BSS is compulsory—were worked out after a close examination of architects' filing systems; in other words we knew what they wanted and tried to get manufacturers to

conform with those wants, but many manufacturers will still not conform.

May I suggest a rather radical treatment? I think the remedy lies in the hands of the recipients of literature of unwanted sizes. Why not therefore return it? As Chairman of the BSI Committee I am loath to see the hours we spent wasted and therefore offer free of charge to any architect who asks for it, to supply a printed slip: "This literature is the wrong size for my files. I am therefore returning it. It does not conform to BSS." The literature can then be returned in a tucked-in envelope under a penny stamp. Alternatively, if any architect does not want the trouble of returning each piece of literature as he receives it, but does not mind bundling up the whole lot and sending it direct to me, I will very gladly return each piece to whoever originally sent it. I apologize for tossing the ball back to the architects, but I think that this is the only way

N. C. STONEHAM.

London.

### Reprimand from a Schoolmistress

SIR.—The letter written by a schoolmistress from Sussex (February 9) is, in addition to being amusing, a most helpful one to those of us who are designing schools for public authorities. In the case of most new schools it is not the general practice to appoint members of the teaching staff much in advance of the completion of the building, and it is extremely difficult, therefore, to obtain the views and constructive criticisms of those who have to use our buildings. When, on the other hand, in the rebuilding or extending of an existing school, the architect is in touch with the staff, there is a far better chance of avoiding such pitfalls as the omission of mat wells and bad placing of lavatory accommodation.

I should like to suggest that education authorities should encourage their teachers to point out the shortcomings of any new school buildings they occupy. If this practice were to produce only a few letters such as this reprimand, a brief summary of the points they raise would be most valuable if circulated to architects and others responsible for the design of schools.

J. E. K. HARRISON.

London.

### Architecture as a Business

SIR.—I deplore the taking on of private firms as editors and the taking up of the cudgels on behalf of architecture as a business. Around this question let there be controversy—let the JOURNAL ventilate it—but the technical press in general and the JOURNAL in particular should avoid becoming a business man's paper instead of an architect's. The days when architecture was synonymous with private practice have gone, and only a minority of architects now practice their profession as a business. There are surely more important problems for architecture today than saving private practice?

E. E. HOLLAMBY.

London.

### Loss of Continuity

SIR.—You published two photographs of my sculptures in your issue of December 29, 1949, and you may care to have the following exact account of the facts.

"Continuity" was placed in a public park during an exhibition in the summer of 1947 (the year before the first Battersea Park exhibition) and was destroyed in the spring

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of 1948 by drunken students, who had been incited by the inspector of the Zürich public gardens. The inspector had been known as a member of a political organization of the extreme right during the war. Swiss sculptors would not have been so stupid as to destroy such a sculpture, as the public mind was not against the work.



The second sculpture reproduced in your magazine was placed at the entrance front of the pavilion "the good form" organized last spring in Basle, and not in a park exhibition. It was a sculpture made to harmonize with the entrance front, as sculpture has been combined with architecture in the past.

I do not think that "Continuity" will ever be reconstructed in Zürich, because there is nobody willing to fight for this idea in Switzerland. The writer certainly misunderstood our mental situation in Switzerland. Although there is freedom of mind in principle, the general tendencies in art and architecture are clearly wrong and reactionary.

MAX BILL.

Zürich.

## Housing Act 1949

SIR.—I have been reading your editorial on page 147 in the issue of February 2, together with your hypothetical questions and answers on page 169 of the same issue, and I feel that an error has been made both in the editorial and at the bottom of column two on page 169, in saying that "the grant cannot be for less than £100 or more than £600 per house."

My reading of the Act is that a grant cannot be made if the expenditure on the improvement works is less than £100 or more than £600 and the grant itself cannot be more than 50 per cent. of the expenditure.

J. STUART DILKS.

Exeter.

Specialist Editor No. 16 writes:—Mr. Dilks is quite right in suggesting that the leader and example were in error. An improvement grant can only be made where the cost of the works is not less than £100 and, in general terms, not more than £600 and the grant, again in general terms, may not exceed one half of the cost. But, while the point is under discussion, it should be pointed out that in certain circumstances a grant of more than 50 per cent. of the cost can be made where the cost does exceed £600. The obvious answer is that Sections 20 and 21 of the Housing Act, 1949, must be read together and in detail by anyone thinking of making use of these provisions for aid.

## Town Planning Distinction

SIR.—I greatly value the RIBA Distinction in Town Planning which you announced in your issue of February 2. But the type of work to which you referred in your announcement must always be the result of collective effort and I would like, if I may, to record my debt to my colleagues and, in particular, to my late partner, Sir Nigel Norman with whom I worked in the closest collaboration from 1933 until he was called to command his Squadron in 1939.

GRAHAM DAWBARN.

London.

THE EDITORS reserve the right to shorten letters from readers. Whenever possible, however, they are published in full.



*Below is the second of a series of articles, prepared by Arcon, the JOURNAL's guest editors for 1950, giving the firm's views on the effect of prevailing conditions on the organization of a private practice.*

## ARCON

### The Organization of a Contemporary Practice

Last week we discussed the changed conditions in which an architect practises today, and indicated the method of working we have developed in order to deal with these conditions. If one accepts this principle of co-operation the next problem is to consider the size and method of organization.

#### ADMINISTRATION

Broadly speaking, on the technical side, a large organization offers the possibility of providing a wide variety of specialized knowledge. At the same time, such an organization can afford to carry a more comprehensive background service such as accountancy, secretarial, plan registry, printing facilities and the like, than is possible in the small office. There are also economic advantages, such as sharing the expenses of overheads, of bulk purchasing of materials and of spreading one's risk. These are the potentials of size.

Whether they can be welded to efficiency is another matter.

These advantages are offset by certain inherent dangers relating to size, such as loss of individuality, loss of flexibility and the tendency of over-concentration at top level on purely administrative problems.

In order to make the best of the advantages of size while still maintaining flexibility, each of the Arcon Partners runs his own unit with maximum possible freedom, but the main background services are shared. The whole organization is co-ordinated by fortnightly partners' meetings at which the main line of policy is settled together with the details of administration that arise from time to time. Jobs may often pass from one unit to another, and there is a complete interchange of information between units.

#### RELATIONSHIP WITH STAFF

The problem of staff relationships is one which will need constant attention from everyone who is in any way responsible for running a medium or large-sized architectural office.

The two main points to be borne in mind are, firstly, that the productive or creative section of one's staff consists largely of people who have been trained as architects and have, consequently, a need to satisfy the creative impulse which made them, in the first place, select this particular calling; and secondly, that financial reward should be related to productivity.

Taking these points in order, the first is largely a matter of ensuring that each individual is able to comprehend the full implications of the job on which he is engaged and to maintain site contact wherever this is appropriate. The second point is more difficult and the core of the difficulty lies in the all too human willingness to share losses. It would of course, only be possible for the higher salaried members of the staff to contemplate sharing losses as well as profits, but if they did so, it would be only natural for them—in self-protection—to demand some share in the control of policy. If this demand were met—and it would in equity be difficult to refuse—a ponderous and blundered "government by committee" would inevitably emerge.

A more widespread method of recognising the individual contribution is the payment of bonuses, but the bonus system has boomerang effects. Those who receive a bonus one year and not the next feel slighted, and those whose misfortune it is to allocate bonuses may be accused of favouritism. Another approach might be to single out for special reward the team or teams whose jobs had not only been efficiently handled but especially profitable. But, here again, although the qualification is profit and not opinion, it can always be argued by others that the profit results from the lesser task rather than the greater effort.

So, by and large, to reward the individual—other than by increase of basic salary, is not a simple matter.

However, in order to sustain interest and endeavour, we in Arcon try to give each individual as wide as possible a picture of the work on which he is engaged. We have also embarked upon a profit-sharing scheme whereby the whole of the staff—clerical as well as technical—receives each year a share of the profits proportional to his or her salary. The staff are paid salary rates on a par with those generally accepted throughout the profession. In order to establish the profit share-out the partners draw a basic salary, and after appropriations to capital account, the remaining profits are divided as half to the partners and half to the staff. The profit share-out is an additional reward and is not taken into account when negotiating individual salaries. Thus, each individual participates in the financial success or otherwise of the firm during the year.



MOH

### Annual Housing Medals

With the object of encouraging and recognizing the attainment of a high standard of design in local authorities' housing estates and houses the Minister has decided, with the concurrence of the RIBA to award annually a number of medals and diplomas for housing schemes which are adjudged the most meritorious.

Awards will be offered annually (a) in each region outside London for one urban scheme and one rural scheme; (b) in the London region for a scheme of new development and another for a scheme of reconstruction.

On the first occasion all post war schemes completed by the end of 1949 will be eligible, and in view of the large number of schemes involved, four schemes may be selected for award in each region. In subsequent years it will be limited to two awards per region.

An Awards Committee will be formed in each region to adjudicate upon entries. The Committee will consist of 9 members as follows:—(1) One member (an architect) nominated by the Royal Institute of British Architects, who will act as Chairman; (2) three members (architects) nominated by the local Architectural

### INFORMATION CENTRE INDEX, 1949

An alphabetical index covering items published during the twelve months ended December 31, 1949, is being prepared. Readers who wish to have a copy—it is free of charge—should complete the form below and post it to the Technical Editor, THE ARCHITECTS' JOURNAL, not later than March 6, 1950.

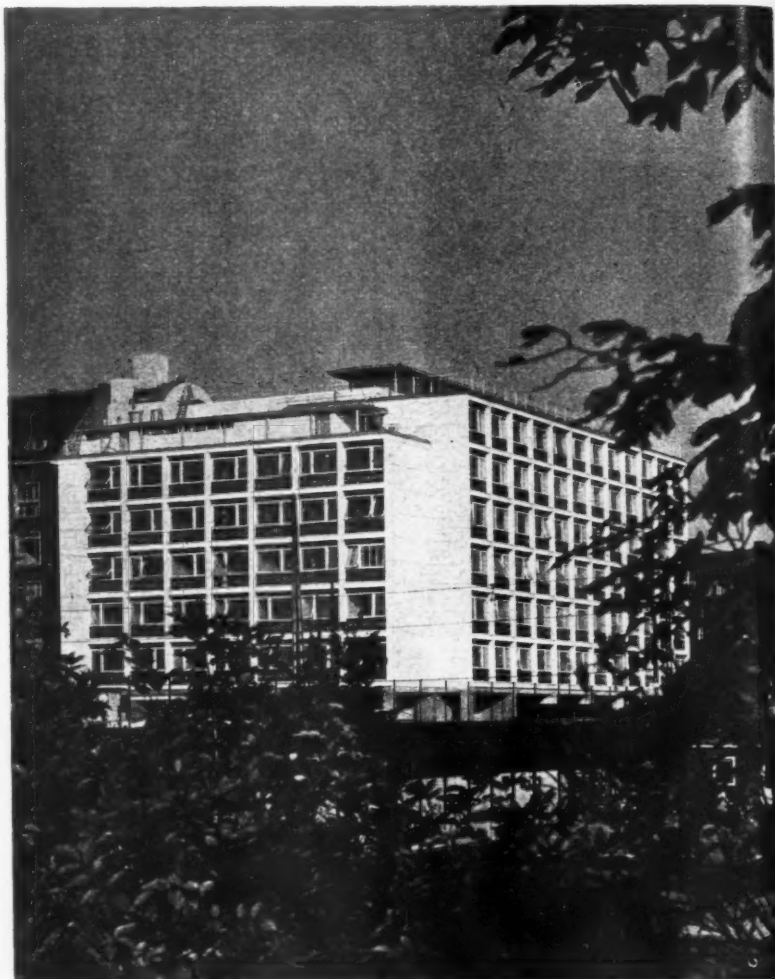
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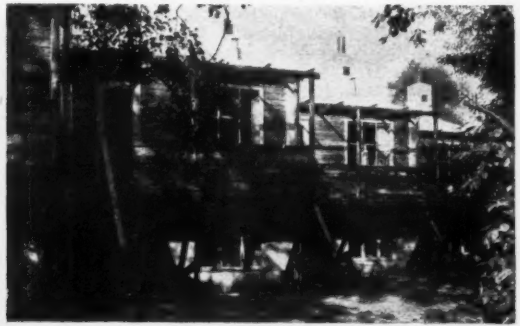
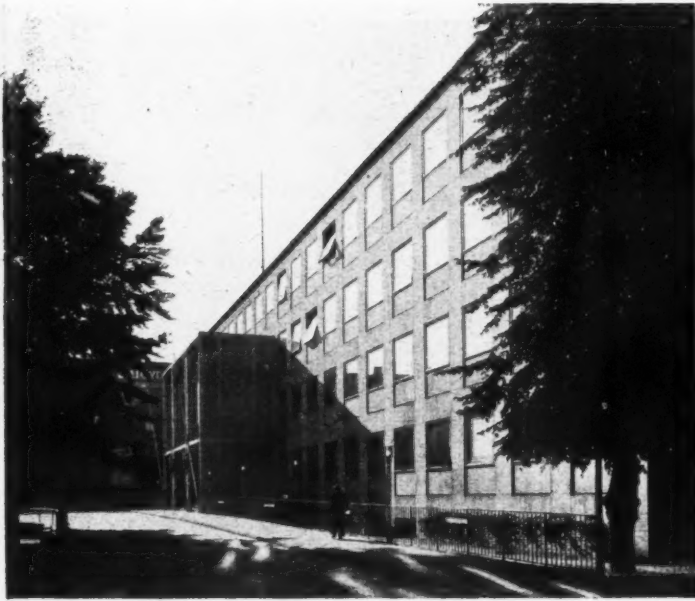
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## DANISH ARCHITECTURE OF TODAY :

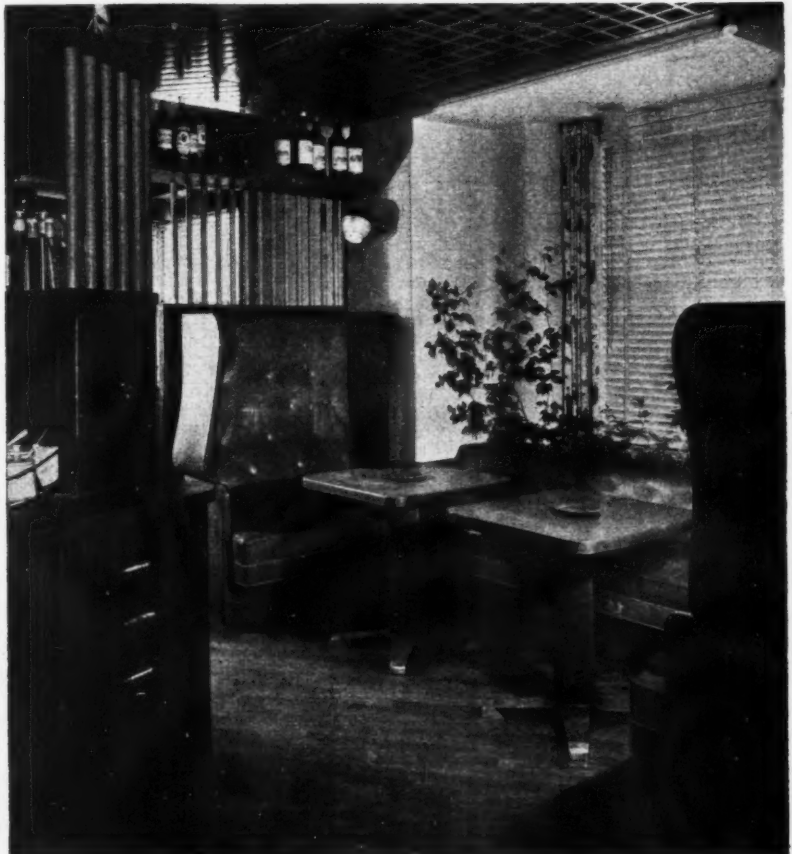
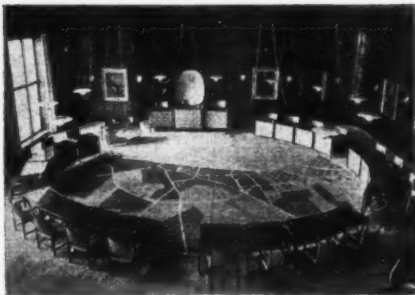


The exhibition of Danish architecture of today, will be on view at the RIBA from February 28 to March 29. The exhibition will be divided into seven sections, covering town planning, housing, civic centres, and churches, schools, recreation and sports buildings, factories and commercial buildings. The exhibition has been designed by Finn Juhl, a member of the Exhibition Committee of the Akademisk Arkitektforening. Above, offices in Copenhagen, for A/S Dansk Shell, designed by Vilhelm Lauritzen and built in 1948-49. Opposite page: top left and centre left, the exterior and council chamber of the Aarhus Town Hall, by Arne Jacobsen and Erik Moller. The building is of ferro-concrete, covered with blue-grey Norwegian marble. Bottom left, shop in Copenhagen, designed in 1947 by Finn Juhl. Top right, studio houses in Utterslev by Viggo Moller-Jensen. They have been erected in order to provide painters and sculptors with good housing and working conditions. The State has granted 85 per cent. of the building costs, the banks 10 per cent., and private subscription 5 per cent. The Royal Academy of Fine Arts decides whether the applicant should be accepted as a tenant. Centre right, exterior and interior of the State Broadcasting Building of Copenhagen, by Vilhelm Lauritzen. It is of ferro-concrete, covered with tiles. The office building and the studio block, the latter

Y : NEXT WEEK'S EXHIBITION AT THE RIBA



containing about ten studios of different sizes situated around a central room, were finished in 1941; the large concert studio, commenced in 1939, was not completed, owing to the difficulties arising from the war, until 1945. The concert studio is intended for an audience of about 1,200. Bottom right, a restaurant in Copenhagen, by Palle Suenson.



Societies allied to the RIBA (four in the London Region); (3) three members, whom it is contemplated will normally all be laymen, nominated severally by the Association of Municipal Corporations, the Urban District Councils Association and the Rural District Councils Association; in the London Region four members nominated severally by the LCC, The Metropolitan Boroughs Standing Joint Committee, The Association of Municipal Corporations and The Urban District Councils Association; (4) one member (an architect) nominated by the Minister, who will normally be the principal regional architect; (5) a woman, resident in the region, nominated by the Minister of Health.

The medal, which will be specially designed in bronze, is intended as recognition of the work of the architect or designer responsible for the design of the estate selected for the award, and the medal will be awarded individually to that person. The recipient of a medal will also receive a diploma signed by the Minister and the members of the Awards Committee. A similar diploma will be presented to the local authority.

Where the design of the winning estate is the work of two persons, the Awards Committee will be free to award a second medal if they consider that both of those persons are equally entitled to credit. If the Committee decide that a second award is not justified, they will determine to whom the award shall be made. Their decision will be final. In adjudicating upon entries the Awards Committee will take into account the layout and appearance of the estate and the architectural quality and internal planning of the houses.

The first awards will be made for post war schemes completed by the end of 1949 and submitted by March 31, 1950. Subsequent awards will be made for schemes completed each year and submitted by the end of March in the year following. The entry form, when completed, should be forwarded to The Secretary of the Awards Committee, Ministry of Health Housing Medal, at the Regional Office of the Ministry.

## OBITUARY

### D. E. Pilcher

We regret to announce the death in Johannesburg of Donald E. Pilcher. He was author of several well-known books on architecture, including one on the Regency period, and at the time of his death was lecturer in the Department of Architecture at the University of Witwatersrand, Johannesburg. Having completed his studies in England, he travelled somewhat extensively, then practised for a while in London and finally settled down in South Africa, where he was assistant editor of the *South African Architectural Record*.

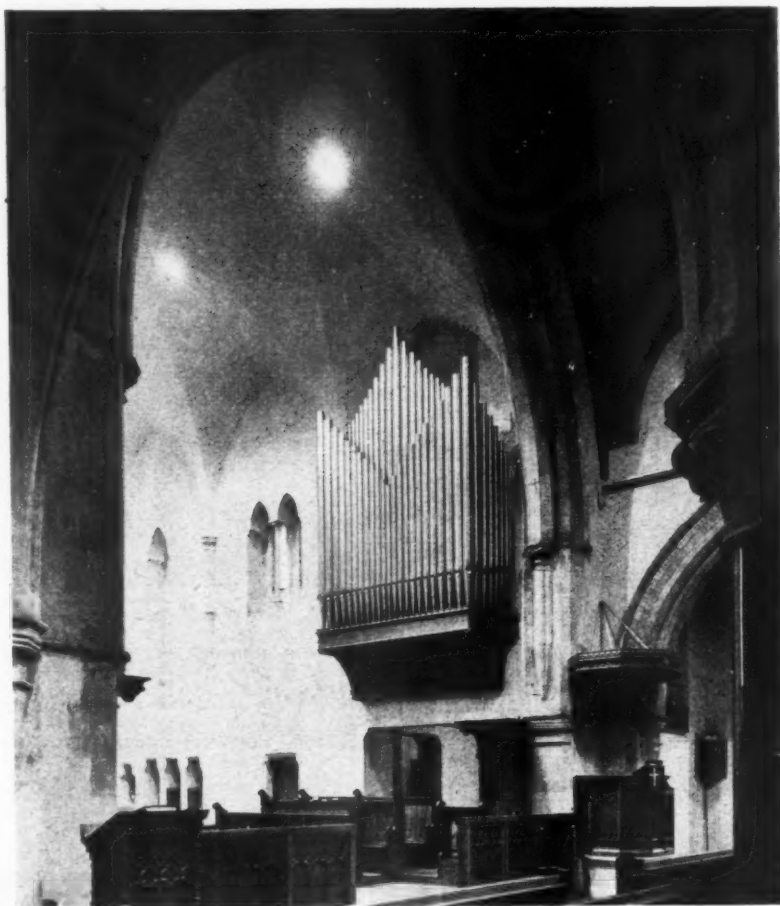
## FOB

### More architects appointed

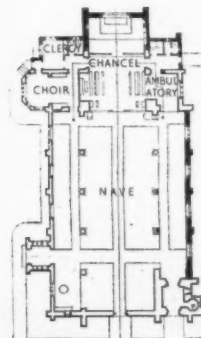
Edward Mills has been appointed architect for the administration block and staff canteen to be built on the south bank Exhibition site adjoining Waterloo Bridge Road. He will also prepare designs for the decorative screen surrounding the downstream section of the site.

It has been found necessary to alter the layout and use of that part of the Exhibition site for which Denis Clarke Hall was appointed architect, and the proposed children's creche has been eliminated. Mr. Clarke Hall has therefore asked to be relieved of the responsibility of acting as

## CHURCH REBUILT AT BECKENHAM



*Christ Church, Beckenham, which was damaged during the war, was re-opened last month by the Bishop of Rochester. The architects for the building, Charles Sykes and Leslie T. Moore, took the opportunity to make improvements. Aisle walls were raised four feet and greater stability was given to nave arcade walls by the substitution of new concrete roofs over the aisles. Aisle windows were enlarged. The chancel was extended fifteen feet eastward and the chancel arch was raised. The organ was elevated and the openings to the nave and chancel widened to overcome the boxed-in sound that had hitherto prevailed. Nave ceiling was of untreated fibre board in a series of facets for acoustical reasons. Hope Bagenal was consultant. General contractors: Holloway Bros. (London), Ltd. List of sub-contractors on page 262.*



Plan

## FURNITURE AT EARL'S COURT EXHIBITION

architect for the remainder of this area, and Blonek Katz and R. Vaughan have undertaken to supervise this work.

## RIBA

*Application for Probationership*

The Council of the RIBA, on the recommendation of the Board of Architectural Education, have decided that the General Certificate of Education shall be added to the list of examinations accepted for the Probationership of the RIBA, provided that it covers English (Language) and Mathematics (Elementary), and either three of the following, if all five subjects are taken at "ordinary" level, or two of the following, if at least one of the four subjects is taken at the "advanced" level:—(a) A modern language other than English, (b) physics, (c) chemistry, (d) physics with chemistry, (e) mechanics, (f) general science, (g) history, (h) geography, (i) economics, (j) mathematics (advanced or "further" or "additional"), (k) Latin, (l) Greek, (m) English literature, (n) art.

The applicant will be required to submit drawings in support of his application for the Probationership.

## SCOTLAND

*Non-traditional houses needed*

The preparation of additional housing sites, the submission of outstanding tenders and the inclusion of a proportion of non-traditional houses in housing schemes were discussed at a meeting in St. Andrew's House recently between officials of the Department of Health for Scotland and representatives of 12 local authorities in the east and south-east of Scotland.

On the basis of the experience gained in 1949, a Department of Health official said it was clear that non-traditional houses were being completed much quicker than traditional houses. Accordingly it seemed important that if the present rate of construction was to be maintained, local authorities should continue to include a proportion of non-traditional houses in their schemes. The majority of the representatives indicated that their authorities would be prepared to co-operate in this matter.

## WALES

*New Town site rejected*

The Minister of Town and Country Planning has informed local authorities in South Wales that the proposal to build a new town at Church Village has had to be abandoned. On the site originally proposed there would have been serious risks of subsidence resulting from the working of deep seams of valuable coking coal, and it is clearly necessary that this coal should continue to be worked.

None of the alternative sites considered has been found satisfactory. The Minister has expressed his regret that the project has had to be abandoned, and states that he is fully alive to the housing problems of the South Wales valleys.



These additions to the range of Cumbrae furniture, designed by Neil Morris, are on view at the British Furniture Trades Exhibition (for the trade only), Earl's Court, which closes tomorrow. Above, chest of drawers. Left, cocktail cabinet (5 ft. 3 in. high) with removable glass shelves. Below, left, dressing table (2 ft. 5 in. high and 3 ft. 9 in. wide) with removable mirror. Below, right, writing bureau. All these are in Australian walnut, edged with sycamore.

## BIF

*Largest fair ever held*

The 29th British Industries Fair will take place from May 8 to 19 at Olympia and Earls Court in London, and at Castle Bromwich, Birmingham. The organizers state that they are preparing for a greater attendance of American and Canadian trade buyers than ever before. Last year there were 784 from the United States and 424 from Canada; this year a 50 per cent. increase is expected from both countries. It is thought that the number of trade buyers from more than 100 other countries will again be about 15,000.

For a decade the paper of the JOURNAL has been rationed. For a decade would-be readers have formed another queue—on paper, we are glad to say—waiting for the death or defection that would enable them to step into some other man's subscription. It has been a very long queue, running into thousands of architects, whom we, only with the greatest reluctance, turned away. Temporarily anyway, those days are over. In March paper becomes unrationed, and anyone who so desires may subscribe to the JOURNAL, and we, the publishers, may accept their subscription. To make sure that you don't get caught again, will you send in your name at once, before a new government decides that paper must be rationed again. Please act now and enable us to get you on our lists before anything happens to stop it. (Annual post free subscription £1 15s. 0d.)

THE PUBLISHERS.

## WINDOW DRESSING

*Students' Competition Results*

Last week-end, students from art schools in London and the Home Counties took part in a window-dressing competition in Regent Street, London. The first prize winners were members of the Royal College of Art, who were responsible for the window display at Lawleys. Students from the Beckenham School of Art were winners of the second prize for their designs for the windows of the Scandinavian Air System, and members of the City of Canterbury College of Art and Crafts took third place for their designs for Hursel Ltd. The seven commended schools were:—Sir John Cass College (Electrolux Ltd.), Ealing School of Art (Hamleys), Guildford School of Art (Ludorum) Accessories, Maidstone College of Art (J. Nicoll and Co.), Reigate and Redhill School of Art (Permutit Co. Ltd.), Twickenham School of Art (BOAC), Wimbledon School of Art (Hotel Plan Ltd.). The winners will receive prints of Old Regent Street.

## DIARY

*Public Lighting.* J. M. Waldram. Second of three Cantor lectures. RSA, John Adam Street, Adelphi, W.C.2. FEB. 27

*Drawings by Hugh Casson.* BC. 9, Conduit Street, W.1. Weekdays, 10 a.m. to 5 p.m. Saturdays, 10 a.m. to 1 p.m. FEB. 27-MAR. 11

*Exhibition of Danish Architecture of Today.* RIBA, 66, Portland Place, W.1. Weekdays, 10 a.m. to 7 p.m. Saturdays, 10 a.m. to 5 p.m. FEB. 28-MAR. 29



*This feature covers all those aspects of legislation, parliamentary news and statutory rules and regulations which are of special significance to the architectural profession.*

## ERNEST WATKINS

*The Architect and Current Affairs*

MY HEAD this week is a little bloody and slightly bowed. The Legal Department has run into a rough patch of water. It has been misleading its wide-eyed public over the Housing Act, 1949 (see note to the letter from Mr. Dilks on page 239). It also used the wrong word—and what a difference that makes—in the summary of legislation for 1949. The Press Officer at the Central Land Board very civilly points out that the Lands Tribunals set up by the Act of that name in 1949 will not deal with questions of development charges, but of development values, as and when they fall, to be determined under Part VI of the 1947 Act, an important difference, for there was a good deal of argument in the House of Lords on this very point when the Bill was under debate. Strong arguments were put forward that the Tribunals should be given a power to review the assessment of development charges as well; one resisted, successfully, by the Government. Will those, if any, who file these notes, please make the necessary corrections and accept our profound apologies.

MOTCP has now taken an important step forward. It has decided, after long months of consultation, what it will do to meet the bill for redevelopment. The paper product is formidable. First, there is the Statutory Instrument itself, the Town and Country Planning (Grants) Regulations, 1950, No. 88, which contains, so to speak, the sacred

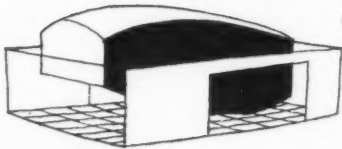
words against which all else must be judged. This is accompanied by an Explanatory Memorandum, considerably longer, twice the price (6d. as against 3d.), but in my view an equally necessary purchase for those directly involved. Finally, there is a short hand-out, Circular No. 79, costing no more than 1d. and dealing with minor points over how the local authority will draw its money. All these documents have been prepared with care and attention to detail—even with rules as to how local authorities must keep their books—but the final result is an explanatory memorandum which needs a Town Clerk to explain it.

The public is concerned in two ways. It has, after all, in the end to foot the bill, whether presented in the form of a demand note for rates or an income tax assessment. It is vitally concerned in the future of its locality, it knows that the mainspring of development is cash, and that it matters very much who has to provide most of the mainspring, the Treasury or the local rates. The new rules cover all cases where a local planning authority has to provide money, either for actual redevelopment itself or for compensation due to be paid to a private landowner under the Act.

Roughly speaking, the grant receivable by the planning authority for all actual developments, save those based on a need to replan areas of bad lay-out or obsolete development, is 90 per cent. of the cost for the first five years (exceptionally for the first eight years) and 50 per cent. of the cost for the balance of a total period of 60 years. For the rest, grants will not exceed 80 per cent. of cost for the initial period and 50 per cent. for the remainder of the 60 years, the size of the grant depending on the nature of the requirement and the general financial position of the authority. But I don't propose, here, to attempt to summarize the ways in which the grants can be calculated. For one thing, I am a little chary of attempting summaries of a most complicated set of rules, particularly where I am not persuaded that a summary would do anyone any good. This is a case where each authority must work out its own problem and its own entitlement.

But there are one or two points of general interest in these new rules. First, the grants are well up to the maxima laid down by the 1947 Act itself, which is satisfactory in so far as it shows that the Treasury has not had too many cheese-paring after-thoughts. And, on the whole, the grants are more realistic than those laid down by the 1944 Act, the precursor of this, for under that Act in cases of the redevelopment of areas of extensive war damage an authority was given a 100 per cent. grant for two years, but was unlikely to receive anything after the eighth year.

The most regretful comment is this: once again the Ministry has emphasized its passion for centralized control. In some respects it could not be otherwise. The Ministry is bound, under Section 95 of the Act, to see and approve every redevelopment plan before it qualifies for a grant (but the Act was drafted by the Ministry). That is not all. All land valuations on which the grants are to be based, particularly the later grants, must be made by the already overworked District Valuers. I am in two minds over the rapidly mounting work thrown on the District Valuers and their organization. It is an advantage, in theory, to have a uniform system of land valuation, for rating, for development charges, for compulsory acquisitions, for death duties, throughout the country. But it will mean that, in practice, the District Valuer will become the most overworked official outside a Tax Inspector's office. It may also mean that the system will lose more credit because of its delays in action than ever it will gain through the general spread of uniformity and fair dealing with the public. Delay is in itself a substantial injustice.



## DIARY

January 20, 1950.—Cold weather concreting plant in operation.

February 13, 1950.—Auditorium floor completed. Internal walls to auditorium up to level + 53. (Approximately 10' above auditorium at orchestra end).

In progress now.—Foundation bases for gabbard for crane. (The crane is required to lift the roof trusses into position). Drainage.

## CONCERT HALL

Progress report by John Eastwick-Field and John Stillman.

AS described in our previous article, work started on the LCC Concert Hall site in May, and, as the foundations had to be laid some 12 feet below the ground water level, exceptional problems had to be overcome.

In order to lay the foundations at all, it was first necessary to drain the subsoil. The traditional method of doing this is to excavate trenches and pits where required for the individual foundations and to pump them dry during the course of the work. There were objections to this method, which are to be discussed later, and it was considered that the system chosen, namely, ground water lowering and the subsequent excavation of the whole site, would be more practical and efficient. The operations have, in fact, been carried out, and, with the aid of modern technical equipment, have been completely successful. Incidentally, this was probably the largest single dewatering job by this system ever performed in this country.

### EXCAVATION

Boreholes showed that below some made-up ground near the surface, the subsoil consisted of silty clay and peat to a depth of 9 ft. Ordnance Datum and, below this, ballast to minus 20 ft. Ordnance Datum, where London clay was met. General ground level on the site is plus 14 ft. Ordnance Datum, water level is approximately plus 1.5 ft. Ordnance Datum, and formation level minus 11 ft. Ordnance Datum. It will thus be seen that the building will rest on the stratum of ballast, which is calculated to resist a load of 3 tons per sq. ft., and also that



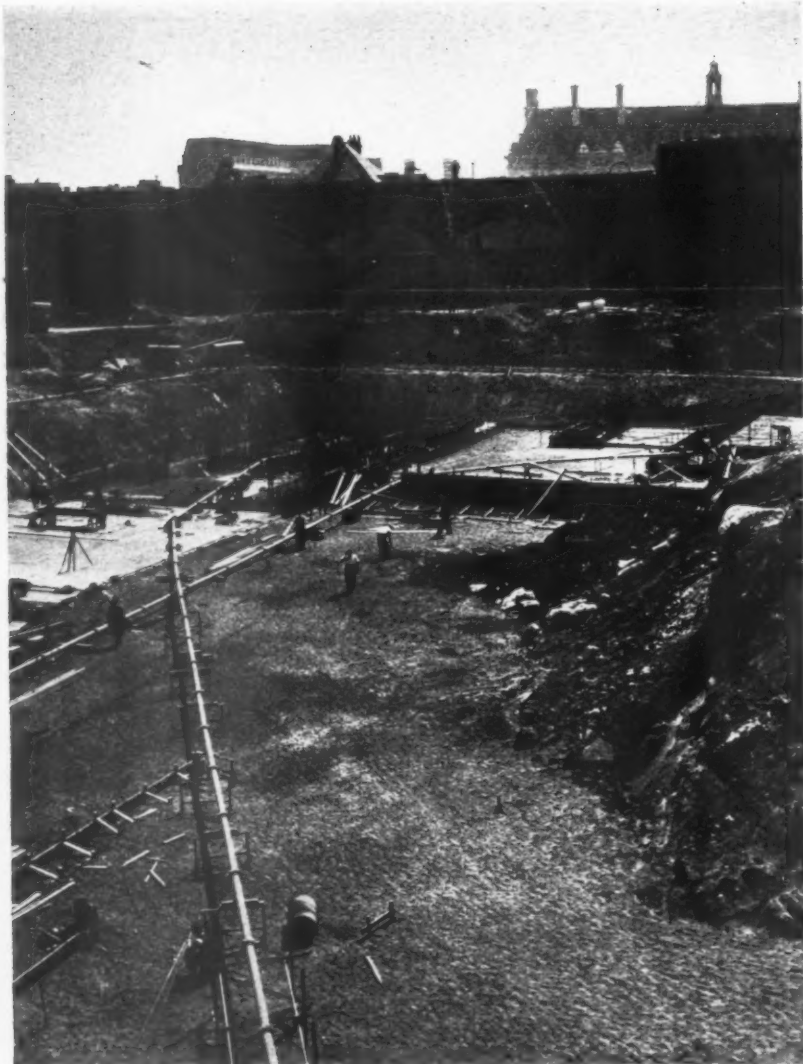
Top, the site in its original water-logged state, showing the dewatering header main and the wells in position. On the right, their roots covered by tarpaulins, are the two trees which are being preserved. Above, excavation in progress. The mass of concrete in the centre is the foundation to the old Lion Brewery.

to reach this depth approximately half of the excavated material would, but for the dewatering, have been charged with water. Most of the excavating work was done by four large mechanical excavators whose task was to remove 56,000 cubic yards of earth. This was completed in the very short time of eight weeks. Most of the soil was carted away, but the remainder was dumped on a cleared site the other side of Belvedere Road, and selected earth was later returned for back filling. During excavation the old foundations of the Lion Brewery and a previous water pumping station were uncovered. These consisted of a mass of concrete some six feet thick, and were more formidable than had been expected. They were broken up, partly by the sheer force of one of the excavators, not without some damage

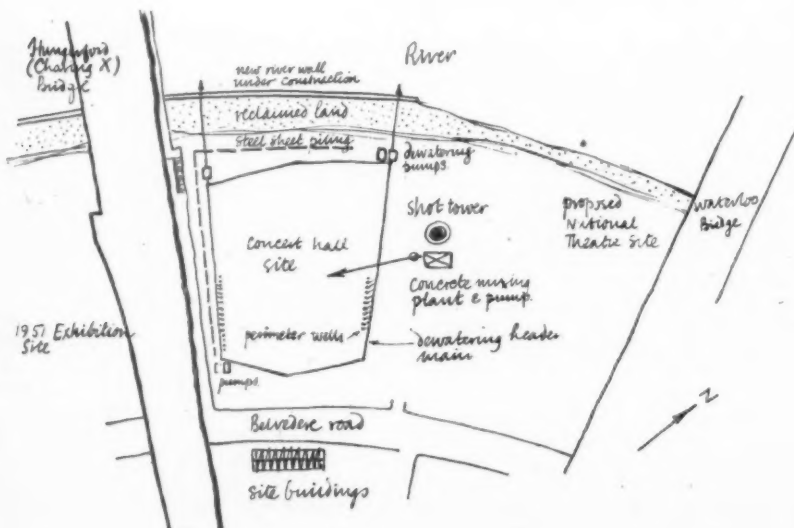
to the shovel, and partly by the use of a thirty-five hundredweight steel ball dropped from a height of twelve feet.

### DEWATERING

The object of dewatering a site is to keep the excavation virtually dry. On this site the system consisted of a fence of 340 steel pipes set in the ground at 3 ft. intervals round the perimeter of the site, to act as wells. Each pipe was connected at the top to a large header main from which water was drawn off by 6-in. centrifugal pumps, situated at the corners of the site, and the water discharged into the river. Each pump was powered by a 35-h.p. oil engine. Vacuum pumps were installed to control the amount of air which also had to be exhausted. At the



Above, the dry site conditions, after the ground water lowering, and excavation. Two concrete supply pipes can be seen, and in the background is the Charing Cross Railway Bridge with existing cracks marked with white paint. Below, a sketch of the site, showing the plant layout.



commencement of pumping it is estimated that 150,000 galls. of water per hour were discharged. After the site had been dewatered, the position was maintained by a discharge of 80,000 galls. per hour.

The well pipes were mostly sunk by "jetting," a method by which water is forced down the pipe under pressure, scouring out a hole for the pipe. This hole is larger than the pipe, and when the pipe is in position the space fills with large particles which permit the water from above to drain through any impervious layers to the well point, and also act as an additional filter. This is important, since the removal of fine particles from the subsoil may cause settlement of the site and damage to the pumps.

Where conditions are suitable, jetting is a very speedy operation, and on this occasion 50 pipes were sunk by 6 men in a single day. Each pipe was 21 ft. long, the bottom 3 ft. consisting of a screen section and two valves constructed so as to prevent the removal of silt. Pumping started on June 19th and excavations were proceeded with almost immediately. Within 4 days, minus 11 ft. Ordnance Datum was reached under completely dry conditions, and the first concrete was poured.

The principle of dewatering in this way is not new, and was, for instance, used as early as 1933 in the construction of the King George V Graving Dock at Southampton. The equipment used for the concert hall is standard, though there are variations in the details of the system currently used. Dewatering often avoids the necessity for sheet piling and also eliminates any possibility of a "blow." This is the term applied to an upheaval at the bottom of the excavation which is sometimes caused when sheet piling and pumping is used, and which is due to the upward pressure of water as it is drawn to the pumps placed in the excavation. When ground water-lowering is used, the water is drawn to the side of the excavated area, thus avoiding any possibility of this upheaval. As a matter of interest, dewatering cannot be carried out on truly clay sites except by an electrolytic process, when the water passes between electrodes which are sunk into the ground, and is then pumped out.

#### STEEL SHEET PILING

The dewatering of the site enabled the bulk of the excavation to be done without containing the whole of the site with sheet piling, or retaining walls. However, to guard against possible settlement of Charing Cross Railway Bridge, sheet piling was driven along this boundary, at the re-

quest of the Railway Authorities. As a precaution, all existing cracks in the railway bridge have been marked with white paint and these can be seen in the photograph, showing the condition of the site after dewatering.

The vibrations caused by driving the piling were considered by the London Transport Executive to be a possible danger to the Northern Line of the London Underground which passes under the site, and for this reason it had to be carried out in the early hours of the morning when trains had ceased running, and when it was possible for railway engineers to observe the effects. No damage was in fact caused by this operation.

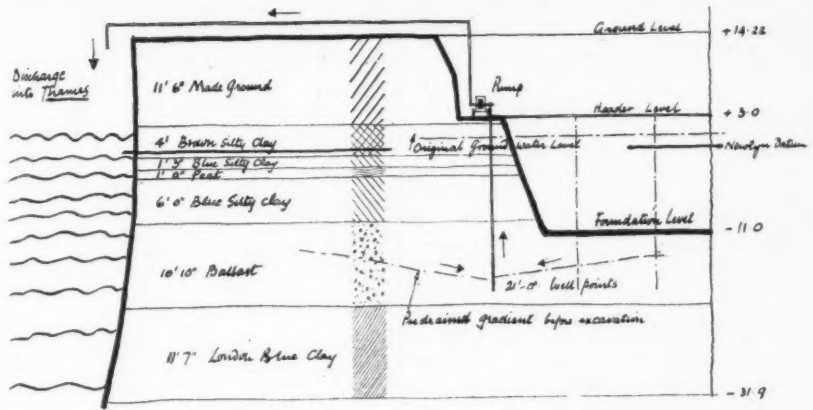
### MIXING AND LAYING CONCRETE

In order to cope with the very large quantity of concrete required, a central concrete mixing plant was set up near the Shot Tower. From this, ready-mixed concrete was pumped through a pipe direct into position on to any part of the site. Besides ensuring a steady supply of concrete, this system enables the plant to be located away from congested parts of the site and requires no hoists, buckets, or dumpers. As space is very limited on the site, this was a particularly important consideration. The mixing plant now in use consists of two weighbatchers, four concrete mixers, two to each weighbatcher, and two concrete pumps. Each weighbatcher has a storage capacity of 7 cubic yards for coarse aggregate and 6 cubic yards for sand, and a weigh hopper capacity of 26 cubic feet. Each pump can deliver 15-20 cubic yards an hour in a pulsating stream, and has a range of 1,000 ft. horizontally and 100 ft. vertically.

It is interesting to note that it is generally considered to be quick and economical to pump concrete, which may be of any normal mix, when the amount is approximately 2-3,000 cubic yards, and when placing can be carried out continuously for several hours a day. It has obvious advantages when access to the formwork on the site is difficult, and even for relatively small jobs it may be worth while if a contractor possesses the equipment.

Any reasonably workable concrete can be pumped, and it is known that concrete with a slump of 2 in. and even lower has been pumped successfully. As far as weighbatching is concerned, it is generally agreed that it gives an advantage in speed and in the saving of labour; it is also considered that control is more easily exercised over the variations in quantities of material which are required to maintain the concrete to specification, and which are made necessary by sand bulking.

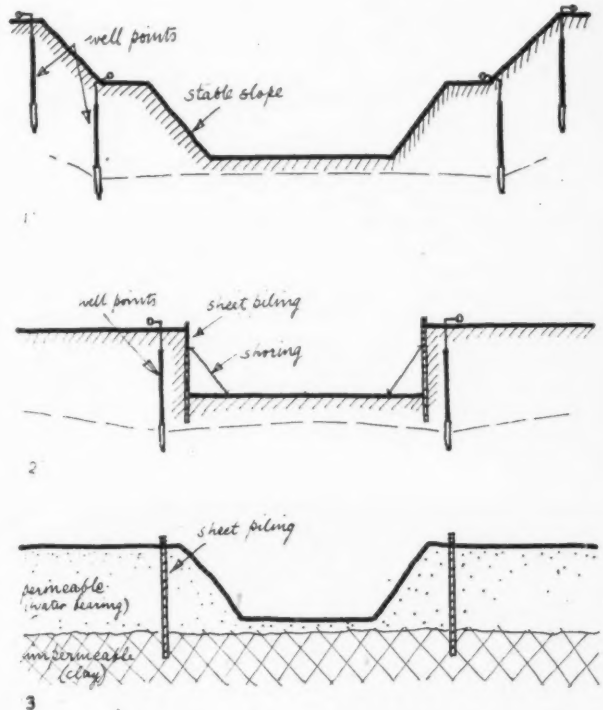
The mixers on the site are of 18/12 (18 cubic ft. unmixed, 12 cubic ft.



Above, a section through the site, showing a typical borehole. Right, alternative methods of reducing soil water content.

1. Typical ground water lowering with "well points" on an open site, showing method used when excavation is greater than 20 ft. An alternative method is to use deep wells with submersible pumps.

2. "Well points" and sheet piling used in conjunction on a restricted site. 3. Sheet piling, without "well points," used in clay soil. Below, the concrete mixing plant.



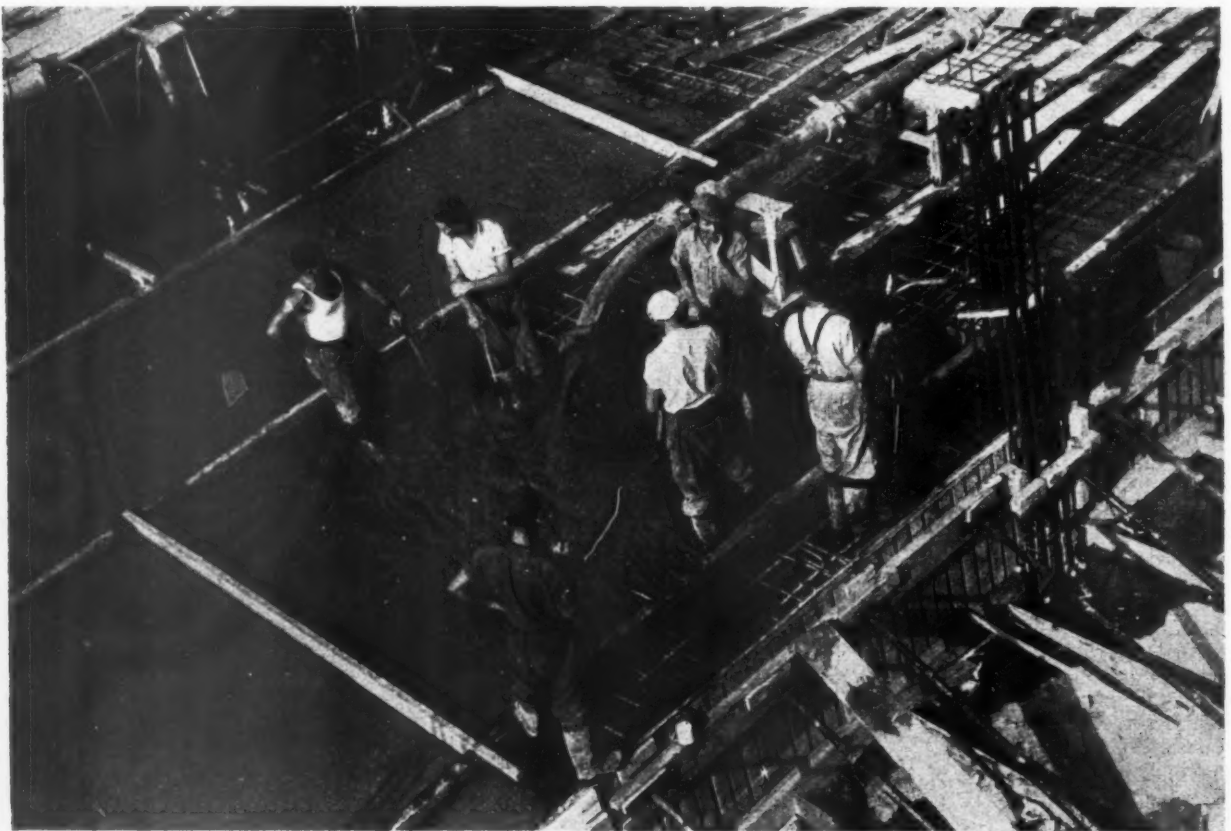
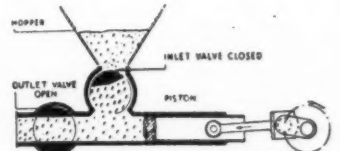
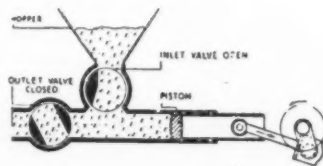
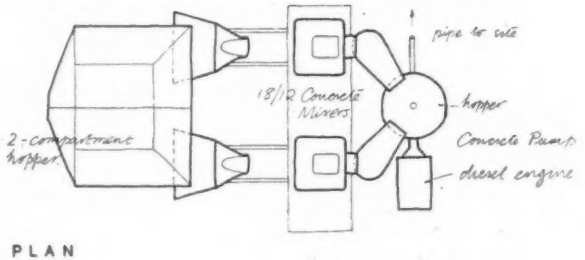
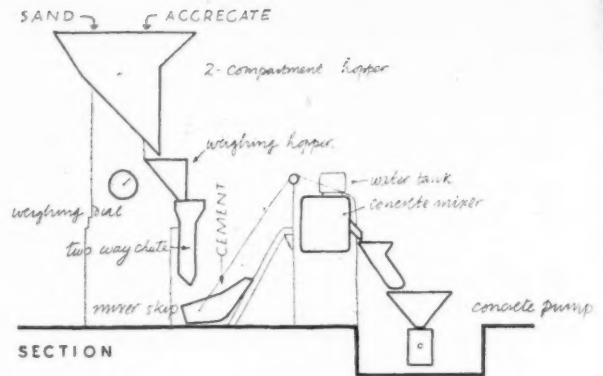
mixed) capacity, and are fed from weigh batchers which are fitted with controls for weighing and for supply of water. They are manually operated, but there are larger batchers available which can be automatically controlled. There are available also, skips fitted with weighing controls for attachment to small concrete mixers which are claimed to give the same advantages as the larger plant.

### PRESERVATION OF TREES

It is remarkable, but also typical of London, that trees should have existed amongst the wharves and warehouses of the original site. Two elms are being preserved under the guidance of the LCC Parks Department, and the photograph on page 245 shows the "mushroom" containing their roots covered with tarpaulins. The ducks add proof of the water-logged state of the site before dewatering was completed.

The main contractors for the concert Hall are Holland Hannen & Cubitts Ltd. The principal sub-contractors connected with the work described are:—Demolition, North London Demolition Co. Ltd.; boreholes, Ground Exploration Ltd.; dewatering and concrete mixing plant, Messrs. Blaw Knox Ltd.; excavation, Messrs. Willment Bros.; waterproofing, Messrs. Wm. Briggs Ltd.; steel fixing and bending, Messrs. Rom River Co. Ltd.

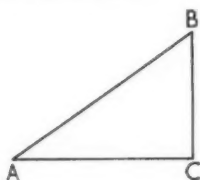
Right, part of central concrete mixing plant in use on the Concert Hall site. Below, diagrams showing the action of a concrete pump. Bottom, pumped concrete being supplied through the pipe.



USEFUL TRIGONOMETRIC, ALGEBRAIC AND ARITHMETICAL FORMULÆ

This Sheet sets out a selected list of mathematical formulæ. Only those formulæ likely to be required for relatively simple calculations have been included.

Solution of Right-Angled Triangles



given BC, AB:

$$\text{for } \hat{BAC}: \sin \hat{BAC} = \frac{BC}{AB}$$

$$\text{for } \hat{ABC}: \cos \hat{ABC} = \frac{BC}{AB}$$

$$AC = \sqrt{AB^2 - BC^2}$$

$$\text{area} = \frac{BC \sqrt{AB^2 - BC^2}}{2}$$

given BC, AC:

$$\text{for } \hat{BAC}: \tan \hat{BAC} = \frac{BC}{AC}$$

$$\text{for } \hat{ABC}: \tan \hat{ABC} = \frac{AC}{BC}$$

$$AB = \sqrt{BC^2 + AC^2}$$

$$\text{area} = \frac{BC \times AC}{2}$$

given  $\hat{BAC}$ , BC:

$$\hat{ABC} = 90^\circ - \hat{BAC}$$

$$AC = BC \cot \hat{BAC}$$

$$AB = \frac{BC}{\sin \hat{BAC}}$$

$$\text{area} = \frac{BC^2 \cot \hat{BAC}}{2}$$

given  $\hat{BAC}$ , AC:

$$\hat{ABC} = 90^\circ - \hat{BAC}$$

$$BC = AC \tan \hat{BAC}$$

$$AB = \frac{AC}{\cos \hat{BAC}}$$

$$\text{area} = \frac{AC^2 \tan \hat{BAC}}{2}$$

given  $\hat{BAC}$ , AB:

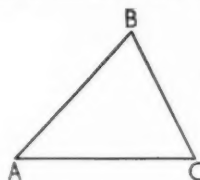
$$\hat{ABC} = 90^\circ - \hat{BAC}$$

$$BC = AB \sin \hat{BAC}$$

$$AC = AB \cos \hat{BAC}$$

$$\text{area} = \frac{AB^2 \sin \hat{BAC} \cos \hat{BAC}}{2}$$

Solution of Oblique-Angled Triangles



$$s = \frac{BC + AC + AB}{2}$$

given BC, AC, AB:

$$\text{for } \hat{BAC}: \sin \frac{1}{2} \hat{BAC} = \sqrt{\frac{(s-AC)(s-AB)}{AC \times AB}} \text{ or}$$

$$\cos \frac{1}{2} \hat{BAC} = \sqrt{\frac{s(s-BC)}{AC \times AB}} \text{ or}$$

$$\tan \frac{1}{2} \hat{BAC} = \sqrt{\frac{(s-AC)(s-AB)}{s(s-BC)}}$$

$$\text{area} = \sqrt{s(s-BC)(s-AC)(s-AB)}$$

given BC,  $\hat{BAC}$ ,  $\hat{ABC}$ :

$$AC = \frac{BC \sin \hat{ABC}}{\sin \hat{BAC}}$$

$$AB = \frac{BC \sin \hat{ACB}}{\sin \hat{BAC}} = \frac{BC \sin (\hat{BAC} + \hat{ABC})}{\sin \hat{BAC}}$$

$$\text{area} = \frac{1}{2} BC \times AC \sin \hat{ACB}$$

$$= \frac{BC^2 \sin \hat{ABC} \sin \hat{ACB}}{2 \sin \hat{BAC}}$$

given BC, AC,  $\hat{BAC}$ :

$$\text{for } \hat{ABC}: \sin \hat{ABC} = \frac{AC \sin \hat{BAC}}{BC}$$

$$AB = \frac{BC \sin \hat{ACB}}{\sin \hat{BAC}} = \frac{AC \sin \hat{ACB}}{\sin \hat{ABC}}$$

$$= \sqrt{BC^2 + AC^2 - 2BC \times AC \cos \hat{ACB}}$$

given BC, AC,  $\hat{ACB}$ :

$$\text{for } \hat{BAC}: \tan \hat{BAC} = \frac{BC \sin \hat{ACB}}{AC - BC \cos \hat{ACB}} \text{ or}$$

$$\tan \frac{1}{2} (\hat{BAC} - \hat{ABC}) = \frac{BC - AC}{BC + AC} \cot \frac{1}{2} \hat{ACB}$$

$$AB = \sqrt{BC^2 + AC^2 - 2BC \times AC \cos \hat{ACB}}$$

$$= \frac{BC \sin \hat{ACB}}{\sin \hat{BAC}}$$

$$\text{area} = \frac{1}{2} BC \times AC \sin \hat{ACB}$$

general formulæ:

$$BC^2 = AC^2 + AB^2 - 2AC \times AB \cos \hat{BAC}$$

$$AC^2 = BC^2 + AB^2 - 2BC \times AB \cos \hat{ABC}$$

$$AB^2 = BC^2 + AC^2 - 2BC \times AC \cos \hat{ACB}$$

## 2.A2 USEFUL TRIGONOMETRIC, ALGEBRAIC AND ARITHMETICAL FORMULÆ

## Algebraic Formulæ

$$a^2 b^2 = (ab)^2, \quad a^2 a^3 = a^{2+3} = a^5,$$

$$\frac{a^4}{a^3} = a^{4-3} = a, \quad a^0 = 1$$

$$a^2 - b^2 = (a+b)(a-b), \quad (a+b)^2 = a^2 + 2ab + b^2,$$

$$(a-b)^2 = a^2 - 2ab + b^2, \quad \frac{a^3}{b^3} = \left(\frac{a}{b}\right)^3$$

$$\frac{1}{a^3} = \left(\frac{1}{a}\right)^3 = a^{-3}, \quad (a^2)^3 = a^{2 \times 3} = (a^3)^2 = a^6$$

$$a^3 + b^3 = (a+b)(a^2 - ab + b^2),$$

$$a^3 - b^3 = (a-b)(a^2 + ab + b^2),$$

$$(a+b)^3 = a^3 + 3a^2b + 3ab^2 + b^3,$$

$$(a-b)^3 = a^3 - 3a^2b + 3ab^2 - b^3,$$

$$\sqrt{a} \times \sqrt{a} = a, \quad \sqrt[3]{a} \times \sqrt[3]{a} \times \sqrt[3]{a} = a,$$

$$(\sqrt[3]{a})^3 = a, \quad \sqrt[3]{a^2} = (\sqrt[3]{a})^2 = a^{2/3},$$

$$\sqrt[4]{a^3} = a^{3/4} = \sqrt[4]{a} \times \sqrt[4]{a} \times \sqrt[4]{a},$$

$$\sqrt{a} + \sqrt{b} = \sqrt{a+b+2\sqrt{ab}},$$

$$\sqrt[3]{ab} = \sqrt[3]{a} \times \sqrt[3]{b}, \quad \sqrt[3]{\frac{a}{b}} = \frac{\sqrt[3]{a}}{\sqrt[3]{b}},$$

$$\sqrt[3]{\frac{1}{a}} = \frac{1}{\sqrt[3]{a}} = a^{-1/3}$$

where  $a \times b = x$ ,  $\log a + \log b = \log x$ .

$$\frac{a}{b} = x, \quad \log a - \log b = \log x,$$

$$a^3 = x, \quad 3 \log a = \log x,$$

$$\sqrt[3]{a} = x, \quad \frac{\log a}{3} = \log x.$$

## Ratio

The ratio between two quantities is the figure obtained by dividing the first quantity by the second, e.g. the ratio between 4 and 12 is  $\frac{1}{3}$ , the ratio between 12 and 4 is 3. The sign used to indicate ratio is generally (:), i.e., 12:4 indicates the ratio of 12 to 4.

**Reciprocal or inverse ratio:** This is the reciprocal of the original ratio, i.e. the inverse ratio of 7:9 is 9:7.

**Compound ratio:** Each term is the product of the corresponding terms in two or more simple ratios, e.g. when:

4:2 = 2, 9:3 = 3, 8:4 = 2, then the compound ratio is:

$$4 \times 9 \times 8 : 2 \times 3 \times 4 = 2 \times 3 \times 2$$

$$288 : 24 = 12$$

## Proportion

This is the equality of ratios, i.e.

$$8:4 = 10:5 \text{ or } 8:4::10:5$$

The first and last terms in a proportion are called the extremes and the second and third terms the means. The product of the extremes is equal to the product of the means, i.e.  $15:2 = 75:10$  and  $15 \times 10 = 2 \times 75$ .

Given three terms in a proportion the remaining term may be found as follows:

$$\text{First term} = \frac{\text{second term} \times \text{third term}}{\text{fourth term}}$$

$$\text{Second term} = \frac{\text{first term} \times \text{fourth term}}{\text{third term}}$$

$$\text{Third term} = \frac{\text{first term} \times \text{fourth term}}{\text{second term}}$$

$$\text{Fourth term} = \frac{\text{second term} \times \text{third term}}{\text{first term}}$$

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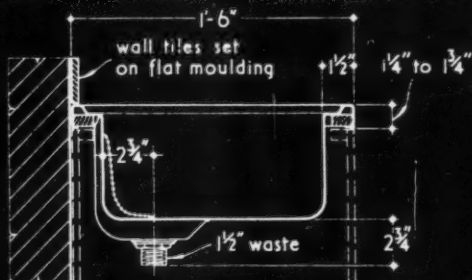




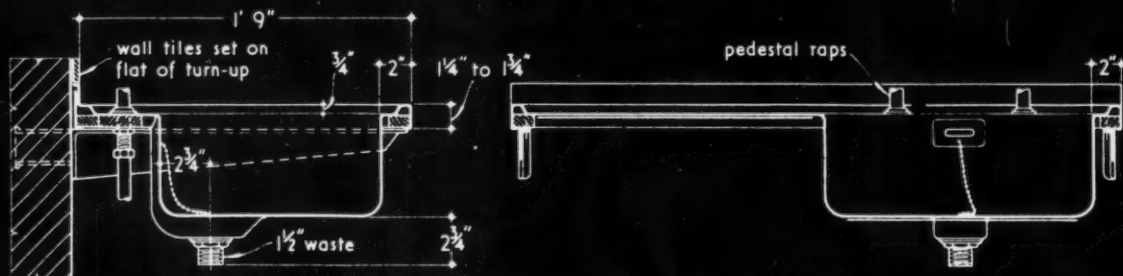
## SPECIALISED FITTINGS | KITCHEN SINKS | STAINLESS STEEL

43.E12

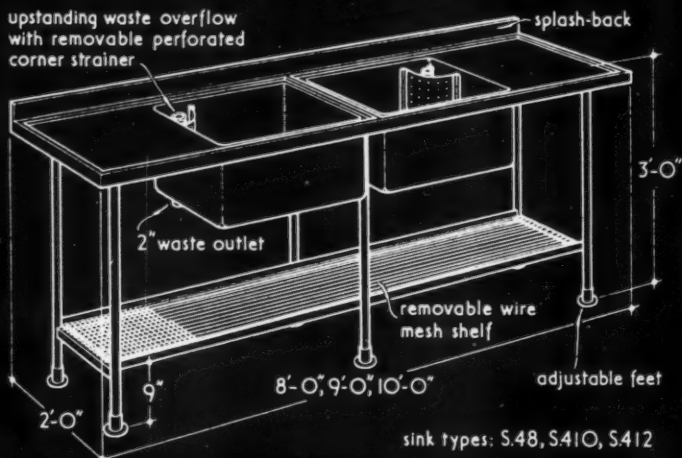
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SINK UNIT: 1'-6" WIDE (for standard sizes and types see table below).

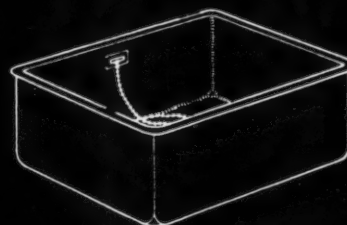


SINK UNIT: 1'-9" WIDE (for standard sizes and types see table below).



sink types: S.48, S.410, S.412

UNIT FOR LARGE KITCHENS, HOTELS, ETC.

for table of dimensions  
see reverse of Sheet

STANDARD SINK.

plan	length	width	sink type	unit type
	6'-0"	1'-9"	S.09, S.17	CS.17/6019
	6'-0"	1'-9"	S.09, S.27	CS.27/6019
	7'-0"	1'-9"	S.09, S.27	CS.27/7019
	6'-0"	1'-9"	S.17(double)	MD.17/6019
	7'-0"	1'-9"	S.27(double)	MD.27/7019
	8'-0"	1'-9"	S.38(double)	MD.38/8019
	3'-0"	1'-6"	S.17	UCBS.30
	4'-0"	1'-6"	S.17	UCBS.40
	5'-0"	1'-6"	S.17	UCBS.50
	6'-0"	1'-6"	S.17	UCBS.60

SINK UNITS: STANDARD SIZES AND TYPES.

plan	length	width	sink type	unit type
	3'-6"	1'-6"	S.17	*S.17/3616
	4'-0"	1'-6"	S.17	*S.17/4016
	3'-6"	1'-9"	S.27	*S.27/3619
	4'-0"	1'-9"	S.27	*S.27/4019
	4'-6"	1'-9"	S.17	MS.17/4619
	4'-6"	1'-9"	S.27	MS.27/4619
	5'-3"	1'-6"	S.27	MS.27/5316
	5'-3"	1'-9"	S.27	MS.27/5319
	5'-3"	1'-9"	S.38	MS.38/5319
	6'-0"	1'-9"	S.27	MS.27/6019
	6'-0"	1'-9"	S.38	MS.38/6019
	7'-0"	1'-9"	S.38	MS.38/7019

\* a prefix R or L indicates that sink is on right or left hand side of drainer

## 43.E12 · PLAND · STAINLESS STEEL SINKS AND SINK UNITS

This Sheet describes a range of stainless steel sinks and sink units. They are relatively light-weight throughout, thus enabling easy handling in installation. There are no joints or crevices in any part of the assembled fitment and all internal corners are well rounded.

The satin polished surfaces are practically indestructible and will not corrode in contact with liquids or other substances used in the preparation of food. Any combination of standard or special sinks and drainers can be made to suit individual requirements.

**Construction Generally**

**Sinks:** These are of pressed stainless steel formed from a single sheet of metal.

**Sink units:** The sink and draining board are jointless and are supplied in one piece. The draining boards can be supplied grooved or plain.

**Framing and Insulation:** Units are normally supplied on timber framing with continuous sound-deadening material directly beneath the drainer and sink. Cantilever brackets for building-in can be supplied for all widths of units. To these can be screwed direct the wood framing as shown.

**Edge mouldings:** The edge mouldings shown are standard on all types except U.C.B.S. sinks, which are provided with 3-in. vertical ends and backs. Specially moulded edges can be made for building-in purposes. An alternative back edge is available as shown, this being an upstand of 1½ in. with a ¾ in. turn in.

**Unit for Large Kitchens, Hotels, etc.**

The design is shown standard but an alternative without back legs and with sinks supported on cantilever brackets can be supplied if required.

**Frame:** This is constructed from galvanised steel tubing and is fitted with a removable shelf made in sections.

**Sinks:** The unit is fitted with sink types S.48, S.410 or S.412 (see table below).

**Sizes of Standard Pressed Steel Sinks**

Type	Length	Width	Height	Waste
S.09	9 in.	1 ft. 2 in.	7 in.	1½ in.
S.17	1 ft. 5 in.	1 ft. 2 in.	7 in.	1½ in.
S.27	1 ft. 8 in.	1 ft. 2 in.	7 in.	1½ in.
S.38	1 ft. 9 in.	1 ft. 3 in.	8 in.	1½ in.
S.48	2 ft. 0 in.	1 ft. 6 in.	8 in.	2 in.*
S.410	2 ft. 0 in.	1 ft. 6 in.	10 in.	2 in.*
S.412	2 ft. 0 in.	1 ft. 6 in.	1 ft. 0 in.	2 in.*

\* Upstanding waste with corner strainer

**Fittings**

Standard equipment on all sinks (except type S.09 which overflows into its adjoining unit) includes an overflow leading back to the waste outlet. Where double sinks are used with a low division member, as in type M.D., only one sink need be provided with an overflow.

A stainless steel chain with rubber plug is attached to the grating, and 1½-in. grated waste outlets with screwed tail pieces are fitted. Any suitable type of trap may be used.

**Services**

There is enough space behind the sink of all units 1 ft. 9 in. wide and over for the accommodation of pedestal type taps if required. Similar accommodation can also be arranged on units 1 ft. 6 in. wide when fitted with sinks 1 ft. 2 in. wide but this must be specified.

**Installation**

Sink units should be set level using a spirit level on the moulding. The wood frame in the units makes them specially adaptable for fixing on brackets or a simple cabinet.

**Maintenance**

The units themselves are unbreakable and permanent. The surface can be cleaned with ordinary soap and hot water and no scrubbing or abrasive chemical cleaners are necessary to preserve the original brightness of the metal.

Compiled from information supplied by :

**The Stainless Steel Sink Co. Ltd.**

Head Office : Ring Road, Lower Wortley, Leeds, 12.

Telephone : Leeds 38711.

London Office : 14, Great Peter Street, Westminster, S.W.1.

Telephone : Abbey 1575.

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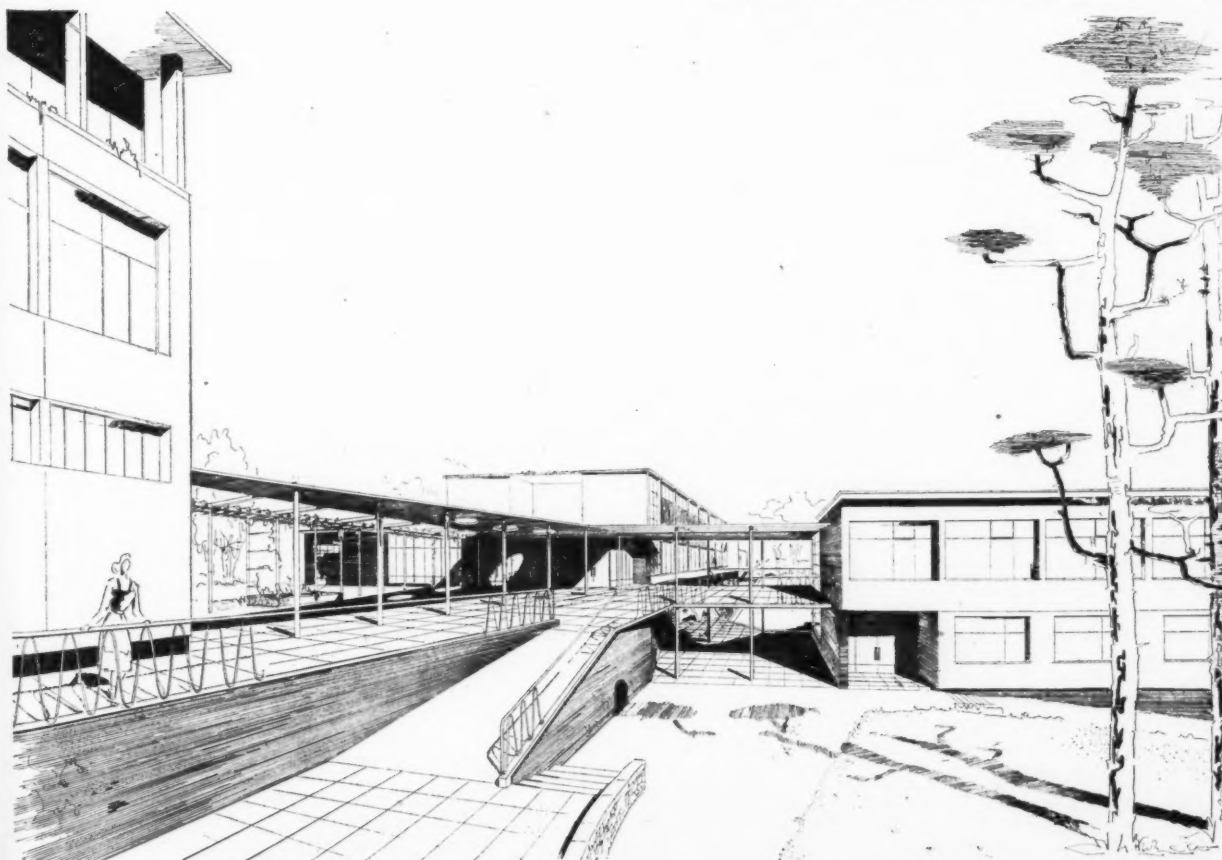
## SCHOOL

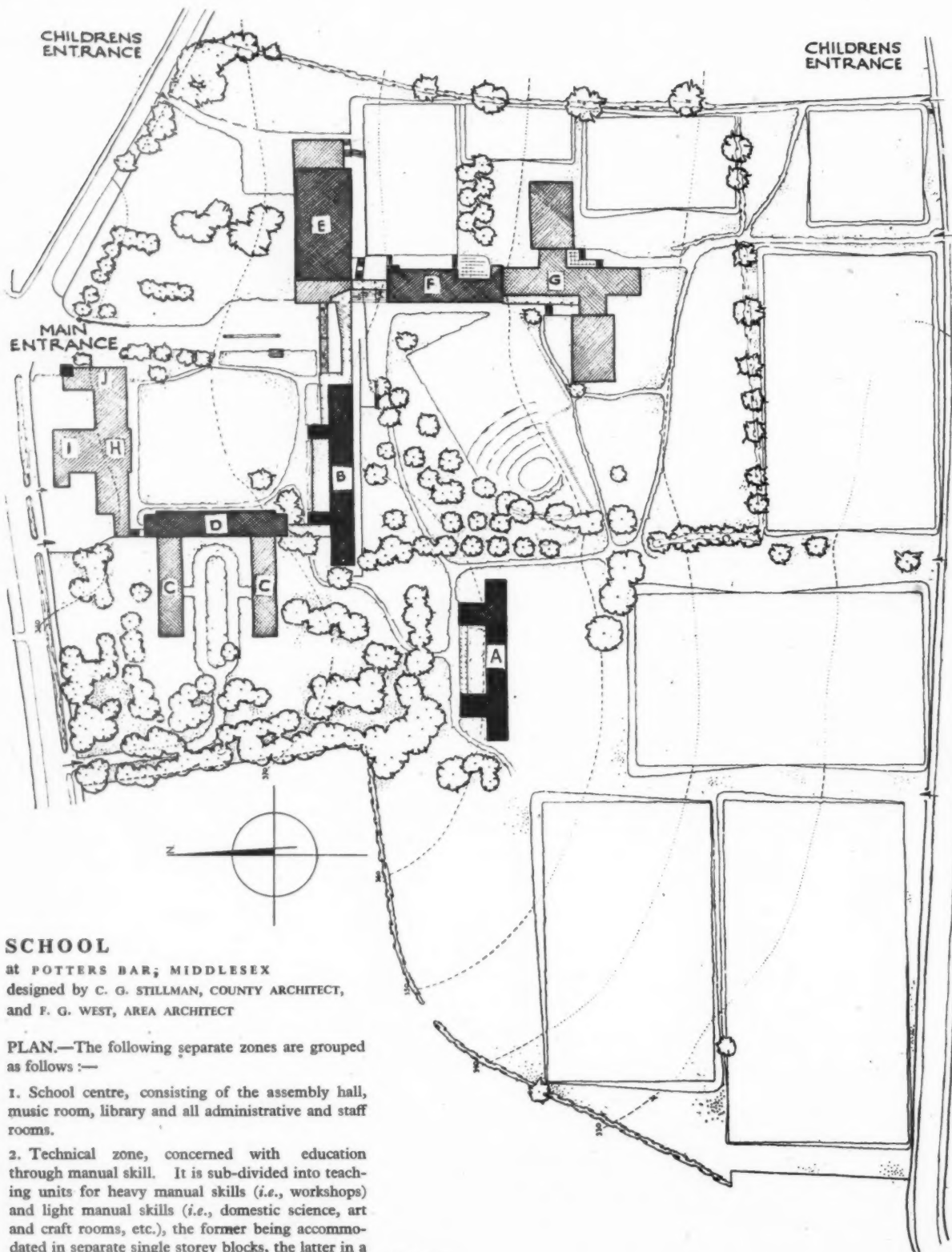
at POTTERS BAR, MIDDLESEX

designed by C. G. STILLMAN, COUNTY ARCHITECT,  
and F. G. WEST, AREA ARCHITECT

The Mountgrace Secondary School project, on which work will soon commence, is to accommodate 800 pupils and provide for all types of secondary education. The school has been planned in close co-operation with educationalists and is a completely new approach to the problem of design for this type of school. The general basis of the scheme is the decentralization of the various units into separate zones with differing educational functions.

*View of covered ways looking east, with main entrance on left.*





## SCHOOL

at POTTERS BAR; MIDDLESEX  
designed by C. G. STILLMAN, COUNTY ARCHITECT,  
and F. G. WEST, AREA ARCHITECT

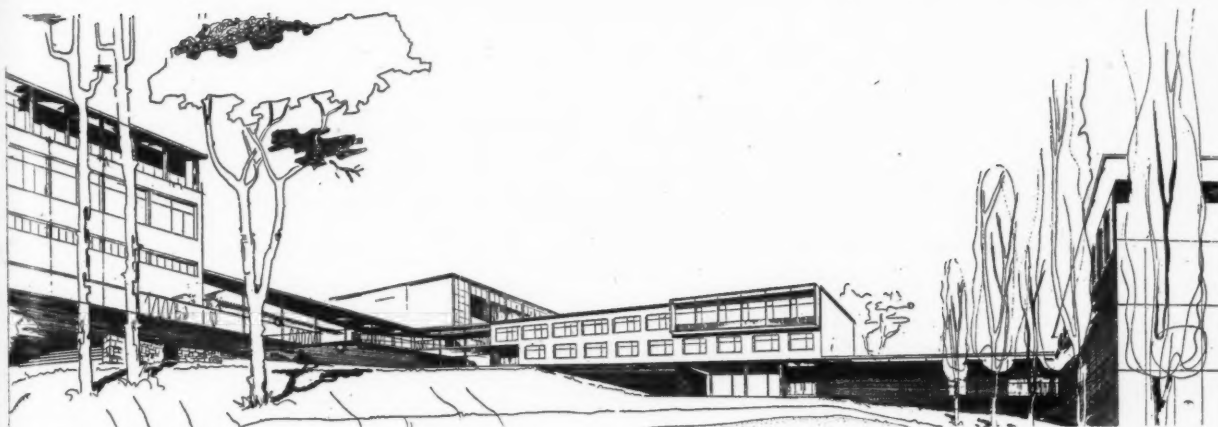
PLAN.—The following separate zones are grouped as follows:—

1. School centre, consisting of the assembly hall, music room, library and all administrative and staff rooms.
2. Technical zone, concerned with education through manual skill. It is sub-divided into teaching units for heavy manual skills (*i.e.*, workshops) and light manual skills (*i.e.*, domestic science, art and craft rooms, etc.), the former being accommodated in separate single storey blocks, the latter in a three-storey block. A small technical library and exhibition space is provided in conjunction with this zone. A small unit of teaching classrooms is also included to prevent undue movement to other zones for ordinary teaching work.
3. Health education zone comprises two gymnasias. Changing rooms and showers, etc., both for the gymnasias and for outside games. This zone is planned adjacent to the playing fields and is also

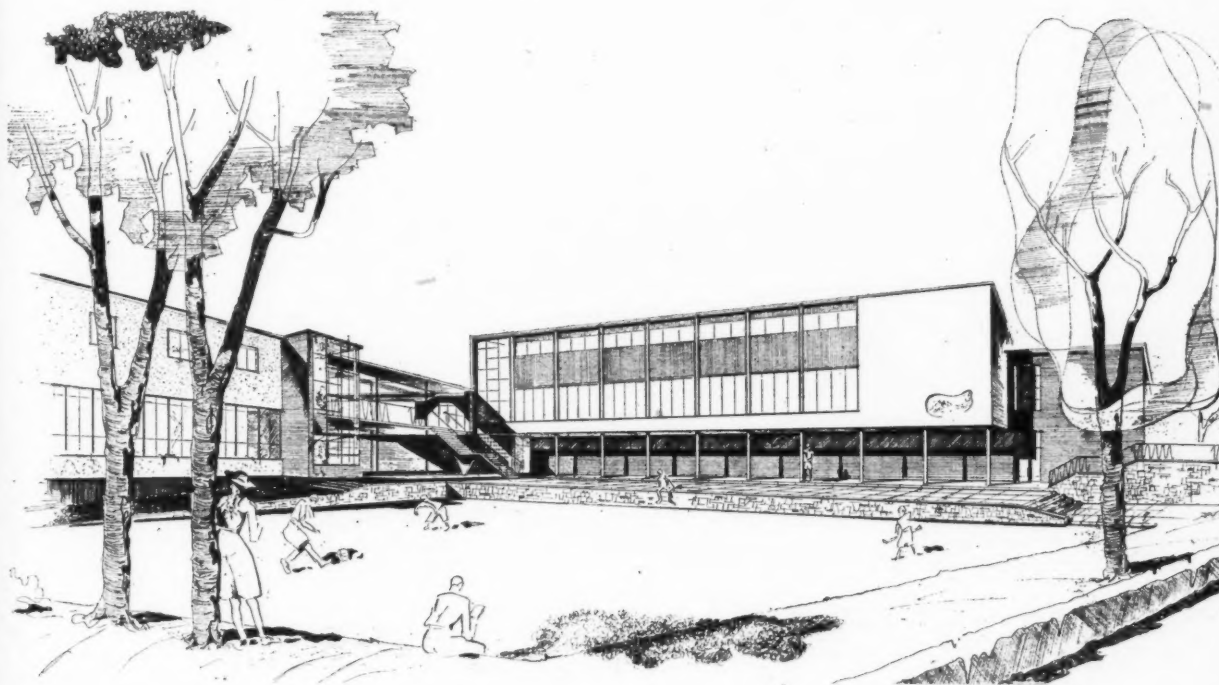
Site plan

### KEY

- A. Science and Teaching Block
- B. Light Skills Block
- C. Heavy Skills Blocks
- D. Classroom Block
- E. Assembly Hall
- F. Administration and Main Library
- G. Health Wing
- H. Dining Hall
- I. Kitchen and Servery
- J. Boiler House

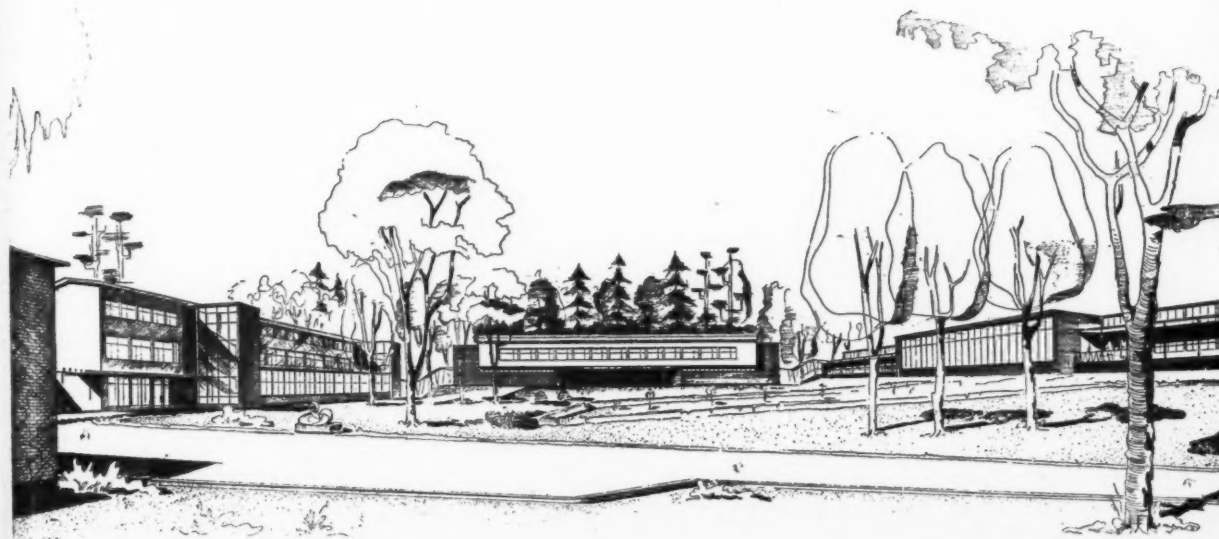


View from the central lawn with the light skills block on the left.



The assembly hall with administration wing on the left.

Below, the main approach road looking west.



## SCHOOL

at POTTERS BAR, MIDDLESEX

designed by C. G. STILLMAN, COUNTY ARCHITECT,  
and F. G. WEST, AREA ARCHITECT

linked with the medical inspection unit in the school centre.

4. Science and general teaching zone includes the classroom accommodation for the more academic subjects and also the science laboratories.

5. School meals centre contains the school dining room, kitchen, etc., and is planned close to the road to give a short approach for delivery vehicles.

Apart from purely educational considerations, this system of planning decentralizes zones, either loosely integrated or completely detached, enables different types of construction to be used for various kinds of accommodation required for differing educational uses, and also eliminates considerable runs of corridor. Each zone is provided with separate cloak-room and sanitary accommodation.

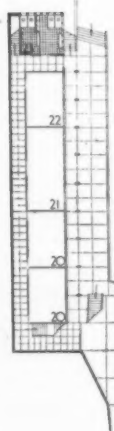
**SITE.**—The site is approximately 17 acres, thickly wooded and sloping sharply to the south.

**CONSTRUCTION.**—The construction will be reinforced concrete frame throughout.

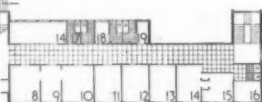
The general contractors are Messrs. Charles R. Price.

### KEY FOR PLANS BELOW

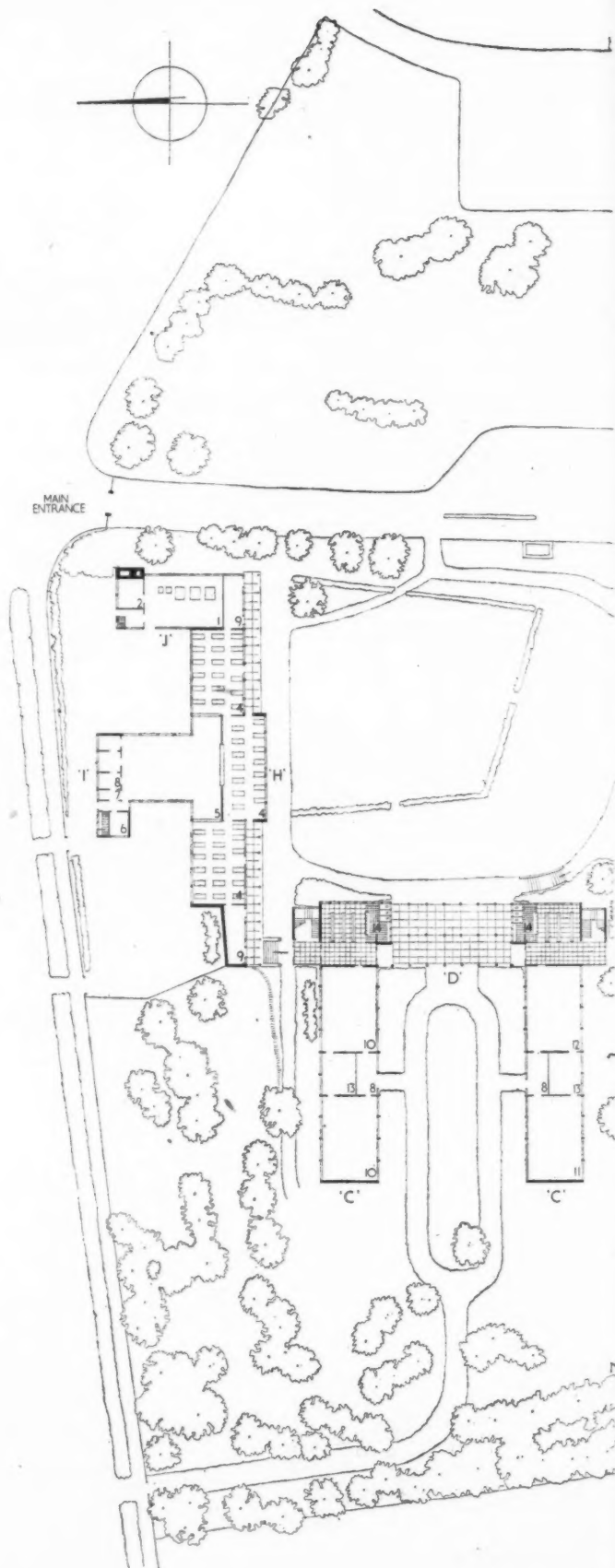
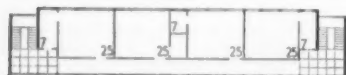
7. Store
8. Headmaster
9. Secretary
10. Head Mistress
11. Head of Evening Classes
12. Boy Prefects
13. Girl Prefects
14. Waiting Room
15. Medical Inspection
16. Girls' Rest Room
17. Visitors' w.c.
18. Male Staff Room
19. Female Staff Cloaks
20. Cloaks
21. Stage Store
22. Boys' Changing Room
23. Lavatory
25. Classroom



ADMINISTRATION WING - BLOCK 'F'  
GROUND FLOOR PLAN



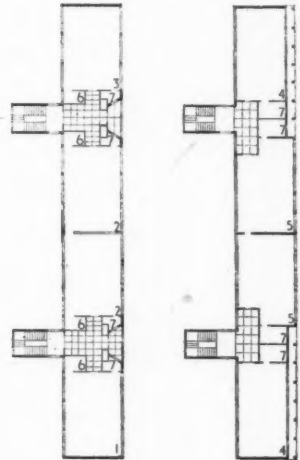
PLAN OF CLASSROOMS OVER HEAVY SKILLS - BLOCK 'D'



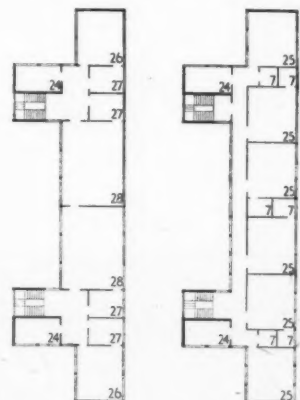
KEY FOR PLAN ON LEFT

1. Boiler House
2. Pump Room
3. Kitchen
4. Dining Room
5. Servery
6. Staff
7. Office
8. Store
9. Cloaks
10. Woodwork
11. Metalwork
12. Engineering Workshop
13. Drawing Office
14. Lavatory
15. Entrance Hall
16. Assembly Hall
17. Music Room
18. Library
19. Girls' Cloaks
20. Exhibition Room
21. Practical Workshop
22. Boys' Showers
23. Girls' Showers
24. Boys' Changing Room
25. Girls' Changing Room
26. Kit Store
27. Instructor
28. Gymnasium
29. Apparatus Store
30. Games Store
31. Classroom
32. Calorifier Room
33. Boys' Cloaks

LIGHT SKILLS BLOCK 'B'  
FIRST FLOOR PLAN SECOND FLOOR PLAN



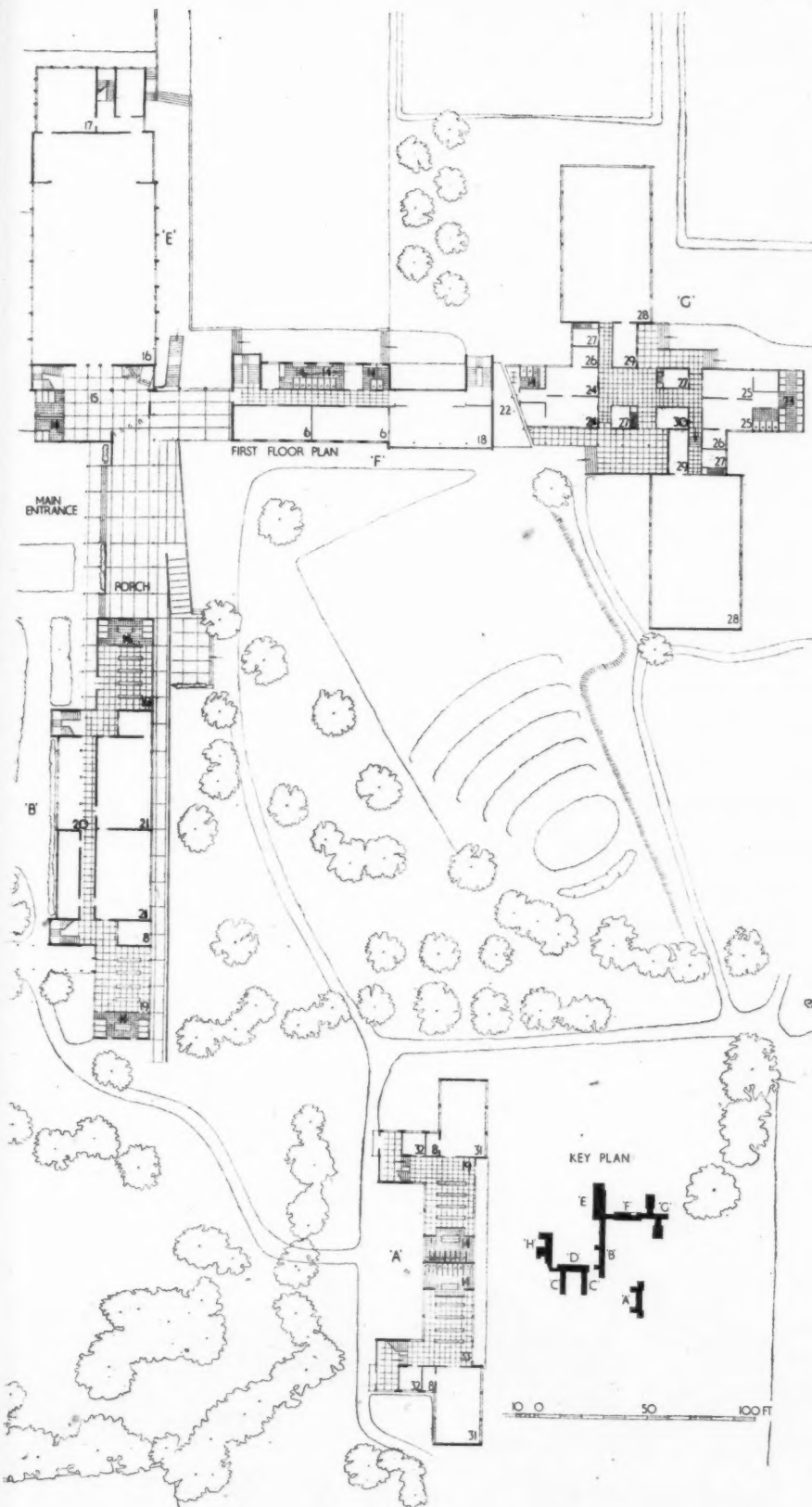
SCIENCE & TEACHING BLOCK 'A'  
FIRST FLOOR PLAN SECOND FLOOR PLAN



KEY FOR PLANS ABOVE

1. Needlecraft Room
2. Domestic Science Room
3. Housecraft Room
4. Light Craft Room
5. Art and Craft Room
6. Larder
7. Store
24. Private Study Room
25. Classroom
26. Advanced Science Room
27. Preparation Room
28. General Science

Ground floor plan



KEY PLAN

10 0 50 100 FT

## FACTORY

at DAGENHAM, ESSEX

designed by C. J. FOSTER and W. R. GLEN

The factory at Dagenham for Clarks Cereal Products Ltd. is the largest building employing shell concrete construction in the London area. The site occupies an area between a main road and railway to take full advantage of available transport facilities. The open floor space of the factory area, which is 37,500 sq. ft., provides freedom of planning for production lines with roof lights that give the maximum daylight. The administrative block contains offices, laboratory, kitchen, rest room and canteen, and is built independently of the main factory. There are lawns, shrubs and flower boxes along the elevations to the main roadway.

*Administrative block, looking east.*



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Main factory block on the right and offices on the left, as seen from the main entrance.



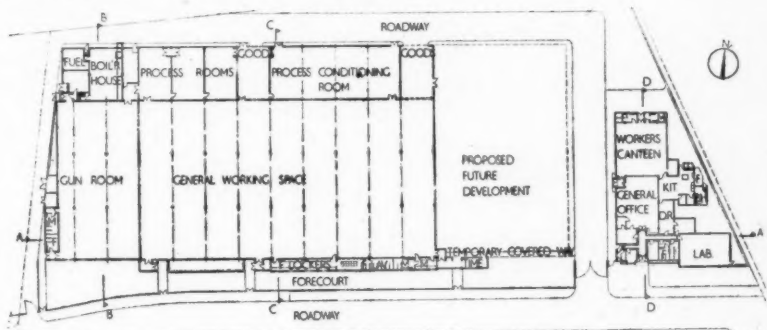
**CONSTRUCTION.**—When a decision was being sought as to the type of construction to be adopted for this factory the need for economy in controlled materials, particularly steel, was an important factor. After a full examination of the costs and material available, the arch-span shell concrete design was adopted for all the buildings. The thin shell roof construction to the main factory area has large roof spans which provide unobstructed storage bays 40 ft. wide by the full length of the factory. The cost of the shell concrete construction for the main factory area was 10s. per sq. ft. of floor area covered at the time the contract was signed. This sum includes the following items: excavations, foundations, walls and columns, ground floor, roof, windows, roof lights and waterproofing.

All structural work is of reinforced concrete, except the temporary end walls and entrances, which are of brick to permit easy removal when the factory is extended. The shell concrete roof construction, using standard size bays each 40 ft. long by 25 ft. chord width, has a minimum headroom under the beams of 12 ft. The slabs are  $2\frac{1}{2}$  in. thick at the crown, using standard round mild steel bar reinforcement, and are designed to carry a superimposed load of 15 lb. per sq. ft. Provision is made by means of 1-in. diameter metal tubes cast in the beams for bolting on brackets, etc., to support the various pipes, ducts and conveyors.

Standard metal forms and timber support props were used throughout and all the bays are of the same size to permit the maximum re-use of a minimum amount of built up sets of forms. The roof is waterproofed with two layers of bitumastic felt, and waterproof joints divide the whole building into areas of suitable size. Roof lights are of aluminium glazing bar construction with 1-in. wired cast glass, non-opening, with upstand curbs formed in the concrete roof slabs. The two storey boiler house containing the plenum chamber, etc., is of normal slab and beam construction on reinforced concrete columns and walls with a 50-ft. high reinforced concrete chimney.

**FINISHES.**—Externally and internally, the walls are finished with a cream cement paint. The floors of the factory block are of 2-in. hardened granolithic finish and in the administration block they are of asphalt covered with cork linoleum.

**SERVICES.**—There is a plenum system of heating and ventilating for the factory block with the main inlet and extraction ducts combined in one 6-ft. square reinforced concrete duct running the length

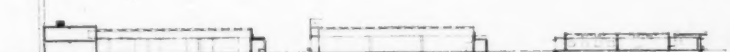


Plan

[Scale:  $\frac{1}{32}'' = 1'0''$ ]



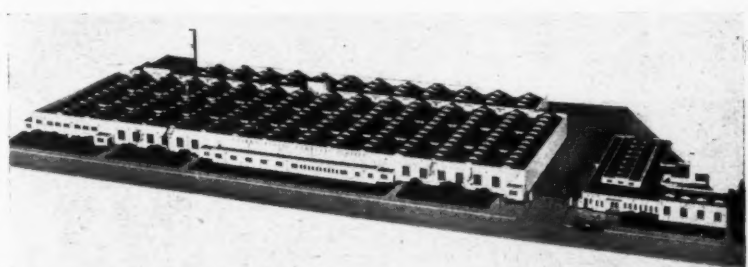
Section A-A



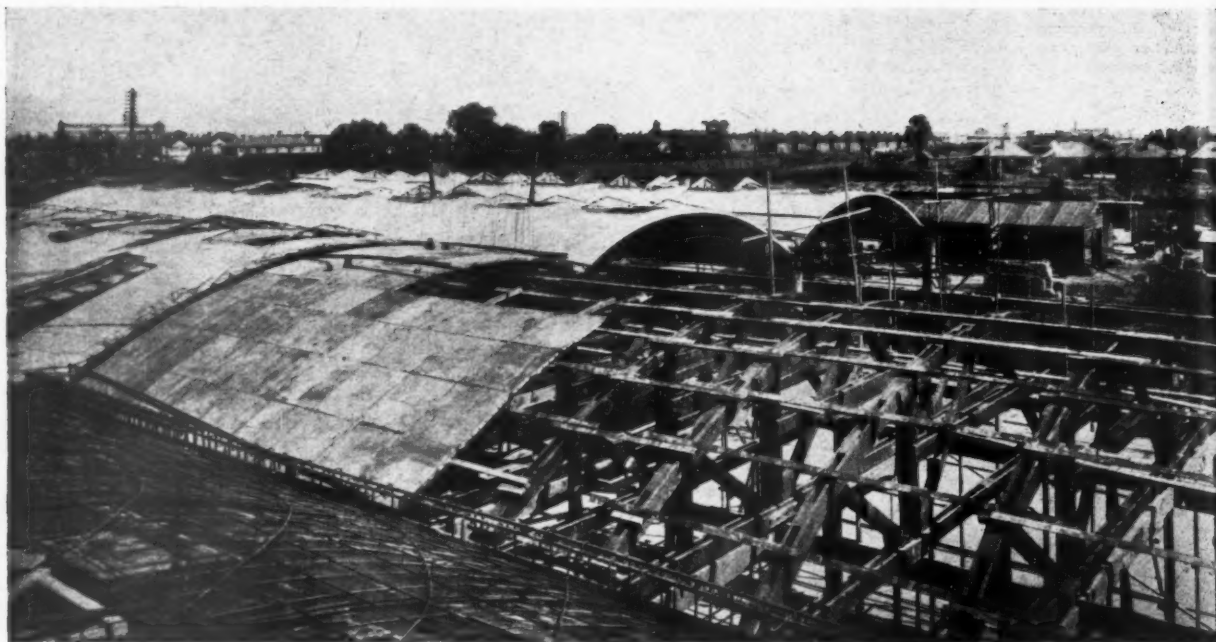
Section B-B

C-C

D-D



Model of the factory from the south.

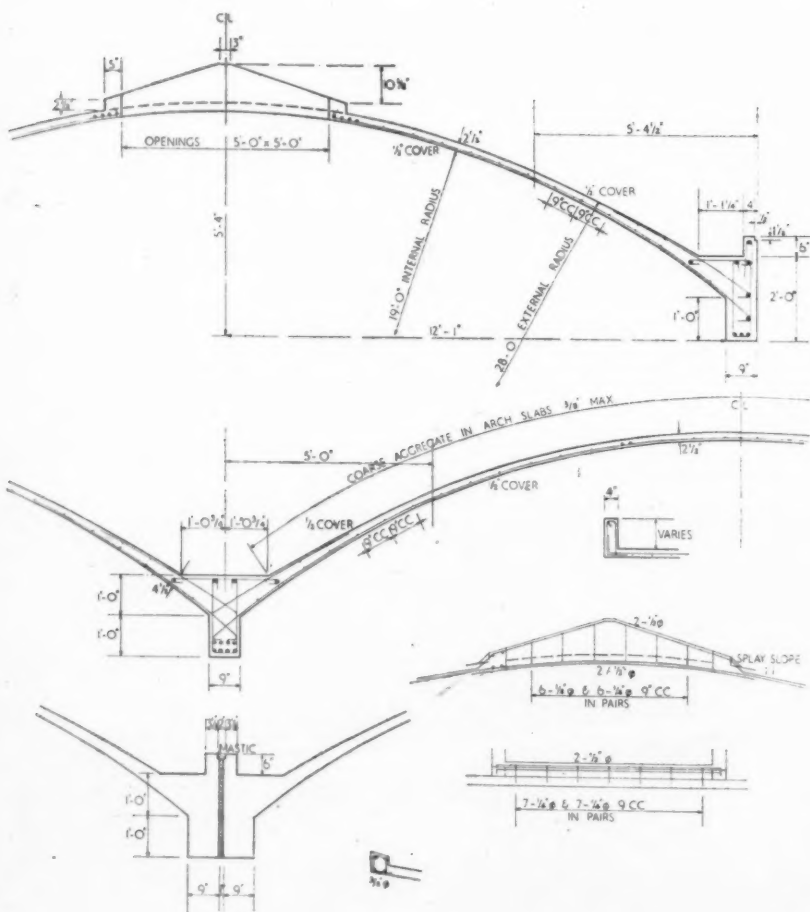


*Metal forms on timber trusses in course of erection.*

## FACTORY

at DAGENHAM, ESSEX

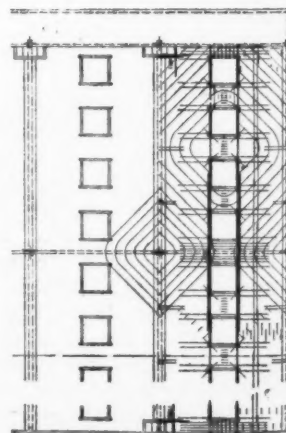
designed by C. J. FOSTER and W. R. GLEN

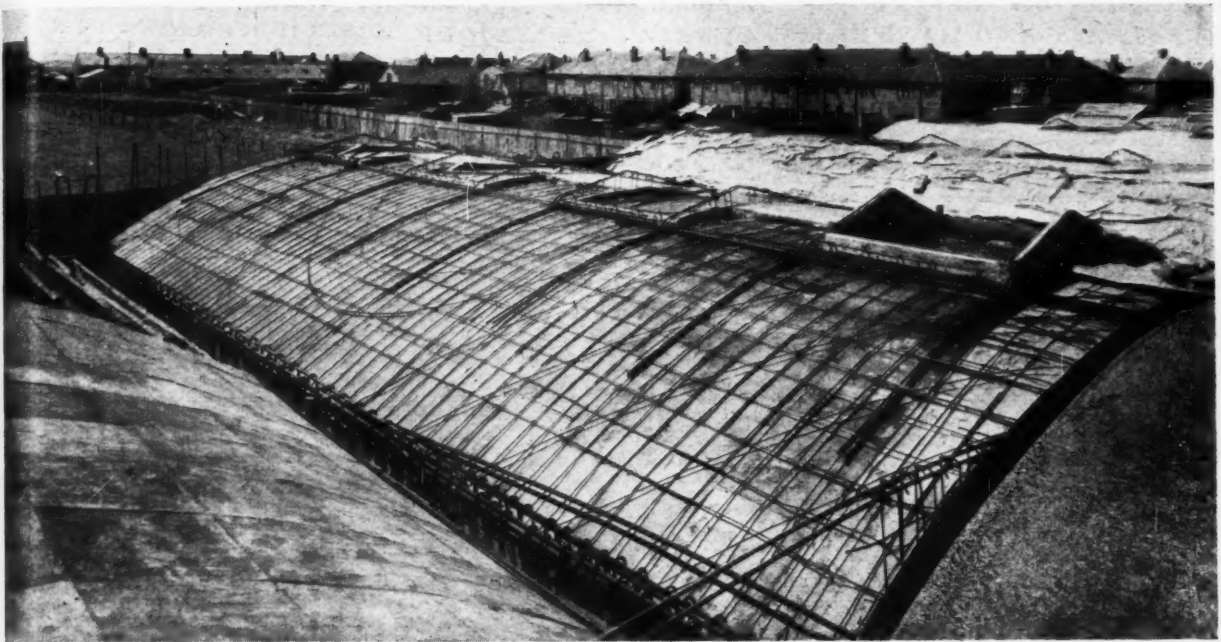


### Detailed sections of arches and bays

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

**Part roof plan** [Scale:  $\frac{1}{8}"=1'0"$ ]

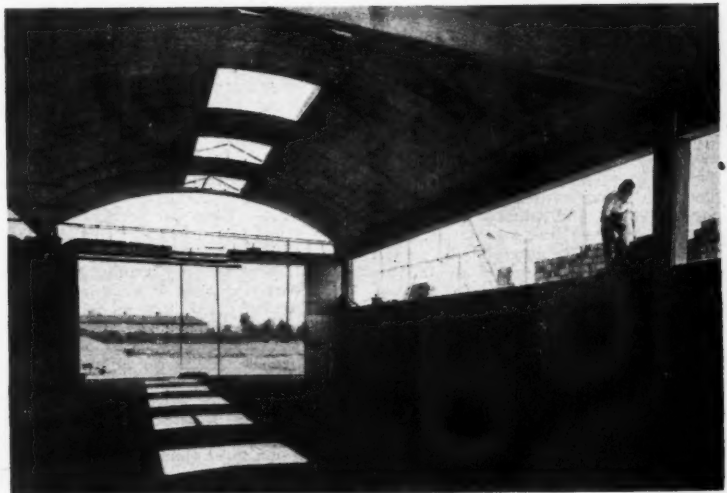
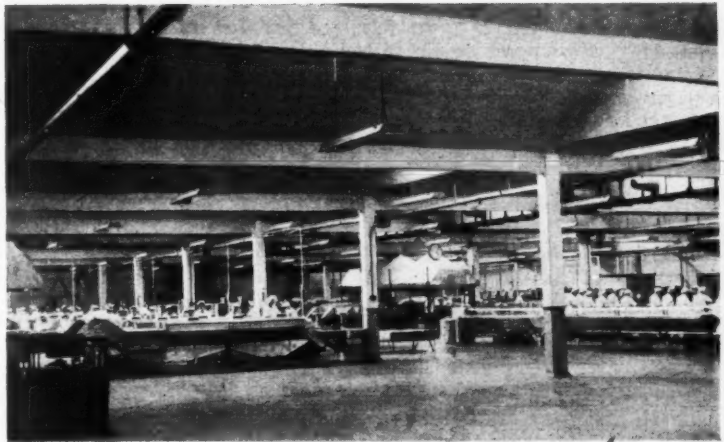




*Above, reinforcement in position for one standard bay. Right, interior of main factory block. Below left, fixing brackets to beams. Below right, temporary end brick wall, which is not load bearing.*

of the factory at roof level. The walls of this duct span as beams between the supporting columns and also act as the end closure walls of the bays. Heating of the administrative block is by means of low pressure hot water radiators with fan extracts. The bus-bar principle is used for electrical equipment in the factory block.

The general contractors were the Liversedge Reinforced Concrete Engineering Co., Ltd. For list of sub-contractors, see page 262.



INFORMATION CENTRE • INFORMATION SHEETS  
QUESTIONS AND ANSWERS • CURRENT TECHNIQUE  
THE INDUSTRY • PRICES • TECHNICAL ARTICLES

## TECHNICAL SECTION

*A digest of current information prepared by independent specialists; printed so that readers may cut out items for filing and paste them up in classified order. Headings below.*

### INFORMATION CENTRE

1 SOCIOLOGY. 2 PLANNING General. 3 PLANNING: Regional and National. 4 PLANNING: Urban and Rural. 5 PLANNING: Public Utilities. 6 PLANNING: Social and Recreational. 7 PRACTICE. 8 SURVEYING, SPECIFICATION. 9 DESIGN: General. 10 DESIGN: Building Types. 11 MATERIALS: General. 12 MATERIALS: Metal. 13 MATERIALS: Timber. 14 MATERIALS: Concrete. 15 MATERIALS: Applied Finishes, Treatments. 16 MATERIALS: Miscellaneous. 17 CONSTRUCTION: General. 18 CONSTRUCTION: Theory. 19 CONSTRUCTION: Details. 20 CONSTRUCTION: Complete Structures. 21 CONSTRUCTION: Miscellaneous. 22 SOUND INSULATION-ACOUSTICS. 23 HEATING, VENTILATION. 24 LIGHTING. 25 WATER SUPPLY, SANITATION. 26 SERVICES EQUIPMENT: Miscellaneous. 27 FURNITURE, FITTINGS. 28 MISCELLANEOUS.

#### 2.106 planning: general T AND CP ACT, 1947

*Everyman's Guide to Town and Country Planning.* Wilfred Gurney. (St. Botolph Publishing Co. Ltd. 7s. 6d.)

A useful survey of most of the ingredients in town and country planning as it is today. 157 pages.

This is an unusual book. Its author is a civil engineer. He states in his foreword, modestly but not inaccurately, that his book makes no pretence at being a literary work. It grew from a series of notes made for a local survey group in East Anglia, and it has not had much of a chance to grow very far. Nor has the author been well served by his publishers. The book is not very well printed, and it is clear that it was originally planned for publication in July, 1948. None the less, it is compiled by an enthusiastic amateur and by a trained engineer, and it has the merits of that parentage. It is above all a collection of facts, a great many facts and well-digested facts. It surveys most of the ideas and papers, white and otherwise, which have resulted in town and country planning as it is today. Its bibliography is most complete. It contains a list of operative planning schemes in England and Wales. It discusses the technical details of sewage disposal, district heating and maps and mapping in a way that most books on planning shirk. It is worth its cost as a reference book. But it needs an index, and it is rather shocking to find in a book published at the end of 1949 that the only reference to the National Parks and Access to the Countryside Act is in a footnote at the end of a chapter on national parks, which

states that a Bill on the subject "was introduced into Parliament during the 1948/49 session." That is not treating an author fairly.

#### 15.68 materials: applied finishes and treatments PAINT COLOURS

*Colours for Flat Finishes for Wall Decoration.* BS 1573:1949. (British Standards Institution. 2s.)

15 Standard colours for bulk production of flat paint finishes.

This seems an extreme example of the high cost of British Standards. Fifteen colour samples of small size are set on one page—most manufacturers will give away colour cards with far more samples for nothing. Even the attraction of colour names such as "Banana," "Champagne" and "Mushroom" hardly seems sufficient justification for the price. In any case, such a limited range of colours is unlikely to satisfy the whims of many architects, who know full well that a far wider range is available for most purposes. Anyone with money to spend can obtain larger samples of the colours, price 1s. each for 6 in. by 4 in. size.

#### REFERENCE BACK

16.59 : 26.1.50 *Prestressed Hollow Clay Block Floors.*

This is incorrectly attributed to the "Clay-maker." The article "Prestressed Hollow Clay Block Floors" was published in the "British Clay Worker," Nov., 1949, pp. 217 and 218.

#### 18.42 construction: theory SHELL CONCRETE

*Shell Concrete for Spanning Large Areas.* (Architectural Forum [USA], Dec., 1949, pp. 101-106.)

Comprehensive survey of trends in USA, including a very useful comparison of cost for long-span structures in recent competitions.

Some early examples of shell concrete construction are discussed, going back to the shell roofs in Germany of 1931 and Robert Maillart's bold exhibition piece at Zurich in 1939. Where large unobstructed areas are to be covered, the concrete shell design may offer the most economical solution. Domes, cross barrels and longitudinal barrels are discussed, and many variations as applied in practice. The advantages from the architect's point of view are shown in a number of effective illustrations of market halls, factory buildings, stadia, hangars, planetaria. Even for prefabricated houses, now being tested in Colombia, South America, a shell roof is used to cover the 42-ft. by 25-ft. area without beams. A table giving comparative costs is of special interest. The unobstructed area to be covered is 190 ft. by 400 ft. for a gymnasium for Wisconsin University. Included are three types of timber structures, an arched truss and an arched solid steel beam. The unit cost per square foot covered area is about £1 (at the present rate of exchange), the variation between the lowest and highest cost being not much more than 10 per cent. Concrete shell construction was the choice.

#### 19.85 construction: details GLUED TIMBER ARCHES

*Glued Timbers Tailored to Fit.* Prof. Albert G. H. Dietz. (Architectural Record [USA], Dec., 1949, pp. 139-141.)

The architectural use of glued timber beams and arches in USA, especially in church building.

Shortage of other materials during the last war produced an enormous demand for timber construction. The arch form often required in church design is well adapted to construction in laminated timber, with the grain of all pieces running parallel (in contrast to plywood). There is hardly a limit to size or shape, and beams or arches of more than 4 ft. depth and 200 ft. length have been used. Efficient structural shapes can be formed from glued laminations, straight or curved. Stresses higher than those for solid timber are being permitted because the material is dry and is unlikely to degrade in service. The use of higher grade timber in the outer laminations is advocated, but having mixed grades in one section is still a somewhat uncertain proposition. Great progress has been made in adhesives which resist all types of climates. Some recent church structures are shown, with beams of 42 ft. span at 16 ft. centres, in one case, curved arches of 46 ft. 8 in. span at 17 ft. centres in another, also three-hinged arches for a school building and for several churches, producing the desired gothic effect.

#### 19.86 construction: details CONCRETE FLAT ROOFS

*The Design of Flat Concrete Roofs in Relation to Thermal Effects.* (BRS Digest No. 12. 1949.)

Thermal expansion and contraction, heat conservation, summer cooling, avoidance of condensation. Problems of strength and moisture exclusion not discussed. Useful summary of present knowledge.

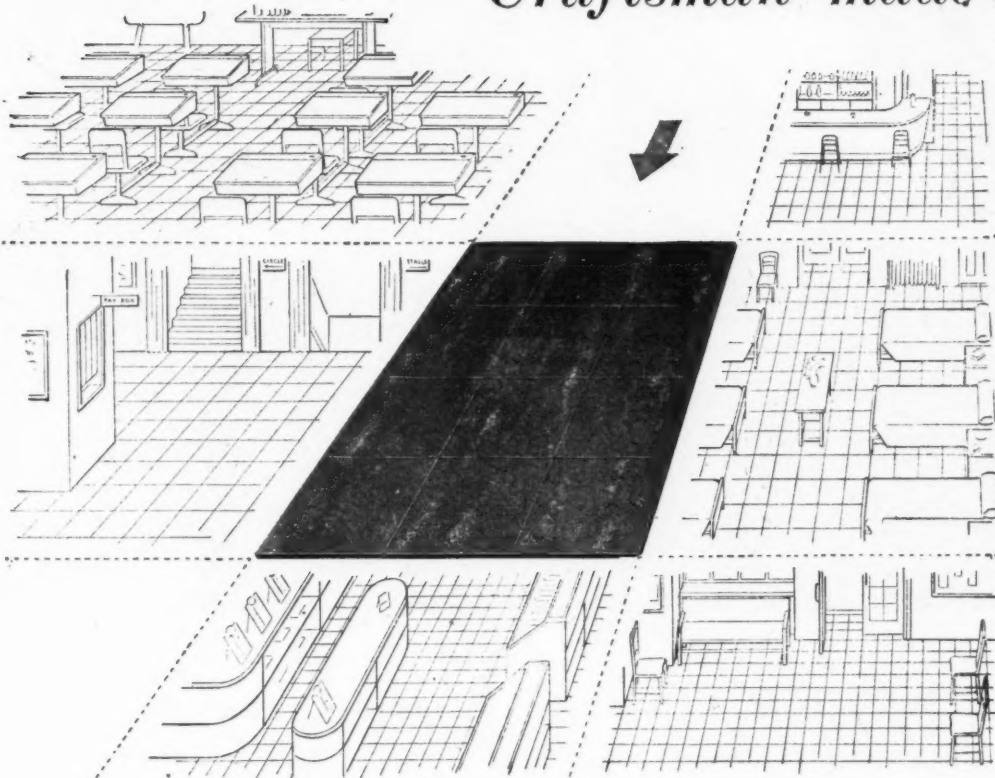
The digest opens with useful guidance on how to recognize cracks as being caused by thermal movement. Diagrams show where and in what form such cracks usually occur. The well-known value of a light-coloured covering for reflecting sun heat is referred to, and a table shows temperatures recorded beneath various surface finishes. A limewash treatment is especially effective if renewed every one or two years. A recipe for the limewash is given and also an important warning that white paints or cement treatments must not be used, as they invariably damage the asphalt.

Positive insulation, obtained by using such materials as cork and fibreboard are shown to give a useful reduction of temperature from sun heat while also having the value of conserving heat within the building in winter and thus saving heating costs and reducing condensation troubles. It is stated that when such materials are placed immediately beneath asphalt or roofing felts the covering material gets very hot and may be damaged, and it is therefore advised that in such cases a white surface treatment is necessary. (This does not always seem to be advocated by well-known firms who carry out roof surfacing, and it would be valuable to have the views of such firms on this matter.)

Screeds of porous concrete or layers of hollow concrete blocks are sometimes used as an insulating layer beneath the roof finishing material. It appears that such layers can themselves give trouble by expansion and that they should therefore have expansion joints incorporated.

The digest goes on to discuss roof insulation in a more general way, with a brief discussion on whether insulation should be above or below the main roof slab.

## Craftsman - made



## Craftsman - laid

### APPROVED CONTRACTORS

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#### HOLLIS BROS. LTD.,

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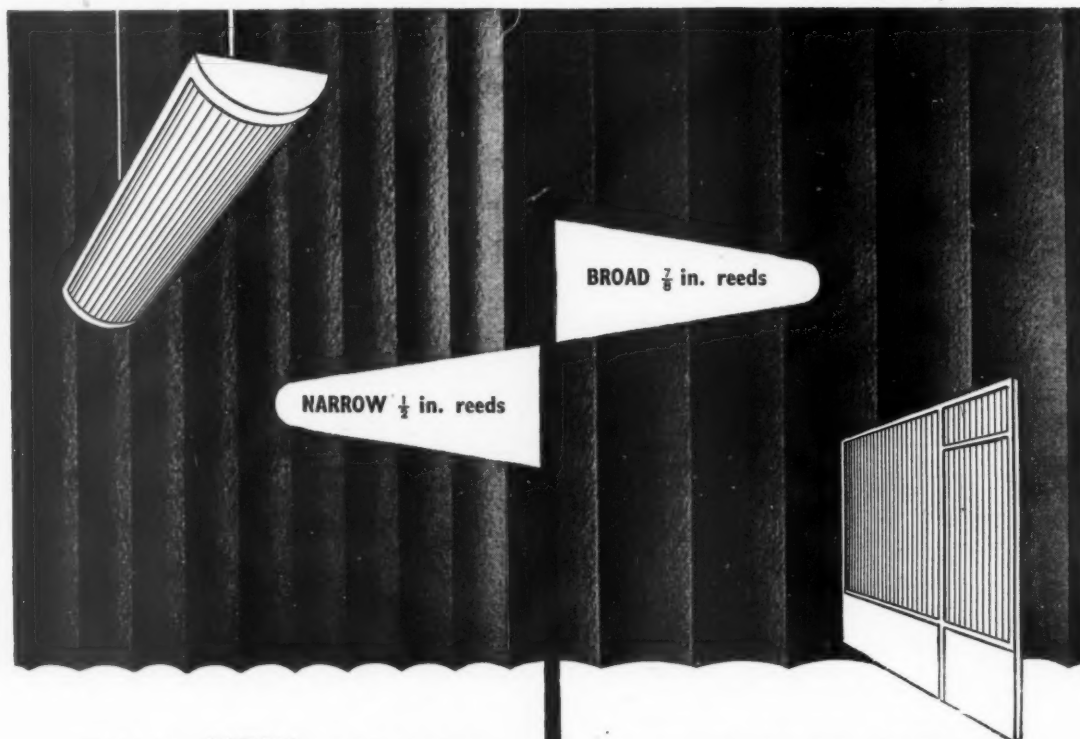
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Even with all reasonable precautions some thermal movement may still take place, and in large roofs expansion joints are required at intervals of about 100 ft. These should be carried down through external walls, and it is often best to cut the building right down to the foundations.

A brief reference is made to the special requirements of buildings in the tropics, and there are also diagrams showing four characteristic methods of providing roof insulation.

### 19.87 construction: details CHURCH AT BRISTOL

*Church of the Holy Cross, Flywood Park, Bristol. (Building, Jan., 1950, pp. 4-8.)*

Church and hall built at very low cost, using modern structural elements.

The building licence had been limited to £6,000, exclusive of fittings and furniture. Existing barns and an old rubble-built farm with a bell tower were partly used, also as a source of building materials. The floor is 6 in. concrete with bitumen-mastic finish, the walls are built from 6-in. hollow concrete blocks, with rendering outside and cement wash inside. The piers are built from stone rubble. The roof girders are expanded rolled steel joists, as used in school buildings, with insulated steel decking, with other types of cover over the aisle and the chancel. The main windows are vertical aluminium patent glazing.

### 20.172 construction: complete structures TELEVISION STATION

*Sutton Coldfield Television Transmitting Station. Engineering, Dec. 23, 1949, pp. 661-664, 12 illustr., and other journals.)*

Description of structure and equipment at new BBC station, opened December 17. (See also AJ, December 22, 1949, p. 702.)

Some 10 miles north of Birmingham a 24-acre site is occupied by this station, at 550 ft. altitude. The 750-ft. mast thus brings the transmitting aerial to 1,300 ft. above sea

level. The main building is an L-shaped brick structure. To obtain some sound absorption the wood flooring in certain rooms is carpeted and the upper parts of the walls are panelled with acoustic tiles.

Up to a height of 600 ft. from the pivoted base (on a 2-in. dia. steel ball) the mast is of triangular cross section of 9 ft. width, the parallel corner posts consisting of two unequal angles of high-tensile steel in the starred position, their longer legs at 60° to each other and connected by diagonal angle bracing. All the connections are bolted and the steelwork hot-dip galvanized with 2 oz. per square foot weight of the zinc coating. This triangular mast is surmounted by a 110-ft. high slotted steel cylinder of 6 ft. 6 in. diameter, the slots covered by Perspex to protect the apparatus inside and to prevent violent wind eddies. The mast weighs about 140 tons and is stayed by steel wire guy ropes at four intermediate altitudes, designed on a factor of safety of four under most severe conditions, including a  $\frac{1}{2}$ -in. thick ice coating and 60 lb./sq. ft. wind pressure. The specification limited the deflection to a maximum of 1 per cent. of the height of any point above ground. Thus the top is not expected to move laterally more than 7 ft. 6 in.

### 20.173 construction: complete structures TURBINE HOUSE

*Reinforced Concrete Construction at Skelton Grange Power Station. (Engineering, December 9, 1949, pp. 609-610; 11 illustrations.)*

Reinforced concrete structure with thin shell roof. Novel type of power station building.

Half of the turbine house is being built at present. In its final form it will have 14 bays of 31 ft. each. The reinforced concrete portal frames of 74 ft. span carry reinforced concrete gantry girders designed for 200 tons maximum load on one rail. The shell roof is only 3 in. thick, its crown is 88 ft. above ground level. It was built from a travelling carriage running on the crane rails, without scaffolding obstructing the floor area.

### 26.61 services and equipment: miscellaneous

#### ALUMINIUM RAINWATER GOODS

*Wrought Aluminium Rainwater Goods. BS 1543:1949 (British Standards Institution. 2s. 6d.).*

New BS covering wrought aluminium rainwater goods.

This BS covers workmanship and materials, and standardizes sizes, tolerances and fittings. For gutters, two thicknesses are standardized, heavy and light. In the light material, half-round, 3 in., 3½ in. and 4 in. are included, and ogee, 4 in. In the heavy, 4½ in., 5 in. and 6 in. half-round, and ogee are included; with 90 deg., 120 deg. and 135 deg. angles. Valley gutters are also included.

A section deals with gutter accessories, brackets, bolts and the like, and a further one with rainwater pipes. These are also in light grade, 2 in., 2½ in. and 3 in., and in heavy, these sizes and 4 in. also. The appropriate rainwater heads, offsets from 3 in to 15 in., shoes and elbows are included.

As with other BS's, this publication will lighten the task of all who have to detail or specify goods of the type covered.

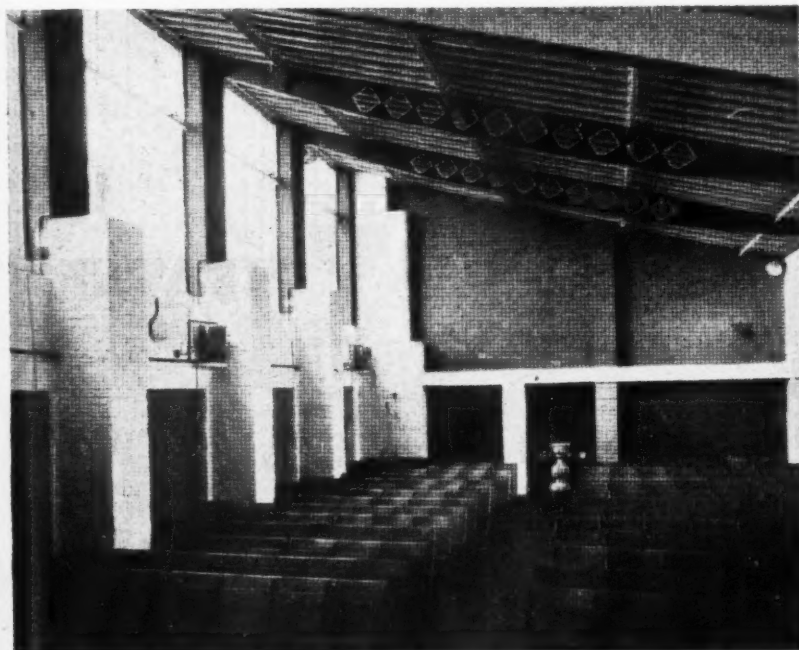
*This feature answers any question connected with building confidently and free of charge. Questions to the Technical Editor, The Architects' Journal, 9, 11 and 13, Queen Anne's Gate, S.W.1.*

## QUESTIONS AND ANSWERS

### 3014 T.C.P. ACT QUALIFIED PERMISSION

**Q** Application was made for a building licence. The work included alterations to an existing sub Post Office, to provide a shop together with a new Post Office in the fronting on to a side street. Permission was granted "subject to the use of the tenement as a Post Office being discontinued no later than the 6th day of February, 1955." (In accordance with the Town and Country Planning Act.) Can you please tell me the full implications of this proviso and the reasons, because—since the cost involved is considerable—my client is of the opinion that the outlay for so limited a period is not justified?

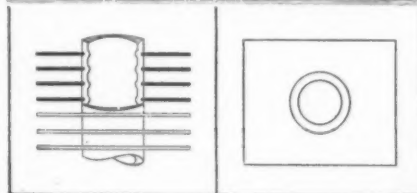
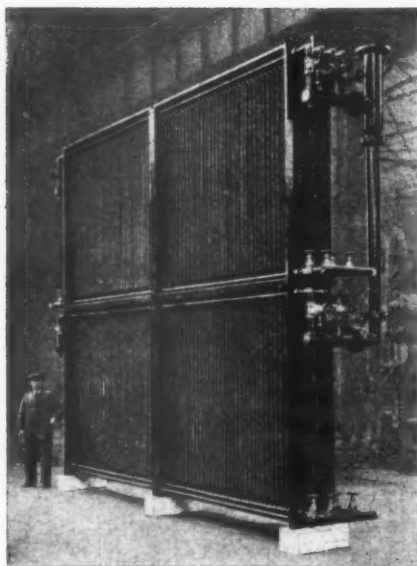
**A** The local planning authority has power, under Section 14 of the 1947 Act, to grant planning permission subject to conditions, as here. We agree that, in this case, it looks as though the proposed alterations would be too costly if the permission to use them for a Post Office was limited to five years. The owner of the property has a right to appeal against the condition to the Minister under Section 16. Notice of appeal must be given within one month of the receipt of the council's decision. If the appeal is unsuccessful the owner may have a right to compensation, provided the alterations do not increase the cubic contents of the original building by more than 10 per cent. In any event, we would also suggest that the owner of the property takes legal advice locally as to his position and the steps to be taken in any such appeal.



Interior of a church with expanded rolled steel joists as roof girders. See 19.87.

# PLANNED HEATING AND VENTILATING

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passed over the tubes. The tubes may be plain or gilled, but as gilling reduces the overall cost by some 60 per cent. to 70 per cent., this type of battery is most called for. It is only when very special precautions have to be taken regarding dust and dirt that the plain tube heater is specified. All Weldex Heater Batteries are designed for particular conditions, and for the benefit of engineers, the following information is required:—

1. Volume or weight of air to be handled per minute or hour
2. Inlet Air Temperature.
3. Outlet Air Temperature required.
4. Whether any special humidity conditions exist, or are required to exist after heating.
5. Heating medium.
  - (a) In the case of steam, its pressure and condition, i.e., saturated or super-heated.
  - (b) In the case of hot water, the flow and return temperature.

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# BUILDING PROGRESS

By Ian Bowen

IN addition to 5,255 aluminium houses, 192,370 permanent dwellings were completed in 1949 in Great Britain. The summary picture of houses completed since the end of the war is as follows:—

PERMANENT DWELLINGS (EXCLUDING ALUMINIUM) COMPLETED IN GREAT BRITAIN (IN THOUSANDS)			
1945 and '46 .. .. .	..	..	58.4
1947 .. .. .	..	..	139.6
1948 .. .. .	..	..	216.9
1949 .. .. .	..	..	192.4
Total .. .. .	..	..	607.3

To this should be added 16.1 thousand of aluminium permanent houses. Over 75 per cent. of the permanent houses (464,600) were completed under local authority schemes.

The programme is settling down to a target level of some 175,000 houses per annum; as far as the local authorities' schemes are concerned, a reasonable balance has been established (over the country as a whole) between starts and completions. Thus the number of houses on which construction has been begun each quarter now approximately equals the number of houses completed.

NEW LOCAL AUTHORITY PERMANENT HOUSES IN GREAT BRITAIN (IN THOUSANDS)			
CONSTRUCTION BEGUN		HOUSES COMPLETED	
Quarter	1949		
" 1 ..	38.5	43.1	
" 2 ..	40.6	38.7	
" 3 ..	43.8	37.2	
" 4 ..	38.9	41.0	

This over-all balance in commencements and completions shows a markedly better position than that which existed in 1947 or 1948; nevertheless, it applies only to the country (of Great Britain) as a whole. If Scotland is considered separately, completions are found to exceed starts by a considerable margin; this is because in that country there was a relatively large backlog of houses under construction at the end of 1948. In England and Wales, taken as a whole, the number of houses under construction was tending to rise in 1949, completions no longer quite keeping pace with commencements, although in some areas there was, as in Scotland, a working off of arrears.

## SIZE OF HOUSING PROGRAMME

There cannot be much dispute that the Labour Government's housing programme has, in respect of the number of houses completed in the difficult post-war years, been a success; as was stated in the *Economist* recently, the record compares favourably with that of the post-1918 years. Some of the credit for the successful post-war building programme is due to the Coalition Government and to the long-term planning of man-power inspired by Mr. Bevin in 1943, under Mr. Churchill's leadership.

Present grounds of criticism are that the programme is too small. But a stepping-up of house production can only be done at the expense of other parts of the building programme. Not only labour, but scarce materials (especially timber) would have to be diverted from factory building, schools or government building if any substantial change were to be effected. The

future of the housing programme depends more upon the rest of the building programme than upon any other factor.

## NEW FACTORY BUILDING

Statistics are available of the approval of new factory buildings in Great Britain where the figures relate to schemes of 5,000 sq. ft. or more (either extensions or new buildings). Approvals for new factory buildings are in fact mounting year by year, as the following summary table shows:—

TOTAL VALUE OF WORK APPROVED FOR NEW FACTORIES AND SUBSTANTIAL EXTENSIONS			
			£ m.
1945 .. .. .	..	..	32.4
1946 .. .. .	..	..	56.8
1947 .. .. .	..	..	50.8
1948 .. .. .	..	..	61.2
1949 (est.) .. .. .	..	..	(90.0)

About 37.5 per cent. of this work has been channelled into the Development Areas. The value of actual building work done on factories and industrial premises seems likely to have fallen slightly in 1949 from the high figure of £93.2 m. in 1948, but the trend in the value of work approved suggested by the above table means that 1950 may well see a further increase in the completion of this type of work. There is evidently going to be a heavy call on building resources this year in respect of factory building, not all of it, by any means, concentrated in the Development Areas.

## HOSPITALS, SCHOOLS AND UNIVERSITIES

In the sphere of hospital, school and university building there is also a large volume of work in hand, and it seems likely to increase. As against total approvals of £23.9 m. in 1948, by the end of November, 1949, nearly £50 m. more of new work had been sanctioned. This excludes hospitals and universities. Already the actual value of work done on the three items taken together had reached £30 m. in 1949, but it looks as though it will exceed this figure considerably in 1950.

These main headings do not exhaust the list of programmes that have been begun and which need to be finished. There are storage premises, warehouses and depots, agricultural premises, coal mines, public utilities and all the repair and maintenance works necessary to preserve structures, with claims upon the scarce building resources of the country. It is, therefore, useless to advocate an increase in the size of the housing programme without clearly defining what other building work is to be curtailed.

The political parties have been wise in well avoiding promises of any startling change in the size of the housing programme; although in some of their less authoritative (and less scrupulous) speeches individual speakers have given rise to some false hopes. The truth seems to be that a target of about 175,000 houses a year is all that the country can now afford, granted that building resources *in toto* cannot be much increased, and that the important non-housing programmes go forward.

## THE CONTINUING HOUSING PROBLEM

The question cannot, however, be allowed to rest there. According to some of the opinion polls, housing is still a very live issue in the public mind, and if the arguments outlined above continue to apply, housing will remain a social prob-

lem for the best part of the 1950's. Something more than a miserable 175,000 new houses a year will have to be achieved. The most unhelpful suggestion so far put forward is that there should be a return to building large numbers of middle-class houses for sale; this might make scarce materials and labour still more scarce, and so sharpen the social conflict over housing to an extraordinary degree.

As I pointed out in an earlier article (February 9), one of the strange consequences of rent control is that many families are over-housed, some of them even on the local authorities' estates, but many more probably in the slightly decayed middle-class housing areas. If, as now seems likely, an output of 400,000-500,000 houses a year in the 1950's is going to be out of the question, then it is likely that there will be stronger pressure exercised upon those who indulge in the occupation of excessive house-room. An over- and under-crowding survey will be made, if not nationally then locally, and rating and rent policy in its new phase will be diverted towards a more economical use of existing house-room.

This is a prediction, tentative, of course, but based on the existing facts. How can such pressure be avoided, unless the whole housing problem which, as the generations of the 1940's grow up will grow worse and not better, is to be shelved?

## REHABILITATION OF HOUSING AREAS

If this reasoning is correct, policy is likely to be directed more and more towards the better use of existing buildings, in combination no doubt with gratuitous and selective demolition of condemned premises. A revision or modification, of that control will sooner or later have to be accepted, and the rent level in general is bound to be forced upwards by a few points, and probably it will be stabilised again at a new level.

Granted some rise in rents, there will be a greater incentive to owners to improve their properties, to sub-divide large houses into flats and to add amenities that make such sub-divisions tolerable. Probably an amendment of the Town and Country Planning Act will have to precede such a policy—it is indeed strange how far that discouraging Act has removed obstacles to development with one hand and put them back with the other.

So far this kind of development seems to have been alternately encouraged and then half smothered. Conversions and adaptations of existing premises by private builders under licence have been begun and

CONVERSIONS AND ADAPTATIONS (IN THOUSANDS)			
		LICENCES ISSUED	COMPLETED
1946 .. .. .	..	29.2	19.5
1947 .. .. .	..	26.3	24.3
1948 .. .. .	..	19.8	21.2
1949 .. .. .	..	11.3	10.3

there again is a falling-off in activity, and in the circumstances a serious one. The local authorities' own record on this point is no better, nor were conditions better in Scotland.

This is one aspect of housing policy where new ideas are badly needed as well as some architectural study and imagination. For economic restraints mean that both new building and conversions will, in the next decade, be closely limited by cost. Another aspect of policy that requires revision is the programme of non-traditional houses; but that is yet another story.

## Announcements

Messrs. Brown & Spencer, Quantity Surveyors, of Midland Bank House, 26, Cross Street, Manchester, 2, have opened a branch office at Lloyds Bank Chambers, 16-18, Great Underbank, Stockport, Cheshire, at which address they will be pleased to receive trade catalogues, etc.

Messrs. Insulite Products Corporation Ltd. will be moving their head office on February 25. Their new address will be 41, Kingsway, W.C.2 (tel.: Temple Bar 9385/6/7.)

On March 27, Cellon Ltd., of Kingston-on-Thames, will be opening a new branch of their Building and Decorating Division at 43, Prince of Wales Road, Norwich, where full stocks of their "Cerric" cellulose lacquers and "Cerrux" finishes will be available.

Messrs. Ove Arup & Partners, consulting engineers, have changed their address to 8, Fitzroy Street, W.1. (tel.: Langham 7781).

The Central Land Board announce that no development charge is payable under the Town and Country Planning Act, 1947, in respect of the division of a house, which on July 1, 1948, was used as a single dwelling-house, into two or more separate buildings by the erection of a vertical wall or walls, and the use thereafter of the separate buildings as dwelling-houses.

## Buildings Illustrated

Church Rebuilt at Beckenham (page 242). Architects: Charles Sykes and Leslie T.

Moore, A./F.R.I.B.A. General contractors: Messrs. Holloway Bros. (London) Ltd. Sub-contractors: Trusses, Dawnays Ltd.; copper roofing, F. Braby & Co.; flat roof finishings, Frazzi Ltd.; acoustic wall treatment, H. W. Cullum Ltd.; wood block floors, Jefferiss (Camberwell) Ltd.; suspended ceiling, W. H. Colt (London) Ltd.; lighting fittings, Holophone Ltd.; lighting installation, The London Electricity Board (Beckenham); heating installation, G. H. Haden & Sons Ltd.; leaded lights, Welstead Ltd.; lightning conductors, W. J. Furze & Co. Ltd.; stone cleaning, Reparations & Steam Brush Co. Ltd.; plastering, H. & F. Badcock Ltd.; ironmongery, Yannedis & Co. Ltd.; church furniture, E. Bowman & Sons, Stamford & Holloway Bros. (London) Ltd.; adapting and rebuilding organ, Henry Willis & Sons Ltd.

Factory at Dagenham, Essex. (Pages 254-257.) Architect: C. J. Foster, L.R.I.B.A. Consulting Architect: W. R. Glen, F.R.I.A.S., L.R.I.B.A. General Contractors: The Liveredge Reinforced Concrete Engineering Co. Ltd. Sub-contractors: Steel fixing, W. S. Mitchell; roofing felt, William Briggs & Sons Ltd.; patent glazing (roof lights), The British Challenge Glazing Co.; asphalt flooring, Pilkington Asphalte Co. Ltd.; cork lino flooring, Cellulin Flooring Ltd.; granolithic flooring, Malcolm McLeod & Co. Ltd.; expansion joints, Expandite Ltd.; electrical installation, Johnson & Tanner Ltd.; air conditioning, heating and ventilation, J. Jeffreys & Co. Ltd.; plumbing, Robt. Davidson; sanitary fittings, Associated Clay Industries Ltd.; door furniture, W. N. Froy & Sons Ltd.; metal casements, Henry Hope & Sons Ltd.; iron staircases, Adrian Stokes Ltd.; joinery, Evos Ltd.; fencing and gates, A. J. Binns & Co. Ltd.; sliding doors, E. Hill Aldam & Co. Ltd.; special decorations, Collins (Contractors) Ltd.

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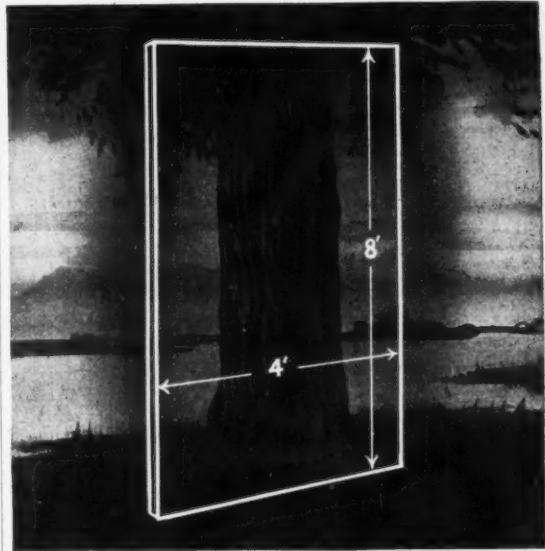
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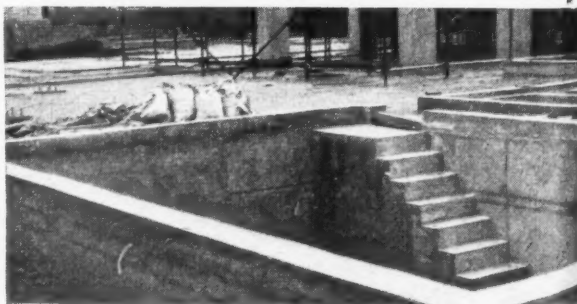
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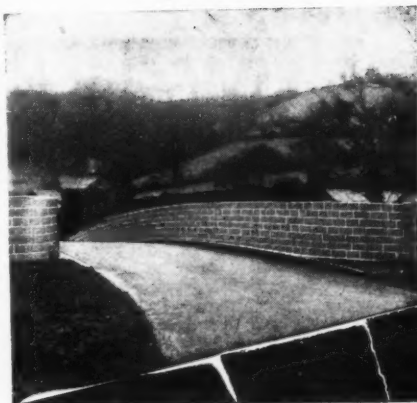


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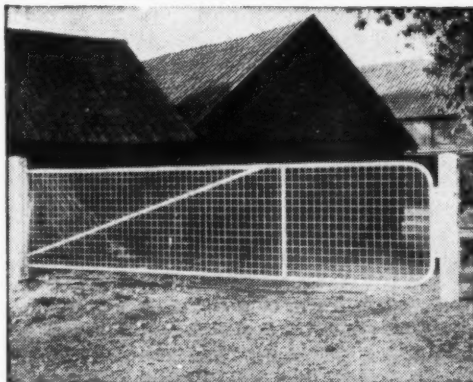
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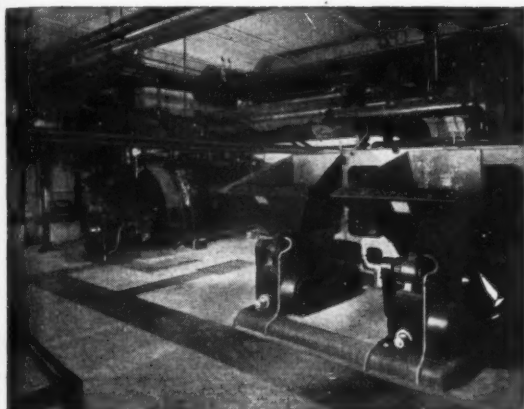
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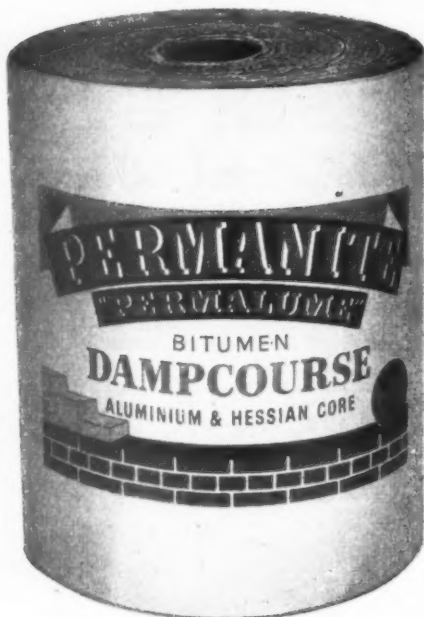
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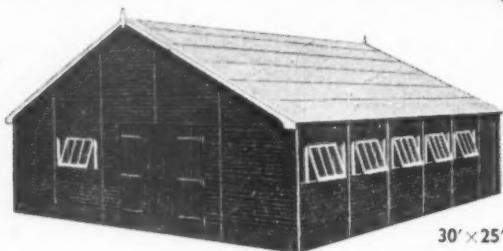
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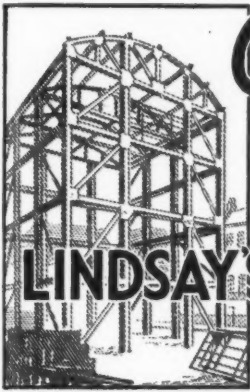


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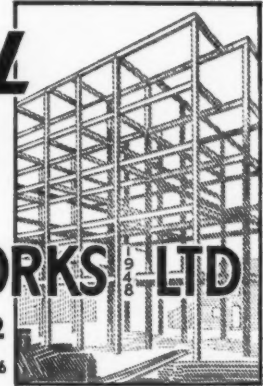
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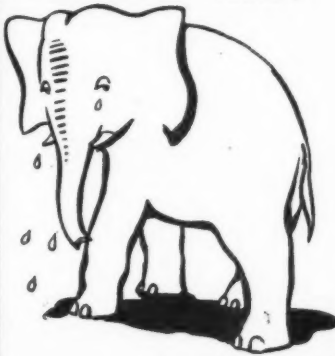


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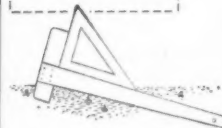
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(3) ARCHITECTURAL ASSISTANT (Schools). Salary A.P.T., V (£520-£570).

## ENGINEERING

(4) ENGINEERING ASSISTANT. Salary A.P.T., V (£520-£570).

## TOWN PLANNING

(5) TOWN PLANNING ASSISTANT. Salary A.P.T., IV (£480-£525).

(6) TOWN PLANNING ASSISTANT. Salary National Scale, Misc. I (£315-£360).

## BUILDING INSPECTING

(7) BUILDING INSPECTOR. Salary A.P.T., II (£420-£465).

Candidates should possess appropriate technical qualifications, and will be required to pass a medical examination. The appointments will be subject to the conditions of service adopted by the Corporation, and to the Local Government Superannuation Act, 1937.

Housing accommodation will, if necessary, be made available to candidates taking up the Architectural positions.

Applications, stating age, qualifications, present position, salary and experience, accompanied by copies of three recent testimonials, should be appropriately endorsed and delivered to the undersigned not later than Wednesday, 1st March, 1950.

RICHARD DE Z. HALL,

Town Clerk.

Town Hall, Halifax.  
6th February, 1950.

3457

## ESSEX EDUCATION COMMITTEE. SOUTH-EAST ESSEX TECHNICAL COLLEGE AND SCHOOL OF ART.

Applications are invited for the post of SENIOR ASSISTANT in Architecture. Candidates should possess a Degree or Diploma in Architecture and have had suitable practical experience; some teaching experience is also desirable but not essential. A qualification in Town Planning would be an advantage.

Salary in accordance with the Burnham Scale:—For men, £700×£25 to £800, plus the following allowances: London allowance, £36 or £46, according to age; degree or equivalent qualification, £30, plus £15 on minimum, £30 on maximum, for first-class honours; approved full-time study or training, £15, £30 or £45 for 3, 4 or 5 years respectively.

Forms of application and further particulars obtainable from the Clerk to the Governors, South-East Essex Technical College, Longbridge Road, Dagenham, within 14 days of the appearance of this advertisement.

D. N. BUNGEY,

Acting Chief Education Officer.  
County Offices, Chelmsford. 3534

## COUNTY OF LEICESTER

## COUNTY ARCHITECT'S DEPARTMENT

Applications are invited for the following established posts:—

(a) SENIOR ASSISTANT ARCHITECTS, A.P.T., Grade VII/VIII. Salary £635-£760.

Candidates must be Registered Architects, should have good experience in the design and construction of modern buildings, and be capable of carrying through projects from inception to completion. There are several vacancies in these grades and applications will be considered which indicate a specialised training, e.g., ability to handle large projects or an aptitude for taking charge of programmes of smaller works.

(b) ARCHITECTURAL ASSISTANTS, A.P.T., Grade III. Salary £450-£495.

Candidates should be Students of the R.I.B.A., with experience in the preparation of surveys and working drawings.

The appointments will be subject to the National Scheme of Conditions of Service and to the provision of the Local Government Superannuation Act, 1937, and to a satisfactory medical examination.

Applications must be made on the forms to be obtained from the County Architect, T. A. Collins, A.R.I.B.A. 123, London Road, Leicester, to whom they should be returned, accompanied by copies of three recent testimonials, not later than Friday, 17th March, 1950.

JOHN A. CHATTERTON,

Clerk of the County Council.  
Grey Friars, Leicester. 3533

## METROPOLITAN BOROUGH OF

## PADDINGTON

## APPOINTMENT OF CLERK OF WORKS

## (MAINTENANCE AND REPAIRS)

Applications are invited for the appointment of a Clerk of Works on the temporary establishment of the Housing Department.

The salary payable for the post will be equivalent to that of A.P.T. Division, Grade III, viz., £450 per annum × £15-£495 per annum, plus London "weighting" (£30 p.a. at age 26 and over).

Applicants must possess a wide knowledge of the building trade and must be capable of carrying out full inspection of properties under the Council's control, preparing schedules of works and estimates of cost for necessary repairs, and approving completed works as may be required. The successful candidate will also be required to assist the Supervisor of Maintenance and Repairs in the keeping of necessary records.

The appointment will be subject to one month's notice on either side, to the provisions of the Council's Superannuation Acts and Standing Orders, and to the relevant provisions of the National Joint Council's Scheme of Conditions of Service.

Applications, stating age, qualifications, present and previous appointments, with salaries and experience, together with the names of three persons to whom reference may be made, should be delivered to The Director of Housing, 2, Howley Place, W.2, not later than Saturday, 4th March, 1950.

Canvassing in any form will disqualify.

W. H. BENTLEY,

Town Clerk.

Town Hall, Paddington, W.2.

16th February, 1950. 3531

## SOUTH-WESTERN REGIONAL HOSPITAL

## BOARD

## ARCHITECT'S DEPARTMENT

Applications are invited for the post of SENIOR ARCHITECTURAL ASSISTANT to the Board. Applicants must be Members of the Royal Institute of British Architects, and have had considerable experience in hospital design. Salary in Grade A.P.T. VIII, £685 per annum, rising by annual increments of £25 to £760.

The appointment will be subject to the provisions of the National Health Service (Superannuation) Regulations, and the successful candidate will be required to pass a medical examination.

Applications, setting out qualifications and experience, and giving names and addresses of three referees, should reach the Secretary of the Board at 5/6, Cotham Lawn Road, Bristol, 6, not later than the 4th March, 1950. 3475

STEVENAGE NEW TOWN.

The Stevenage Development Corporation invite applications from suitably qualified persons for an appointment in the Department of Architecture and Planning in the following grade—  
Corporation Grade III SENIOR ARCHITECT AND PLANNER. Salary £750-£1,000.

The initial salary will be fixed according to qualifications and experience.

The successful applicant will be required to contribute to a Local Government Superannuation Fund or an Insurance Scheme.

Housing accommodation for successful married applicant will be made available at a later date. Relationship to any member of the Corporation or staff must be disclosed by applicants.

Canvassing, directly or indirectly, of members or staff of the Corporation will disqualify.

Forms of application may be obtained from the Chief Administrative Officer, Stevenage Development Corporation, Aston House, Aston, near Stevenage, Herts., to whom completed forms should be returned not later than 6th March, 1950.

3462

BOROUGH OF STOCKTON-ON-TEES.

BOROUGH ARCHITECTS' DEPARTMENT.  
Applications are invited for appointment as ASSISTANT QUANTITY SURVEYOR, at a salary in accordance with A.P.T., Grade V, viz., £520-£570 per annum.

Candidates must be capable of undertaking all stages of work in the preparation of bills of quantities, specifications, and preliminary estimates.

The appointment is subject to the Local Government Superannuation Acts and the National Conditions of Service. The successful candidate will be required to pass a medical examination, and the appointment will be subject to one month's notice on either side.

Housing accommodation will be made available to the successful applicant, if necessary.

Applications, stating age, present and previous appointments and salaries, and previous experience, together with the names of three referees, should be sent to the undersigned not later than Monday, the 13th March, 1950.

FRANK HILL,

Town Clerk.

Barclays Bank Chambers,  
49, High Street, Stockton-on-Tees.  
9th February, 1950. 3484

COUNTY BOROUGH OF DERBY.

Applications are invited for the following appointments on the permanent staff, in accordance with the National Scale of Salaries—  
TWO JUNIOR ARCHITECTS, Grade I/II. Salary £390-£465.

Applicants 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 Provisions 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 Thos. W. East, F.R.I.B.A., 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, 13th March, 1950.

Canvassing, directly or indirectly, will be a disqualification.

E. H. NICHOLS,

Town Clerk.

3545

BOROUGH OF NELSON.

APPOINTMENT OF ARCHITECTURAL ASSISTANT.

Applications are invited for the appointment of ARCHITECTURAL ASSISTANT, in the Borough Surveyor's Department, at a salary in accordance with Grade IV of the National Scales of Salaries (£480 to £525).

Candidates should have experience in housing and general work, and preference will be given to applicants who have passed the Final or Inter. R.I.B.A. examination.

Applications, giving detailed particulars of experience and qualifications, endorsed "Architectural Assistant," with copies of three recent testimonials, to be delivered to the undersigned on or before Tuesday, 7th March, 1950.

F. W. ROBERTS,

Town Clerk.

Town Hall, Nelson.  
15th February, 1950. 3542

CITY OF YORK.

Applications are invited for the permanent appointment of ARCHITECTURAL ASSISTANT (Grade A.P.T., VI, £595 to £660 per annum). Applicants should be A.R.I.B.A. and have had a good experience in the preparation of sketch plans, working drawings and details, and be familiar with the control of building contracts. Previous experience with a local authority will be an advantage, but is not essential. Conditions of appointment, together with application form, can be obtained from the undersigned. Applications, together with copies of three recent testimonials, must be delivered not later than noon on Wednesday, 1st March, 1950.

Housing accommodation is available if required.

CHAS. J. MINTER,

City Engineer and Architect.

Guildhall, York.  
February, 1950. 3520

CITY OF LIVERPOOL.  
ARCHITECTURAL AND HOUSING DEPARTMENT.

Applications are invited for the undermentioned appointments—

(a) ONE ASSISTANT ARCHITECT (Housing). A.P.T., Grade VI. Salary £595-£660.

(b) ONE ASSISTANT ARCHITECT (Housing). A.P.T., Grade IV. Salary £480-£525.

(c) TWO ASSISTANT SURVEYORS. A.P.T., Grade V. Salary £520-£570.

(d) ONE ASSISTANT QUANTITY SURVEYOR. A.P.T., Grade VI. Salary £595-£660.

(e) ONE ASSISTANT QUANTITY SURVEYOR. A.P.T., Grade V. Salary £520-£570.

(f) ONE TECHNICAL ASSISTANT. A.P.T., Grade II. Salary £420-£465.

(g) ONE CLERK OF WORKS (Temporary). Misc., Grade III. Salary £420-£465.

Candidates for (a) should possess experience in large scale housing development, preferably in Local or Central Government service, and must be qualified A.R.I.B.A. or equivalent.

Candidates for (b) should have practical experience in housing work, and must have passed the Intermediate Examination of the R.I.B.A. or its equivalent.

Candidates for (c) should have experience in surveying and site development, and have passed the final examination of the appropriate professional body.

Candidates for (d) and (e) should have had experience in taking off for all types of buildings and road and sewer works, valuations for interim certificates, and the settlement of final accounts, and should have passed the Final Examination of an appropriate professional body.

Candidates for (f) should possess experience in keeping records in connection with the acquisition and disposal of properties, and be capable draughtsmen.

Candidates for (g) must be experienced in the supervision of large scale site development works.

Appointments (a) to (f) inclusive are superannuable. Appointment (g) is a temporary appointment for a period of two years.

Application forms may be obtained from, and should be returned to, the City Architect and Director of Housing, Blackburn Chambers, Dale Street, Kingsway, Liverpool, 2, by 6th March, 1950, endorsed "Application for ....."

adding the title of the post applied for, and accompanied by copies of three recent testimonials.

The appointments are subject to the Standing Orders of the City Council.

Canvassing disqualifies.

THOMAS ALKER,

Town Clerk.

Liverpool.  
February, 1950. (2191) 3516

COUNTY OF LINCOLN—PARTS OF LINDSEY.

Applications are invited for a TEMPORARY CLERK OF WORKS, to supervise the erection of new Police Buildings and Magistrates' Courts and Superintendent's and Inspector's Houses at the Civic Centre Site, Scunthorpe, at a salary of £12 12s. per week inclusive.

Candidates must have practical knowledge of all branches of the Building Trade and be experienced in the supervision and erection of buildings, capable of setting out, taking levels, measuring up, checking quantities, keeping records, and making reports.

The duration of the appointment is expected to be approximately 24 to 30 months. The work is expected to start March, 1950. The appointment will be terminable by one month's notice on either side.

Applications, stating age, qualifications and experience, with particulars of past and present employment, and accompanied by copies of three recent testimonials, must be received by the Architects, Messrs. Charles B. Pearson & Son, F.R.I.B.A., 18, Dalton Square, Lancaster, not later than 6th March, 1950.

H. COPLAND,

Clerk of the County Council.

County Offices, Lincoln.  
February, 1950. 3521

CITY OF CARDIFF.

CITY SURVEYOR'S DEPARTMENT.

BUILDING SURVEYOR AND ESTIMATOR.

SUPERVISOR, GRADE IX.

Applications are invited for the appointment of BUILDING SURVEYOR AND ESTIMATOR, to be responsible to the City Surveyor for the preparation of estimates and reports and the maintenance of all types of Corporation property, including the supervision of the Property Maintenance Depots.

Salary in accordance with A.P.T., Grade IX, commencing at £750 rising to £900 per annum. Applicants must have extensive experience in Building Surveying, and the organisation and administration of Property Repair Depots for the maintenance of all kinds of Municipal buildings, including housing.

Preference will be given to candidates qualified as A.R.I.C.S. or equivalent qualification.

Details of the conditions of appointment and duties may be obtained from the City Surveyor, City Hall, Cardiff.

Applications, together with the names and addresses of three persons to whom reference may be made, to be sent to the undersigned in a sealed envelope endorsed "Building Surveyor and Estimator," not later than 10th March, 1950.

S. TAPPER-JONES,

Town Clerk.

City Hall, Cardiff. 3519

ESSEX COUNTY COUNCIL.

COUNTY PLANNING DEPARTMENT.

The Essex County Council invite applications for the following appointments on the established staff of the County Planning Department—

(a) FOUR SENIOR PLANNING ASSISTANTS, at a salary not exceeding the maximum for Grade VI, A.P.T.D. (£660 a year), at Wanstead, Colchester and Braintree.

(b) ONE PLANNING ASSISTANT, at a salary not exceeding the maximum for Grade V, A.P.T.D. (£570 a year), at Wanstead.

(c) ONE PLANNING ASSISTANT, at a salary not exceeding the maximum for Grade IV, A.P.T.D. (£525 a year), at Braintree.

(d) THREE PLANNING ASSISTANTS, at a salary not exceeding the maximum for Grade III, A.P.T.D. (£495 a year), at Broomfield and Colchester.

(e) TWO PLANNING ASSISTANTS, at a salary not exceeding the maximum for Grade II, A.P.T.D. (£465 a year), at Braintree and Romford.

(f) TWO PLANNING ASSISTANTS, at a salary not exceeding the maximum for Grade I, A.P.T.D. (£435 a year), at Chelmsford and Wanstead.

(g) ONE SENIOR CLERK, at a salary not exceeding the maximum for Grade III, A.P.T.D. (£495 a year), at Romford.

(h) ONE DRAUGHTSMAN, at a salary not exceeding the maximum for the General Division (£308 a year females and £365 a year males, at 32 years of age), at Romford.

The salary for posts (a) to (g) will be fixed in accordance with the qualifications and experience of the applicant appointed, but will not exceed the maximum salary for the post concerned as stated above.

Candidates for post (a) must be Corporate Members of the Town Planning Institute, and preference will be given to those persons who possess an additional professional qualification in that stipulated. Previous planning experience in a County Planning Department will be an advantage.

Candidates for post (b) must have passed the Intermediate Examination of the Town Planning Institute or an equivalent planning examination. Preference will be given to applicants who are Corporate Members of the Town Planning Institute or who possess an additional professional qualification to that stipulated. Previous planning experience in a County Planning Department will be an advantage.

Candidates for posts (c) and (d) should have had good general experience in a planning office with regard to development control and basic survey, and have passed the Intermediate Examination of the Town Planning Institute or some other recognised professional institution.

Candidates for posts (e) and (f) should have had good general experience in a planning office with regard to development control and basic survey, or should have passed the Intermediate Examination of the Town Planning Institute or some other recognised professional institution.

Candidates for post (g) should have had previous local government experience. The successful candidate will be directly responsible to the Area Planning Officer for the general management of an Area Office, should be able to act on his own initiative, and have had some experience in office organisation and supervision of staff.

He will be required to interview members of the public with regard to routine planning enquiries, and a knowledge of the functions of a local planning authority, together with previous experience in a planning office, will be considered an advantage.

Candidates for post (h) should be neat and expeditious draughtsmen, and will be required to produce, under supervision, all types of planning maps, tracings from Ordnance Survey maps, both in pencil and ink, and be expert colourists in water colour and ink.

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

The Scheme of Conditions of Service of the National Joint Council for Local Authorities' Administrative, Professional, Technical and Clerical Services, as from time to time amended, and as adopted by the County Council, is at present applicable to persons appointed on the established staff.

Canvassing, directly or indirectly, will disqualify.

Applications must be made on a form to be obtained from the County Planning Adviser, Broomfield Place, Broomfield, Chelmsford, to whom they should be returned not later than 6th March, 1950.

JOHN E. LIGHTBURN,

Clerk of the County Council.

3535

COUNTY BOROUGH OF STOCKPORT.

EDUCATION COMMITTEE.

Applications are invited for the following appointments—

(1) ARCHITECTURAL ASSISTANT: A.P. and T., Grade VI. Salary £595-£660.

(2) ARCHITECTURAL ASSISTANT: A.P. and T., Grade III-IV. Salary £465-£525 per annum.

Application forms and conditions of appointment may be obtained from the undersigned.

E. GWYN THOMAS,

Director of Education.

Education Offices, Town Hall, Stockport. 3519

CITY AND COUNTY BOROUGH OF BELFAST.  
HOUSING ARCHITECT'S DEPARTMENT.

Applications are invited for the posts of—  
(a) CHIEF ASSISTANT ARCHITECT.  
Salary £600×£50—£750 per annum, plus bonus.  
Candidates should be fully qualified and capable of organising Drawing Office staff, and have a wide experience in design and modern constructional methods.

(b) SENIOR ASSISTANT ARCHITECT.  
Salary £550×£25—£650 per annum, plus bonus.  
Candidates should be fully qualified and experienced in the design and planning of housing estates, particularly flats, and other ancillary buildings.

(c) SENIOR QUANTITY SURVEYOR.  
Salary £550×£25—£650 per annum, plus bonus.  
Candidates should be fully qualified and capable of taking charge of building contracts in connection with housing schemes, from the preparation of the Bill of Materials to the Final Account.

(d) BUILDING MANAGER.  
Salary £450×£25—£650 per annum, plus bonus.  
Candidates should have a sound knowledge of the building industry and of modern constructional methods. The duties comprise the co-ordination of information regarding site works, expediting building supplies, and co-operating with Clerks of Works to ensure rapid and smooth completion of works.

(e) ARCHITECTURAL ASSISTANT.  
Salary £250×£25—£450 per annum, plus bonus.  
Candidates should have a good architectural training. A knowledge of housing schemes would be an advantage.

The cost-of-living bonus for the positions (a), (b), (c) and (d) is at present £90 per annum, and for position (e) £75-£90 per annum.

The commencing salary in each case will be determined in the light of the qualifications and experience of the person appointed.

Candidates must not be more than 45 years of age on 1st March, 1950.

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

Applications, endorsed "Appointment of . . . . .", and accompanied by copies of three recent testimonials, must be lodged with the undersigned not later than 4 p.m. on Tuesday, 28th February, 1950.

Canvassing in any form, oral or written, direct or indirect, will, if proved to the satisfaction of the appointing authority, disqualify a candidate for appointment.

JOHN DUNLOP,  
Town Clerk.

City Hall, Belfast.  
February, 1950. 3506

MALVERN URBAN DISTRICT COUNCIL.  
TEMPORARY ARCHITECTURAL ASSISTANT.

Applications are invited for the appointment of a Temporary Architectural Assistant, on the staff of the Surveyor and Water Engineer, at a salary in accordance with the National Scale, A.P.T. IV (£480, rising by £15 increments to £525). A house will be available at normal rent, if required, by the successful applicant, should he be married.

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

Applications, stating age, qualifications, experience and previous appointments, accompanied by copies of at least two recent testimonials, in envelopes endorsed "Architectural Assistant," should be forwarded to the undersigned not later than Friday, 3rd March, 1950.

J. BULMAN,  
Clerk of the Council.

The Council House, Malvern.  
10th February, 1950. 3503

HIS MAJESTY'S COLONIAL SERVICE.  
CHIEF ASSISTANT PLANNING OFFICER.

required by the Government of the Gold Coast. The appointment is on contract for two tours in the first instance, with the prospect of transfer to the permanent and pensionable establishment. Salary (inclusive of expatriation pay), £1,500 per annum. Outfit allowance of £50 on first appointment.

Partly furnished Government quarters are provided, if available, at a rental of £90 per annum, and income tax is payable at low West African rates only. The selected officer will be required to give technical advice to the Town and Country Planning Board. The programme of the Board envisages the preparation of supplementary and final schemes for Accra, Kumasi, Sekondi, Takoradi, Cape Coast, Tarkwa and several smaller towns. Candidates must possess the qualifications of A.M.T.P.I. and A.R.I.B.A., and have good experience in the preparation of Town Planning Schemes. Preference will be given to candidates between the ages of 35 and 45.

The terms of service include free 1st class passages once each way each tour for the officer and, if married, for his wife, free medical attention and home leave after tours of 18 to 24 months at the rate of 7 days for each month of resident service. A gratuity is payable on satisfactory completion of the period of contract, if the officer is not selected for transfer to the permanent and pensionable establishment.

Applications should be written at once to the Director of Recruitment (Colonial Service), Colonial Office, Sanctuary Buildings, Great Smith Street, London, S.W.1, stating age, professional qualifications and experience, and quoting reference number 27281/11.

CUMBERLAND COUNTY COUNCIL.  
APPOINTMENT OF SENIOR PLANNING ASSISTANT.

Applications are invited for a post as Senior Planning Assistant within A.P.T. Grade VIII, of the National Salary Scale, £685-£760, and car and subsistence allowances in accordance with the County Council Scale. The appointment will be subject to the National Conditions of Service, the provisions of the Local Government Superannuation Act, 1937, and to medical examination. The appointment will be terminable by two months' notice in writing on either side. Applicants should be Members or Associate Members of the Town Planning Institute, thoroughly conversant with the Town and Country Planning Acts and Orders made thereunder, fully competent in field work, plotting, and the preparation of Development Plans with, preferably, Committee experience in dealing with the control of Development Applications. A qualification in Architecture or Civil Engineering will be an advantage. Applications, stating age, qualifications, experience and previous appointments held, accompanied by one testimonial with the names of two persons to whom reference may be made, and endorsed "Senior Planning Assistant," should be sent to the County Planning Officer, Citadel Chambers, Carlisle, not later than Wednesday, 1st March, 1950.

G. N. C. SWIFT,  
Clerk of the County Council.

The Courts, Carlisle.  
9th February, 1950. 3502

COUNTY BOROUGH OF MIDDLESBROUGH  
EDUCATION COMMITTEE.  
ARCHITECT'S DEPARTMENT.

Applications are invited for the following appointments on the permanent establishment—  
(a) ASSISTANT INSPECTOR OF SCHOOL BUILDINGS. A.P.T., Division I (salary £390-£435 per annum).

(b) MAINTENANCE ENGINEER. (Salary, Miscellaneous, Grade IV, £360-£420 per annum.)  
Applicants for appointment (a) must be experienced in the repair and maintenance of Buildings and Playgrounds, and be able to prepare reports, specifications and estimates.

Applicants for appointment (b) must be experienced in the supervision and maintenance of steam equipment in the School Kitchens and all types of heating and domestic hot water services. Forms of application and conditions of service may be obtained from the Director of Education, Education Offices, Woodlands Road, Middlesbrough, to whom completed forms should be returned by 9 a.m. on Friday, 3rd March, 1950.

E. C. PARR,  
Town Clerk.

3546

## BOROUGH OF WEYMOUTH AND MELCOMBE REGIS.

## APPOINTMENT OF SENIOR ARCHITECTURAL ASSISTANT.

Applications are invited from Registered Architects for appointment as Senior Architectural Assistant, in the Borough Engineer and Surveyor's Department, at a salary in accordance with Grade A.P.T. V, of the National Scales, £520×£15×£20 to £570 per annum.

Candidates should have had suitable architectural training and considerable experience in housing design and general architectural work. They must have passed the examination of the Royal Institute of British Architects or a similar qualification by examination.

The Corporation is prepared to provide housing accommodation for the successful candidate if required.

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

Application forms may be obtained from the Borough Engineer, 6, Pulteney Buildings, Weymouth, and should be forwarded to the undersigned in plain envelopes endorsed "Senior Architectural Assistant," not later than Monday, 6th March, 1950.

PERCY SMALLMAN,  
Town Clerk.

Municipal Offices, Weymouth.  
February, 1950. 3494

## NATIONAL COAL BOARD—SOUTH-WESTERN DIVISION.

Applications are invited for the post of CLERK OF WORKS, Grade I, in the Divisional Architect's Branch, National Coal Board, Cambrian Buildings, Mount Stuart Square, Cardiff.

The salary offered is £500×£25—£650 per annum. The point of entry into the salary scale will depend upon the qualifications and experience of the applicant.

Applicants must possess a thorough knowledge of all building trades, and should be experienced in the supervision of steel and reinforced concrete structures, and be able to set out, prepare reports, and generally supervise large contracts.

The appointment will be pensionable, and will be terminable by one month's notice on either side.

Applications in writing, stating age, education, qualifications, experience, present appointment and salary, and giving the names of two Architect referees, should be delivered not later than Friday, 10th March, 1950, to the Divisional Establishment Officer, National Coal Board, South-Western Division, Cambrian Buildings, Mount Stuart Square, Cardiff. 3511

WESTMORLAND COUNTY COUNCIL.  
COUNTY ARCHITECT'S DEPARTMENT.

Applications are invited for the appointment of SENIOR ASSISTANT ARCHITECT. Grade VI-VII (£595-£710).

Applicants must have had good general architectural training and have had recent experience of modern school design and construction. The successful applicant, if he possesses the necessary experience and is fully qualified, will be started on the minimum of Grade VII (£635).

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 must pass a medical examination.

Applications, giving particulars of age, married or single, education, technical training, qualifications, previous appointments, present salary and appointment, and full details of experience, in the order stated above, should be accompanied by one recent testimonial and the names of two other persons to whom reference can be made. They should be sent to R. H. Crompton, A.R.I.B.A., A.M.T.P.I., County Hall, Kendal, to reach him not later than 8th March, 1950.

H. B. GREENWOOD,  
Clerk to the Council.

County Hall, Kendal.  
14th February, 1950. 3517

## MELBOURNE AND METROPOLITAN BOARD OF WORKS.

## POSITION OF CHIEF PLANNER.

Applications for appointment to the above position are invited from persons competent to prepare for the consideration of the Board a Town Planning Scheme for the Melbourne metropolitan area, comprising some 660 square miles, with approximately 1,250,000 inhabitants.

The appointment will be for a term of three years, and the salary to be paid will be in accordance with qualifications and experience, but will not exceed £4,000 (Australian) per annum.

Further particulars may be obtained from the Agent-General, State of Victoria, Melbourne Place, Strand, London, W.C.2, and applications, stating salary required and date duties could be commenced, must be forwarded in envelopes addressed to the Agent-General and marked "Application for position of Chief Planner," so as to reach his office not later than 31st March, 1950. 3497

## GOVERNMENT OF NORTHERN IRELAND.

## MINISTRY OF FINANCE.

## CHIEF ARCHITECT'S BRANCH.

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

Remuneration: The scale is £500×£25—£750. The entry point to this scale depends on age, viz., £500 at age 26, plus or minus £25 for each year above or below that age. The upper entry point is, however, subject to a limit of £650 per annum.

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

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

Closing date for receipt of applications: Application forms may be obtained from the Secretary, Civil Service Commission, Stormont, Belfast, to whom they must be returned with copies of two recent testimonials, so as to reach him not later than the 7th March, 1950. 3527

## RAMSBOTTOM URBAN DISTRICT COUNCIL.

## APPOINTMENT OF JUNIOR ARCHITECTURAL ASSISTANT.

Applications are invited for the above appointment in the Department of the Engineer and Surveyor, at a salary within Grades I and II of the A.P.T. Division of the N.J.C. Scales (£390-£465). The commencing salary will depend on the ability of the applicant.

Applicants should have received regular training with an Architect or attended an approved course of study in architecture. The possession of the Intermediate R.I.B.A. or its equivalent will be an advantage. The position offers an opportunity of acquiring comprehensive experience of the architecture of Local Government work.

The appointment will be subject to the National Joint Council's Scheme of Conditions, the provisions of the Local Government Superannuation Act, 1937, and to the successful candidate satisfactorily passing a medical examination, and will be terminable by one month's notice on either side.

Applications, stating age, present and previous appointments, qualifications and experience, giving the names of two persons to whom reference can be made, must be delivered to the undersigned not later than 9.30 a.m. on Wednesday, 8th March, 1950, in a sealed envelope endorsed "Architectural Assistant."

Canvassing in any form will be a disqualification.

F. BELLIS,  
Clerk of the Council.

Council Offices, Ramsbottom, Lancs.  
14th February, 1950. 3522

**BOROUGH OF ACTON.**

**BOROUGH ENGINEER'S DEPARTMENT.**  
Applications are invited for the following permanent appointments:—

**ARCHITECTURAL ASSISTANT. A.P.T.**  
Grade V (£520-£570 p.a.) of the National Scale, plus London "weighting."

Applicants must be Registered Architects, experienced in the design, erection, and maintenance of dwellings and public buildings.

**BUILDING INSPECTOR. A.P.T., Grade III**  
(£450-£495 p.a.) of the National Scale, plus London "weighting."

Applicants must be experienced in the administration of building byelaws and the relevant Statutory provisions, and preferably hold the Building Inspector's Certificate of the Institution of Municipal Engineers, or its equivalent.

The commencing salary may be fixed within the Grades, according to the qualifications and experience of the successful candidates.

Application forms may be obtained from the Borough Engineer, Town Hall, Acton, W.3, to whom they must be returned by 10th March, 1950. Canvassing will disqualify.

**H. C. LOCKYER,**

*Town Clerk.*  
3553

**BOROUGH OF ASHTON-UNDER-LYNE.**  
**BOROUGH SURVEYOR'S DEPARTMENT.**  
**APPOINTMENT OF SENIOR ARCHITECTURAL ASSISTANT.**

Applications are invited for the appointment of Senior Architectural Assistant, at a salary in accordance with Grade V of the Administrative, Professional and Technical Division of the National Scales, commencing at £520 per annum, and rising, subject to satisfactory service, to a maximum of £570 per annum.

Applicants must have passed the Final Examination of the R.I.B.A. or the R.I.C.S. or be Registered Architects, and must have had considerable experience with other local authorities in connection with Housing and Public Buildings.

The successful candidate will be required to pass satisfactorily a medical examination and to contribute to the Corporation's Superannuation Fund.

Housing accommodation will be available for the successful candidate if required.

Applications, endorsed "Senior Architectural Assistant," giving age, qualifications, experience, details of training, present and previous appointments, and the names and addresses of two persons to whom reference may be made, should be received by the undersigned not later than the 10th March, 1950.

Applicants should state in their applications whether or not they are, to their knowledge, related to any member of the Board or the holder of any senior office under the Council.

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

**G. A. MALONE,**

*Town Clerk.*  
3551

**Town Hall, Ashton-under-Lyne.**  
17th February, 1950.

**CITY AND COUNTY OF BRISTOL.**

**CITY ARCHITECT'S DEPARTMENT.**

Applications invited for the following permanent staff appointments:—

**ASSISTANT ARCHITECTS:**

(a) Grade VI (£595-£660)—Housing and Education.

(b) Grade V (£520-£570)—Sections.

Applicants should be Associate Members of the R.I.B.A. or hold equivalent qualifications.

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

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

Applications, indicating specific appointment applied for, stating age, training, qualifications, experience, present appointment and salary, and the names of two referees, must be delivered to the undersigned not later than Monday, 6th March, 1950.

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

*City Architect.*  
3550

**Eagle House, Colston Avenue, Bristol, 1.**  
18th February, 1950.

**BRITISH ELECTRICITY AUTHORITY.**

**SOUTH WALES DIVISION.**

Applications are invited for the appointment of **WORKS INSPECTOR (Temporary)** in the Construction Department at Divisional Headquarters, to be centred at the Uskmouth Generating Site.

The salary, which is provisional and subject to negotiation, will be £450 per annum.

Applicants should have been engaged on large civil engineering works involving pile driving, bulk excavation, heavy foundation and superstructure work. A knowledge of the sinking of caissons and compressed air work, together with experience in the checking of the erection of structural steel buildings, would be considered an advantage.

Forms of application may be obtained from the Divisional Secretary at the address below, to whom completed applications should be returned not later than 10th March, 1950, in sealed envelope endorsed "Works Inspector."

**H. V. PUGH,**

*Divisional Controller.*  
3548

**Cardiff (Pengam Moors) Airport, Cardiff.**  
17th February, 1950.

**COUNTY BOROUGH OF BLACKPOOL.**

Applications are invited for the following established positions in the Borough Surveyor's Department:—

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

Applicants must be Members of the Royal Institute of British Architects or hold equivalent professional qualifications, and should have worked in an architectural office for a period of at least two years.

(2) **ARCHITECTURAL ASSISTANT. A.P.T.**  
Division, Grade IV, £480-£525 p.a.

Applicants must have passed the Intermediate Examination of the Royal Institute of British Architects, and should have worked in an architectural office for a period of at least two years.

Applications, stating in the following order:—age, present position, previous positions, and full details of qualifications and experience, and accompanied by copies of not more than three recent testimonials, should be forwarded to Arthur Hamilton, B.Sc., A.R.I.B.A., Borough Engineer and Surveyor, Municipal Buildings, Blackpool, not later than 12 noon Monday, 27th February, 1950.

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

Canvassing of the Council will be a disqualification.

**TREVOR T. JONES,**

*Town Clerk.*  
3509

**LOCAL APPOINTMENTS COMMISSION.**  
**POSITION VACANT: HOUSING ARCHITECT, DUBLIN CORPORATION.**

Application forms and particulars from the Secretary, 45, Upper O'Connell Street, Dublin.

Salary: £1,050-£1,350, with entry above the minimum should qualifications and/or experience so warrant. Essential qualifications include (a) degree in Architecture or M.R.I.A.I. or A.R.I.B.A. or F.R.I.B.A.; (b) considerable practical experience in the layout, design, construction and maintenance of large-scale housing schemes, including multiple flat and cottage dwellings, and (c) a satisfactory knowledge of the design and construction of dwellings by non-traditional methods.

Latest time for receiving completed application forms 5 p.m. on 10th March, 1950.

**HIS MAJESTY'S COLONIAL SERVICE.**

**THE COLONIAL ENGINEERING SERVICE.**

A vacancy exists in the Public Works Department, Cyprus, for a temporary **TOWN PLANNING OFFICER.**

Candidates should be Corporate Members of the Town Planning Institute and should preferably possess Architectural qualifications. They should have had practical experience in the field of town planning. Candidates must be British subjects, physically fit, and between the ages of 30 to 45.

The appointment is temporary for the first instance and on agreement for three years. Salary will be in the scale £300-£1,320 per annum, point of entry depending on age, experience, and approved war service. An expatriation allowance of 15 per cent. of salary is payable; a temporary cost-of-living allowance, which is liable to variations at any time, is also payable. This amounts to £30 for a single man or £57 4s. for a married man, with additions for the first three children. Government quarters may be available at a low rent. Free passages to Cyprus for the officer, his wife and family are provided on appointment and on satisfactory completion of the agreement.

The duties of the post will be to establish a Government Town Planning Office, to advise in the preparation of town planning legislation, and to prepare and carry out any town planning schemes that may be approved.

Intending candidates should write to the Director of Recruitment (Colonial Service), Colonial Office, Sanctuary Buildings, Great Smith Street, S.W.1, stating age, professional qualifications, brief details of experience, and quoting the reference No. 27281/21.

**KINGSBRIDGE URBAN DISTRICT COUNCIL.**

**TEMPORARY ARCHITECTURAL ASSISTANT.**

Applications are invited for the above appointment for a temporary period of two years—Grade A.P.T. II. Applicants must have had good general architectural experience in connection with Municipal housing, including site supervision.

Applications, stating age, qualifications and experience, together with copies of three recent testimonials, should be delivered to the undersigned not later than the 10th March, 1950.

**GEO. H. KEMP,**

*Clerk to the Council.*  
3555

**DR. BARNARD'S HOMES** require the services of a qualified **ARCHITECT** and/or **SURVEYOR**, to take charge of their Architects' and Surveyors' Department, and to be responsible for the care and maintenance of properties throughout the British Isles. Candidates, who should be in full sympathy with the evangelical principles of the Homes, must be fully experienced in the erection, maintenance and adaptation of various types of properties, must have good administrative experience, and be capable of working in full co-operation with public officials, outside architects and contractors. Age 30-45. Ability to drive a car essential. Commencing salary £900, plus £100 cost-of-living bonus per annum, with expenses. Non-contributory pension scheme. Applications should be addressed to the General Superintendent, Dr. Barnard's Homes, Stepney Causeway, London, E.1, to reach him not later than the 15th March, 1950.

**Tenders for Contracts**

**NOBLE'S (I.O.M.) HOSPITAL AND DISPENSARY, DOUGLAS, ISLE OF MAN.**

**TO REGISTERED BUILDING CONTRACTORS.**

Registered Building Contractors are invited to submit their names for consideration in connection with the Proposed Erection of a New Nurses' Home on the Hospital Site in Westmorland Road, Douglas, Isle of Man, in accordance with Plans and Specifications prepared by their Architect, Mr. W. T. Quayle, F.R.I.C.S., F.I.A.A., of Douglas. Tenders will be based on Bills of Quantities.

As the size of the building and the work connected therewith is of considerable magnitude, only Contractors of repute and who have sufficient labour and resources to undertake such work, need submit their names. The names of Architects to whom reference can be made in respect of work carried out by Contractors, must be submitted with their application. The names of Contractors will be given full consideration, and a selected list will then be asked to submit firm tenders.

Applications are to be submitted in the first instance to E. C. Kneale, Esq., Secretary, Noble's (I.O.M.) Hospital and Dispensary on or before Wednesday, 1st March, 1950.

**E. C. KNEALE,**

*Secretary.*  
3423

**Noble's (I.O.M.) Hospital and Dispensary,**  
Douglas, Isle of Man.

**CITY OF BIRMINGHAM.**

Invitation to apply to submit Tenders for the erection of the Superstructure of the First Section of the Proposed Colleges for Technical, Commercial and Art Education.

The Education Committee of the City of Birmingham invite Contractors to make application to tender for the First Superstructure Contract consisting of steel framed multi-storey buildings with stone and brick-fronted facades, main boiler house section, etc., in connection with the First Portion of the New Colleges for Technical, Commercial and Art Education proposed to be erected at Gosta Green, Birmingham, in accordance with the Plans and Specifications prepared by Messrs. H. V. Ashley and Winton Newman, Chartered Architects, of No. 3, Verulam Buildings, Grays Inn, London, W.C.1.

The Joint Quantity Surveyors for the Scheme are:—

Messrs. Watkins & Decker, of No. 13, Grays Inn Square, London, W.C.1, and

Messrs. L. C. Wakeman & Partners, of No. 126, Hagley Road, Edgbaston, Birmingham, 16.

Copies of the Working Drawings and General Conditions (which include the Corporation's usual Fair Wages and Conditions of Labour Clause) may be seen at the offices of the Architects and Quantity Surveyors as above stated.

Contractors desirous of submitting a tender should, in the first place, send in their names and addresses, together with a list of works of a like character or kind which they have recently carried out, indicating the approximate value of such works, to the Chief Education Officer, The Council House, Margaret Street, Birmingham, 3.

From these names the Education Committee will, in consultation with the Architects, select the firms to be invited to tender, and such selected firms will be required to send a deposit of Five Guineas, which deposit will be returned after the receipt of a *bona fide* tender.

It is anticipated that the Bills of Quantities for this First Superstructure Contract will be ready to be despatched early in March, 1950, and that tenders will be required to be received by the 12th April, 1950. It is also anticipated, subject to necessary approvals being received and the first section of the Foundation Works being completed, that the work will commence in or about July, 1950.

The Education Committee do not bind themselves to accept the lowest or any tender, nor to incur any costs in the preparation of tenders.

All applications should be received on or before the 28th day of February, 1950.

Dated this 10th day of February, 1950.

**E. L. RUSSELL,**

*Chief Education Officer.*  
3547

**Architectural Appointments Vacant**

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

**ARCHITECTURAL ASSISTANTS** (Senior and Junior) required by Ronald Ward & Partners, 33, St. George's Drive, S.W.1. Telephone Victoria 5531, 5603, 5310. 3528

**ASSISTANT** required in busy Berkshire office, with work in all parts of the country; an opportunity for a man with initiative and drive to show his capabilities; good prospects for a capable man. Apply, with full particulars of experience and salary required, to Box 3342.

**ARCHITECTURAL ASSISTANT** required in Maidenhead for large Practice of London and Provincial work; applicants must be capable of supervising work and conversant with by-laws. Reply, with particulars of experience and salary required, to Box 3343.

**MIDLANDS. — ARCHITECTURAL ASSISTANTS** wanted for private office; one Senior or semi-Senior, with experience of Industrial Buildings; one Junior, preferably with same, but not essential; good salaries. Please write Box 3365.

**ARCHITECTURAL ASSISTANTS** required, intermediate to final standard, in busy office, with all-round practice; very good prospects for suitable applicants. Send details of age, experience, training and present salary, to Naylor, Sale & Widdows, St. Mary's Gate, Derby. 3367

**ARCHITECTURAL ASSISTANT**, recently qualified from wholesale school of architecture, required for permanent appointment with opportunities for interesting experience. Harry S. Fairhurst & Son, 55, Brown Street, Manchester, 2. 3368

**ARCHITECTURAL ASSISTANT**, with about 3 years' experience, required to work under Senior in busy office; permanent post, with variety and interest for ambitious man. Harry S. Fairhurst & Son, 55, Brown Street, Manchester, 2. 3369

**ARCHITECTURAL SENIOR ASSISTANT**, with about 7 years' experience, required to take charge of Industrial, Commercial or Hospital jobs; interesting work in busy office, and plenty of scope for man with initiative. Harry S. Fairhurst & Son, 55, Brown Street, Manchester, 2. 3370

**SENIOR and Intermediate ARCHITECTURAL ASSISTANTS** required; interesting and varied work. Apply, stating age, experience, and salary required, to Farmer and Dark, Chartered Architects, Terminal House, Grosvenor Gardens, London, S.W.1. 3399

**ASSISTANT** required in small Private Practice in Hampshire; intermediate or final R.I.B.A.; capable of dealing with all types of work from start to finish; possibility of Partnership in future if found satisfactory, for which some capital would be required. Write in confidence to Box 3430.

**ARCHITECT'S ASSISTANT** required by Samuel Williams & Sons, Ltd., Dagenham Dock Industrial Estate, Essex, for varied work throughout the Greater London area; applicants must be good draughtsmen, with sound knowledge of construction, and preferably experience of industrial work; a good salary will be paid to suitable man, and the appointment is pensionable. Write, giving details of age, training and experience, with dates, to the Personnel Manager. 3431

**ULSTER Architects** require immediately, for General Practice, **SENIOR ASSISTANT**, sound in design and construction, capable of preparing working drawings for Hospitals, Housing Schemes, and General Works. Kindly reply, stating age, experience, and salary required. Box 3432.

**TWO JUNIOR ASSISTANTS**; pre-Intermediate standard and two post-Intermediate standard; work includes schools, hospitals, housing, laboratories, and industrial building; salary by arrangement. Telephone Langham 6217. 3425

**J. SAINSBURY, LTD.**, multiple food traders, require an additional qualified **ARCHITECT** to assist Manager of Building Development Department; work includes alterations and extensions in business and domestic premises; permanent, pensionable appointment; commencing salary £800 per annum. Applicants, who should be under 40, should apply in writing, giving details of education, qualifications, and of previous and present posts, to Personnel Manager (Q/A), J. Sainsbury, Ltd., Stamford House, Blackfriars, S.E.1. 3470

**ARCHITECTURAL ASSISTANT** required; a wide general knowledge of work in London an advantage. Good **DRAUGHTSMAN** also required; high scale of salary, according to ability and experience; five-day week. Apply to Ley, Colbeck & Partners, Chartered Architects and Surveyors. Telephone: London Wall 2917. 3422

**ARCHITECT'S ASSISTANT** required immediately, with experience of industrial buildings and capable of preparing working drawings and details. Applicants are requested to state age, experience, and salary required, to The Austin Motor Co., Ltd., P.O. Box 41, Birmingham. 3438

**ARCHITECT'S ASSISTANT** required for permanent position; London office; competent preparation of working drawings for large schemes, open to study Assistant; good salary and prospects; those desiring change. Apply W. Braxton Sinclair & Partners, 45, Whitehall, S.W.1. 3467

**REQUIRED, as SERVICE INSPECTOR**, an active Structural or Civil Engineer, who has had considerable experience in responsible supervising capacity in the erection of reinforced concrete structures, preferably with some design experience; will be required to travel extensively in the British Isles, but must live in the London area; attributes required are agreeable personality, sound judgment on erection problems, and able to write concise factual reports. Write, giving full details and salary required, to Managing Director, The Trussed Concrete Steel Company, Limited, 35/41, Lower Marsh, S.E.1. 3396

**FIRM of Architects in London** require experienced **ASSISTANT**. Please reply, stating age, experience, and salary required, to Box 3458.

**WANTED**, in West End office, **ARCHITECTURAL ASSISTANT**; good practical drafter; preferably accustomed to school building. Experience, age, and salary to Box 3459.

**MURRAY HARE & K. G. PERT**, A./A.R.I.B.A., 1, Museum Street, Ipswich, require **ASSISTANT** of Intermediate standard; salary according to ability and experience. 3464

**THE COUNCIL OF INDUSTRIAL DESIGN** requires an **OFFICER** concerned with **BUILDING COMPONENTS AND EQUIPMENT**, to assist in a survey of well-designed goods for exhibition in the Festival of Britain, 1951. Essential qualifications: good general education; ability to make easy contacts with senior architects and directors; an appreciation of the qualities of good industrial design; several years' responsible experience either in an architectural or quantity surveying office or in the purchasing department of a large firm of building contractors. Starting salary £550-£570 (men) or £440-£536 (women), according to qualifications. Temporary post until end of 1951. Write, giving particulars of age, education, qualifications and posts held with dates, to Recruitment Officer, Council of Industrial Design, Tilbury House, Petty France, London, S.W.1, marking envelope "BC" and enclosing addressed envelope for acknowledgment. 3530

**ARCHITECTURAL ASSISTANT** required for General Practice; factories, warehouses, hospital work, etc. Kindly write, stating age, experience, and salary required, A. Neville Holt, F.R.I.B.A., 20, Exchange Street East, Liverpool, 2. 3514

**ARCHITECTURAL ASSISTANTS** required immediately; intermediate standard or above; office experience; salaries up to £550 p.a.; permanency; housing, hospital, hotel, factory and general work; busy office. Write Ruddle & Wilkinson, F./A.R.I.B.A., Long Causeway Chambers, Peterborough. Telephone: Peterborough 2165. 3523

**QUALIFIED SENIOR ARCHITECTURAL ASSISTANT** and an **ASSISTANT** of Intermediate R.I.B.A. standard required immediately. Apply, giving qualifications and salary required, to Tew, Pone & Oliver, A./A.R.I.B.A., 7, Northumberland Buildings, Bath. 3525

**JUNIOR ASSISTANT**, of Intermediate standard; previous office experience; salary by arrangement. Box 3526.

**ASSISTANT** required by London Architects; must be capable of producing quick and imaginative sketch designs for a wide range of work; high standard of draughtsmanship essential. Write, stating age, qualifications, and salary required, to Box 3493.

**HARRISON & SEEL, A./A.R.I.B.A.**, have the following vacancies for interesting and varied work in London: (a) **QUALIFIED ARCHITECT**, with good experience and a special flair for organising work; attractive salary to right man. (b) **QUALIFIED SENIOR ASSISTANT**, with good practical experience, able to take responsibility; salaries by arrangement. Applications in writing to 34, Holland Park Road, London, W.14. 3529

**SENIOR ARCHITECTURAL ASSISTANT** required; final R.I.B.A. standard. Apply, stating age, experience and salary, to Francis W. B. Yorke & H. M. Barker, F./A.R.I.B.A., 36, Calthorpe Road, Edgbaston, Birmingham, 15. 3532

**SENIOR ASSISTANT ARCHITECT**, A.R.I.B.A., required in the Surveyor's Department of well-known Business Institution in the City of London.

Applicant should be about 35 years of age and experienced in preparation of surveys, sketch plans, working drawings in connection with commercial or public buildings. Also able to prepare reports, and supervise works in progress both by Contractors and direct labour.

Permanency, superannuation, and good prospects. Salary £750, or according to experience and capabilities.

Apply in writing, giving full particulars of qualifications, etc., to Box 3539.

**ARCHITECTURAL ASSISTANT** required; experience in design, working drawings and specification, as senior in Hertfordshire office; permanent post; salary about £500. Apply Box 3541.

**NORTH THAMES GAS BOARD**. Applications are invited for the following appointment in the Architects' Section of the Chief Engineer's Department at Westminster: **SENIOR ARCHITECTURAL ASSISTANT**, minimum starting salary £650 per annum.

Applicants, who must be Registered Architects and should be studying for or have passed the Final Examination of the R.I.B.A., should be capable of preparing working and detailed drawings and specifications, and supervising and controlling the work on contracts. Experience in design and planning of industrial buildings would be an advantage.

The appointment is of a permanent nature, and pension arrangements will be discussed with short list candidates.

Applications: stating age, qualifications and particulars of previous appointments held, must be submitted to the Staff Controller, North Thames Gas Board, 30, Kensington Church Street, London, W.8, quoting reference 9757. 3543

**NORTH THAMES GAS BOARD.—A WOMAN TRACER** is required in the Board's Estate Department, Kensington, to work on General Architectural and Building Plans; salary according to age and experience, and there are good prospects for advancement; hours 9 a.m. to 5 p.m. Mondays to Fridays, and 9 a.m. to 12.30 p.m. Saturdays, with one Saturday morning in four granted as leave with pay; staff canteen is available. Candidates, preferably not more than 25 years of age, should apply to the Staff Controller, North Thames Gas Board, 30, Kensington Church Street, W.8, quoting reference 9758. 3544

**ARCHITECTURAL ASSISTANT** required, at about R.I.B.A. intermediate standard; with some office experience. Welch & Lander, FF./R.I.B.A., 38 Gloucester Place, Portman Square, W.1. Welbeck 6551. 3549

## Architectural Appointments Wanted

**HELP** offered in Architect's office, temporary or permanent; interested modern design; spent 5 years School of Architecture, University; qualifications: 4 years Assistant Architect abroad, pre-war, 15 months' experience this country. Box 3480.

**ARCHITECTURAL ASSISTANT**, experienced all working drawings, surveys, taking levels, site supervision, accurate draughtsmanship, requires situation in London office; reasonable salary. Box 468.

**ARCHITECTURAL DRAUGHTSWOMAN** (23), Intermediate standard, requires position in West London area; 4 years' experience in Architect's office, preparing working drawings, surveying, etc. Box 3537.

**QUALIFIED ARCHITECT, A.M.T.P.I.** (31), with varied experience, desires change in London office where responsibility with scope for initiative is given. 463

**ARCHITECTURAL ASSISTANT** (30), Final standard R.I.B.A., with 12 years' varied experience, seeks responsible position in country, preferably S.E. Midlands or near London; small flatlet or unfurnished rooms essential; car driver; salary £500 p.a. approx. Box 466.

**AN Indian Student**, Intermediate R.I.B.A. standard, without any previous experience in London, wants to work in a busy office, mainly for experience; salary expected nominal £3 or £4 per week. Write Box 467.

**ARCHITECT, A.R.I.B.A.**, with 26 years' experience in private practice, Local Government Authorities, Government Departments, and Commercial Firm's Architectural staff, would consider professional propositions; resident in North-East England. Box 455.

## Other Appointments Vacant

4 lines or under, 5s.; each additional line, 1s. 6d.  
**INTELLIGENT and enthusiastic young man**, with some knowledge of building construction and materials, wanted for unusually interesting selling job, mainly in London (full-time). Write, with full particulars of age, training, experience, salary required, to Box 366.

**CONTRACTS MANAGER** required by well-known Specialist Building Firm to organise and build up Contract Department; experience estimating and control essential; excellent opportunity for man of technical and administrative ability. Apply in first instance to Box 2775.

**ESTIMATORS** wanted; used to Brakepress work. Apply personally or by letter to Morris Singer Co., Ferry Lane Works, Forest Road, Walthamstow, E.17. 2143

**J. E. SLATER, LTD.**, Kibworth, Leicester, shire, require a trained **DRAUGHTSMAN**, with Architect's office experience, to take charge of drawing office producing designs for shop fronts and interiors and exhibition stands; must have good knowledge of modern constructional methods and materials, and be able to produce detailed working drawings and complete specifications; applicants must be prepared to travel and take complete control of jobs on site. Write, giving full details of training experience and salary required. 3460

**TECHNICAL SALES REPRESENTATIVE**, with wide contacts in Building and Civil Engineering fields, required by large modern Firm of Prestressed and Precast Concrete Manufacturers; experience in negotiations with consultants necessary. Apply, stating age, qualifications and terms expected, to Box 3424.

**THE COUNCIL OF INDUSTRIAL DESIGN** invites applications on behalf of the Design and Research Centre for the Gold, Silver and Jewellery Industries for the post of **DIRECTOR** of the design side of the Centre. The qualifications required are: experience in an occupation involving a knowledge and understanding of design, including contemporary design; and experience in a responsible administrative position. Starting salary £1,000. Write, giving age and particulars of education, qualifications and posts held, with dates, to The Establishment Officer, The Council of Industrial Design, Tilbury House, Petty France, London, S.W.1, marking envelope "DC" and enclosing addressed envelope for acknowledgment. 3507

**LONDON ELECTRICITY BOARD.  
VACANCY—JUNIOR QUANTITY SURVEYOR  
(WORKER-UP).**

Applications are invited for the post of a Junior Quantity Surveyor (Worker-up) in the Architect's Section of the Chief Engineer's Department at Lesco House, Stamford Street, S.E.1.

Applicants should preferably have had experience in a Quantity Surveyor's or Builder's office, and be capable of "working up" in all trades and of simple "taking off," and will be on the staff of a Chartered Quantity Surveyor.

The commencing salary will be £400 per annum. This salary is provisional and subject to adjustment through the appropriate negotiating machinery.

Application forms obtainable on receipt of a stamped addressed foolscap envelope from the Establishments Officer at 46/47, New Broad Street, E.C.2, should be returned duly completed not later than 8th March, 1950. Please mark envelope EST/V/644/A. 3515

**SETTER-OUT** wanted for Architectural Metalwork; good wages and ideal working conditions. Apply: The Morris Singer Co. Ltd., Ferry Lane, Forest Road, Walthamstow, E.17. 3524

**Services Offered**

4 lines or under, 2s. 6d.; each additional line, 1s.

**MANUFACTURERS** of exclusive hand-made Lampshades; architects' contracts carried out. J. & M. Beagley, 51, Great Ormond Street, London, W.C.1. CHANCERY 9999. 2397

**ARCHITECTURAL MODELS** and Dioramas. Edward J. Ashenden, A.R.C.A., 15, Chenil Studios, 183, Kings Road, S.W.3. Tel.: FLAX 6103. 2566

**FRENCH POLISHING CONTRACTORS** able to undertake work of any description; building work a speciality. J. Taylor, 6, Edwards Place, Kerbelia Street, E.2. 3114

**COMPLETE** Full-time Architectural Assistance offered by two competent Seniors (30); own office and car. S. C. Hahn & B. D. Edwards, 6, Station Parade, Elmers End, Beckenham, Kent. Tel. BEC. 1277. 3193

**CHARTERED ARCHITECT** (43), University qualified, desires change; seeks responsible position with scope in London; extensive first-class experience in large-scale modern Housing, Commercial and Industrial schemes; complete charge. Box 3294.

**ARCHITECTURAL** and **CIVIL ENGINEER** combine to offer their services for the Design of all types of Structures in steel and reinforced concrete. Box 3296.

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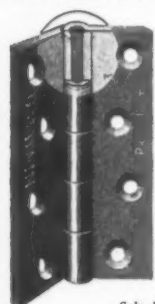
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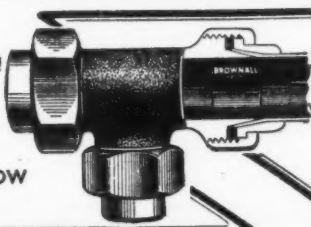
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Acrow (Engineers), Ltd. ....	xxxiii	Edison Swan Electric Co., Ltd., The ...	xxvi	Midland Joinery Works, Ltd. ....	xxxiii
Aidas Electric, Ltd. ....	x	Ellis School of Architecture ....	lxxi	Mills Scaffolding Co., Ltd. ....	lxxiv
Aircrow Company & Howood, Ltd. ....	lvii	Empire Stone Co., Ltd. ....	xxii	Morris, Herbert, Ltd. ....	lxxi
Allied Guilds ....	lxxi	Evans, Wm., & Co. (Manchester), Ltd. ....	xxiv	Natural Rock Asphaltic ....	lxxi
Anderson Construction Co., Ltd. ....	vi	Evode, Ltd. ....	lviii	Musgrave & Co., Ltd. ....	xxvi
Anderson, D., & Son, Ltd. ....	xxxviii	Farmiloe, T. W., Ltd. ....	iv	Negus, W. M., Ltd. ....	lxxi
Anglo-Scottish Construction Co., Ltd. ....	xlii	Ferodo, Ltd. ....	viii	New Day Electrical Accessories, Ltd. ....	lxxiv
Architects Standard Supplies ....	lxxi	Fibre-glass, Ltd. ....	xli	Northern Aluminium Co., Ltd. ....	xi
Armstrong Cork & Co., Ltd. ....	xvii	Fleetwood Paints, Ltd. ....	lxxv	Orlit, Ltd. ....	v
Ascot Gas Water Heaters, Ltd. ....	xlix	Foyles, Ltd. ....	lxxi	Paul W.H., Ltd. ....	lix
Austin Hall Group of Companies ....	xvi	Franki Compressed Pile Co., Ltd., The ...	lxxxi	Peglers, Ltd. ....	xxxii
Austin, James, & Sons (Dewsbury), Ltd. ....	ix	Gent & Co. ....	lxxxi	Permanite, Ltd. ....	lxxi
Baldwins, Son & Co., Ltd. ....	lxx	Gillott, Jos., & Sons, Ltd. ....	ix	Pickering, Ltd. ....	xi
Boulton & Paul, Ltd. ....	lxi	Greenwood's & Airvac Ventilating Co., Ltd. ....	ii	Prodorite, Ltd. ....	lxi
British Aluminium Co., Ltd. ....	xxxvii	G.R.L. Floorings, Ltd. ....	lvi	Randall Page, G. ....	lxxi
British Celanese, Ltd. ....	lxxi	Hammer, Geo. M., Ltd. ....	lix	Range Boilers, Ltd. ....	xliv
British Insulated Callender's Cables, Ltd. ....	xxxv	Harvey, G. A. (London), Ltd. ....	iii	Ruberoid Co., Ltd. ....	ix
British National Electricies, Ltd. ....	xxxv	Helliwell & Co., Ltd. ....	xxiv	Sadd, John, & Sons, Ltd. ....	xxxvii
Britmae Electrical Co., Ltd. ....	lxxi	Hills, F., & Sons, Ltd. ....	lxxii	Sankey, Joseph, & Sons, Ltd. ....	xlvi
Britannia Rubber & Kampulicon, Ltd. ....	lxxi	Hope, Henry, & Sons, Ltd. ....	lxxii	Scaffolding (Great Britain), Ltd. ....	xlvi
Brown, Donald (Brownall), Ltd. ....	lxxi	Imperial Chemical Industries, Ltd. ....	lxxii	Sealcrete Products, Ltd. ....	xlvi
Broad & Co., Ltd. ....	lxxi	Insulite Products Corporation, Ltd. ....	lxxii	Semtex, Ltd. ....	liii
Buildings Industries Services, Ltd. ....	lxxi	International Correspondence Schools ...	lxxii	Sharman, R. W., Ltd. ....	liii
Burn Bros. (London), Ltd. ....	lxxi	Jacksons Electric Co., Ltd. ....	lxxii	Sharn, F. L. & E., Ltd. ....	lxxii
Cannon, W. G., & Sons, Ltd. ....	lxxi	Jenolite, Ltd. ....	lxxii	Shannon, Ltd., The ...	xxxiv
Cape Asbestos Co., Ltd. ....	lxxi	Johnston Bros. (Contractors), Ltd. ....	lxxii	Smith, H. V., Ltd. ....	lxxii
Carter & Co. ....	lxxi	Jointless Flooring (Oxychloride) Assoc. ....	lxxii	Smith & Rodger, Ltd. ....	lxxii
Carron Industries, Ltd. ....	xlvi	Jones, Sml., & Co., Ltd. ....	lxxii	Steel Ceilings, Ltd. ....	lxxii
"Cavite," Ltd. ....	xlvi	Kelvinator, Ltd. ....	lxxii	Stelcon (Industrial Floors), Ltd. ....	lxxii
Celotex, Ltd. ....	xlvi	Kwikform, Ltd. ....	lxxii	Stella Building Products, Ltd. ....	lxxii
Cement Marketing Co., Ltd. ....	xlvi	Laing, John, & Son, Ltd. ....	lxxii	Stobart & Son, Ltd. ....	lxxii
Chance Bros., Ltd. ....	xlvi	Lead Industries & Development Council ....	lxxii	Sunderland Board Co., Ltd. ....	xlvi
Chubb & Sons Lock & Safe Co., Ltd. ....	xlvi	Limmer & Trinidad Lake Asphalt Co., Ltd. ....	lxxii	Tarmac, Ltd. ....	xlvi
Clarke Ellard Engineering Co., Ltd. ....	xlvi	Lindsays Paddington Ironworks, Ltd. ...	lxxii	Taylor, Robt., & Co. (Ironfounders), Ltd. ....	xlvi
Clerk, Donald, & Son, Ltd. ....	xlvi	Linoleum Manufacturers' Association ...	lxxii	Tentest Fibre Board Co., Ltd. ....	xlvi
Cole, E. K., Ltd. ....	xlvi	Lisle Munday & Co., Ltd. ....	lxxii	Thomas & Baldwin, Ltd., Rich., Ltd. ....	xlvi
Colt, W. H. (London), Ltd. ....	xlvi	Liversedge Reinforced Concrete Engineering Co., Ltd. ....	lxxii	Thorn, J., & Sons, Ltd. ....	xlvi
Cole, E. K., Ltd. ....	xlvi	Loft Ladders, Ltd. ....	lxxii	Thornton, A. G., Ltd. ....	xlvi
Constructors, Ltd. ....	xlvi	Logan Sons & Co. ....	lxxii	Tilford Tiles ....	xlvi
Copper Development Association ....	xlvi	London Brick Co., Ltd., The ...	lxxii	Tinson Bros. (England), Ltd. ....	xlvi
Critical Manufacturing Co., Ltd. ....	xlvi	Mallinson, Wm., & Sons, Ltd. ....	lxxii	T. M. G. Harwell (Sales), Ltd. ....	xlvi
C.S.A. Industries, Ltd. ....	xlvi	Marley Tile Co., Ltd., The ...	lxxii	Twistell Reinforcement, Ltd. ....	xlvi
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Davis Floor Co., Ltd. ....	lxi	Maxwell, Andrew ....	lxxii	Val de Travers Asphalt Paving Co., Ltd. ....	lxi
Docker Bros., Ltd. ....	lxi	McCarthy & Sons, Ltd. ....	lxxii	Venesta, Ltd. ....	lxi
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Dow Mac (Products), Ltd. ....	lxi	Mellowes & Co., Ltd. ....	lxxii	Vulcanite, Ltd. ....	lxi
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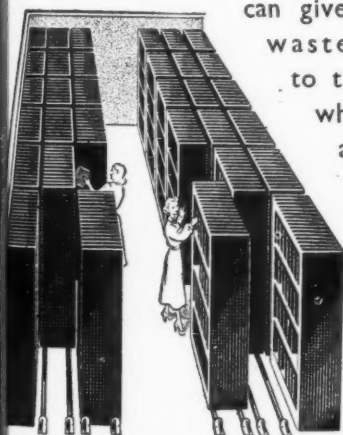


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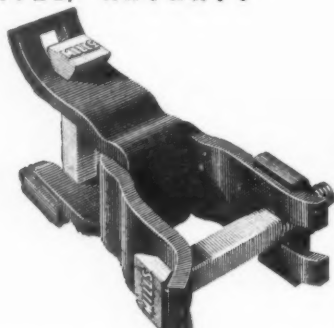
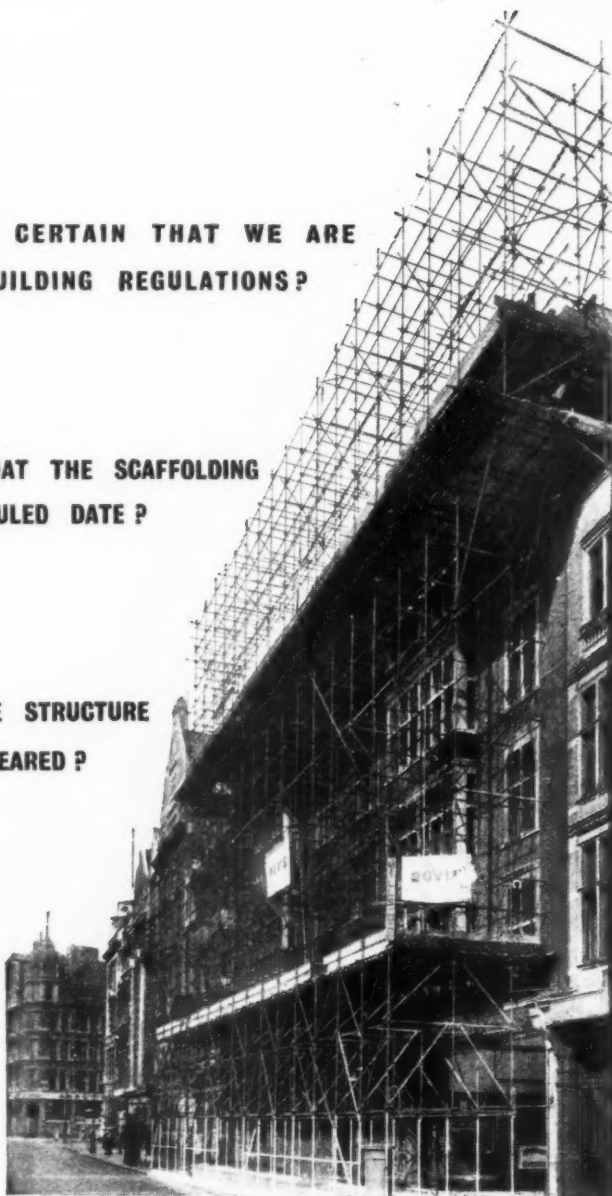
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