# THE ARCHITECTS' JOURNAL



*standard contents*

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

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*Registered as a Newspaper.*

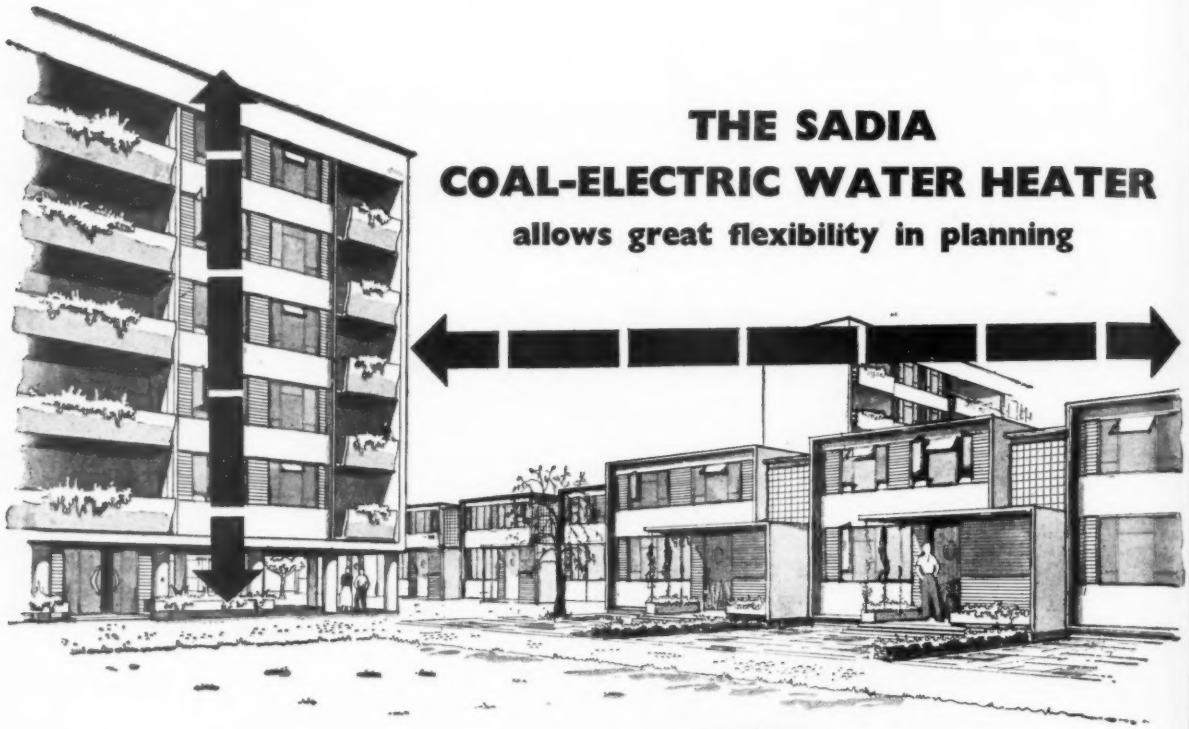
★ A glossary of abbreviations of Government Departments and Societies and Committees of all kinds, together with their full address and telephone numbers. The glossary is published in two parts—A to Ie one week, Ig to Z the next. In all cases where the town is not mentioned the word LONDON is implicit 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, Berkhampstead, Herts. | |
| ABS | Architects' Benevolent Society. 66, Portland Place, W.1. | Langham 5721 |
| ABT | Association of Building Technicians. 5, Ashley Place, S.W.1. | Victoria 0447-8 |
| ACGB | Arts Council of Great Britain. 4, St. James' Square, S.W.1. | Whitehall 9737 |
| ADA | Aluminium Development Association. 33, Grosvenor Street, W.1. | Mayfair 7501/8 |
| APRR | Association for Planning and Regional Reconstruction. 34, Gordon Square, W.C.1. | Euston 2158-9 |
| ArchSA | Architectural Students' Association. 34/36, Bedford Square, W.C.1 | |
| ARCUK | Architects' Registration Council. 68, Portland Place, W.1. | Welbeck 9738 |
| ASB | Architectural Science Board of the Royal Institute of British Architects, 66, Portland Place, W.1. | Langham 5721 |
| AScW | Association of Scientific Workers. 15, Half Moon Street, Piccadilly, W.1. | Grosvenor 4761 |
| BAE | Board of Architectural Education. 66, Portland Place, W.1. | Langham 5721 |
| BATC | Building Apprenticeship and Training Council. Lambeth Bridge House, S.E.1. | Reliance 7611, Ext. 1706 |
| BC | Building Centre. 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. 10, The Boltons, S.W.10. | Flaxman 7766 |
| BEDA | British Electrical Development Association. 2, Savoy Hill, W.C.2. | Temple Bar 9434 |
| BIA | British Ironfounders' Association. 145, Vincent Street, Glasgow, C.2. | Glasgow Central 2891 |
| BIAE | British Institute of Adult Education. 29, Tavistock Square, W.C.1. | Euston 5385 |
| BID | Building Industries Distributors. 52, High Holborn, W.C.1. | Chancery 7772 |
| BINC | Building Industries National Council. 11, Weymouth Street, W.1. | Langham 2785 |
| BOT | Board of Trade. Millbank, S.W.1. | Whitehall 5140 |
| BRS | Building Research Station. Bucknalls Lane, Watford. | Garston 2246 |
| BSA | Building Societies Association. 14, Park Street, W.1. | Mayfair 0515 |
| BSI | British Standards Institution. 28, Victoria Street, S.W.1. | Abbey 3333 |
| BTE | Building Trades Exhibition. 4, Vernon Place, W.C.1. | Holborn 8146/7 |
| CABAS | City and Borough Architects Society. C/o Johnson Blackett, F.R.I.B.A., Borough Architect, Town Hall, Newport, Mon. | Newport 3111 |
| CAS | County Architects Society. C/o F. R. Steele, F.R.I.B.A., County Hall, Chichester. | Chichester 3001 |
| CCA | Cement and Concrete Association. 52, Grosvenor Gardens, S.W.1. | Sloane 5255 |
| CCP | Council for Codes of Practice. Lambeth Bridge House, S.E.1. | Reliance 7611 |
| CDA | Copper Development Association. Kendals Hall, Radlett, Herts. | Radlett 5616 |
| CIAM | Congrès Internationaux d'Architecture Moderne. Doldertal, 7. Zurich, Switzerland. | |
| COID | Council of Industrial Design. Tilbury House, Petty France, S.W.1. | Whitehall 6322 |
| CPRE | Council for the Preservation of Rural England. 4, Hobart Place, S.W. | Sloane 4280 |
| CUJC | Coal Utilization Joint Council. 13, Grosvenor Gardens, London, S.W.1. | Victoria 1534 |
| CVE | Council for Visual Education. 13, Suffolk Street, Haymarket, S.W.1. | Reading 72255 |
| DGW | Directorate General of Works, Ministry of Works, Lambeth Bridge House, S.E.1. | Reliance 7611 |
| DIA | Design and Industries Association. 13, Suffolk Street, S.W.1. | Whitehall 0540 |
| DOT | Department of Overseas Trade. 35, Old Queen Street, S.W.1. | Victoria 9040 |
| EJMA | English Joinery Manufacturers' Association (Incorporated). Sackville House, 40, Piccadilly, W.1. | Regent 4448 |
| EPNS | English Place-Name Society. 7, Selwyn Gardens, Cambridge. | |
| FAS | Faculty of Architects and Surveyors. 8, Buckingham Palace Gdns., S.W.1. | Sloane 2837 |
| FASSC | Federation of Association of Specialists and Sub-Contractors. 5, Arundel Street, Strand. | Temple Bar 6633 |
| FBI | Federation of British Industries. 21, Tothill Street, S.W.1. | Whitehall 6711 |
| FC | Forestry Commission. 25, Savile Row, W.1. | |
| FCMI | Federation of Coated Macadam Industries. 37, Chester Square, S.W.1. | Sloane 1002 |
| FDMA | The Flush Door Manufacturers Association Ltd. Trowell, Nottingham. | Ilkeston 623 |
| FLD | Friends of the Lake District. Pennington House, nr. Ulverston, Lancs. | Ulverston 201 |
| FMB | Federation of Master Builders. 26, Great Ormond Street, Holborn, W.C.1. | Chancery 7583 |
| FOB 1951 | Festival of Britain 1951. 2, Savoy Court, Strand, W.C.2. | Waterloo 1951 |
| FPC | The Federation of Painting Contractors, St. Stephen's House, S.W.1. | Whitehall 3902 |
| FRHB | Federation of Registered House Builders. 82, New Cavendish Street, W.1. | Langham 4041 |
| FS (Eng.) | Faculty of Surveyors of England. Buckingham Palace Gdns., S.W.1. | Sloane 2837 |
| GC | Gas Council. 1, Grosvenor Place, S.W.1. | Sloane 4554 |
| GG | Georgian Group. 27, Grosvenor Place, S.W.1. | Sloane 2844 |
| HC | Housing Centre. 13, Suffolk Street, Pall Mall, S.W.1. | Whitehall 2881 |
| IAAS | Incorporated Association of Architects and Surveyors. 75, Eaton Place, S.W.1. | Sloane 5615 |
| ICA | Institute of Contemporary Arts, 17-18, Dover Street, Piccadilly, W.1. | Grosvenor 6186 |
| ICE | Institution of Civil Engineers. Great George Street, S.W.1. | Whitehall 4577 |
| IEE | Institution of Electrical Engineers. Savoy Place, W.C.2. | Temple Bar 7676 |
| IES | Illuminating Engineering Society. 32, Victoria Street, S.W.1. | Abbey 5215 |

S

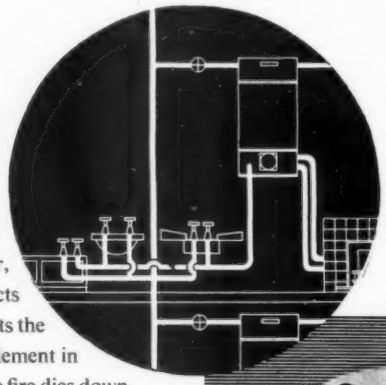
TH

/5/6



# THE SADIA COAL-ELECTRIC WATER HEATER

## allows great flexibility in planning

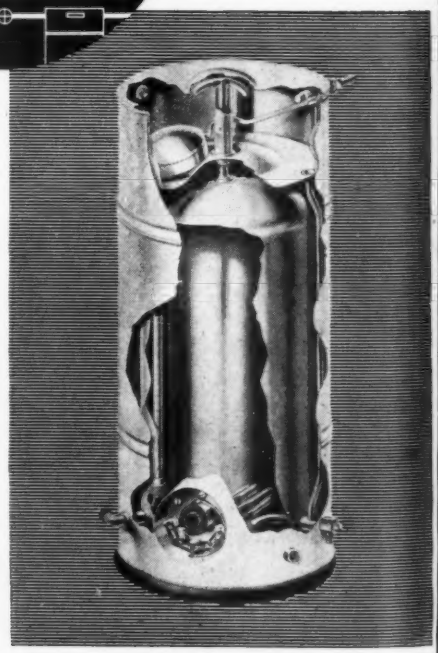


**The Sadia coal-electric water heater** is suitable for both houses and flats, and can be used either with a back-boiler or an independent boiler. It is a water heater planned to make the best use of available fuels. During winter, when fires are lighted, the Sadia coal-electric water heater acts as a storage tank, the back-boiler or the solid-fuel boiler heats the water, and the thermostatically controlled electric heating element in the Sadia coal-electric water heater takes over only when the fire dies down. In summer, no fires need be lighted, electricity takes over completely, and the house keeps cool.

The Sadia coal-electric water heater is the only factory-built unit of its type; made by water heating specialists it is the result of the accumulated experience of many years in this particular field. Efficiently insulated, it increases the effectiveness of the solid fuel boiler to which it is connected.

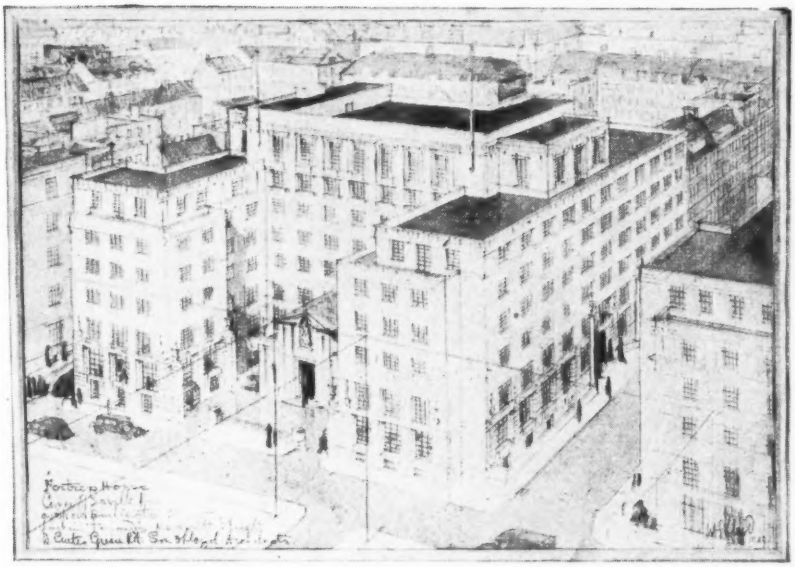
When installed in blocks of flats, the patented self-venting and self-filling calorifier makes for simplified plumbing. One common down-service pipe can supply all the Sadia water heaters.

Aidas Electric Ltd., the makers of the Sadia coal-electric water heater, are always very glad to give specialist advice on all aspects of water heating to architects when they are preparing plans.



**Aidas Electric Ltd., Sadia Works, Rowdell Road, Northolt, Middlesex.**
*Scottish Agents: W. Brown & Co. (Engineers) Ltd., 89 Douglas Street, Glasgow, C.2. Manufactured in South Africa by Sadia Water Heaters (Pty.) Ltd., 3-5 Newton Street, Village Main, Johannesburg.*

**SADIA**
HOT WATER BY ELECTRICITY



This imposing new office block—23 Savile Row, now the headquarters of the Ministry of Local Government and Planning—is floored throughout with Accotile, "the low-cost floor with the luxury look."

ARCHITECTS—W. Curtis Green, R.A., Son and Lloyd, 5 Pickering Place, S.W.1.

BUILDERS—Sir Robert McAlpine and Sons Ltd., 80 Park Lane, W.1.

# Mayfair's latest block of offices has Britain's latest, most handsome **low-cost flooring**

Armstrong's Accotile is quickly laid on concrete, wood, or metal. It is especially suitable for use on screeded concrete direct-to-earth since it is unaffected by alkaline moisture. Damp-proofing is not essential unless actual water pressure is suspected.

**OUTSTANDINGLY DURABLE**

Accotile will, in most cases, long outlast more expensive floors. Many local authorities have found repair costs, too, much reduced by Accotile installations. Accidental damage is easily and cheaply made good. Broken tiles are quickly replaced.

Accotile durability is proved. Accotile floors laid in England twelve years ago can be inspected. They are still in excellent condition.

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With Accotile there is unlimited scope for decorative effect. The tiles are made in a wide range of plain and marbled colours and can be laid in any design. The colours are fast since they are an integral part of the tile.

**EASILY MAINTAINED —NON-STAINING**

Accotile is kept fresh and new-looking indefinitely by normal sweeping and washing, but may be polished if an extra high finish is desired. It offers good resistance to most acids and, being non-absorbent, does not stain.

* * *

*If you would like to hear more about Accotile—please write to us. We shall be pleased to send you full information. Armstrong's Accotile Flooring, Armstrong Cork Company Limited, Bush House, Aldwych, London W.C.2. Tel.: Chancery 6281. Scottish Branch: 5 Oswald Street, Glasgow C.1. Tel.: Central 5703.*

**FOR PUBLIC BUILDINGS, HOUSES, SCHOOLS, HOSPITALS, AND COMMERCIAL PREMISES**

Accotile is quiet and comfortable to walk on, warm and non-slip.

Armstrong's Top-Set Coved Skirting, available in Pompeian Red and Plain Black, gives an added finish.

In existing buildings, Accotile is laid in a matter of hours and can be used immediately, so that occupation of the room is disturbed for the minimum time.

The all-in cost of flooring with Accotile compares very favourably with any other flooring method, with the added advantage of low labour costs.

*Armstrong's Accotile is a composition of inert asbestos fibres and ground rock fillers, fadeless mineral pigment, and asphalt or resin binders, supplied in accurately-cut tiles (sizes 12" x 12", 9" x 9" and 6" x 6"), border strips, etc. With 20 years' successful experience in America behind it, it is now manufactured in England at the Tyneside factory of the Armstrong Cork Company Ltd.*

# ACCOTILE*

"The low-cost floor with the luxury look"

★ British Registered Trade Mark 663698. Armstrong Cork Co. Ltd., Registered Users


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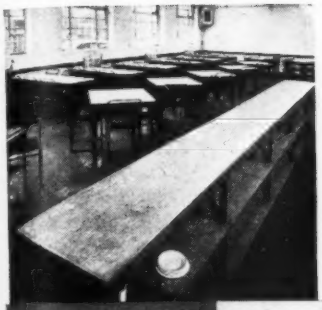

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# PLUTO BOARD

1. ¼" Pluto Board for canteencountersand table tops.

2. Balcony Panels made from ½" Pluto Board and screwed to mild steel frame.

Pluto Board is an inert resin bonded material, combining many of the virtues of plastics and timber, with the durability of steel. It can be nailed and sawn with ordinary wood working tools, and paint, stove enamel and veneer adhere firmly to its surface.

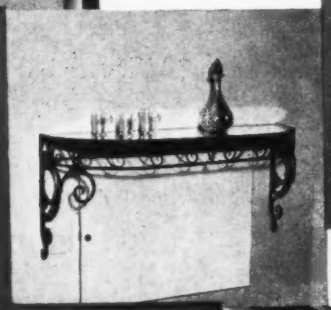
It can be supplied to the following specifications:—

Standard size of sheets 8' x 4'.

Standard thicknesses 2mm., $\frac{1}{8}$", $\frac{1}{16}$", $\frac{1}{4}$".

Also available with wood veneer.

3. ½" doors for Drying Cupboard fitted with Gas Heaters.



4. "Herga" Electric Warming Panel with heating element embedded in Pluto Board.

- Unaffected by the worst weather conditions indefinitely.
- Will never warp or wave.
- Very hard surface.
- Highly resistant to corrosion.
- Fireproof (Class 1 resistance to flame spread).
- Very tough, particularly when laminated.

*Acknowledgements:*

1. *Higgs & Hill Ltd.*
2. & 3. *Wyvil Road Housing Estate, Lambeth. Contractor: J. Jarvis & Co. Ltd. Architects: Wornum & Playne.*
4. *H. G. Poxon Engineering Co.*
5. *R. Cruickshank Ltd.*

5. Walls of Electro Plating Works lined with ½" Pluto Board.

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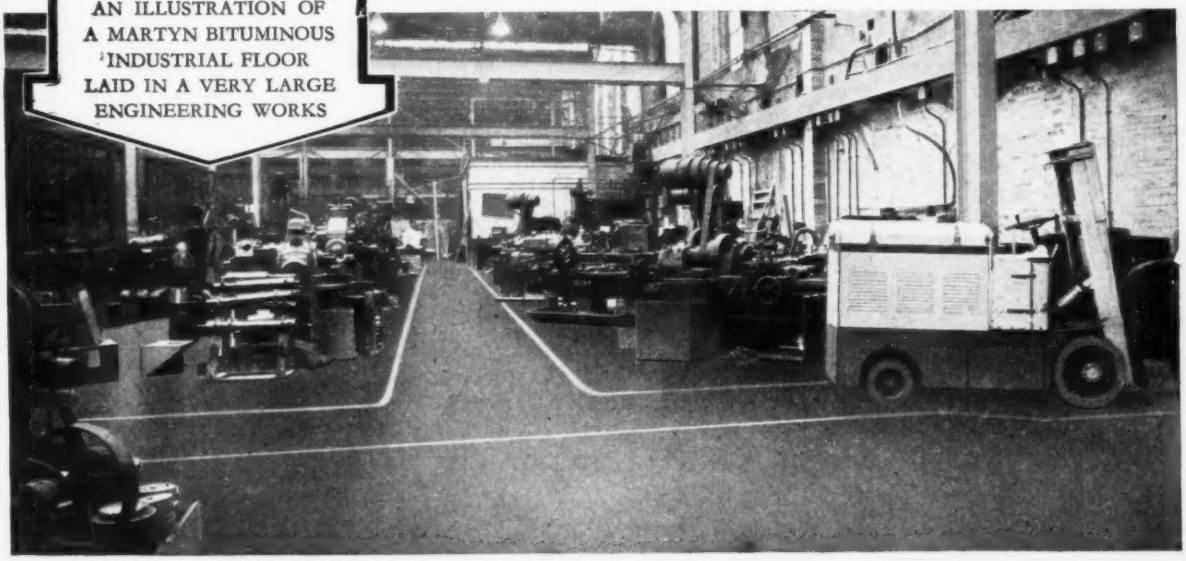

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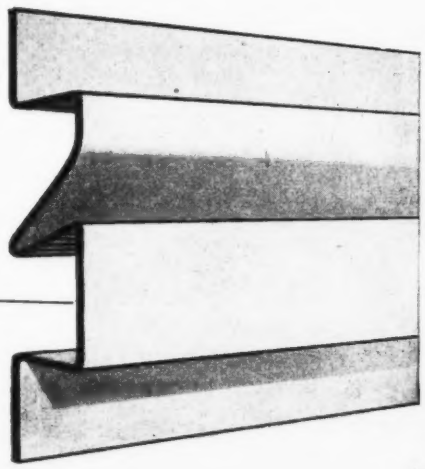

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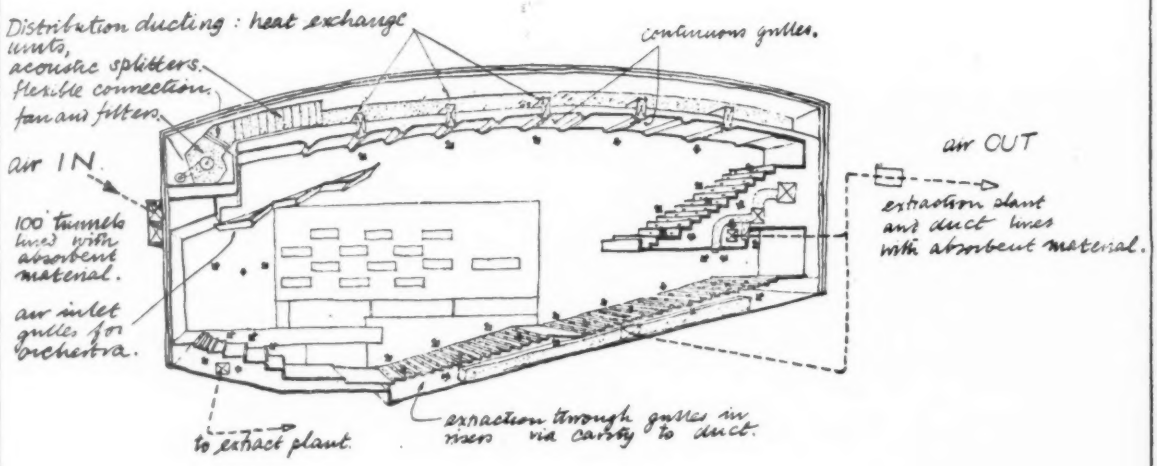
ULSTER CHAMBERS, 168 REGENT STREET, W.1.

Phone: REGENT 3261. Telegrams: PERMEABLE PHONE LONDON.




SKETCH ILLUSTRATING METHOD OF AIR-CONDITIONING AUDITORIUM

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The heating and ventilating system comprises full air-conditioning in the auditorium, and plenum ventilation with supplementary heating in various other parts of the building.

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Further information on the gas installation at the Royal Festival Hall may be obtained by writing to The Gas Council.

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**GAS**

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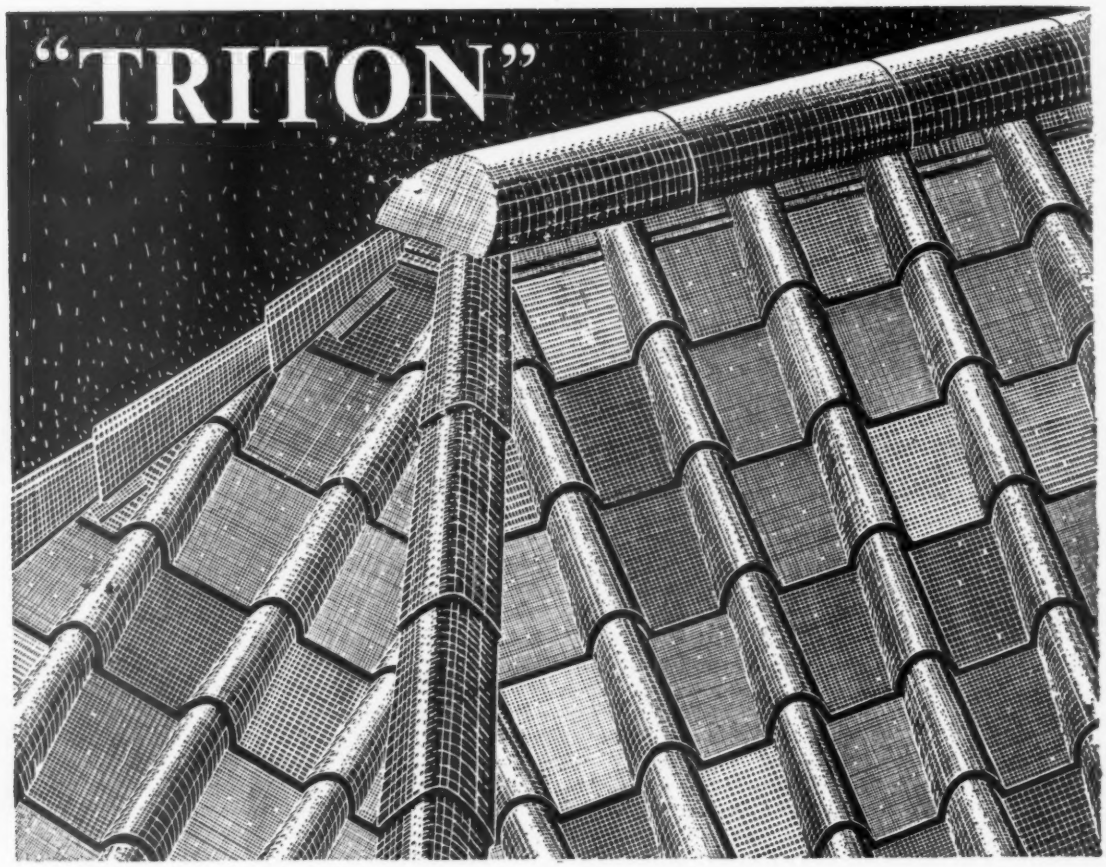


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2 Extreme compactness
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MEM — Switch, fuse and motor control gear, electric fires and localised lighting equipment

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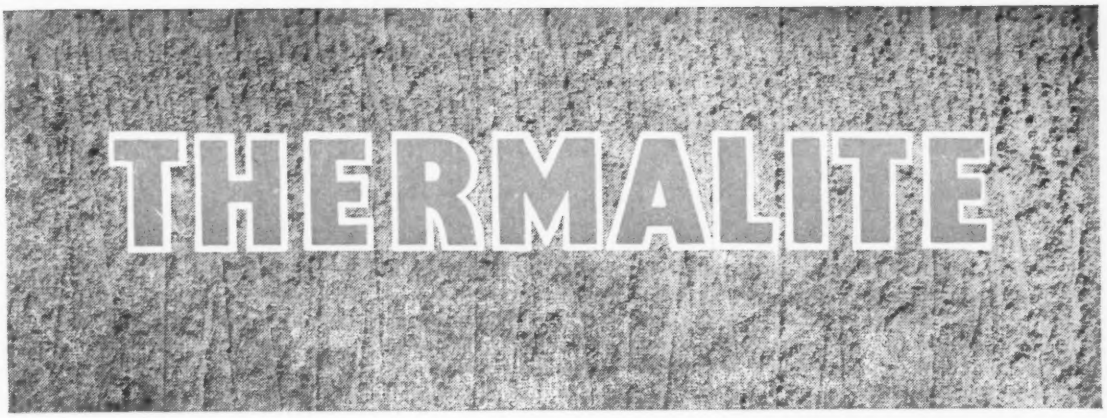
*Branches in London and Manchester.*

# Thermal Insulation with




Because of its unique properties it is possible, using Thermalite as a structural material, to achieve a degree of Thermal Insulation which has hitherto been obtainable only by the use of specialised insulation materials in conjunction with the normal structural concrete or brickwork

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| 8″ Cavity wall with two 3″ leaves of Thermalite, rendered externally, plastered internally. | 0.15 |
| 6″ Solid wall of Thermalite, rendered externally, plastered internally. | 0.17 |
| Composite cavity wall, outer leaf 4½″ facing brick, inner leaf 3″ Thermalite, plastered internally. | 0.21 |
| 11″ Cavity brick wall, rendered externally, plastered internally. | 0.30 |
| 9″ Solid brick wall, rendered externally, plastered internally. | 0.43 |

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*is available for immediate delivery in blocks of the following nominal sizes and weights 18″×9″×3″–14 lbs. 18″×9″×4″–19 lbs. 18″×9″×6″–28 lbs.*

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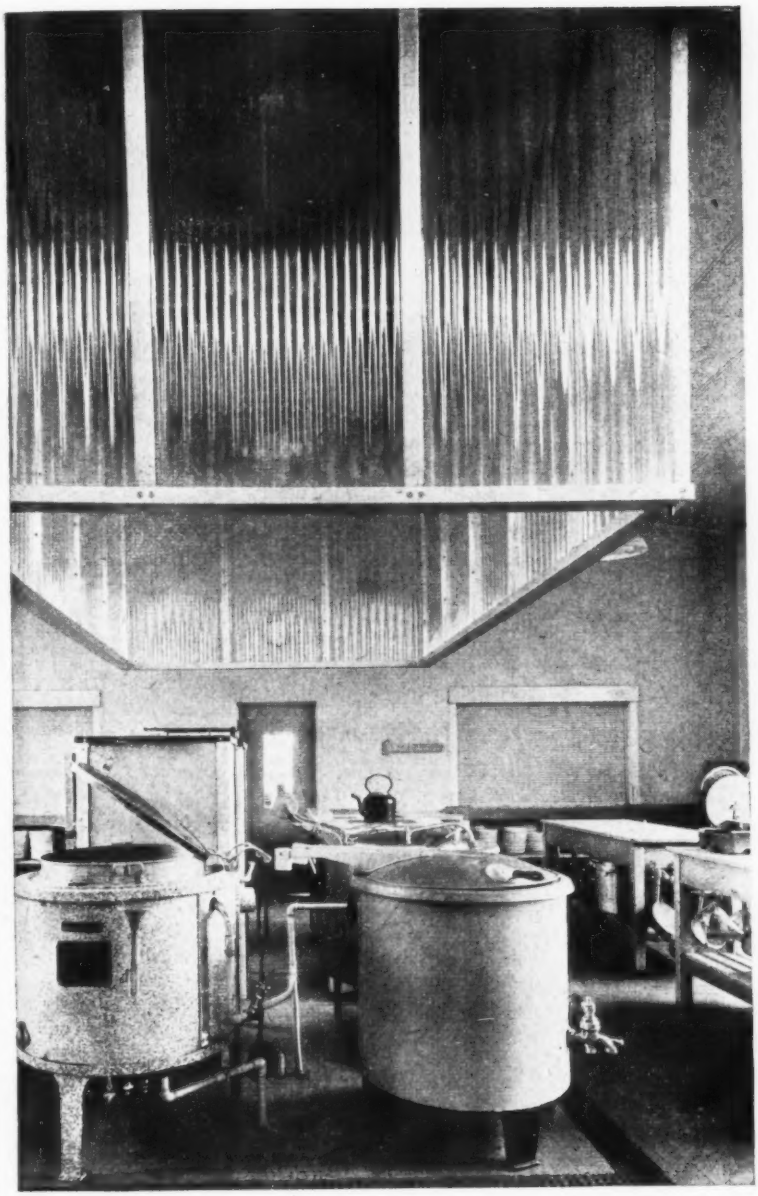
**THERMALITE was developed fn the laboratories of John Laing and Son Limited and is manufactured in Great Britain under British Patents — 648280 and 648299**

# Corrugated 'Perspex' for Hoods and Vents



**To carry away vapours and steam from kitchens and processing rooms, hoods made from corrugated 'Perspex' have these advantages:**

**1** Easy to construct

**2** Light in weight

**3** Robust

**4** Transparent

**5** Low thermal conductivity, ensuring freedom from condensation.

*This hood designed by H. Conolly, F.R.I.B.A., County Architect, County Council of Essex, is installed at Chigwell Manford Way Primary School.*

*'Perspex' is the registered trade mark of the acrylic sheet manufactured by I.C.I.*

**IMPERIAL CHEMICAL INDUSTRIES LIMITED, LONDON, S.W.1**

ICI

C.P.49


BRITISH RAILWAYS SOUTHERN SECTION, OCEAN TERMINAL DOCK, SOUTHAMPTON

Designed by J. H. Jellet, Docks Engineer — Chief Assistant Architect, C. B. Dromgoole

### SEALOCRETE DOUBLE STRENGTH PREMIX

This solution makes floor toppings permanently dustproof, oilproof and case hardened. Easily incorporated in the gauging water the solution enables floors to be walked on four to six hours after being laid imparting to them additional crushing and tensile strength.


### SEALOCRETE METALLIC HARDENER

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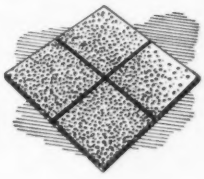

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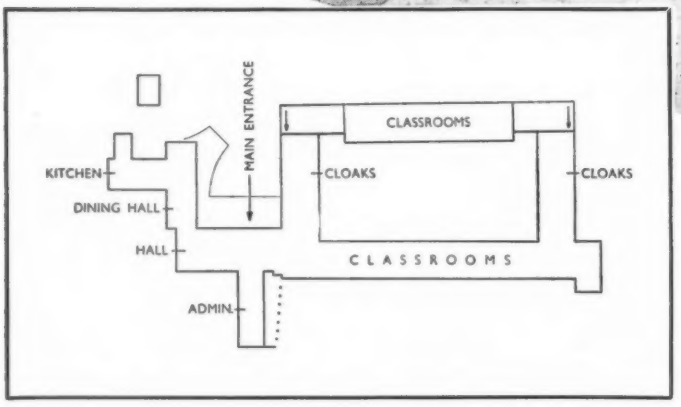


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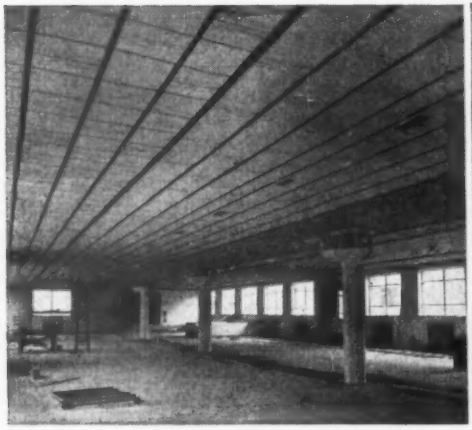

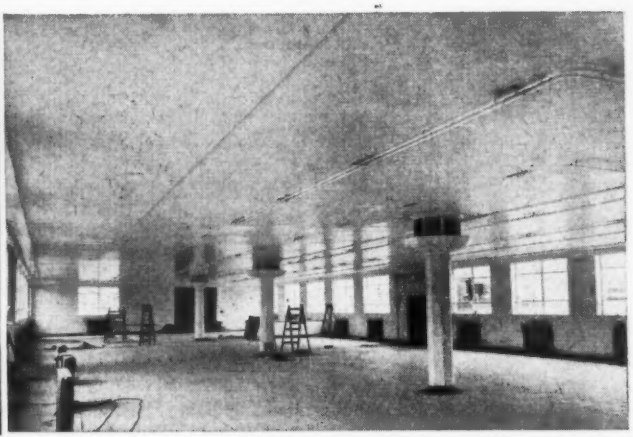

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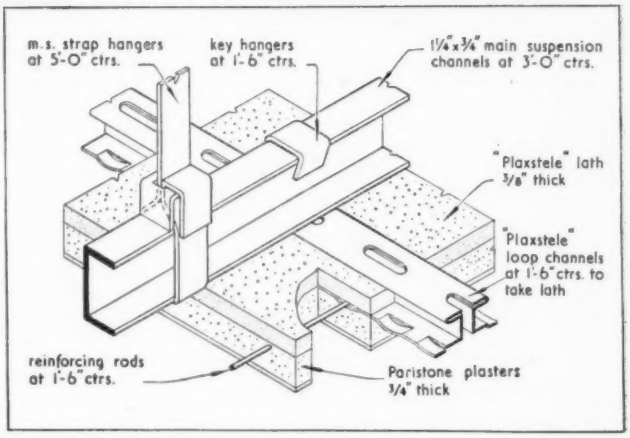


The photographs show
*a large area of* PLAXSTELE *ceiling before and after plastering, decorating and fixing strip lighting.*

The isometric sketch shows
*the general assembly of the component parts.*

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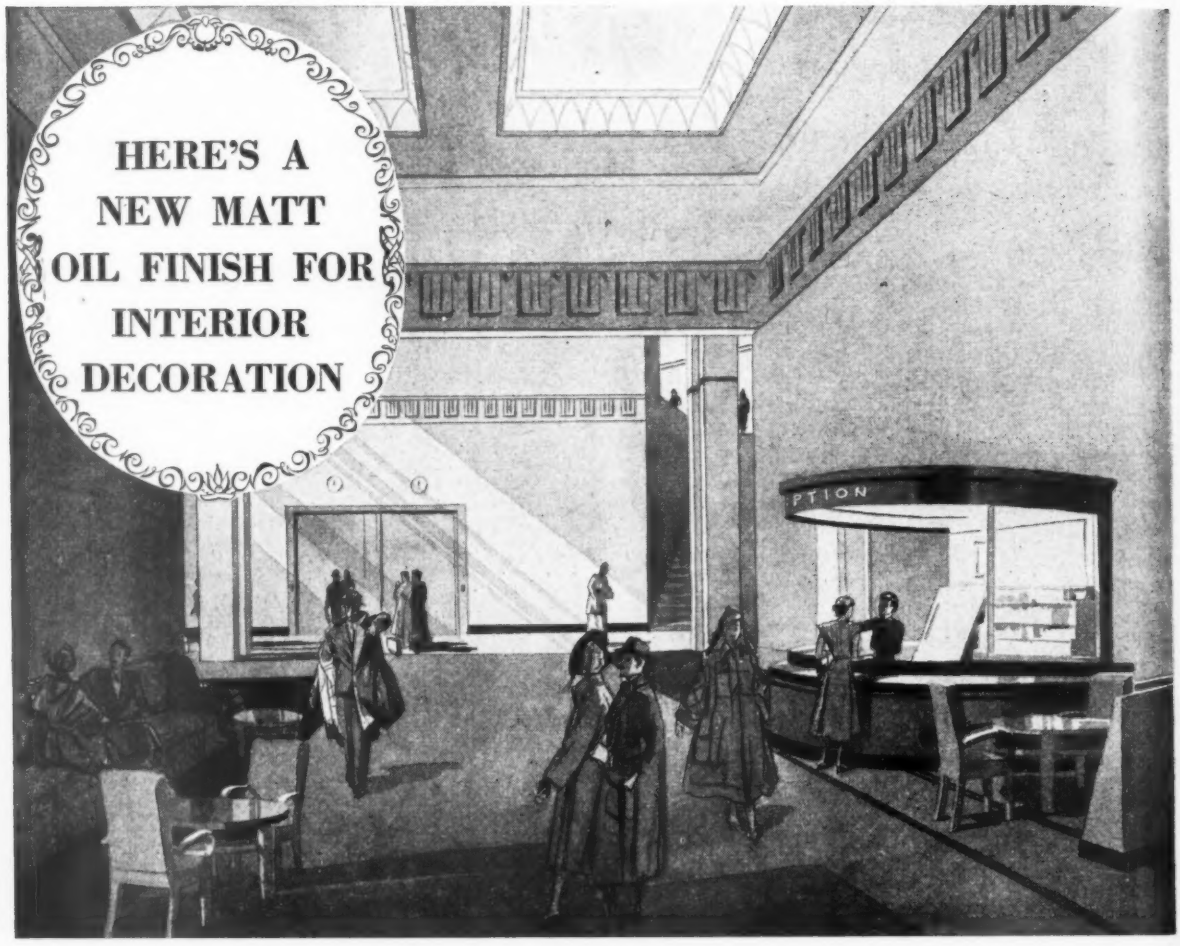


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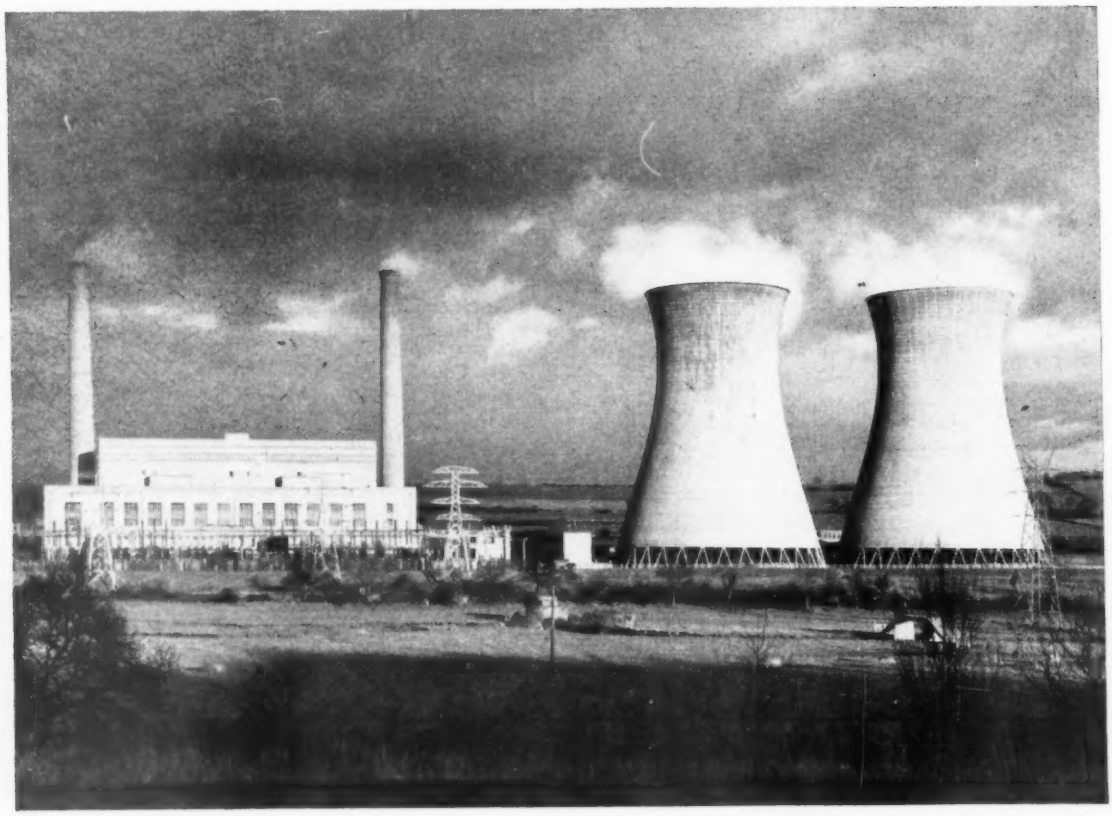

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THE ARCHITECTS' JOURNAL

No. 2937 14 JUNE 1951 VOL 113



**9, 11 & 13 Queen Anne's Gate, Westminster, London, S.W.1 Whitehall 0611**

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THOMAS SHARP, CBE

The appearance of Dr. Thomas Sharp's name in the Birthday Honours List (he gets a CBE) will have been noted with pleasure by all architects and planners, and I congratulate him on behalf of the JOURNAL whose editorial board he lately joined.

*

An honour was never better deserved. Now that town planning has become an official activity and consists of statutory plans prepared by planning authority staffs, the era of independently commissioned city plans must be said to be over. But it must not be forgotten what a stimulating influence these had. The most influential were all by Thomas Sharp—Oxford, Exeter, Salisbury, Durham and others. Their special excellence was the emphasis they put on the *visual*, three-dimensional aspect of planning.

*

It is right that Thomas Sharp's services of this kind should be recognized. Though this particular series of city plans is now past history, his work as a planner must certainly not be spoken of in the past tense. He has an active practice, besides being ILA president and an energetic and illuminating writer.

*

Another example of the right kind of leadership in the architectural world is the work of C. H. Aslin, who has also been honoured with a CBE, a deserved recognition of all the good qualities the Hertfordshire schools stand for. And I must not omit to mention that Bernard Guy Harrison, chairman of Harrison and Sons, Ltd., the JOURNAL'S printers, has been knighted. This firm of printers, which last year celebrated its second centenary, does a great deal of work for government departments, which it served well during the war.

*

Finally Gerald Barry's knighthood is a well-earned reward for bringing to a successful conclusion one of the most complex and difficult tasks imaginable.

ARCHITECTURE FOR THE LAYMAN

I am delighted to see that several provincial centres are holding exhibitions of architecture during the Festival season. The only one I have seen so far is at Bath, a city which in itself is a permanent exhibition of "live" (or may I say "dead") architecture. The exhibition in the newly restored Octagon (architect: Thomas Lightoler), which was first opened as a "proprietary" chapel, consists largely of photographs by F. R. Yerbury, which are now the property of the Bath Museum, and is, as one might have expected, devoted largely to the 18th century, though the twentieth century *is* represented.

*

The renewal of interest in the art of architecture exemplified in the exhibition at Bath and in others soon to be seen elsewhere is encouraging. But am I being unduly pessimistic in believing there is a danger that exhibitions which concentrate on past glories may lead smug city fathers to demand more and more re-hashes of those glories? All who are concerned with the organization of these architectural exhibitions should see that the best of contemporary architecture—even if none is to be found in the locality—is given fair representation. We want the layman to discover architecture, but we do not want him to think of it entirely in terms of classical or neo-classical work.

SLAB-LIFTING

My photograph at the top of page 753 is of O'Neil Ford, the Texan architect who is going to spend a few days over here shortly during which he is willing to discuss with architects and students the advantages of building by means of the lift-slab system.

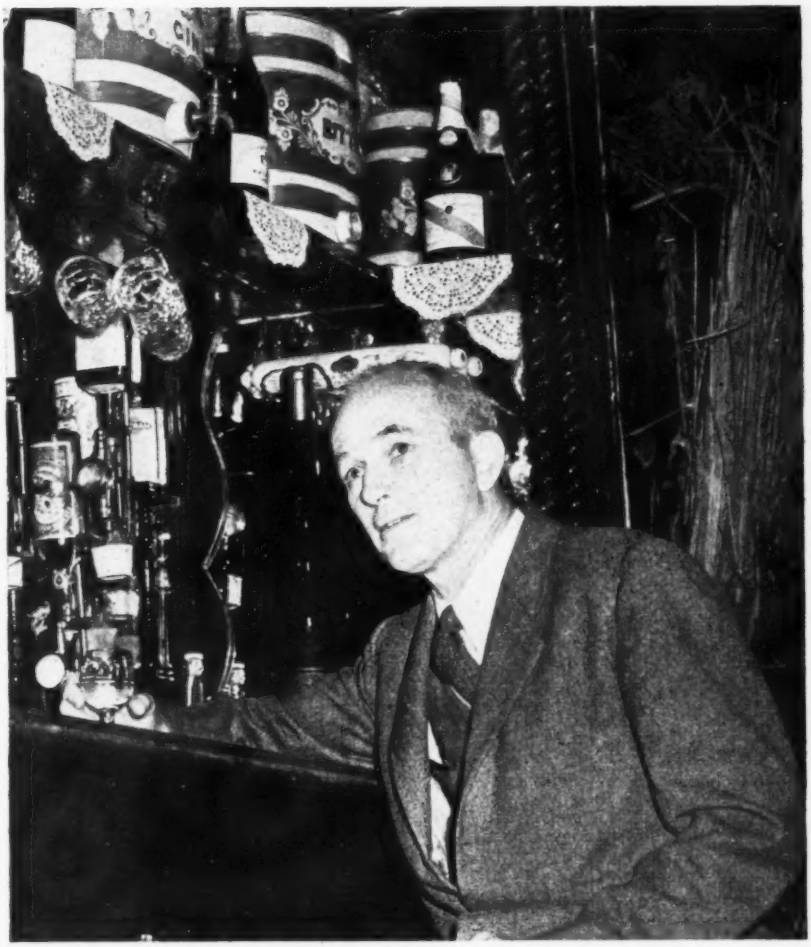
*

When I first mentioned Mr. Ford's proposed visit in this column I received a fair number of invitations for him to visit architectural schools and societies in the provinces. Unfortunately, I learn, time will not allow him to visit them all, but it may be worth while for those whose towns are not being visited to travel to the nearest place where he will be speaking (see itinerary on page 757). This may sound over-enthusiastic, but then ideas like this are not thought up every day of the week, even in America.

Incidentally, a bit of enlightened philanthropy is not met with every day of the week either, so ASTRAGAL doffs his cap to W. H. Colts Ltd. who, on hearing that the professional bodies in London were unable to include Mr. Ford in their well filled lists of talks and functions for the year, undertook to sponsor a meeting. A handsome gesture.

STUDENT FESTIVAL

While in congratulating mood I must commend the action of the architectural students of the different schools of London in getting together to organize an international architectural students' festival. As I write I am told that the first of forty couriers have gone forth to summon the array from every corner of Europe. I wish them well. Each school is arranging a separate item of the Festival, which will include a carnival, film shows, visits to old and new buildings, and the South Bank, a special copy of *Plan*, and, last but not least, a concert and dance in the Royal Festival Hall, with the London Philharmonic Orchestra, under Sir Adrian Boult, providing not only the concert but also, unbelievable though it may sound, half an hour's dance music as well. Such enterprise on the part of the student-organizers augurs well for the future—even if a few portfolios will seem a bit thin this summer.



*O'Neill Ford the Texas architect who is lecturing in this country next week on a new building technique. (See "Slab-Lifting" page 751). This photograph was taken in the Architectural Press's private pub when Mr. Ford was passing through London recently.*

BAILEY BRIDGE

For twenty years proposals have been made for the building of a new bridge across the Avon near the Stratford Theatre. The Clopton Bridge, built about 1480 (see page 763) is too narrow for present day traffic and the only alternative to widening it is to direct traffic farther downstream and across a new bridge. What a nice opportunity to build ye old medieval concrete structure—a memory for visitors to carry away with their W. Shakespeare toasting forks! Fortunately someone has thought differently and the proposed scheme by Arthur Bailey (seen in the picture on page 763), which has been approved by the Royal Fine Art Commission, does not by any means dominate the surroundings of this already mutilated town.

*

I understand that in due course Stratford-Upon-Avon is to have a Winter Garden theatre, situated between the old and new bridges. This will be designed by Mr. Bailey, together with a new layout for gardens in front of the Memorial Theatre. (The Clopton bridge is to become a promenade and its hideous iron cantilevered footpath, which was added in the 19th century, is to be removed.) I shall look forward to seeing Mr. Bailey's designs for these "improvements" with some confidence after hearing about his work on the new bridge. But he has a more difficult task on his hands this time. You can play down a bridge so that it doesn't quarrel with its surroundings but you can't hide landscaping or a theatre. However, we can at least be sure that Mr. Bailey will not produce the sort of recreation centre that estate agents refer to as "a quaint corner of rustic old world charm."

BACK TO BELFAST

"Worn by two world wars the British people and their land may be" says the very Irish placard at the entrance to the Ulster Farm and Factory Exhibition, but there is very little sign of it at the exhibition, or anywhere else in Belfast for that matter. The Factory exhibition is contained, appropriately enough, in a large brick and concrete factory (architects R. Ferguson and S. McIlveen) at Castlereagh, on the outskirts of Belfast. It consists of a number of products of Ulster industry, and the machines which produce them, attractively displayed against a background (familiar, perhaps, to Londoners) of coloured screens, amorphous shapes and enormous photographs. The better tricks of exhibition technique are handled expressively and well, within the limitations of a low ceiling, by W. M. de Majo, the co-ordinating designer and his associate L. Bramberg.

*

In the factory grounds are a children's play centre and restaurant, both made

# *Raising the Roof*

The slab-lifting system of construction, the invention of two Americans, Philip Youtz and Tom Slick, was first mentioned in the JOURNAL in our New Year issue, in connection with the new classroom and administration block for Trinity University, San Antonio, Texas. As can be seen from the above photograph, and another on page 757, this building is now completed; and work has already commenced on a library building and a dormitory block on the same site, using the same method of construction. The architect for the work at Trinity University, O'Neil Ford, is visiting Europe now and is lecturing in Great Britain and in six countries on the continent. Mr. Ford has described slab-lifting as "the first really significant advance in the use of reinforced concrete." It will be interesting to hear whether European architects and engineers confirm this opinion.

from standard aluminium school units, a reproduction of an 1851 farmhouse and the farm of the future, an attractively arranged group of buildings which will no doubt stir up controversy in farming circles. To my mind, the most fascinating aspect of them was the brilliant use of strong colours on doors and structural frames. They are largely the traditional colours of agricultural machinery, but used with true Belfast vigour, and are a great relief after the colour schemes, in impeccable good taste, so common today. (Pimlico flats and parts of South Bank excepted).

*

The architect of the farm is Henry Lynch Robinson, a young Belfast architect whose future I shall watch with interest. His handling of the farm, as far as composition and colour is concerned, is masterly, but in small fiddling details he, like so many other architects, is not so successful. When the details are small, I sigh but pass on; when large, as in the façade to a cinema he has designed in the centre of a pleasant Georgian terrace in Belfast, and in the redesigned bar of the building which proudly displays the title of: "*Cirque* and Grand Opera House," then I feel compelled to complain. Mr. Lynch Robinson, in the first instance, is stating the claims of modern design with the ruthlessness of a modernist of the twenties. In the second instance, he is indulging in the merest pastiche in pink Mayfair rococco. I would forgive this if the design did not ignore the startling design qualities of the theatre itself: a gilt and plush affair of fascinating vulgarity and mock-Hindu derivation. (The huge gilt broken-tusked elephants' heads beside the boxes are surely unique.)

*

The exhibition of contemporary architecture, designed in a bombed building in the centre of Belfast, is excellently done and would hold its own anywhere. The climax of the modern living room closely integrated with the walled garden outside is magnificent. Most impressive too are the models of buildings which are about to be built in Northern Ireland. My unreserved congratulations to the architects and students concerned, and in particular to the architectural organizer, J. V. T. Scott.

ASTRAGAL

## The Editors

## MORE THAN AN IDEA

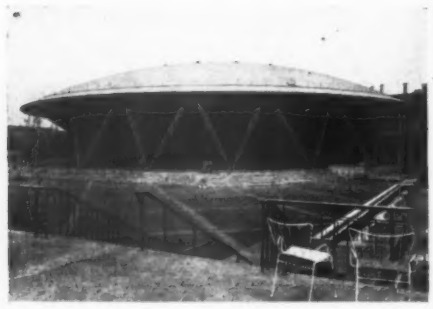
MOST architects and engineers and, no doubt, the larger firms of building contractors, will have read, either in British or foreign technical and professional journals, of the new technique of building in which concrete floor and roof slabs are formed one on top of the other, at ground level, and then raised by means of jacks to their final position in the building. Very few, if any, people in this country, however, have seen a building which has been built by this method, or, what is better still, seen such a technique in use. Obviously there is all the difference in the world between reading about such things and seeing them.

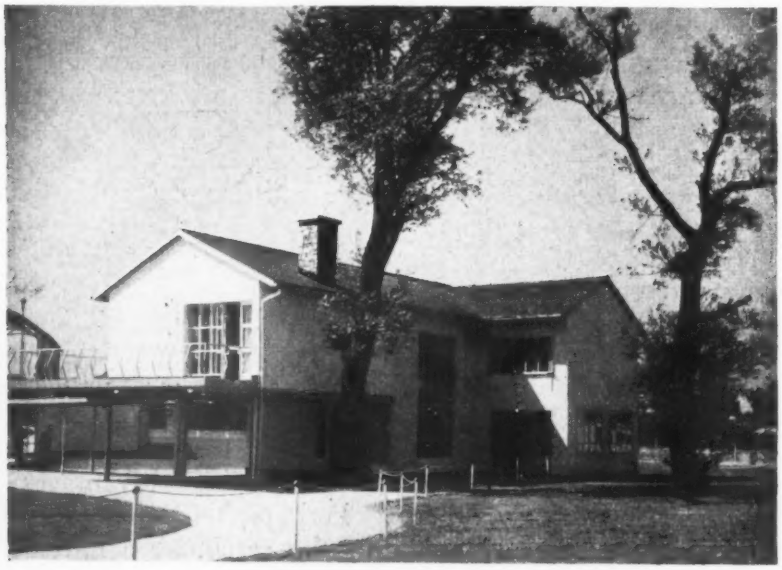
It is to be hoped, therefore, that before long some enterprising concern will attempt this new system of construction in this country. Hundreds of pages of printed theory and drawings by the yard can be read and studied, and a great deal of useful information can be learnt from them, but they cannot be substituted for the practical experiment. It is only by actual use of this building method that a start can be made in proving whether it can be usefully applied in this country.

There is, of course, an intermediate stage in achieving familiarity with a new technique, and that is by meeting and discussing its advantages and disadvantages with someone who has actually used it. As announced elsewhere in this week's JOURNAL we are fortunate to have visiting this country next week an architect who has used this system several times. Admittedly he has, in each case, used a patented system, but a careful study of it will show the basic principles which underlie this new technique. The architect, O'Neil Ford, from Texas, will be describing his experiences with this system in several different parts of England and Scotland. He has not come to sell the patented system he has used—it is not his patent. But, like so many architects who have tried out a new idea and found it to work, he feels he is on to a good thing and wants to persuade other architects to try it. It is to be hoped, therefore, that wherever he talks, builders, engineers and architects will take advantage of this opportunity to achieve the second step in acquiring familiarity with a new idea—that of talking to another man who has actually used it. Then, having read about it, and having talked to an architect familiar with it, is it not possible that someone over here may take the bold step of actually trying it out? We hope this will happen. But, in the meantime, let every opportunity be taken to learn as much as possible of its advantages and disadvantages, and the possibilities of using some form of system whereby floor and roof slabs can be lifted into position. The idea is so simple and, with the advantages of modern engineering equipment, so practical. It saves shuttering, it makes the concrete easier to pour, it saves labour and it saves time. What are its disadvantages? Why won't it work over here? Perhaps, following O'Neil Ford's visit, someone will discover the catch. We haven't.

## SOUTH BANK EXHIBITION ARCHITECTS: NO. 1: RALPH TUBBS

*The* JOURNAL *has published photographs in the last few weeks of Hugh Casson, the director of architecture for the Festival of Britain, and Misha Black, co-ordinating architect for the Upstream Section of the South Bank Exhibition. In the next two months we shall print a series of features containing photographs and biographical notes of architects who have been responsible for buildings in the South Bank exhibition. On the right is Ralph Tubbs, who designed the Dome of Discovery. Mr. Tubbs, aged 39, was educated at Mill Hill School and the Architectural Association's School of Architecture (Hons. Dip.). He became an associate of the RIBA in 1936. He was secretary of the MARS Group in 1939 and was a member of the Council and Executive Committee of the RIBA between 1944 and 1950. He was on the Board of Architectural Education from 1945 until 1950, and was vice-president of the AA from 1945 until 1947. He became an associate of the Institute of Landscape Architects in 1942. In addition to designing the Dome of Discovery he was a member of the Presentation Panel and Design Group for the FOB South Bank exhibition. His publications include* Living in Cities, 1942 (*Penguin*); The Englishman Builds, 1945 (*Penguin*). *According to* Who's Who *his recreation is "keeping five senses alert." His most recent work is the Indian Students' Union and Hostel under construction at Fitzroy Square, W.1.*





## ULSTER EXHIBITION FARMHOUSE

*This farmhouse is part of the Farm of the Future in the Ulster Farm and Factory Exhibition recently opened in Belfast as part of the 1951 Festival. The Farm of the Future was designed by Henry Lynch-Robinson, a Belfast architect, who was also responsible for the landscaping of the exhibition and, with W. M. de Majo and L. Bramberg, for the general layout. The first floor of the farmhouse consists of three bedrooms, bathroom and a combined living room and kitchen. On the ground floor is a garage, office, stores and entrance hall.*


## BIRTHDAY HONOURS

### CBE For Journal Editor

Thomas Sharp, president of the Institute of Landscape Artists, who recently became the JOURNAL's town planning editor, has been awarded the CBE in the Birthday Honours conferred by the King. The CBE has also been awarded to C. H. Aslin, county architect of Herts.

*Dr. Thomas Sharp*

*C. H. Aslin*

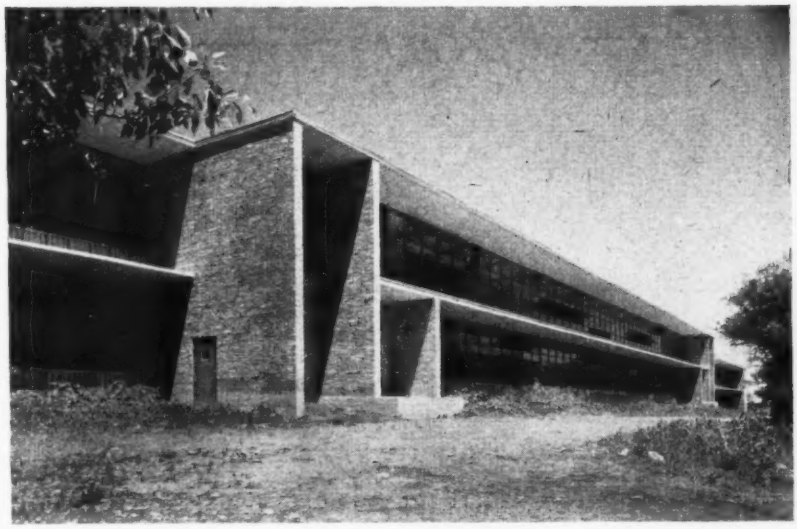
*B. Guy Harrison*

Among those who have received a knighthood are Bernard Guy Harrison chairman of Harrison & Sons, Ltd, the JOURNAL's printers who last year celebrated their second centenary, and Gerald Barry, director-general of the Festival of Britain.

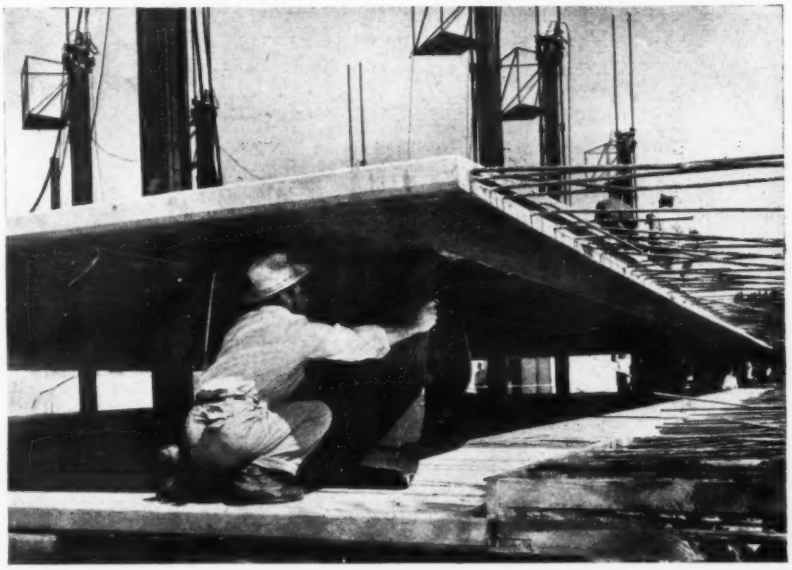
Following are some of the others who received awards:—*C.B.E.* R. T. Kennedy, chief planning officer of the MOLGP; A. MacDonald, member of the Central Land Board and the War Damage Commission; A. Titherley, assistant secretary of the MOLGP, and F. Y. Henderson, director of forest products research laboratory, DSIR. *O.B.E.* R. Atkinson, architect, for services to the Admiralty; G. S. Barry, county surveyor of Ayrshire; G. G. Clark, director of planning, Devon CC; W. Cotter,

(continued on page 760)

## SLAB-LIFTING AT TRINITY UNIVERSITY, TEXAS



*The photograph above shows part of the south elevation of the new classroom and administration block of Trinity University, San Antonio, Texas. The floor and roof slabs of this 384-ft. long building were cast on the ground and lifted into position by means of hydraulic jacks. This unusual system of construction was described (with progress photographs) in the New Year issue of the* JOURNAL *(Jan. 18, 1951). The building is now completed and its courageous architect, O'Neil Ford, is coming to Britain next week. During his visit, he will be lecturing on this structural technique, with particular reference to the University building. A public discussion will be held at the Waldorf Hotel, London (Thurs., June 28) and Mr. Ford will be addressing meetings of the School of Architecture, Birmingham (Thurs., June 21), the Student Architects Group, Edinburgh (Fri., June 22), the Liverpool University Architectural Society (Mon., June 25), the Devon and Cornwall Architectural Society, Exeter (Mon., July 2) and the RWA School of Architecture Students' Club, Bristol (Tues., July 3). The photograph below shows a workman removing the specially treated paper, which was used to keep the slabs apart, from the underside of the roof slab. On page 754, there is another photograph of the completed building.*



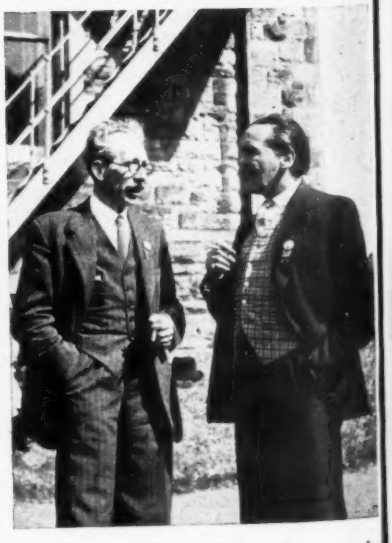
D

## SCENES FROM THE RECENT BRITISH ARCHITECTS'

*The British Architects' Conference was held in Belfast from May 30 to June 2. Left, the President, A. Graham Henderson, making an announcement at the Inaugural Meeting held at the Assembly Hall. On the President's right is Mr. R. H. Gibson, President of the RSUA, and Mr. Martin S. Briggs, Hon. Sec. RIBA, who read a paper on "Architectural Education." Above, members leaving the meeting. From left to right: Mr. T. S. Clerk, of London, Mr. H. D. Roberts, representing the City and County Borough of Bath, and Mr. and Mrs. T. H. B. Burrough, of Bristol. Below, Mr. J. S. Mance and Mr. F. McArdle.*

*Mrs. J. P. Hickey and Mr. S. McIlveen at the Garden Party, held in the grounds of Stormont Castle.*

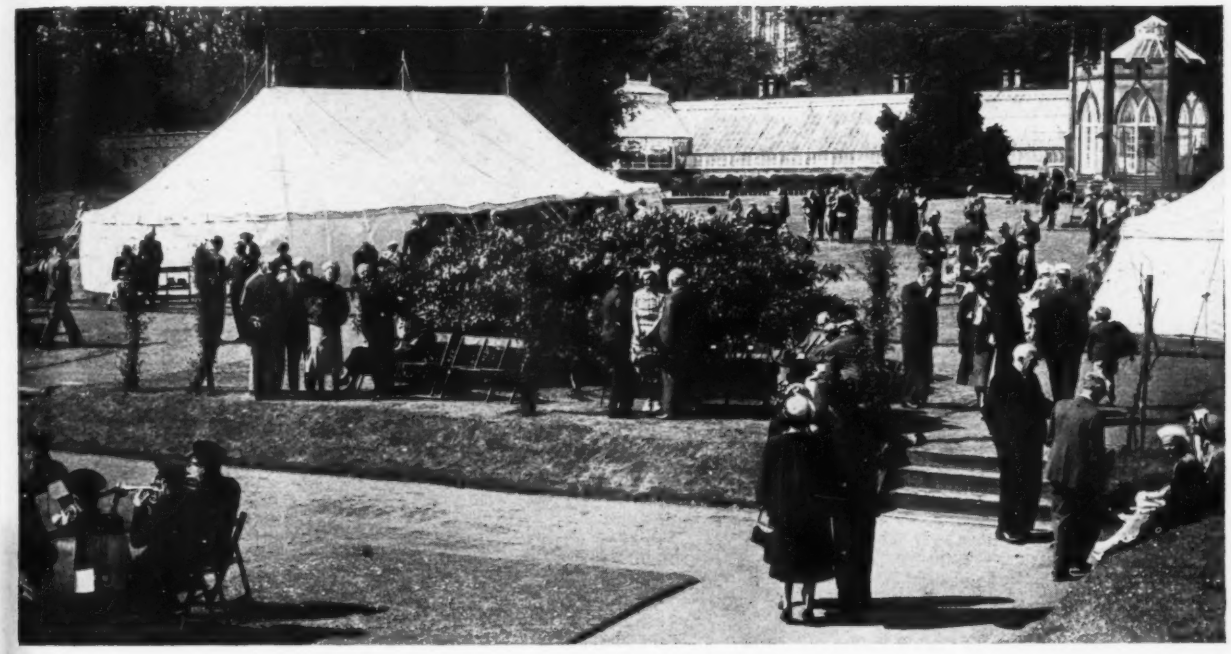
*Mr. and Mrs. Fitzgerald with Sir Basil Brooke, P.M. of Northern Ireland, Mr. R. Ferguson and Mr. R. H. Gibson, PRSUA*



*Mr. James Aitken, chief architect to the Ulster MOH, talking to Mr. Michael Scott, of Dublin.*

## CONFERENCE IN BELFAST

*On Thursday, May 31, in brilliant sunshine, a garden party, see below, was held in the grounds of Stormont Castle. Right, Mr. Vincent Kelly (left) and Mr. Michael Scott, who had both come to the conference from Dublin, in conversation with Mr. J. Murray Easton, of London. The next day, Friday, the second paper of the conference, on Industrial buildings, was read by Mr. Frederick R. Wylie, shown below, centre left, with Mrs. Eric Bolton and Mr. Underwood outside the Belfast Municipal Museum and Art Gallery, where the meeting was held. Bottom of page, left, some of the members after the meeting. Reading from left to right, Mr. Val Smyth ; Mr. R. J. Roycroft ; Mr. Albert Neill, Hon. Sec. of the RSUA ; and Mr. W. H. Irwin, all of Belfast.*



*On Friday a dance and buffet supper was held at the Grand Central Hotel. Amongst those present were : right, Miss Perrott and Mr. Henry Lynch-Robinson, of Belfast. Below right, Mr. C. J. Slator, of Belfast, and Mr. H. A. Patton, of Bangor, enjoying a drink in the bar.*

(continued from page 757)

member of the general council of the NFBTO; W. Davies, superintending civil engineer, MOW; E. C. C. Hamblin, principal regional officer, Leeds, MOLGP; Alderman J. W. Hammond, chairman of the county planning committee, Pembroke, and P. L. Hughes, regional controller, north-west region of the MOLGP.

## STUDENTS' FESTIVAL

### *London Schools' Programme*

An "Architectural Students' Festival," arranged by the London Schools of Architecture, will be held from July 11-21. On Wednesday of this week forty couriers left for all the schools of architecture in Britain and many in France, Italy, Switzerland, Germany, Belgium, Holland and Scandinavia to issue invitations to students. The couriers have been travelling at their own expense. A good many students are expected to be in London during the ten days and their centre will be the Architectural Association School in Bedford Square.

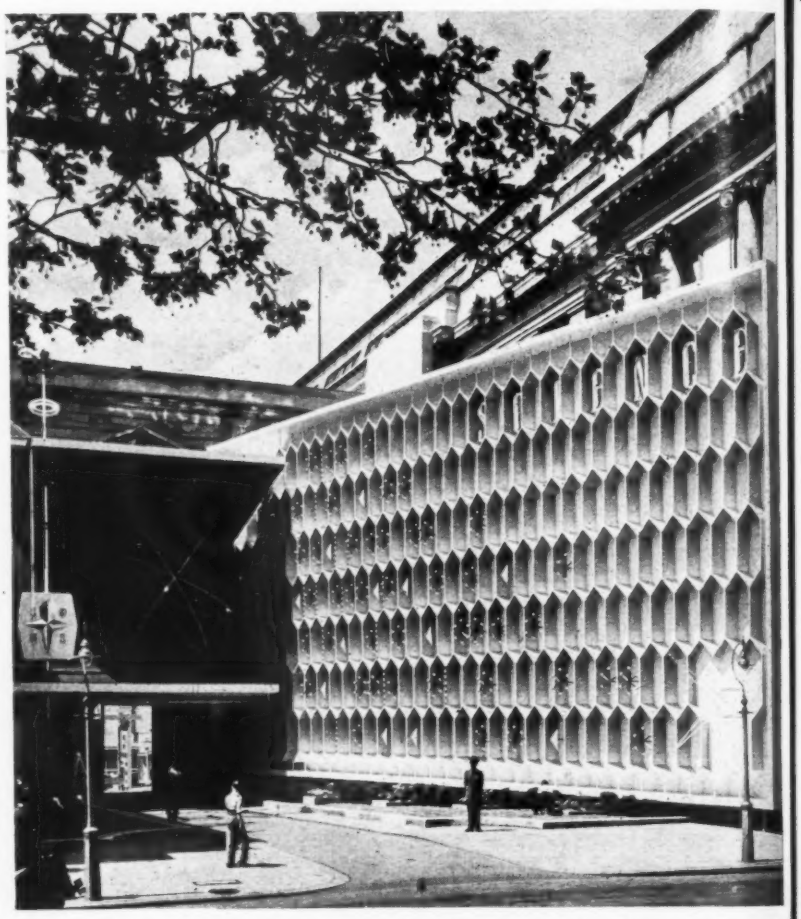
*On the left is Brian L. Housdon, editor of the Northern Polytechnic's Festival issue of "Plan," referred to below, and right, Norman D. Reuter, who is organizing the dance at the Royal Festival Hall, which will be one of the events in the London architectural students' Festival programme. The programme is outlined on this page.*

To close their festival programme students will hold a dinner, concert and dance at the Royal Festival Hall. This is being organized by the Regent Street Polytechnic and the Architectural Association School. The London Philharmonic Orchestra and Choir will be conducted by Sir Adrian Boult in a programme which will include *A Serenade to Music*, by Vaughan Williams, *Sinfonia Concertante*, by William Walton, *A Spring Symphony*, by Benjamin Britten and the first performance of a new work by Richard Arnell. Afterwards the London Philharmonic Orchestra, eighty strong, will play dance music for thirty minutes. Dancing to two bands will continue until mid-night.

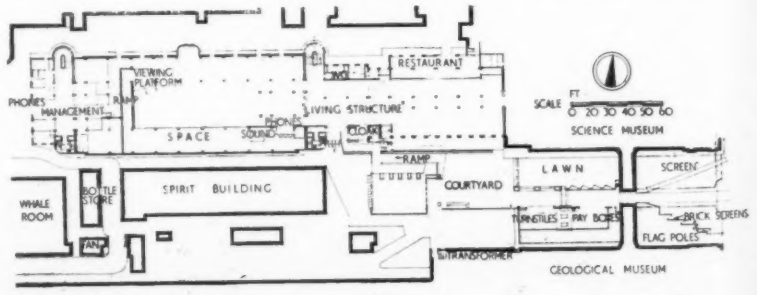
The Bartlett school are arranging visits to all notable buildings in London, including flats at Pimlico and Roseberry Avenue. The Brixton School of Building are arranging special film shows. The Architectural Association School are recruiting a distinguished panel of lecturers.

Northern Polytechnic students are producing an edition of *Plan*, with a foreword by Hugh Casson. This issue will outline the progress of architecture in Britain between

## FESTIVAL OF BRITAIN SCIENCE

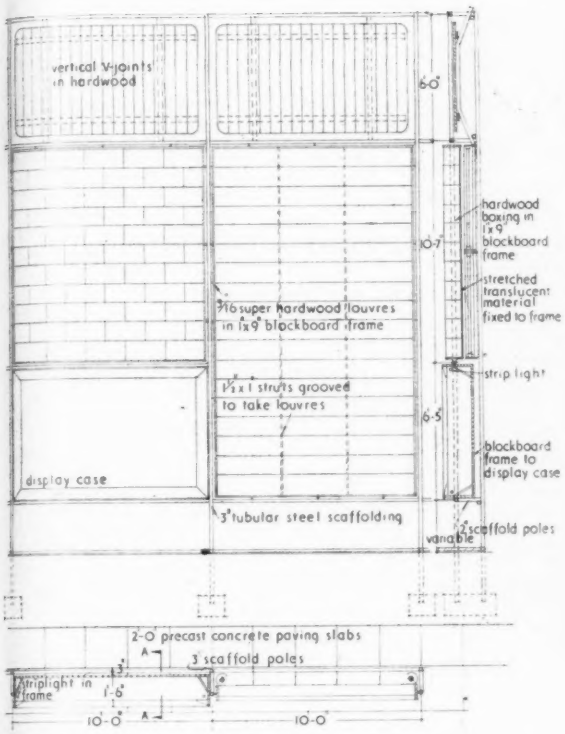


*The site for the exhibition consists of the first floor of the future science block at the museum, which was specially completed in time by the MOW. The carcase only, without any finishes, was handed over to the Festival authorities, and Brian Peake has been architect and co-ordinating designer. Access to the exhibition is from Exhibition Road through an internal courtyard between the Science Museum and the Geological Museum. Exit can be made through the Science Museum at the east end of the exhibition, thus permitting the use of a mezzanine from east to west with continuous circulation from the western end of the hall to the internal exit at the eastern end. The photograph above shows the hexagonal screen, designed by Gordon Andrews, seen across Exhibition Road. The screen is white with hexagonal units in pale blue and yellow; there are arrow motifs in red and copper ball motifs on black stands. On the left is another screen with a feature in blue neon against a dark blue background. Top right on page 761 is a general view of the internal courtyard. The*

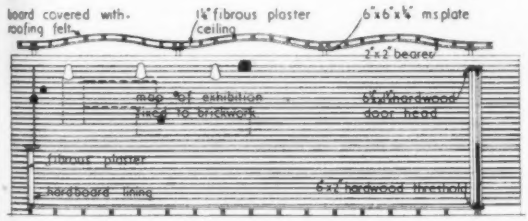



General layout plan

# EXHIBITION AT THE SCIENCE MUSEUM, SOUTH KENSINGTON

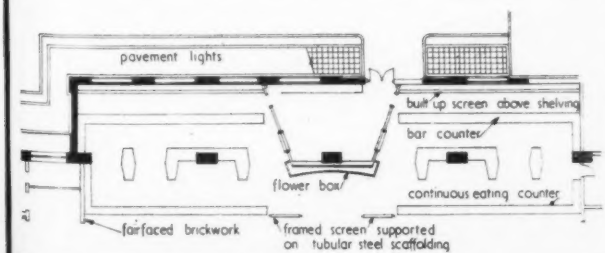



Elevation, section and plan of screen in internal courtyard [Scale : ¼" = 1'0"]

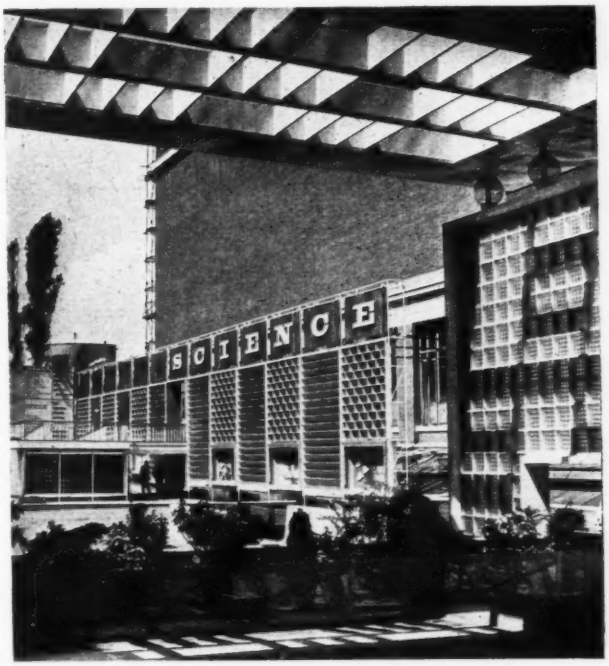


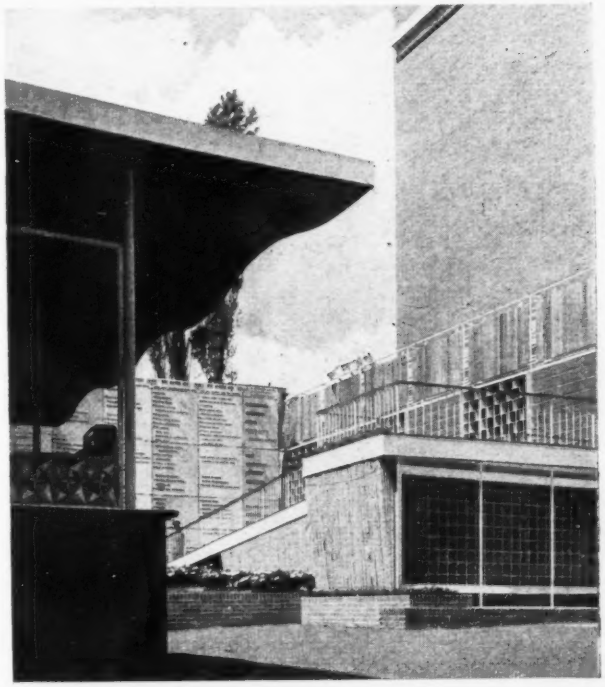

Longitudinal section through information bureau [Scale : ½" = 1'0"]

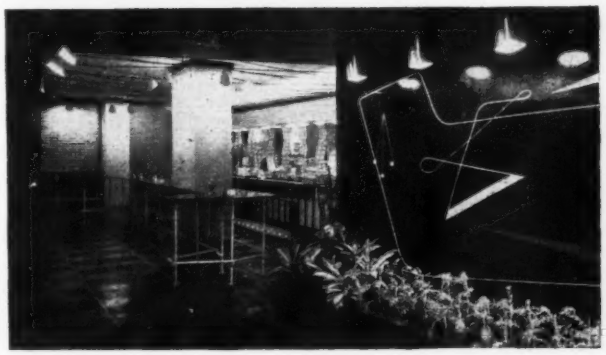
*screen in the background consists of tubular metal framing with louvres coloured lemon yellow and boxes in a combination of dark blue, pink and yellow. The centre photograph shows the information counter, which has a fibrous roof painted dark blue, on the left, and an observation platform in the background. Bottom right is a view of the buffet with a mural on the right designed by P. Hofel. Overleaf the cinema entrance, bottom right, has grey and white striped lettering on a yellow background : the foyer, top, has one wall of lilac grey and lime bricks,*



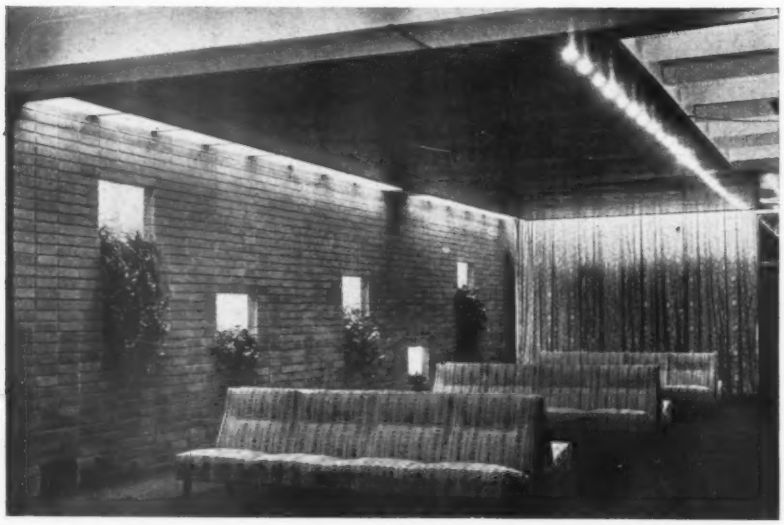

Plan of buffet [Scale : 1/32" = 1'0"]

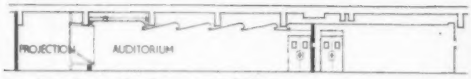


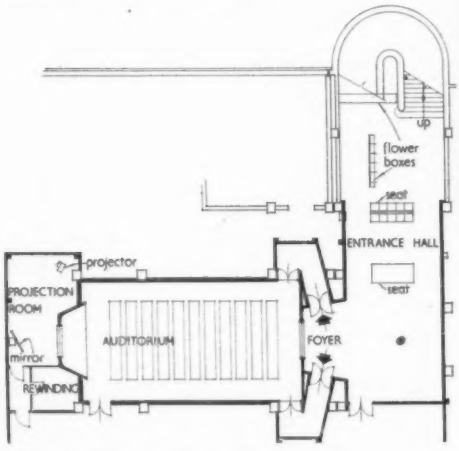


## FESTIVAL OF BRITAIN SCIENCE EXHIBITION



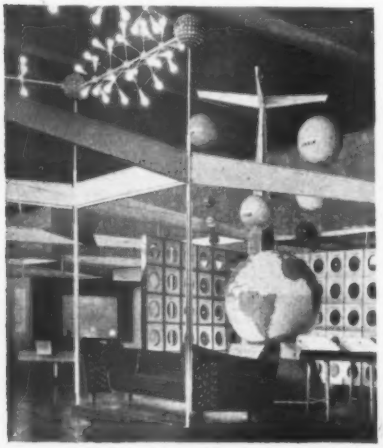



Section through cinema and foyer




Plan of cinema [Scale: $\frac{1}{32}$" = 1'0"]

*and the cinema itself, above, has side walls panelled with bamboo and a dark blue frame to the screen. Below, left, is a general view of the display in the chemical structure section designed by Ronald Dickens. After the preliminary designs for the exhibition had been prepared and approved, the budget of cost was reduced from £750,000 to £300,000. The general contractors were Higgs & Hill, Ltd. For sub-contractors,* *see page 780.*



the 1851 and 1951 exhibitions. It will show the South Bank as the consolidation of the modern architect's position in Britain, placing the South Bank in its context of modern British architectural achievement. It will be available from Schools of Architecture and South Bank bookstalls from July 9, price 2s. 6d.

## STRATFORD-ON-AVON

### *New Road Bridge*

The road bridge seen in the photograph opposite has been designed by Arthur Bailey, of Ansell and Bailey. It is designed to take the traffic which now runs over the Clopton Bridge, built by Sir Hugh Clopton about 1480, (seen behind the new bridge in the photograph.) Although the Clopton Bridge was widened in the 18th century and had an ugly iron cantilevered footpath added in the 19th century, its width—between parapets—is only 20 ft. and it is therefore too narrow for the traffic using it.

Many schemes for a new bridge or for widening the present one have been put forward during the last twenty years. The Ministry of Transport, which became responsible for the bridge in 1936, finally decided, in consultation with all the authorities and bodies concerned, that a new bridge and road should be planned to the east of the present structure. An Order will be made in due course for Mr. Bailey's scheme, which has ben approved by the Royal Fine Art Commission, but it is unlikely that a start can be made on construction work for some time, owing to the present restrictions on capital expenditure.

In order that the gradient of the approaches should be reduced, the headroom between the average water level and soffit of the bridge has been kept to a minimum, and the loss of light to the inside of this wide bridge, which generally occurs, has been made good by the opening up of the central reserve betwen the dual carriageways. For this unusually designed bridge the architect has used the term "hypaethrel."

The new bridge is to be "suppressed" as much as possible and has been designed so that the concrete road slab is carried over the water with the least possible fuss.

The footways will be cantilevered from the supporting piers—about 9 ft.—giving the effect of a very shallow beam spanning an unusually wide opening.

The photograph enables an interesting comparison to be made between the problems of providing a bridge for the very narrow road of by-gone days, and a bridge for the modern, wide trunk roads. The old Clopton Bridge in the middle distance has arches about 14 ft. wide, equal to the abutments, which was quite practical with a road only 20 ft. wide. Such a solution is quite out of the question today, as each arch would be more like a drain pipe 12 ft. in diameter and 90 odd feet long. In comparing the two bridges it is also interesting to note that the great length of the old Clopton Bridge was designed to provide adequate flood area. The new bridge, which is by no means so long, gives a similar flood area.

The bridge, for which the consulting engineers are Scott and Wilson, is to be constructed in reinforced concrete, faced with brick tiles and stone.

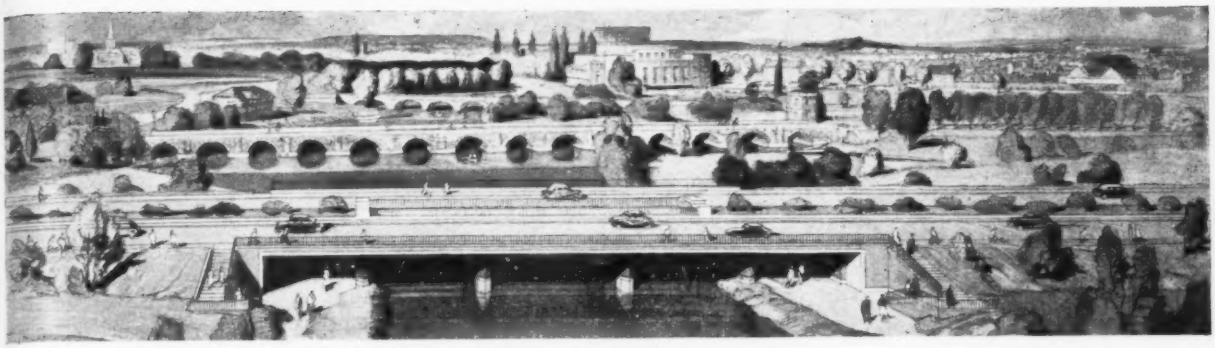
## MOLGP

### *Housing in April*

The MOLGP has announced that the number of permanent houses completed in Great Britain during April was 15,123 compared with 16,757 in March.

The total number of houses completed under the post-war programme is now 1,037,678 (880,532 permanent and 157,146 temporary).

## NEW ROAD BRIDGE AT STRATFORD-UPON-AVON



*This bridge, designed by Arthur Bailey, is described in the news note opposite.*

# DIARY

*Exhibition of Drawings by Thomas Matthews Rooke* (1842-1942). At 66, Portland Place, W.1. (Sponsor, RIBA.) Last day: 10 a.m. to 7 p.m. JUNE 14

*The Man in the Street.* Sir Charles Tennyson. At AGM of CVE, Housing Centre, 13, Suffolk Street, S.W.1. 2.15 p.m. JUNE 14

*The Dome of Discovery.* By Ralph Tubbs. At Lecture Theatre, Northern Polytechnic, Holloway, N.7. (Sponsor, Society of Architectural Students, Northern Polytechnic.) 4.30 p.m. JUNE 15

*British Standards Exhibition.* At Science Museum, South Kensington. (Sponsor, BSI.) Weekdays: 10 a.m. to 7 p.m. JUNE 18 TO 28

*The Architectural Significance of* 1851. R. Furneaux Jordan. At 66, Portland Place, (Sponsor, AA.) 6 p.m. JUNE 19

*Exhibition of Work by Students of LCC Brixton School of Building.* At Building Centre, 9, Conduit Street, W.1. Monday to Friday: 10 a.m. to 5 p.m. Saturdays: 10 a.m. to 1 p.m. UNTIL JUNE 29

*Exhibition of Contemporary Architecture (Members' Work).* Herbert Gallery, Coventry. (Sponsor, Coventry Society of Architects.) Monday to Friday, 10 a.m. to 8 p.m. Saturdays, 10 a.m. to 5 p.m. UNTIL JUNE 30.

*Exhibition of Old Books, Maps, Prints, Engravings and Rare Documents.* At 98, Gloucester Place, W.1. (Sponsor, Institute of Quantity Surveyors.) Daily (excepting Sundays and Bank Holidays): 2 p.m. to 5 p.m. UNTIL SEPT. 29

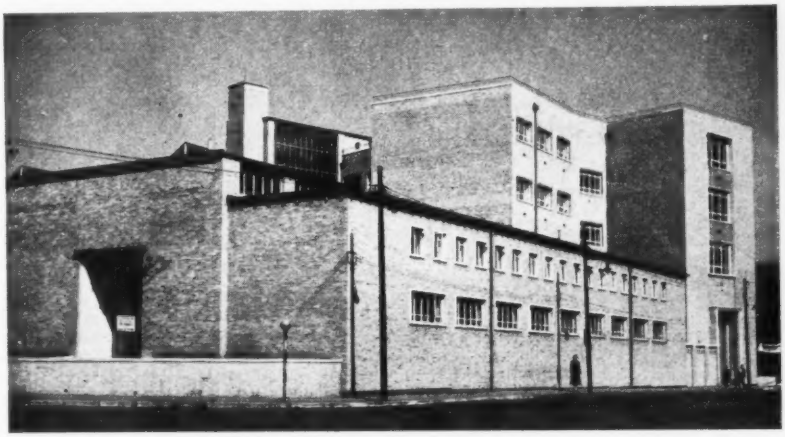
*Harlow New Town Festival Exhibition.* At Harlow. Monday to Friday: 10 a.m. to 4.30 p.m. Saturdays: by special arrangement. (Sponsor, Harlow Development Corporation.) UNTIL SEPTEMBER

*FOB South Bank Exhibition.* Daily 10.30 a.m. to 11.30 p.m. Sundays, 12.30 p.m. to 11 p.m. UNTIL SEPT. 30

*FOB Exhibition of Architecture.* At Lansbury, Poplar. Weekdays, 10.30 a.m. to 8 p.m. Sundays, 12.30 p.m. to 8 p.m. UNTIL SEPT. 30

1851 *Centenary Exhibition.* At Victoria and Albert Museum, South Kensington. Weekdays, 10 a.m. to 6 p.m. Sundays, 2.30 p.m. to 6 p.m. UNTIL OCT. 11

## ADDITIONS TO KING'S COLLEGE, NEWCASTLE



*Above are two views of the Stephenson Building, King's College, Newcastle-upon-Tyne, which was recently completed at a cost of about £500,000 and is at present being used to house a part of the Northern Industrial Exhibition in connection with the Festival of Britain. This building, which was designed by Edwards and Manby, will be officially opened by HRH The Duke of Edinburgh later this year and will accommodate the Department of Mechanical and Marine Engineering of the university. The main four-storey block, seen on the right in the top photograph, contains lecture rooms, common rooms and staff accommodation. The consulting engineers were R. W. Gregory and Partners and L. G. Mouchel and Partners. The general contractors were Leslie & Co., Ltd.*

# FLATS

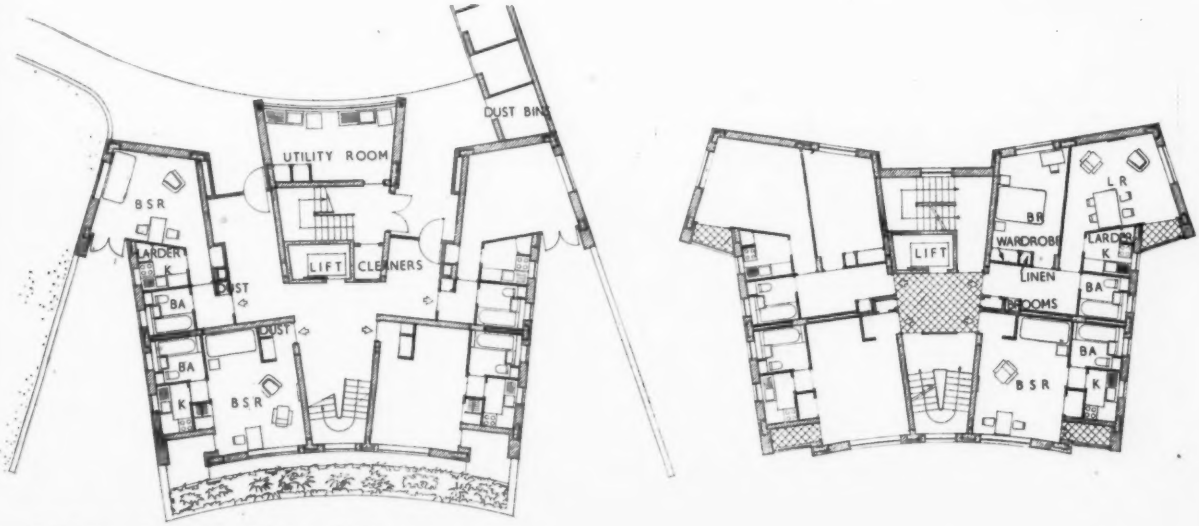
at HARLOW NEW TOWN, ESSEX
designed by FREDERICK GIBBERD
assistant architect R. J. DOUBLE
consulting engineers T. F. BURNS and PARTNERS

These two blocks of flats, known as the Lawn, form a part of Mark Hall North neighbourhood at Harlow. The top floor of the tall block now contains the Development Corporation's exhibition, which was described in our pages last week. From the roof of this block may be seen the housing in this neighbourhood nearing completion, the industrial area and the landscape of the new town. The Lawn is situated on the eastern edge of the neighbourhood, where it may be seen from the main Epping-Bishop's Stortford road. In order that the prospect from this road should not be of the usual low small house development, the flats were designed to provide a broken silhouette and a contrast in mass.

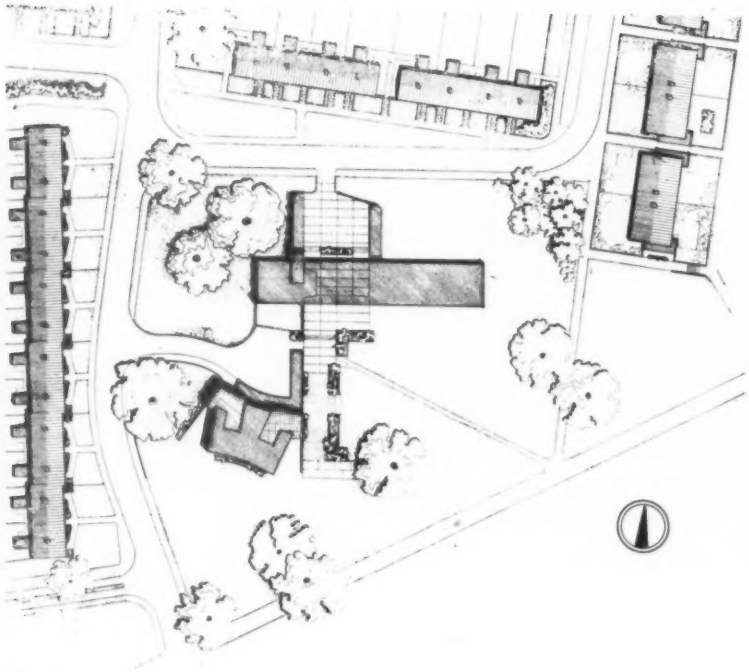
*South elevation of three-storey block and ten-storey tower on the right.*

*The north and west facades of the ten storey flats and the entrance drive and storage sheds on the left.*

SITE.—The two blocks, one low and one tall, are situated on high ground. The tall building is sited so that from the main road it is first seen obliquely, above the roofs of other dwellings, and then is seen in its entirety through a gap between trees. The strong horizontal lines of the low block counteract the vertical lines of the tall building. The two blocks stand in the midst of nine large trees which are surrounded by rows of terraced and detached family houses with private gardens. The two build-



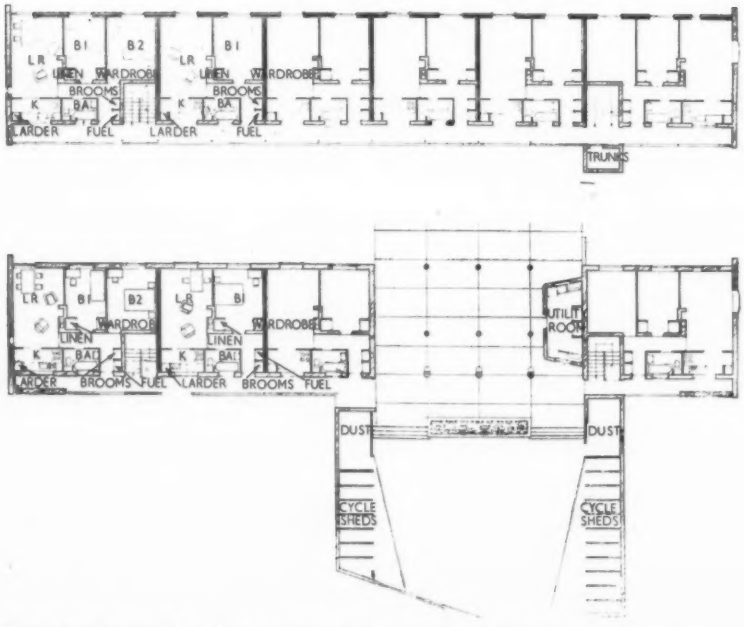

**Ground and upper floor plans of 10-storey block** [Scale : $\frac{1}{16}$" = 1'0"]



Site plan

## FLATS

at HARLOW NEW TOWN, ESSEX
designed by FREDERICK GIBBERD




Ground and upper floor plans of 3-storey block [Scale: $\frac{1}{16}$"=1'0"]

ings are related to each other by pavings, walls, screens and planting. An entrance forecourt, with storage sheds, is placed on the north of each block. The three-storey block is pierced at ground level, so that pavings may extend under it and link up with a terrace and garden between the two blocks.

PLAN.—All the flats are small and are intended for single persons or small families. The tall block has four flats on each floor (two bed-sitting room and two one-bedroom flats) grouped round a lift and staircases. The plan is a butterfly shape, arranged so that each living room and its balcony has a south aspect and view over open landscape. The flat roof is designed as a roof garden, with shelter against wind and rain. The bathrooms and kitchens are concentrated on each side of the building, with tank rooms above. The plan of the three-storey block is of the gallery type, with all living rooms and bedrooms ranged on the south.

CONSTRUCTION.—The ten-storey block has a reinforced concrete frame with hollow tile structural floors and reinforced concrete staircases. The external walls are of 14-in. brickwork to full height, giving 4½-in. brick cover to the frame and a flush internal surface to all rooms. The lift well is constructed in reinforced concrete as a separate, isolated unit and insulated at all junctions with frame or floors by ½-in. cork. The three-storey block is constructed of 14-in. brick load bearing walls to first floor level and 11-in. cavity brickwork above, with hollow tile floors and roof and reinforced concrete staircases.

FINISHES.—Both buildings are faced with bricks of different kinds, which are laid to various types of bond, giving contrast in colour, pattern and texture.

*Left, the south and east facades of the tower block with terrace houses in the background. Below, the three-storey block showing the way through to the forecourt.*

Eaves are faced with timber, balconies with glazed tiles and, where concrete is exposed, it is specially faced and protected by weather stripping. The roof garden is paved with 12-in. sq. asbestos tiles on 3-layer roofing felt.

SERVICES.—Heating and hot water installation in the tower is electric with a multi-point heater serving bath, basin and sink. In the three-storey block each flat has a slow combustion grate, which also provides convected air to the adjoining bedroom and hot water from a back boiler.

The general contractors were Gilbert-Ash, Ltd. For list of sub-contractors see page 780.

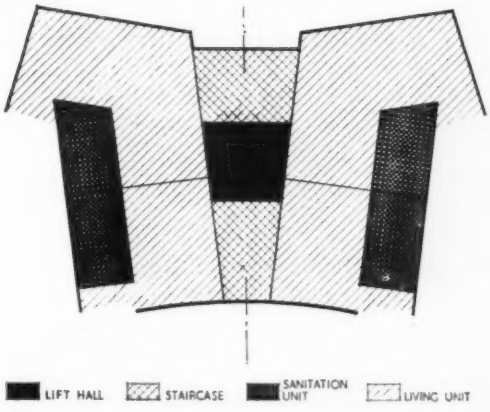


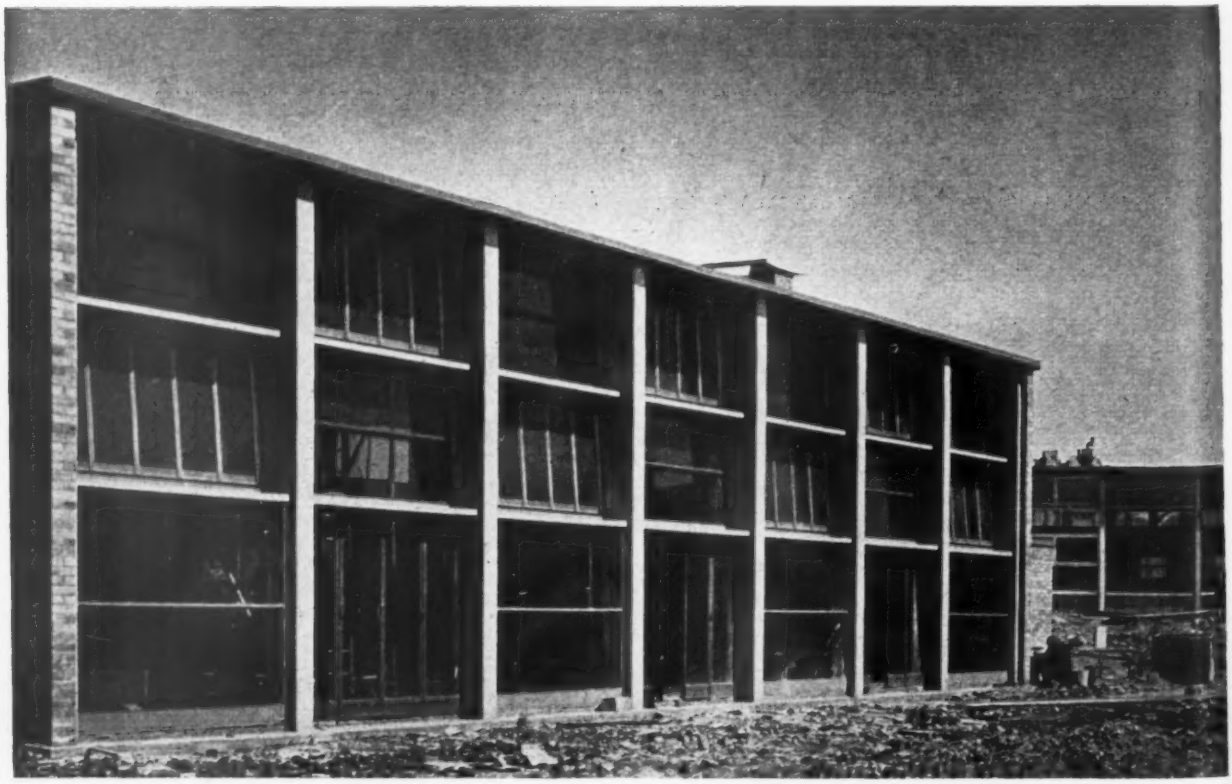

Diagram of 10-storey flat layout

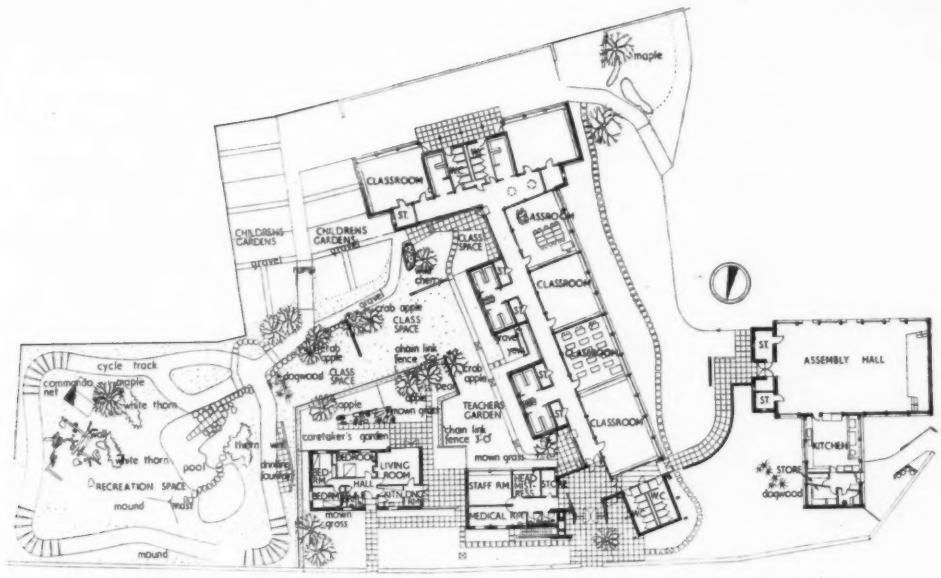
# INFANTS' SCHOOL

in WESTVILLE RD., LONDON, W.14
designed by ERNO GOLDFINGER

This LCC school, which is on the site of an old school destroyed by bombing in 1944, will accommodate, when finished, 240 children between the ages of 5 and 8. It has been built with a structural frame of precast concrete units, especially designed for the purpose. Another school, incorporating the same method of construction, is being built in Brandlehow Road, Putney. This is also for the LCC, but will accommodate juniors as well as infants.

*The assembly hall, almost completed, from the south-west.*






Plan and site layout
[Scale: $\frac{1}{16}$" = 1' 0"]

SITE.—The 4 outside class spaces are all arranged so that the children face south-east; trees shade the teacher's position. The first contains two large Norway Maples, in scale with the large area of the adjacent games space; the second has a formal character, in keeping with its proximity to the building; the third is an intimate grassed amphitheatre; the fourth forms a more flexible open space. In addition to a normal playground, there is a recreation space containing a concrete cycle track, a "junk corner" and a pool for toy boats.

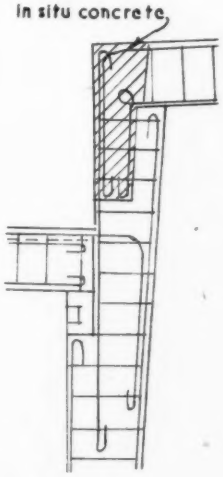
PLAN.—The principal accommodation consists of 6 classrooms, with their cloakrooms, storerooms and lavatories, the assembly hall, which also serves as the dining room, the headmistress's room, a staff room and a medical room. There is also a boiler house and a caretaker's cottage. The framed portions of the building are linked by free shapes constructed of brickwork; one at the entrance hall, one connected to the assembly hall and one at the south end of the building.

CONSTRUCTION.—A minimum number of different precast units were used; where special beams were required, it was found cheaper and simpler to cast them *in situ*. The tapered shape of the column was chosen on æsthetic grounds, but, from the structural point of view, it is logical to have a smaller section at the bottom of the column where the moments are relatively small. Lintels and cill units help to provide longitudinal stability; continuity steel, placed in grooves in the units, passes right through each column. Column bases were poured first, special care being taken to ensure that the tops of these bases were all at the same level. The sockets for the columns were then formed and the floor slabs poured. The slabs were allowed to harden sufficiently to carry the light pneumatic tyred crane chosen for the job. This crane was used to erect the columns, cill members and the heavy cross beams. The small 6-ft. 6-in. by 6-in. by 5-in. corridor columns were easily "manhandled" into position and the only scaffolding required was 4 pairs of 12-foot trestles and a few scaffold boards.

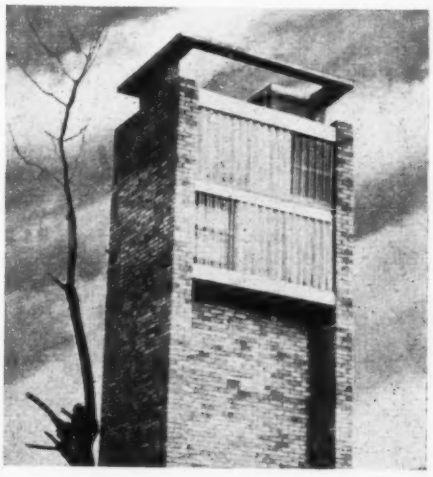
SERVICES.—The heating installation is of the low pressure hot water type with a small, electrically-driven centrifugal pump. The steel mains, insulated against heat loss, are all carried in trenches. Radiators are of the easily-cleaned "hospital" pattern. Where there is insufficient space for them, pipe coils are used instead. The assembly hall has floor panel heating, thermostatically controlled, and with its own accelerator pump.

The general contractors were C. F. Kearley Ltd. For list of sub-contractors see page 780.

Below, the *in situ* joint between precast column and beam



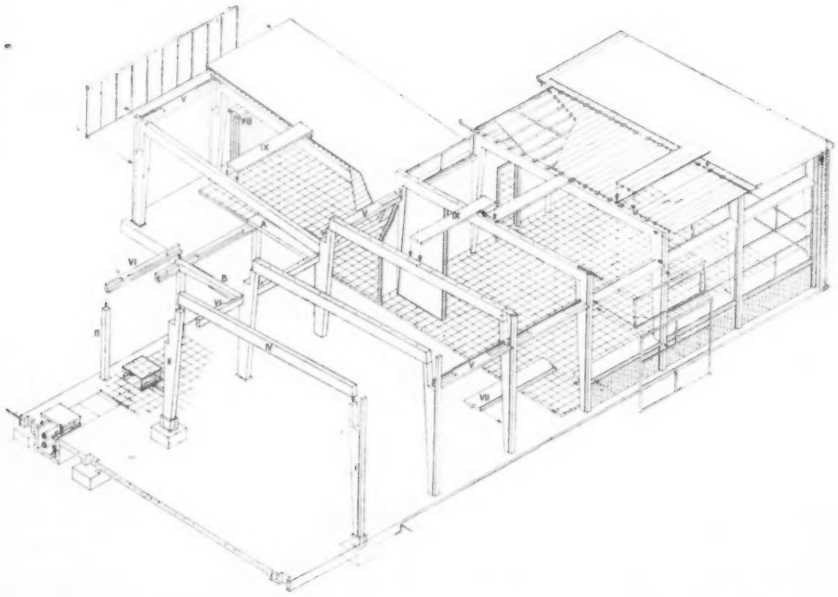

*Below, a view of the completed tower from the west.*



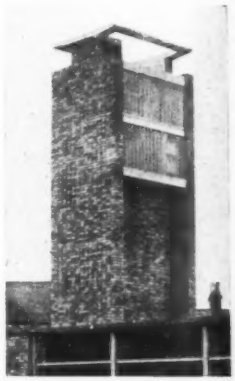
*Although this new school at Hammersmith is not yet completed the photos on pages 771 and 772 show clearly the precast concrete frame. This is the chief item in the following discussion. It appears that the principal advantage of this structural system is economy ; its principal disadvantage, lack of flexibility.*

# PRIMARY SCHOOL, WESTVILLE RD., W.14.

## *Discussion between the Architects and Editors of the* JOURNAL



*Left, exploded isometric showing system of construction. The members labelled with Roman numerals are detailed on page 772.* [Scale : $\frac{1}{16}$" = 1' 0"]



*"Why is the tank tower so high?*

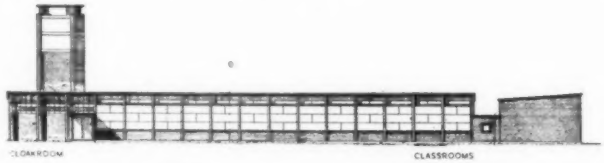
**TWENTY-ONE :** Regarding the aspect of the school : the classrooms at the north-west corner face directly the side elevation of the kitchen and assembly hall instead of looking on to the games space. Similarly, the classrooms on the south-east side look directly on to a 6-ft. wall some 22 ft. away and have a blank wall on the west, which appears to be the best direction for view.

**ARCHITECT :** The flank wall which the general purpose room faces slants away, so that the view opens out towards the south. The two classrooms on the south-east that you mention were originally intended for infants, while the other four classrooms were intended for juniors ; those for the infants have their own little patio formed by a 6-ft. creeper-covered wall, giving intimacy. We have tried to create intimate spaces for concentrated activities, not vistas over playgrounds. And we tried to achieve a variety of views from different windows. There are two play spaces, an open playground and another space for freer activities, like cycling and boating. There is also a more intimate garden which will provide outside class space. This arrangement will allow lessons to go on quietly in the garden " classrooms " while games are played in the games spaces.

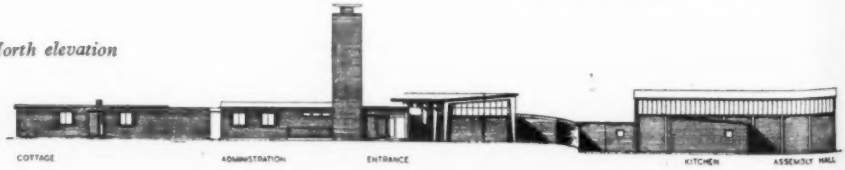
**EIGHT :** How did you decide which way the school should face ? It does not appear to face any particular way !

*South elevation*


*West elevation*




*North elevation*




[Scale for elevations : $\frac{1}{16}$" = 1' 0"]

**ARCHITECT :** We could have put the buildings back on the north side of the area and faced them south by levelling the site, but we decided that this solution would not only be most uninteresting, but undesirable too, as all the classrooms would face south ; not to mention the cost of such an operation. The orientation of all the rooms in the school—classrooms, teachers' rooms, caretaker's cottage and kitchen—have been carefully considered. Classroom models were specially tested for sunlight on a "heliometer" and photometric measurements were made. We decided that the best orientation for the classrooms was either south-east or south-west and that is the direction which these classrooms face. The assembly hall faces nearly due south, but the structural framing provides a system of "brise soleil." Elsewhere, provision has been made for sun blinds. The school kitchen faces east and west and is shaded from the south by the assembly hall.

**TWENTY-FOUR :** The classrooms appear very high for an infants' school. Don't you agree that a large volume of the building is wasted by the excessive height of some of the rooms ; particularly the cloakroom block on the east wing ?

**ARCHITECT :** The lavatories have been deliberately kept to the full height for ventilation purposes. But I do think that, for infants, classroom ceiling heights could be as low as 7 ft. 6 in. on the window side, rising to 10 ft. on the passage side. This school, however, was originally designed for both infants and juniors, and it was only later decided to use it exclusively for infants.

**SIXTEEN :** Could you maintain daylight standards with the heights you suggest ?

**ARCHITECT :** I do not think that daylight standards could be maintained with a window height of 7 ft. 6 in. but a very even distribution of light could be achieved (with reflecting members), which I think more important than the very high lighting standards required at present.

**NINETEEN :** While appreciating the economies made possible by using pre-cast concrete, there seems to be a serious objection to this system—it limits the planning. Only *rows* of classrooms can be designed and, therefore, for economic reasons, these rows must usually run along contour lines, thus limiting flexibility of planning.

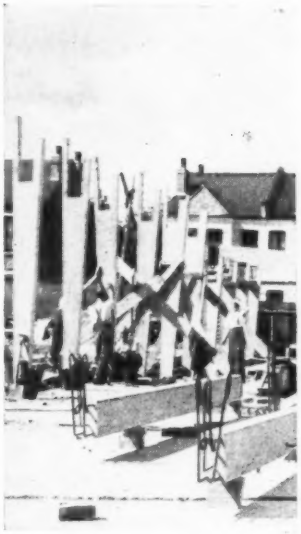
**ARCHITECT :** I think this school, whatever its other shortcomings may be, is a conclusive demonstration that considerable flexibility *can* be achieved with this system by using *in situ* "links."

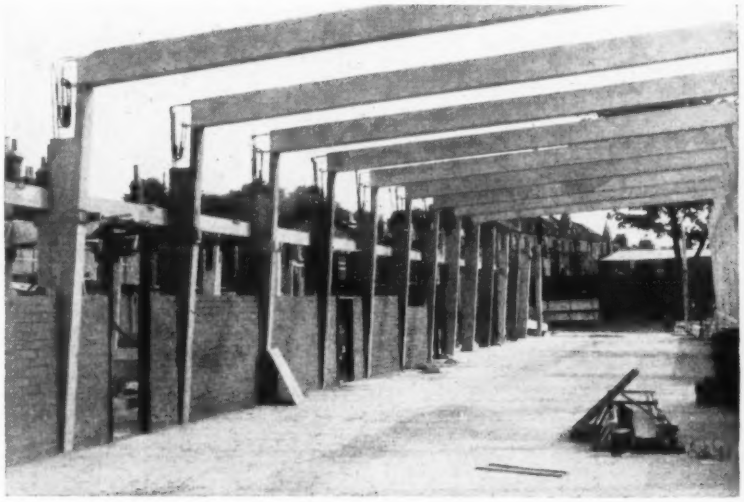
**SIXTEEN :** Another disadvantage, in my opinion, is that sunlight can only be obtained from two opposite sides of the classroom, so that the view from the classroom window is limited by the orientation.

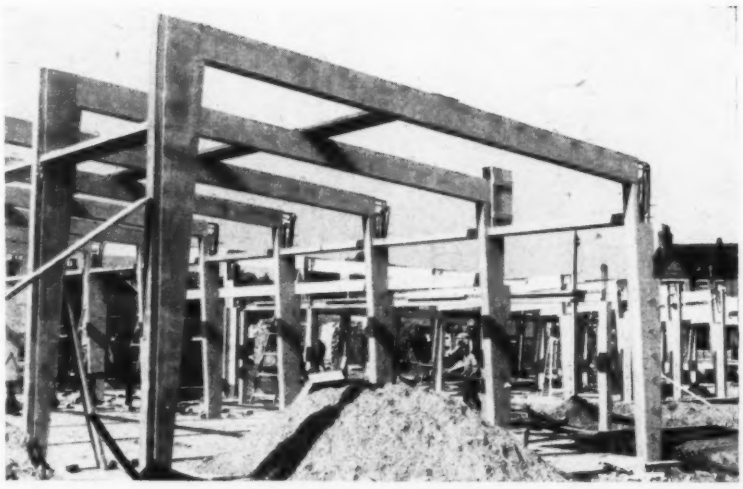
**ARCHITECT :** This applies, surely, to practically any system. On the other hand, it is perfectly practicable with our method of construction, as well as with others, to design completely isolated classrooms with windows on three, or even four, sides ; whether this is desirable is another question.

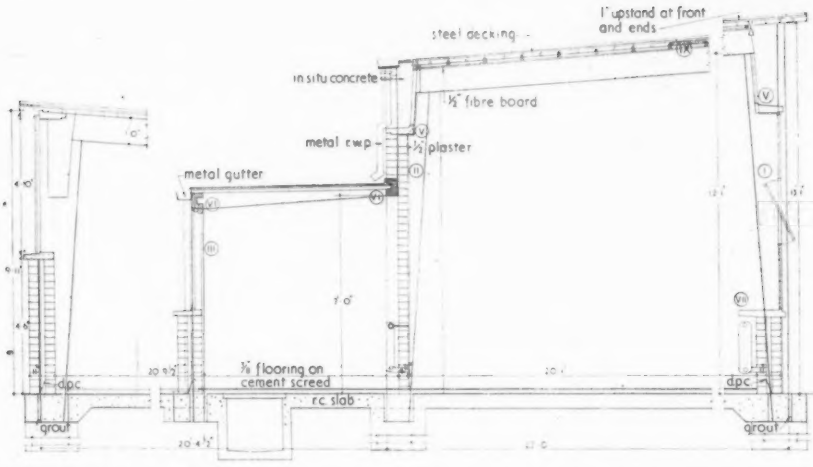
**TWELVE :** Where the steel decking is left exposed on the underside, in corridors and cloakrooms, is there not a risk of condensation ?

*Below can be seen four stages in the erection of the precast concrete frame. Firstly, erection of the columns ; secondly, the cills and lintols ; thirdly, the beams ; and fourthly, the* in situ *concrete at the joints. For fifth stage see p. 772.*

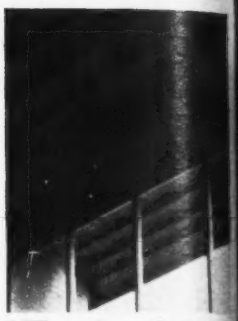




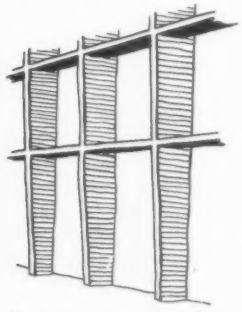





*Composite section through classroom, corridor and lavatories.* [Scale : ¼" = 1' 0"]



*"Where the steel decking is left exposed on the underside . . ."*



*"the structural framing provides a system of 'brise soleil' . . ."*

**ARCHITECT :** Special paint will be used to avoid this.

**TWENTY-FOUR :** What is the life of this roof, without maintenance ?

**ARCHITECT :** Where the metal is exposed, it will have to be repainted periodically, but I know of similar roofs which have remained satisfactory after a considerable time. Incidentally, the cost is very low—only 27s. per sq. yd. inclusive of roofing felt and ½-in. insulation board.

**TWELVE :** Why is the tank tower so high ?

**ARCHITECT :** The height of the tower permits a higher water level, and so saves on the bore of the pipes.

**TWENTY-ONE :** Is the corrugated perspex in the tower used for æsthetic reasons ?

**ARCHITECT :** Yes, but it also lights the tank room in an economical way.

**TWENTY-FOUR :** What price per place do you anticipate ?

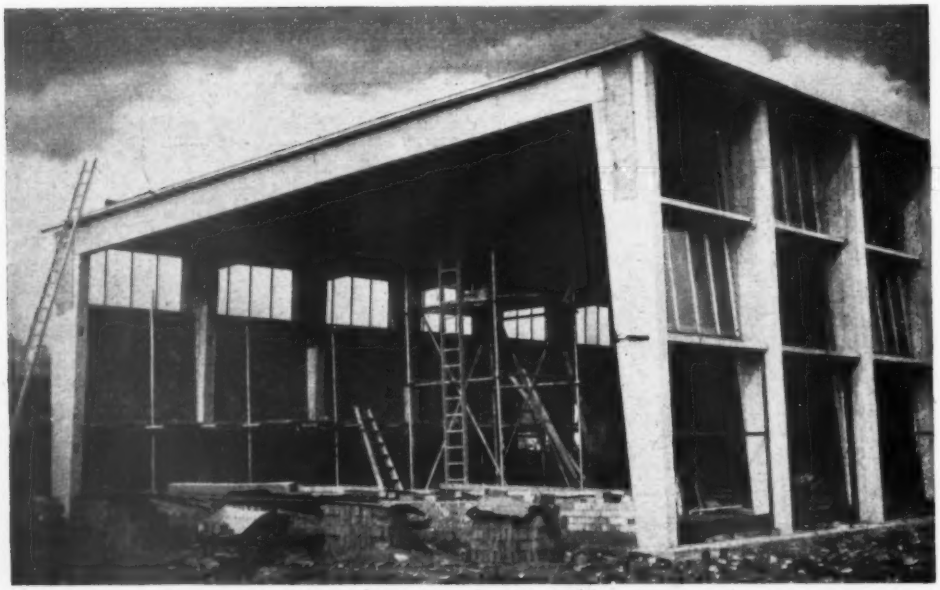
**ARCHITECT :** The net cost will be £131 per head, for the work defined in MOE Circular No. 209, which, I think, lays down a ceiling of £170 for this type of school. It was originally the intention to erect an infant and junior school for 240 children, using MOW standard hutting. But after an examination of the problem it was decided that the use of specially designed prefabricated units would be more suitable and, in the long run, more economical too.

**TWENTY-ONE :** In what way has this method of construction proved so economical ?

**ARCHITECT :** Partly in speed of erection. The pre-cast frames were put up in only 24 working days and only 4 men and a crane driver were needed. Also, tolerances are reasonable—no unnecessary precision is required.

**NINETEEN :** Did the client give you a free hand with the planning and the æsthetics ?

**ARCHITECT :** The client (the Education Officer of the LCC) has not interfered at all in planning or æsthetics, and has given the utmost support, advice and help in every way. I wish all private clients were as helpful !



*The 5th stage of construction ; cladding and glazing. The assembly hall from the south-west.*

*decking*
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# STAIR TREADS | ALUMINIUM AND PLASTIC

The Architects' Journal Library of Information Sheets 315. Editor: Cotterell Butler, A.R.I.B.A.


**·DON· ALUMINIUM PLASTIC-FILLED STAIR TREADS.** (scale ¾ full size)
Manufacturer: Small and Parkes Ltd.

# 19.Z10 'DON' ALUMINIUM PLASTIC-FILLED STAIR TREADS (*Patent No. 645569*).

This Sheet describes a range of aluminium stair-nosings which are available fitted with specially compounded plastic inserts in a selection of pure colours. Where a wider tread is required than that provided by the tread-and-nosing section, flat tread sections may be added to make up the required width. Should the step not be brought up to the level of the tread by the stair covering, special feather-edged strips can be fixed at the back of the treads.

## Sizes

The drawings on the face of this Sheet show, to a scale of ¾ full size, the various sections which are available. Special sections can be supplied if the order is sufficiently large to justify the manufacture of the dies. All sections may be supplied drilled and cut to specification; alternatively, standard undrilled lengths of 12 ft. 1 in. may be obtained. Curved lengths are supplied to drawings or templates and are available with the nosing on the inside or outside of the curve.

## Aluminium Sections

These are extruded from 99·25 per cent. pure aluminium and nosings are buffed to give a highly polished finish.

## Plastic Inserts

*Material:* The plastic used is of the thermoplastic type and is a special grade of polyvinyl chloride.

*Characteristics:* The insert is extruded, has a ribbed surface, is stable in shape, non-slip and hard wearing. Under the influence of heat (in excess of 120° F.), combined with mechanical stress, it can become distorted, but these conditions are unlikely to arise when the material is in service.

The compositions used are not affected by water, acids, alkalls or oils with which they may come in contact under normal circumstances. They are not inflammable and do not support combustion.

*Colours:* The colours are blended throughout the material and cannot, therefore, wear off. They may also be regarded in practice as unaffected by light and heat. All sections are available with inserts of white, gold, silver, blue, maroon, two shades of red, green, brown and black.

Double channel sections may be obtained with inserts in a combination of any of these colours.

## Fixing

Plastic-filled stair treads are drilled to take ¾ in. or 1 in. No. 6 or No. 8 wood screws and are countersunk to take No. 6 or No. 8 screw-caps; these fittings may be brass or cadmium plated. Alternatively, the treads can be supplied with holes counter-bored through to the aluminium base, these holes being fitted with plastic plugs after the treads have been fixed.

*Wood stairs:* Care should be taken to ensure that the stair treads bed down evenly. Where the steps are badly worn it may be advisable to chisel out and fit the tread flush with the remainder of the step. Where the step is only partly worn it may be built up level and the tread fitted to the top.

*Concrete stairs:* With new stairs the treads may be cast in when making the steps or, alternatively, timber fillets may be cast in to take the fixing screws. With existing stairs the steps can be drilled and plugged to take the fixing screws. When it is required to fix the stair treads with an adhesive instead of screws the manufacturer should be consulted.

*Metal stairs:* The treads should be fixed with ⅛ in. brass countersunk screws and steel nuts with washers, the steps being drilled accordingly.

## Fabric-Filled Stair Treads

All treads on this Sheet can be supplied with the more common type of fabric insert in place of the coloured plastic type if required.

*Compiled from information supplied by:*

**Small and Parkes Ltd.**
**Head Office:** Hendham Vale Works, Manchester, 9.
**Telephone:** Collyhurst 2511.
**Telegrams:** Packless, Manchester.
**London Office:** 18, High Street, Wimbledon, S.W.19.
**Telephone:** Wimbledon 4248/9.
**Telegrams:** Karroko, Souphone, London.

I.B6


1. CASLON OLD FACE, THE FIRST ROMAN TYPE TO BE CUT IN ENGLAND.


2. BODONI, ONE OF THE BEST OF THE TYPE FACES KNOWN AS ·MODERN·


3. ULTRA BODONI, A PRESENT-DAY VERSION OF THE EARLY 19TH. CENTURY FAT FACE.


4. ROCKWELL AND ITS ITALIC, A MODERN INTERPRETATION OF AN OLD FORM.


5. CLARENDON, MORE REFINED THAN ROCKWELL BUT EQUALLY ARCHITECTURAL.


6,7. TWO VARIETIES OF THE GROTESQUE GROUP, NO.9 AND NO.7.


8. ONE OF A GROUP OF HEAVY, RATHER SQUARE TYPES KNOWN AS DORIC.

**TYPE-FACE LETTER FORMS SUITABLE FOR USE ON BUILDINGS (1).**
Compiled by Charles Hasler for Eagle Pencil Company—Chemi-Sealed Turquoise pencils.

# 1.B6 TYPE-FACE LETTER FORMS SUITABLE FOR USE ON BUILDINGS (1)

**This Sheet** illustrates some examples of type-face letter forms suitable for use on buildings. A further selection is given on Sheet 1.B9. While it is not the intention of this series to discuss general aspects of the design of lettering a number of observations made by the compiler of this selection is of interest. They must be taken as the personal opinion of the compiler, although in most cases they are supported by the majority of informed opinion on the subject.

### General

The architects and builders of the late 18th and early 19th centuries frequently used lettering with great and often unconscious skill, achieving a truly architectural relationship to the building. Examples can still be found in many English towns, from simple signwritten street nameplates to the large and handsome raised letters on the stucco fronts of Regency buildings.

Unfortunately, however, many of the architectural types of letter, in which the early 19th century was so rich, have gone out of use and the architect today who wishes to use good lettering finds himself reduced to Trajan or Gill. These Sheets are intended to revive the interest of architects in some of these lost types which are already getting attention from the exhibition designers (for example the lettering used at the South Bank Exhibition).

The examples given come from five different "families" of lettering, ranging from the 18th century to the present time, and the following notes briefly outline their characteristics.

### Old Face and Modern Face

These are shown for historical interest rather than as recommendations for use by architects. They are by their nature more suitable for printing. But they represent two basic letter forms from which many contemporary display letters are derived and which are more appropriate to architectural treatment. (The Fat Faces and the Egyptians mentioned below also provided starting points from which many of the 19th century decorated and shaded types were evolved.) Old Face letters are the true lineal descendants of the classic Roman letter and are characterised by an oblique thickening of the lower case letters, a very high horizontal cross-stroke in the lower-case *e* and "bracketed" serifs, i.e. serifs curved into the main strokes. The example shown (1) is Caslon Old Face, the first Roman type cut in England in the early 18th century by William Caslon.

In the Moderns the thickening of the letters has become vertical ; there is a very marked difference between thick and thin strokes and the serifs are fine hair lines, usually unbracketed. Bodoni, an 18th century Italian typefounder, cut the original of the type shown (2), which is a present-day version.

### Fat Face

The Fat Face is really no more than a thickened version of the Modern face. Many varieties appeared in the early 19th century and these were among the earliest deliberate attempts to adapt an existing type face for display purposes. The example shown (3) is Ultra Bodoni and is in current use. A more colourful 19th century example, recently revived, will be shown on Sheet 1.B9.

### Egyptians, Clarendons and Ionics

These letters date from the first half of the 19th century. The Egyptians came first in the 1820's and are among the most architectural of letter forms. They have very little contrast between thick and thin strokes and have square, unbracketed slab serifs which are usually of the same weight as the thin strokes. The example shown here (4) is Rockwell, a modern version, which is also cut in light and condensed varieties. The Clarendons (5) and Ionics are lighter and more refined than the Egyptians and have bracketed serifs. They, too, have good architectural qualities.

### Sans Serifs

This family includes types known as Grotesques, Dorics and Gothics, and they exist in a great variety of forms and weights. The sans-serif letter reached its perfection in this century with the work of Edward Johnston and Eric Gill. These types (6-8) also have good architectural qualities ; their greatest virtue is their extreme legibility although they often lack the colour and sparkle of serif letters. A very good example of the consistent use of a sans letter is that designed for the London underground railway and bus system by Edward Johnston.

Two good versions of the Grotesque types are illustrated (6 and 7), both of which are in current use and (8) shows one of the rather heavy Dorics, a somewhat neglected face worthy of revival.

### Applications

All these letter forms are, of course, suitable for signwriting and gilding, but in three-dimensional interpretations it is necessary to relate the nature of the letters to the materials used. The finer and more slender the letter, the more necessary it is to use strong, light materials, such as sheet metal, leaving the bulkier materials for the heavier letters such as the Egyptians. On the other hand, the Egyptians are very amenable to surface decoration and shading. These aspects of the architectural treatment of lettering will be dealt with in Sheet 1.B9.

**This Series** of Sheets covers geometrical drawing, orthographic, isometric and axonometric projections, perspective, rendering, lettering and draughtsmanship generally.

*Compiled fom information supplied by :*

**Eagle Pencil Company.**
**Address :** Ashley Road, Tottenham, London, N.17.
**Telephone :** Tottenham 4435-6-7.
**Telegrams :** Octennial, London.

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# TECHNICAL SECTION

*The CCA has always paid particular attention to the problem of surface treatment of concrete. Several interesting finishes, which have been incorporated in the Association's new laboratory building at Wexham Springs, are described in detail below.*

## SURFACE TREATMENT OF CONCRETE

From 1936 to 1939, the CCA worked on the problem of concrete finishes in conjunction with BRS. From this work and from a close study of continental practice, it was decided that one of the most promising methods of finishing concrete was by means of pre-cast concrete slabs.

Composed of high-grade concrete, made under controlled factory conditions, these slabs can be produced with a wide range of colours and surface textures, resulting in effects unobtainable with other building materials. Already 500 different slabs have been made up by the Association and, for exposed aggregate finishes, 60 different types of aggregate have been used.

Several of these finishes have been incorporated in the new structures laboratory (described in last week's JOURNAL) and many more are displayed on special panels, which have been erected in the grounds of the Wexham Springs estate (see Fig. 1). A number of firms are prepared to quote for these finishes.

Apart from their use as the permanent formwork and facing to *in situ* concrete, slabs of this type can be used as an applied finish to most types of structural walling and as a cladding to framed structures. The CCA has developed 4 methods of fixing these slabs to *in situ* concrete or brick backing. These, together with 3 proprietary fixings, are on show at Wexham Springs.

Although the Association has concentrated on finishes for precast concrete slabs, it has also done some work on the surface treatment of *in situ* concrete and external renderings. The *in situ* finishes being produced either by the use of retarders on the formwork, or by mechanical tooling of the surface after the formwork has been struck.

Tests are now being made on the weathering qualities of these finishes both in rural and industrial areas, in order to ascertain which finishes are most likely to withstand the effects of time, dirt and weather.

### FINISHES USED ON THE NEW LABORATORY BUILDING

*Greyish green rendering to end wall of structures laboratory*

| | |
|---|---|
| Key: | 1 : 2 spatter dash coat (ordinary Portland cement) |
| Backing: | 1 : 3 water-repellent cement and sand |
| Final coat : | 1 part white cement<br>1 part lime (hydrated)<br>6 parts Criggion granite sand passing No. 7 sieve |
| Finish: | Scraped texture obtained by the use of a hacksaw blade |
| Cost (approx.): | 10s. 9d. per sq. yd. |

*Pink rendering to north and south walls of precast products laboratory and chimney stack* (see Fig. 3)

| | |
|---|---|
| Key: | 1 : 2 spatter dash coat (ordinary Portland cement) |
| Backing: | 1 : 3 water-repellent cement and sand |
| Final coat: | 1 part white cement<br>1 part lime (hydrated)<br>4 parts standard brick sand<br>2 parts red brick sand |
| Finish: | Scraped texture obtained by the use of a hacksaw blade |
| Cost (approx.): | 10s. 6d. per sq. yd. |

*Precast ashlar blocks to end wall of precast products laboratory* (see Fig. 2)

| | |
|---|---|
| Facing: | 1 part ordinary Portland cement<br>3 parts ¼ in. Tonfanau granite |
| Finish: | Aggregate exposed by brushing and acid washing |
| Sizes (nominal): | Thickness, 4½ in.; lengths 9 in., 13½ in., 18 in., 22½ in.; courses, 6 in. |
| Mortar for bedding: | 1 part cement<br>1 part lime<br>6 parts sand |
| Cost (approx.): | 32s. per sq. yd. |

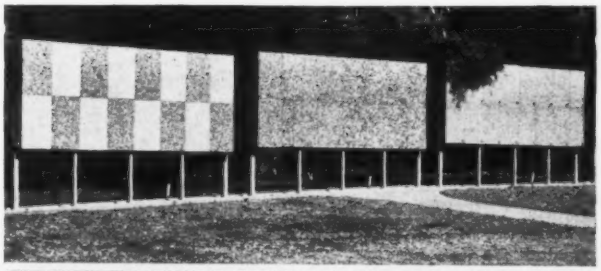

*Fig. 1. Three panels at Wexham Springs, displaying 48 surface finishes.*

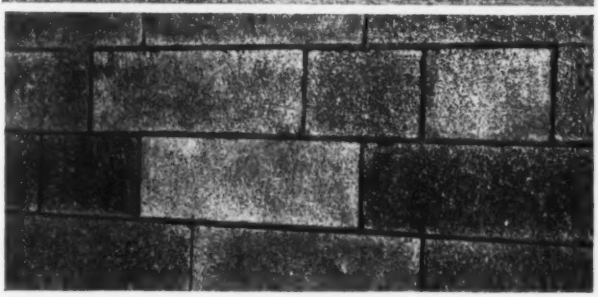

*Fig. 2. End wall of structures lab., precast ashlar blocks with Tonfanau aggregate exposed by brushing.*

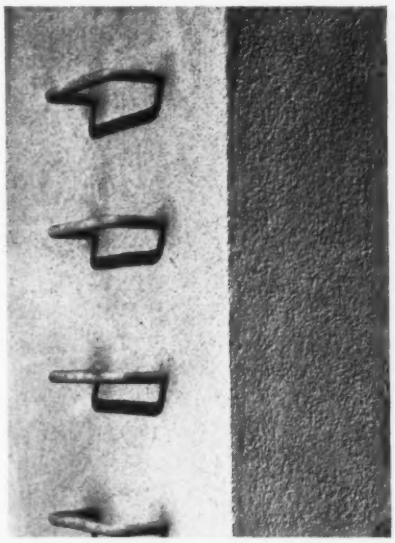

*Fig. 3. Chimney; pink rendering with scraped texture.*

*Fig. 4. Columns to the covered way; in situ concrete with Criggion granite aggregate and "tooled" finish.*

*Facing slabs to office wing*

| | |
|---|---|
| Face of the slabs: | 3 parts Darley Dale stone, ⅜ in. down<br>1 part white cement |
| Finish: | The slabs were given a close "picked" finish when in position with Kango hammer and point tool |

Cost of tooling (approx.): 7s. 6d. per sq. yd.

*In situ concrete columns to covered way* (see Fig. 4)

Ordinary reinforced concrete, incorporating Criggion granite aggregate, and cast with projecting panels for tooling.

Finish: "picked" finish by Kango hammer and point tool.

Cost of tooling (approx.): 7s. 6d. per sq. yd.

*Concrete slabs with "ground" finish to wall of covered way*

1. 1. Cornish Granite passing ½-in. retained on ¼-in. sieve
   1. Lee Moor sand
   ½. white cement
   ½. ordinary Portland cement
2. 1. Darley Dale passing ½-in. retained on ¼-in. sieve
   1. Lee Moor sand
   1. white cement
3. 2. Derbyshire Spar Grade "B," ⅜ in. and ⅛ in. mixed
   1. white cement
4. 1. Hopton Wood ½ in.
   1. Lee Moor sand
   ½. white cement
   ½. ordinary Portland cement
5. 1. Pink Shap Granite passing ½-in. retained on ¼-in. sieve
   1. Shap passing 7 down
   ½. white cement
   ½. ordinary Portland cement

Finish: Ground with coarse and medium carborundum after 7 days, not polished

Cost: dependent on aggregates used.

*The savings which can be effected by the use of prestressing were mentioned in the recent articles on "Floors for Houses"* by R. Fitzmaurice and D. N. Chester. In the following article the detailed design of prestressed concrete floors is described.*

# PRESTRESSED CONCRETE FLOORS

By K. M. Wood

Prestressed concrete floor or roof units are usually precast, sometimes on the building site but more often in a factory. A high degree of control is possible under factory conditions and, therefore, the factory product can be of a better quality.

Concrete floor units can be pretensioned with methods requiring no expensive or cumbersome end anchorages. (See AJ Information Sheet 6.A1.)

### SAFETY FACTOR, DEFLECTION AND FIRE RESISTANCE

There is normally a considerable safety factor before cracking of the concrete would occur. In testing single floor slabs it is usually found that the slab does not crack until loaded with more than twice the design live load. The safety factor against destruction is always considerably greater than this.

Deflection up to the point of cracking is usually less than half that of a normal reinforced concrete slab of the same depth. After cracking, deflection increases rapidly, but there is complete recovery on removal of the load.

Various prestressed flooring units have passed the standard fire tests required by the Fire Offices Committee.

### CAMBER

An upward camber cannot be avoided in prestressed concrete units, but it can be minimized if the manufacturer works to lower stresses or if a deeper unit is chosen. With good materials and well made concrete, the camber on units up to about 15-ft. span can be kept under ½ in. and on units up to 25-ft. span, under 1 in. An indication of the probable camber should be obtained from the manufacturer and the following points watched in the detailing stage:

(i) If the minimum thickness of screed required is 1¼ in. and there is a 1-in. camber, 2¼ in. of screed will be required over the bearings, giving an average thickness of just over 1½ in. This is shown in Fig. 3.

(ii) Horizontal features at slab level. For example, a joist running with the slab must be raised at the ends to keep it above or flush with the ceiling. (See Fig. 4.)

(iii) Partitions and other special loadings present some difficulty. The units carrying them may require additional reinforcement, which, in turn, will give them a greater camber. To avoid this, either the load should be spread on to as many units as possible, or specially designed units may be used (*i.e.*, with extra thick bottom concrete).

* AJ, April 26 and May 31, 1951.

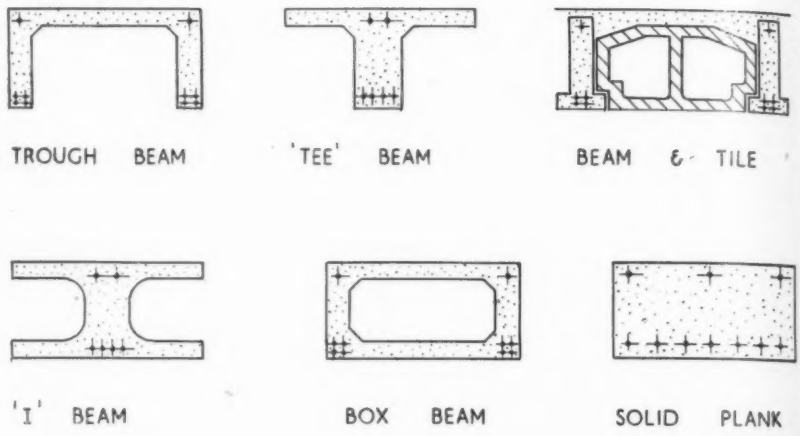


*Fig.* 1.

### TYPES OF UNIT

The main types of prestressed floor units available on the market are shown in Fig. 1. The first three types, the top row, give similar performances for the same structural depth. Table I gives details of the performances of these floor units compared with an "I" or box beam, a solid beam or plank, and a normal reinforced concrete hollow beam.

Beam and tile floors may not need a screed, as they are finished, in any case, with a topping of *in situ* concrete. This may give them an advantage over the other types. It will probably be found that the "I" or box beam is suitable for average conditions of load and span. Where a very light roof is required the trough section should be used. Where heavy loading and long spans occur and secondary beams are not permissible, deep prestressed beams combined with an *in situ* top slab should be used, as shown in Fig. 2.

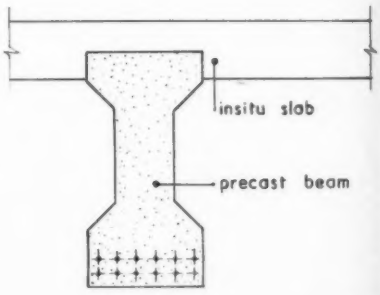


*Fig.* 2.

### PLANNING

The economical use of prestressed concrete floor or roof units calls for larger spans than normally adopted. For medium sized rooms, such as school classrooms, or for wide corridors, it becomes possible to span the floor or roof from wall to wall without breaking up the span. This applies to spans up to about 24 ft. for floors, and up to 28 ft. for roofs.

A wider spacing of the frames, in either structural steel or reinforced concrete, becomes possible. For example, in the normal MOW temporary office building, the usual roof of 6-in. deep reinforced concrete precast units, spanning 12 ft., could be replaced by 4-in. deep prestressed box or trough units, spanning

TABLE I

| — | | Trough beam Tee beam Beam and tile | "I" beam Box beam | Solid beam | Normal R.C. hollow beam |
|---|---|---|---|---|---|
| Maximum permissible bending moment per 1 ft. width, for 6 in. structural depth | | 40,000 in. lb. | 95,000 in. lb. | 120,000 in. lb. | 43,000 in. lb. |
| Weight per sq. ft. | | 27 to 40 lb. | 36 lb. | 72 lb. | 36 lb. |
| For equal load, span and structural depth | Camber | 3·0 | 1·25 | 1·0 | Nil |
| | Deflection | 2·3 | 1·3 | 1·0 | 2 to 3 |
| | Steel usage | 1·2 | 1·0 | 1·5 | 5·0 |


*Fig. 3.*

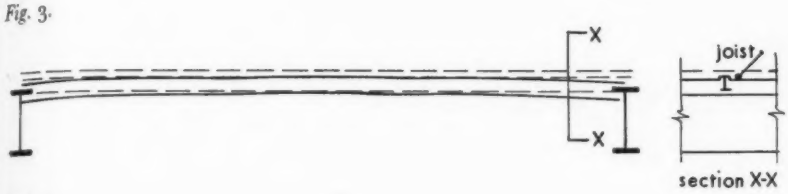


*Fig. 4.*

13 ft. 6 in. to 14 ft. 6 in. on to identical main beams and columns. This would give a saving of 10 to 17 per cent. on the cost of the frames.

In the case of a two-storey school on a standard 12-ft. grid, the use of prestressed units would allow the use of a 13-ft. grid, without altering the size of any beam or stanchion in the frame. In fact, it would be more economical to increase the strength of the frames and work to a 14-ft. or 16-ft. grid.

To give a further idea of what increased spans are possible with prestressed units, Table II has been prepared from figures quoted by one of the manufacturers of these units.

TABLE II

| Depth of unit | Weight of unit | Permissible span | |
|---|---|---|---|
| | | R.C. | Prestressed |
| 4½ in. | 30 lb. | 10 ft. | 14 ft. 6 in. |
| 5 in. | 35 lb. | 12 ft. | 16 ft. |
| 6 in. | 40 lb. | 14 ft. | 19 ft. |
| 7 in. | 45 lb. | 16 ft. | 22 ft. |
| 8 in. | 55 lb. | 18 ft. | 23 ft. 6 in. |

## PROHIBITED USES OF ZINC AND COPPER

In the article under the above title in the Technical Section of our issue for Jan. 25, 1951, some consideration was given to alternative materials suitable for use in applications where zinc, copper and galvanising have been prohibited by the Ministry of Supply. The following additional information regarding the use of aluminium for some of these applications should be considered in conjunction with the original article.

Aluminium is not a substitute material and it is the policy of the aluminium industry to encourage its application for those purposes for which it is technically and economically suited. The articles listed below are within this category.

| PROHIBITED USE OF COPPER, ZINC AND/OR COPPER ALLOYS | ALUMINIUM ALLOYS RECOMMENDED FOR THIS APPLICATION |
|---|---|
| Brackets | Cast aluminium alloys LM4-M or LM6-M in BS 1490. |
| Door handles | As above. |
| Drawer pulls | As above if cast. If wrought NS3 or NS4 in BS 1470. |
| Flashings | Sheet or strip to one of the following from BS 1470 :— S1A-O, S1B-O, S1C-O, NS3-O. Or super-purity aluminium. |
| Glazing bars | Extrusions to BS 1476: HE9-WP or HE10-WP. |
| Gutters and rain water goods | Full details are given in BS 1430 Aluminium Rain Water Goods Cast and Extruded, and BS 1543 Wrought Aluminium Rain Water Goods. |
| Handles | Cast Aluminium alloys LM4-M or LM6-M in BS 1490. |
| Hinges | Extrusions to BS 1476 HE10-WP, HE14-T or HE15-W. |
| Plates (name, number and letter plates ; kicking plates) | Sheet or strip, S1C-H, HS3-¾H, or NS4-½H in BS 1470. |
| Roofing sheets | Aluminium and its alloys are eminently suitable for both fully supported and corrugated roofing. Suitable alloys are S1C, NS3 and NS4 in BS 1470. |
| Step treads | Aluminium and its alloys are suitable in the form of chequer plate or extruded sections. Suitable alloys are N5 and H10 in BS 1470 and BS 1476. |
| Strips (*e.g.*, for counter edges) | E1C, NE4 or HE10 in BS 1476 |
| **PROHIBITED USES FOR GALVANISING** | |
| Gutters and gutter brackets | See rain water goods above. |
| Nails | Alloy NG6-M in BS 1475. |

Except in severe industrial or marine atmospheres, none of the materials mentioned above need paint protection to preserve their structural reliability, but they may be painted for decorative purposes.

***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.***

# INFORMATION CENTRE

## 4.68 planning: urban and rural
## TOWN PLAN: ACCRINGTON

*Industry and Prudence, A Plan for Accrington.* J. S. Allen and R. H. Mattocks (Borough of Accrington, 1951. 30s.)

Plan for a cotton town in north-east Lancashire in the sub-region of Blackburn; commissioned in 1946, submitted 3 years ago and after due consideration decision was taken to publish report; publication March this year. 186 pages, 73 illustrations, 10 plates.

This is one of the first reports to be published for sale to the public, dealing with the future of a medium sized industrial town whose development began only at the beginning of the last century. Accrington's outstanding features are: its needs for stabilisation of industrial employment—a problem common to all the cotton towns in north-east Lancashire; the hilly site of the town, with the town centre in the bottom of a valley; a preponderance of nineteenth century buildings; the relative lack of building sites.

The consultant's aim has been to show how a nineteenth century town, "a town of buildings only—first and foremost a place where people worked, ate and slept," can be transformed into a modern town, with its immeasurably wider functions, the space needs of which are so much greater. The consultant's ideal is, obviously, to create a new urban scene, with new open spaces "belonging" to the surrounding buildings.

The report is a master plan and it is now necessary to translate it into practical terms. For how far can a population which suffered serious unemployment in the inter-war years and whose former prosperity has disappeared, recreate the capacity to carry out the modernisation of the town?

The published version of the report and plan has been carefully produced, but no index is included.

## 6.29 planning: social and recreational
## THE SMALL PRIVATE GARDEN

*The Small Private Garden : Its Place in the Layout of Houses.* Peter Shepheard (Journal of the Institute of Landscape Architects. March, 1951. pp. 9-12.)

Interesting general paper on the future of the private garden and on the advantages of the common garden type of layout.

Peter Shepheard describes some of the purposes for which the average family wants a garden as:

A green setting, in which they can see the seasons change and watch plants and trees, preferably with a view of something other than the next house: a place for entertaining their friends and walking about in the open air; a place for sitting in privacy out of doors—a sort of outdoor part of the living room; a place in which little children can play safely; a place in which bigger children can play, quite roughly, with bicycle riding and ball games; sometimes, but not always, a place in which to grow plants for recreation; sometimes, a place in which to keep pets; and, generally, a space in which to hang out washing.

The inadequacy of normal gardens, in conventional layouts for small houses, has been obvious for some time, and the idea of the common garden has been discussed as one method by which, æsthetically and functionally, family needs could better be served.

The principle of common garden layout is now fairly well known. In this paper Peter Shepheard describes this kind of layout, but goes on to say that it will not be possible to provide the proper privacy in the private garden or the necessary space in the common garden unless full advantage is taken of the saving of space on *streets*, which can be much narrower than normal, and on the houses themselves, by grouping them in terraces instead of endless "semi-detachment."

The distance across the whole of the open ground—both private and common gardens—from house to house cannot be less than 150-200 ft., if the common garden is going to be of a reasonable width and to contain forest trees. The maintenance of the common garden is recognised as being a difficult problem, and the author makes a strong plea for a naturalistic form of landscaping—trees tough and large, shrubs and herbs native or naturalized, grass in most parts rough, etc.—for its own sake and because the result should be durable and comparatively maintenance free.


The 2,500 tons of steelwork used in the factory buildings for the Government of Northern Ireland was fabricated in our workshops at Norwich and erected by us at Castlereagh and Duncrae Street, Belfast.

NORWICH · LONDON · BIRMINGHAM

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## 9.19 design: general
### DSIR

*Department of Scientific and Industrial Research Report for the Year 1949-1950.* (HMSO. 1951. 4s. 6d.)

Of general interest only. Building industry covered in more detail in separate reports of BRS, FPRL, etc., but work on the fringe of building interest is covered briefly in this report, *e.g.*, pest control, water pollution, fuel research and similar subjects.

## 14.42 materials: concrete
### LIGHTWEIGHT CONCRETE

*Aerated Concrete (Part I).* BRS Digest No. 28. (HMSO. March, 1951. 2d.)

Types of aerated concrete. Manufacture and properties. Table of mixes and properties.

The increasing popularity of lightweight concrete makes this authoritative synopsis most useful. It describes the methods of manufacture of the three main types:

1. Processes in which gas is produced by a chemical reaction within the mix before it sets.

2. Processes in which a foam-producing substance is added to the mix to introduce and stabilize air-bubbles.

3. Processes involving the use of excess water, which, on drying out, leaves air-filled pores.

The properties of these materials are then described under headings of Strength, Thermal Conductivity, Sound Insulation and Absorption, Drying Shrinkage and Expansion on Wetting, Water Absorption and Permeability, and Suitability for Plastering and Rendering.

Among the more important points to note are the following: Much more careful control of water content in mixing than is essential with ordinary concrete. Thermal conductivity can vary from 0·75 to about 2·3, according to the density of the material, compared with 10·0 for normal concrete. Sound insulation depends largely upon weight, so lightweight materials are not very good; although claims are made that they give rather better results than other materials of the same weight. Drying shrinkage is relatively high and it should be noted that the method of curing has an important effect on this. High-pressure steam curing results in a much reduced drying shrinkage. It is important to keep the material dry on the site. There should be no difficulty in plastering although the surface may require wetting to reduce high suction, but over-wetting has to be avoided for it can lead to subsequent shrinkage and cracking.

The main mixes used, together with their properties, are summarized in a useful table.

## 16.72 materials: miscellaneous
### AGGREGATES FOR ROADS

*Sources of Road Aggregate in Great Britain.* Compiled by Road Research Laboratory. (HMSO. 1951. 3s.)

Classification of types. Comprehensive list, with names and addresses of sources of supply producing over 10,000 tons per year. Samples from 1,500 sources are kept at the Roads Research Laboratory, together with 400 samples of sand for concreting.

## 16.73 materials: miscellaneous
### PATENT GLAZING

*Patent Glazing.* BS C of P. 145.101 (1951). (British Standards Institution. 2s.)

General description of types of bars, etc. Choice of glass, light transmission, weather resistance, durability, fire resistance, strength, heat loss and solar heating. Condensation, maximum sizes of glass. Fixing, ventilation, gutters. Fixing of flashings.

## 18.77 construction: theory
### STRUCTURAL THEORY AND DESIGN

*Structural Theory and Design.* J. McHardy Young (Crosby Lockwood & Son Ltd. 1950. 25s.)

This first volume deals with mechanics and the analysis and design of fixed and continuous beams, simple framed structures, columns and struts. Advanced theory and design are to be covered in Volume II.

The problem of efficient structural connections between members has received due attention and, throughout, the treatment of theoretical aspects of the subject matter is backed by the experience of the practical designer.

In a future edition, the chapter on materials might be extended to cover light alloys. Methods of welding deserve more than the few lines they receive and two figures on pages 52 and 53, and the bloom gates for column bases discussed on page 271, require checking for punching shear, in addition to bending.

While the book is obviously written for the student, who will find the worked examples very useful, it should be of no less value to the engineer/designer, at least for brushing-up his rusty theory, and to the architect for reference.

## 18.78 construction: theory
### BUILDING ON FILL

*Building on Fill with Special Reference to the Settlement of a Large Factory.* G. G. Meyerhof (The Structural Engineer, Feb., 1951. pp. 46-57.)

Paper describing thorough investigation arising out of structural movements and damage in a large factory building erected on fill. 13 illustrations.

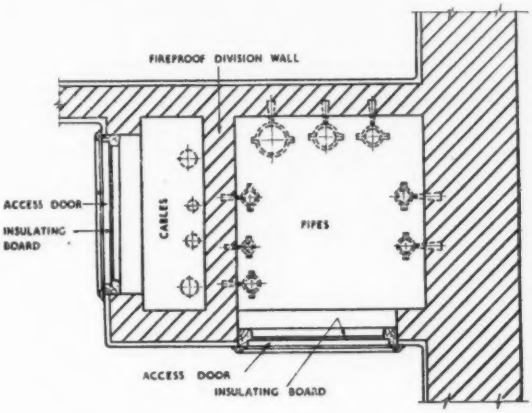
On well-compacted fills structures can be built immediately after completion of the fill. On the other hand, two years may be taken as the shortest interval required for the consolidation of fills under their own weight. The design of foundations on fills is discussed, and interesting data given on industrial and domestic wastes, *e.g.*, ashes and refuse, which are reaching depths of up to 125 ft. on certain building sites in New York. A large factory built on waste products before the war in an area in North-West London showed serious cracking and distortion; recently remedial measures were taken. The subject is highly technical but of considerable importance to architects.

## 19.119 construction: details
### DUCTS

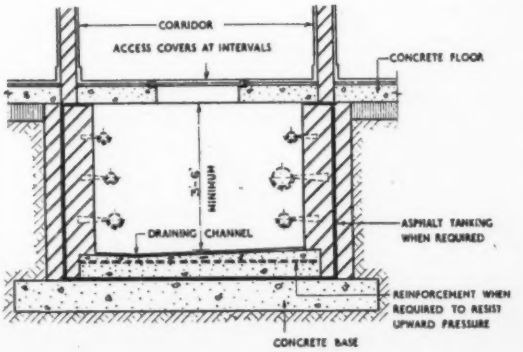
*Design and Construction of Ducts for Services.* BS C of P CP413. (British Standards Institution. 1951. 3s.)

General information. Fire risks. Diagrams of typical types.

This Code deals with both horizontal ducts, including crawlways and subways, and vertical chases and ducts. There is nothing very new or remarkable about the information in it, but this is a subject which seldom receives sufficient consideration in the early stages of a job. Savings in first cost, higher efficiency in pipes conveying liquids, and far less trouble in maintenance,




*Plan of typical vertical duct for pipes and cables.* (*See* 19.119)




*Section through typical crawlway within a building.* (*See* 19.119)

can be secured, if ducting is properly thought out before the structural details of a building are designed. The need for special precautions against the spread of fire through ducts is rightly emphasized. Diagrams illustrate typical types of duct.

### 24.150 lighting
### BRS LIGHTING RESEARCH

*Lighting Research at the Building Research Station.* R. G. Hopkinson (Light and Lighting. Jan., 1951. p. 10.)

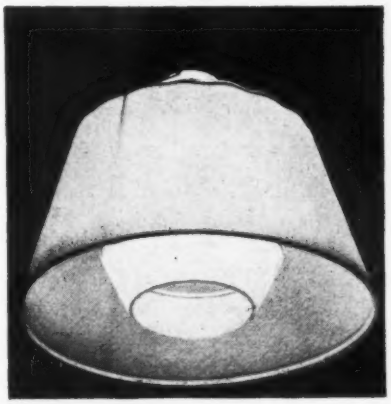
Natural lighting, subjective appraisal of lighting design, new fittings, colour. Interesting, with illustrations, diagrams and photographs.

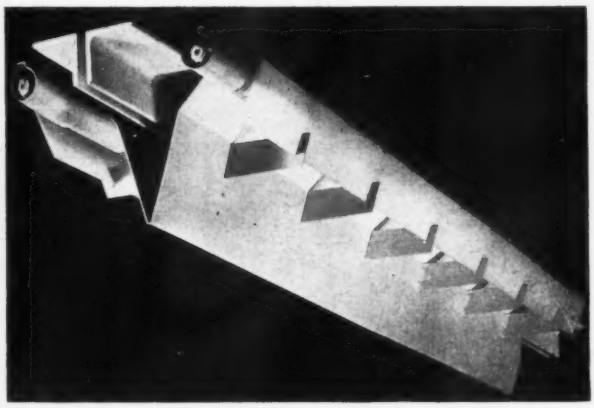
Joint work by architects, lighting scientists and engineers in the BRS team is described, and shown to lead both to fundamental studies and to practical development work.

The development of methods of daylight computation is described, and the results of lighting studies, such as those of building layout and town planning are summarized. Methods of measurement are also mentioned.

Lighting quality is reviewed, with particular stress on discomfort and the techniques of subjective study. To illustrate its use, mention is made of studies of the impression of brightness given in rooms lighted to the same level by different kinds of sources. Other research is also mentioned.

Design studies are classified under building types, systems, and fittings, and by consultations on specific buildings. Examples of each are described and illustrated, and there are photographs of new fittings developed at BRS (see illustrations) said to combine, at low cost, high quality lighting and good appearance.





*New lighting fittings developed at BRS. Above, filament unit designed on the "contrast grading" principle. Left, dual fluorescent unit for industrial lighting.* (*See* 24.150).

### 25.79 water supply: sanitation
### DRAINAGE AND SANITATION

*Drainage and Sanitation.* E. H. Blake. Revised by L. G. Gumbrell. (B. T. Batsford, Ltd. 1951. 15s.)

Tenth edition of well-known book. Very similar to earlier editions.

There comes a time when even the most widely used reference book becomes so out of date that revision is insufficient. This book was originally published in 1913 and it is stated in the preface to the tenth edition that revisions have been limited to essentials, in order to make a new edition available quickly. So much of the material is so out of date, and some of it is so open to question on grounds of accuracy, that it seems that there is a clear case here for the tenth edition being the last. Although one feels that this book attempts too much for one volume, there is undoubtedly a need for a good book covering broadly the same ground that Blake covers. It would be a valuable service to architects and others if an entirely new start could be made and a reliable and up-to-date reference book produced at a comparable price.

### 26.89 services and equipment: miscellaneous
### CYCLE STANDS

*Cycle Stands.* BS 1716:1951. (British Standards Institution. 2s. 6d.)

Concrete and steel types. Performance standards, recommendations on selection. Diagrams of various parking positions.

### 26.90 services and equipment: miscellaneous
### COLOUR IDENTIFICATION

*Colour Identification of Pipe Lines.* BS 1710:1951. (British Standards Institution. 2s. 6d.)

Replaces three earlier BS's and now covers chemical pipe lines, pipes, conduits, ducts and cables in buildings and colours for engine room piping.

### 26.91 services and equipment: miscellaneous
### LIFTS

*Hand-Power Lifts for Passenger, Goods and Service.* BS C of P 407.301:1950. (British Standards Institution. 3s.)

Code of Practice covering the design and erection of passenger and goods hand-power lifts.

This Code of Practice will prove valuable to all who have to install such lifts. Materials to be used, design considerations, work on and off the site, inspection, testing and maintenance are all described.

Illustrations are included of typical layouts for the various types of hand-power lifts.

*This feature answers any question connected with building confidentially 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

### 3043 FLOOR PANEL HEATING: DOMESTIC

Q *We are about to build a house and our client would like to install a floor heating system of copper coils and to finish the floor with composition blocks. We should appreciate it if you would let us have your suggestions, particularly with regard to the type of construction underneath the copper coils in order to minimize heat losses and the amount of concrete required above the pipes.*

A It will be quite feasible to install a floor heating system in the solid floor of the lounge; but I would suggest that it be extended to include hall and kitchen also. A very successful installation of this type employs ½ in. dead soft copper tube laid at 12 in. centres, except in passages and near outer walls where centres are reduced to 6 in.

The tube is laid on a bitumen DPC direct on the site concrete, and is overlaid by a 3 in. screed. It should be perfectly satisfactory to install a composition block floor on this. Insulation is not necessary, except perhaps for a strip 2-3 ft. wide round the perimeter of the house. Rot-proof insulation board, laid under the pipes, will provide this. A circulating pump is, of course, necessary with such a system. Unfortunately it is difficult, in this country, to obtain one of the very small size required.

A means of reducing the water temperature to an appropriate figure will also be needed. This is usually done, in larger systems, by means of motorized modulator valves, which are efficient but expensive; successful use has been made of the shower-bath type of thermostatic mixing valve for a small installation. A three-way valve should be installed at the inlet and outlet of each panel, to enable the water to be blown out by compressed air, should draining down be needed (the pipes are not laid to a fall) or to clear it, should it become blocked. The normal floor temperature should not exceed 70 deg. F.

*THE LIBRARY OF INFORMATION SHEETS*

### 36.B1 *REFERENCE BACK*

*Face of Sheet—The back wall of the recess to which the Everyway hose-reel brackets are fixed should be 4½ in. minimum thickness brickwork. Reverse of Sheet—Amend text under heading "Construction" Side discs now aluminium* not *moulded Bakelite.*

*A new index of building materials' prices has been drawn up by the Board of Trade. Prof. Bowen finds that this confirms the somewhat gloomy forecasts which he made in his last article on this subject.**

# THE INDEX OF MATERIALS' PRICES

By Ian Bowen

### A NEW INDEX

The Board of Trade, in collaboration with the Ministry of Works, has prepared a new index of building materials' prices. Two versions of this index were published in the Board of Trade Journal for May 19, 1951. The first is a general "Building and Civil Engineering Materials' Price Index," the second a "House Building Materials' Price Index." The weights used in compiling the general index are based on calculations made by the MOW (using Census of Production figures) of the quantities and value of building materials produced. For the subsidiary index relating to house-building materials, these weights have been adjusted.

Details of the weights selected are given in Table I:

*Table I*

Commodities Included in the New Board of Trade Index of Building Materials' Prices and the Relative Weights Chosen

| | Building and Civil Engineering Materials per cent. | House-building Materials per cent. |
|---|---|---|
| 1. Building stone | 0·3 | — |
| 2. Road-making materials | 3·8 | 0·4 |
| 3. Roofing slates | 0·7 | 1·8 |
| 4. Sand and ballast | 4·8 | 6·1 |
| 5. Bricks | 7·8 | 18·8 |
| 6. Roofing and flooring tiles | 1·3 | 2·5 |
| 7. Sanitary fireclay | 3·3 | 2·5 |
| 8. Sanitary earthenware | 0·8 | 0·4 |
| 9. Wall tiles and surrounds | 1·9 | 1·9 |
| 10. Sheet and plate glass | 1·1 | 0·3 |
| 11. Cement | 5·7 | 4·3 |
| 12. Concrete products | 3·6 | 3·4 |
| 13. Asbestos cement | 1·3 | 0·5 |
| 14. Plasterboard | 1·4 | 2·0 |
| 15. Lime | 0·4 | 1·1 |
| 16. Asphalte and pitch mastic | 2·0 | 2·6 |
| 17. Roofing felt | 0·9 | 1·2 |
| 18. Paint and distemper | 9·4 | 2·5 |
| 19. Re-rolled sections, angles and tees | 0·6 | 0·4 |
| 20. Re-rolled bars | 0·6 | — |
| 21. Ferro-concrete bars | 0·6 | — |
| 22. Heavy rails | 1·0 | — |
| 23. Medium steel plates | 0·6 | — |
| 24. Heavy steel joists, sections and bars | 1·5 | — |
| 25. Cast-iron pipes and fittings | 0·8 | 2·6 |
| 26. Solid fuel appliances | 4·9 | 2·1 |
| 27. Baths and cisterns | 1·4 | 1·8 |
| 28. General builders' castings | 0·2 | — |
| 29. Steel sheets | 1·7 | — |
| 30. Steel tubes | 0·3 | 0·9 |
| 31. Copper sheets and tubes | 1·9 | 1·0 |
| 32. Aluminium sheet | 0·2 | — |
| 33. Lead pig and pipe | 2·3 | 2·5 |
| 34. Zinc | 0·6 | 0·1 |
| 35. Gas appliances | 2·5 | 1·4 |
| 36. Electrical appliances | 1·4 | 1·3 |
| 37. Plumbers' brasswork | 0·8 | 0·9 |
| 38. Electricians' materials | 2·1 | 2·2 |
| 39. Ironmongery | 0·9 | 1·9 |
| 40. Metal windows | 1·3 | 2·5 |
| 41. Joinery | 7·7 | 14·8 |
| 42. Hardwood | 1·7 | — |
| 43. Softwood | 6·6 | 11·0 |
| 44. Plywood | 0·7 | — |
| 45. Railway sleepers | 1·2 | — |
| 46. Hardwood and insulation board | 1·6 | — |
| 47. Wallpaper | 1·5 | — |
| 48. Plastic mouldings | 0·3 | 0·3 |
| | 100·0 | 100·0 |

* "Rearmament and the Building Industry," AJ, Feb. , 1951.

Since the new index so closely resembles the AJ Index and since the weights and price quotations for it can be kept up to date more readily by officials than by private statisticians, it is this index I shall discuss in the light of the changing markets for building materials.

One disadvantage of this index is that it cannot be analysed readily into separate parts, *e.g.*, in order to view the changes in relation to imported items, but it is hoped that it will be possible to deal with such aspects of the index in a later issue of AJ.

As can be seen from Table I, there are many different types of building materials, a large number of which are also used in other industries. Hence the 48 groups of materials in the index. Unfortunately, the most prominent item in the index is paint (and distemper), for it is difficult to decide what is a representative price for paint. Specifications vary greatly and the Board of Trade Journal describes them as "inadequate".

In the general index fourteen groups of materials accounted for two-thirds of the total weights. These were, in descending order of importance: paint and distemper, bricks, joinery, softwood, solid fuel appliances, cement, sand and ballast, road making materials, concrete products, sanitary fireclay, gas appliances, lead pig and pipe, electricians' materials, asphalte and pitch-mastic. A "sensitive" index, based on fluctuations in the prices of these fourteen groups of materials, would, no doubt, closely approximate to the general index. In other words, these are the fourteen groups whose prices should be given special attention. But the remaining 34 groups may, of course, play an unexpectedly important rôle if their prices are subjected to sudden and large disturbances.

The house-building index is based on only 34 groups of materials, and 18 of these groups account for 82 per cent. of the weights. Bricks, joinery and softwood have bigger weights in the house-building than in the general index; while paint and cement are less important.

### THE RISE IN PRICES

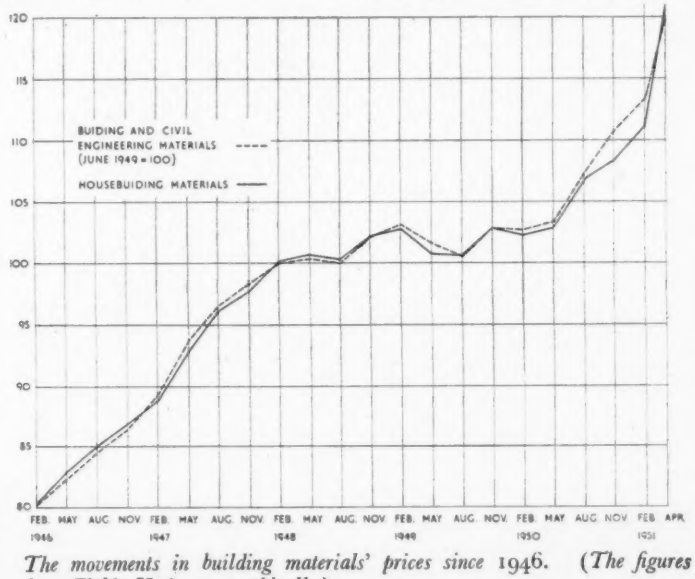
The movements in prices since 1946 are summarized in Table II. (In each case figures represent the position at the middle of the month.)

The history of price movements in the last two and a half years has been governed more by supply factors than by changes in demand. The period from the beginning of 1948 to the third quarter of 1949 (*i.e.*, up to the devaluation of sterling) is now seen to have been one of relative stability of prices; in fact there was a definite (though slight) decline in prices from March to July, 1949 (roughly 3 per cent.). This reduction was wiped out in the first five months of 1950, and in May, 1950, both indexes were about 3 per cent. above their level in June, 1949. From that time on the pace of advance has accelerated considerably. By May, 1951, both indexes had gained nearly 20 points (as against the 10-12 points annual rises from 1946 to 1948).

*Table II*

| | | Building and Civil Engineering Materials | Housebuilding Materials |
|---|---|---|---|
| | | (June, 1949 = 100) | |
| 1946 | February | 80·2 | 80·3 |
| | May | 82·3 | 82·8 |
| | August | 84·5 | 85·0 |
| | November | 86·4 | 86·8 |
| 1947 | February | 89·3 | 88·8 |
| | May | 93·8 | 93·0 |
| | August | 96·6 | 96·1 |
| | November | 98·3 | 97·7 |
| 1948 | February | 100·0 | 100·1 |
| | May | 100·3 | 100·6 |
| | August | 100·0 | 100·4 |
| | November | 102·1 | 102·2 |
| 1949 | February | 103·1 | 102·8 |
| | May | 101·6 | 100·9 |
| | August | 100·5 | 100·6 |
| | November | 102·8 | 102·8 |
| 1950 | February | 102·7 | 102·4 |
| | May | 103·3 | 102·9 |
| | August | 107·4 | 106·9 |
| | November | 110·8 | 108·3 |
| 1951 | February | 113·4 | 111·1 |
| | April | 120·0 | 120·6 |

The immediate causes of this acceleration are undoubtedly to be found in the charges in the prices of imported raw materials or iron and steel products which embody imported ores. Domestically produced materials will, no doubt, advance in price, but much less steeply than, for example, imported softwood, lead, iron and steel castings, or linseed oil. Although there may be temporary checks to these price increases, it seems likely that they will continue for a long time to come. The need to adapt designs to cater for the changing economic conditions is, therefore, likely to continue. Final costs have, once again, become very uncertain and one cannot foresee an early end to the present steep upward trend in any index of building materials' prices which includes imported materials. Moreover, a secondary rise is bound to occur when wages and the cost of fuel and transport increase as a result of general inflationary pressure.



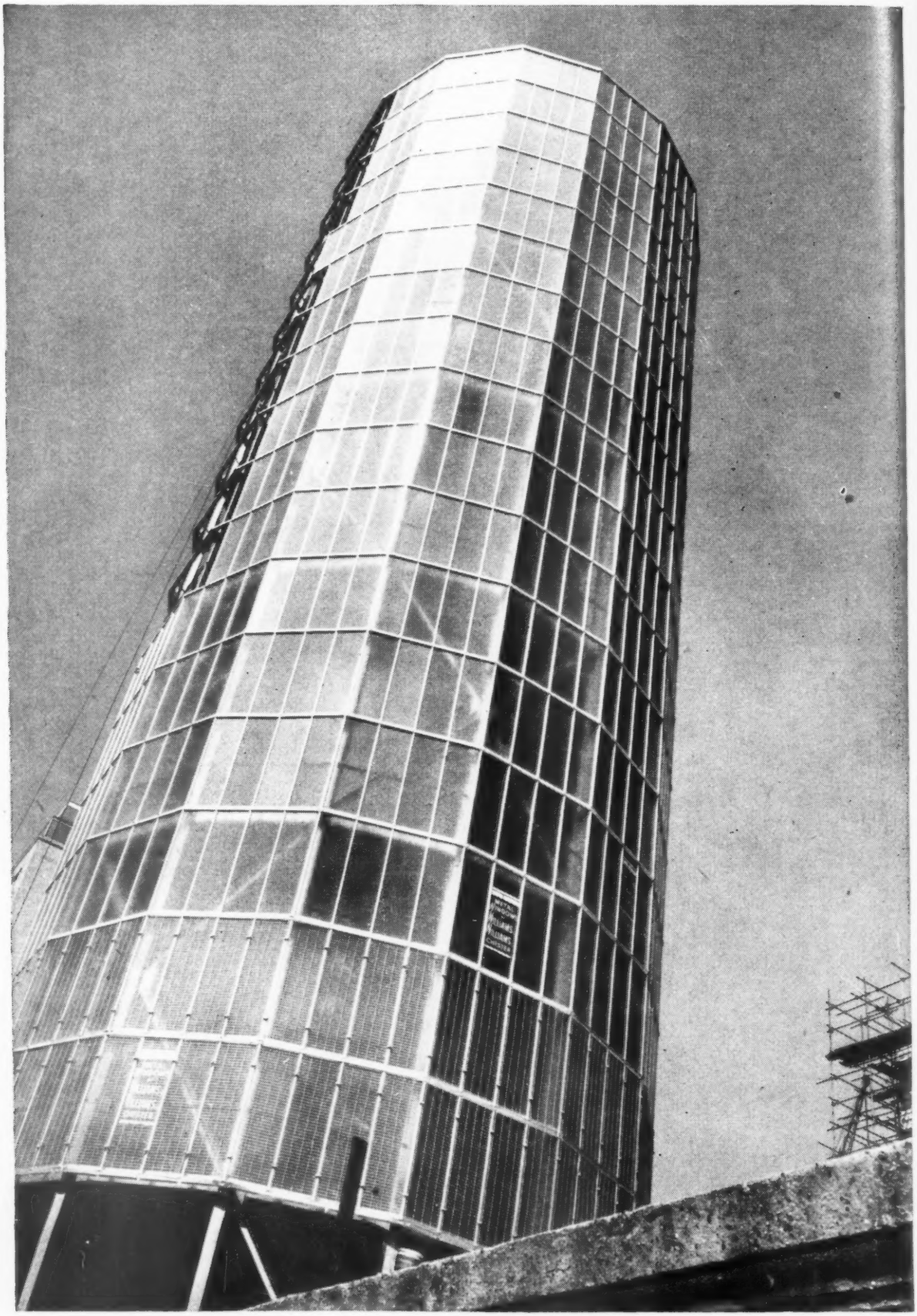

*The movements in building materials' prices since* 1946. (*The figures from Table II shown graphically.*)

# Buildings Illustrated

*Festival of Britain, Science Exhibition, Exhibition Road, S.W.7.* (Pages 760-762.) Architect: Brian Peake, F.R.I.B.A., M.S.I.A. Assistant Architects: A. E. Clayton, L.R.I.B.A. (Chief Assistant); H. S. Page, A.R.I.B.A.; P. A. Sanderson, A.R.I.B.A.; M. E. Woodford; A. S. Newcombe, A.R.I.B.A.; A. E. Ladd, A.R.I.B.A.; M. de Saulles, A.R.I.B.A.; O. M. A. Long, A.R.I.B.A.; Ian D. Grant, A.R.I.B.A. General Contractors: Higgs and Hill Ltd. Subcontractors: Construction and decoration of the Buffet, and Cinema, Russell Bros. (Paddington) Ltd.; construction of the displays to physical and chemical structure, metals, crystals, colour, light and subsidiary displays, City Display Ltd.; construction of "Stop Press," including the projecting canopy, stand formation, Piggott Bros. & Co. Ltd.; "Stop Press," including all partitions, hardwood framing and displays, R. J. Bates & Co. (London) Ltd.; tubular steel work to Inner Court ramp and internal ramp, Mills Scaffold Co. Ltd.; patent aluminium construction, Packaged Buildings Ltd.; general electric work, Hartley Electromotives Ltd.; velarium wave type ceiling in the Main Hall, Cowtan Ltd.; ventilation to Cinema, Hopes Heating & Engineering Ltd.; display and screen to laboratory by Glaxo Co. Ltd., C. E. Franks; sound effects, E. M. I. Studios Ltd.; broadcast equipment, Rediffusion Ltd.; clocks, Synchronous Electric Clocks Ltd.; special flooring, Semtex Ltd., & V. G. (London) Ltd.; viewing platform floor, Allison Bond Ltd.; special feature lighting based on formalized versions of nuclei joined together with "clouds" of electrons, General Electric Co. Ltd.; leathercloth, Imperial Chemical Industries Ltd.; special glass, Chance Bros.; glass bricks, Pilkington Bros. Ltd.; emergency lighting, Chloride Batteries Ltd.; hollow block partition walls, London Brick Co.; lilac sand lime bricks, Seven Oaks Brick Co.; special mirrors and silvering, John M. Newton; sanitary fittings, Adamsez Ltd.; special Pyrok application, C. & T. Painters (Pyrok Division); asphalte floors to ramps, Durable Asphalte Co. Ltd.; wallpaper, John Line & Sons Ltd.; Warerite to special design, Warerite Ltd.; the "Walter" ozonisers, J. & H. Walter Ltd.; ironmongery, H. & C. Davies; cubicles, Flexo Plywood Industry Ltd.; turnstiles, Le Grand Sutcliffe & Gell Ltd.; special ceiling, Steel Ceilings Ltd.; glass sphere, Studio Lisa Ltd.; flag poles, Turtle & Pearse Ltd.; glazing, Agee Ltd.; shutters, Fireproof Shutter & Door Co. Ltd.; V. I. P. furniture, Gimson & Slater Ltd.; electrical fittings, Merchant Adventurers Co. Ltd., Troughton & Young Ltd.; material for curtain to Cinema and V. I. P. room, Warner Bros. Ltd.; make-up of curtains, Wm. Perring & Co. Ltd.; special furniture, Primavera Ltd.; paint, Fleetwood Ltd.; special paint, Harvey Langford Ltd.; flowers and shrubs, The Westend Flower House Ltd.

*The Lawn, Harlow New Town. 10-Storey and 3-Storey Flats.* (Pages 764-767.) Architect: Frederick Gibberd, F.R.I.B.A., M.T.P.I. Assistant Architect: R. J. Double, A.R.I.B.A. Structural Consultant: T. F. Burns & Partners. Quantity Surveyor: Oswald Parratt, F.R.I.C.S. Chief Clerk of Works: B. J. Dines. Assistant Clerk of Works: W. R. Abrams. General Contractor: Gilbert-Ash Ltd. Sub-Contractors: Metal windows, Williams and Williams Ltd.; structural floors and roof, 3-storey block, The Kleine Co. Ltd.; lift installation, Keighley Lifts Ltd.; bricks, rustic facings, Henry J. Greenham (1929) Ltd.; concrete bricks, The Alphamstone Brick & Tile Co. Ltd.; plumbing installations, Arthur Scull & Sons Ltd.; asphalte and roof paving, The General Asphalte Co. Ltd.; sanitary fittings, J. Tong & Co. (Kennington) Ltd.; floor finishes, Korkoid Decorative Floors; kitchen fittings, Sharp Bros. & Knight Ltd.; internal doors, The Merchant Trading Co. Ltd.; balustrading, The Morris Singer Co. Ltd.; electric fires and surrounds, Broads & Co. Ltd.; tiling, Parkinsons (Wall Tiling) Ltd.; ironmongery, Rennis Ltd.; convector grates and surrounds, W. N. Froy & Sons Ltd.; electric water heaters, Heatrae Ltd.

*Primary School at Westville Road, Hammersmith, W.12.* (Pages 768-772.) Architect: Erno Goldfinger, D.P.L.G., A.R.I.B.A. Assistant architect: Elizabeth Rose, A.R.I.B.A. Quantity surveyor: Davis, Belfield & Everest. Tree planting designed by Percival Flaxman, A.R.I.B.A. General contractor: C. F. Kearley Ltd. Clerk of works: R. G. Bartholomew. Sub-contractors: Asphalte, The Excel Asphalt Co. Ltd.; precast concrete, The Atlas Stone Co. Ltd.; bricks, The London Brick Co. Ltd.; precast flooring, Rapid Floor Co. Ltd.; roofing felt, The Ruberoid Co. Ltd.; glass, Aygee Ltd.; glass domes, James Clark & Eaton Ltd.; patent glazing, Williams & Williams Ltd.; patent flooring, The Armstrong Cork Co. Ltd., The Granwood Flooring Co. Ltd.; central heating, boilers, ventilation, H. W. Dutton & Sons Ltd.; gas fixtures and fittings, The North Thames Gas Board; electric wiring, Gomundsons Electric; electric light fixtures, Hailwood & Ackroyd, General Electric Co., Ltd.; sanitary fittings, Adamsez Ltd.; door furniture, J. D. Beardmore & Co. Ltd.; plaster, Jenners Ltd.; metalwork, cloakroom fittings, Amalcraft; tiling, Wiggins & Sankey Ltd.; shrubs and trees, J. Burley & Sons Ltd.; clocks, Smiths English Clocks Ltd.; signs, The Lettering Centre.



# Pimlico polygon...

**a hot water accumulator that delights the eye! A 16-sided tower glazed by Aluminex Patent Glazing houses the hot water accumulator of the Pimlico District Heating Scheme of the Westminster City Council.**

When a hot water accumulator tank 29 ft. in diameter and 126 ft. high is set cheek by jowl with blocks of new flats, something special, obviously has to be done about its appearance. Something, indeed, has been done, and to some purpose, to the hot water accumulator of the Pimlico District heating scheme. The remarkable photographs in these pages show how Aluminex Patent Glazing was used in accomplishing these three prime requirements of:

1 — **providing an aesthetic finish;**
2 — **protecting the accumulator and its lagging;**
3 — **providing a measure of additional heat insulation.**

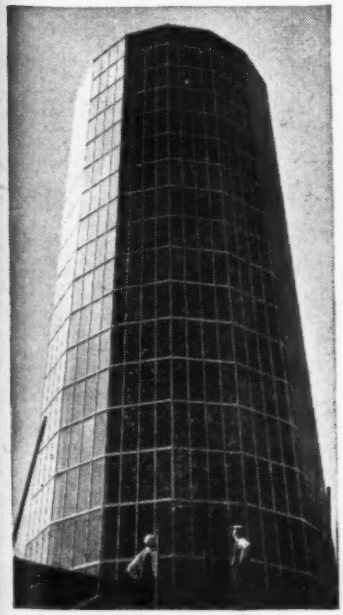
In particular the architects desired that the accumulator enclosure should have a light and airy appearance and harmonise with the design of the flats in the surrounding estate.

It was with these considerations in mind that they chose Aluminex Patent Glazing—the modern, all-aluminium system—for the tower cladding. The Architects built round the accumulator a 16-sided steel tower glazed with rough cast glass panes, 6 ft. × 1 ft 9 ins., set in Aluminex patent glazing bars.

These are the normal Aluminex glazing bars as used in the Brabazon Assembly Hall, motor factories, steel works and other industrial structures large and small.

In this application of versatile Aluminex however, the tee-shaped glazing bars have been set to face inwards. This permitted the glazing to be placed from the inside, doing away with the need for scaffolding. Moreover this arrangement suited the wind conditions for the wind suction is much greater than pressure.

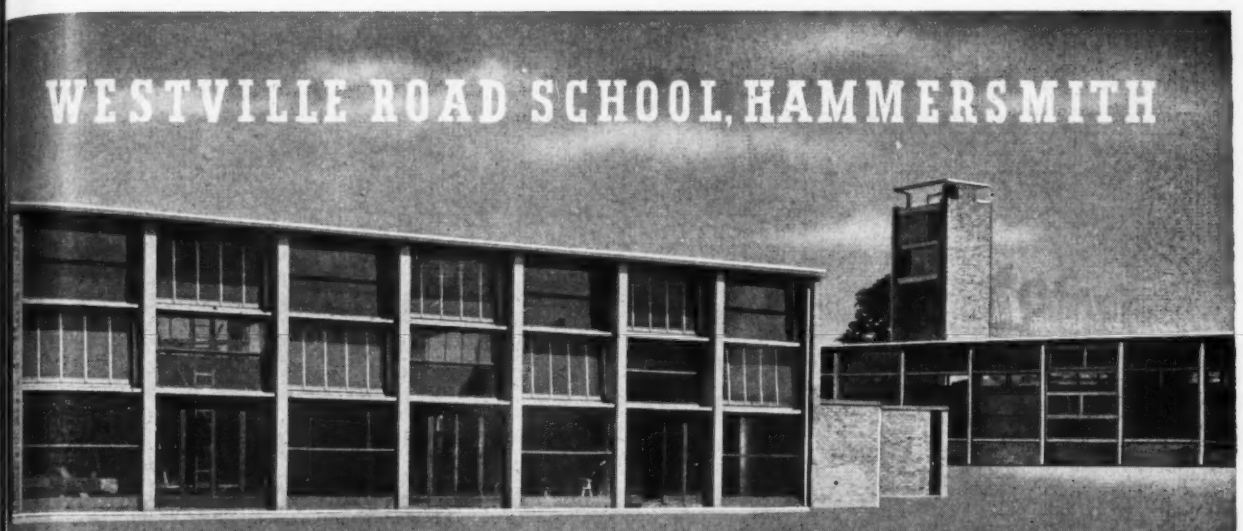
The manufacturers of Aluminex, Williams & Williams Ltd., carried out tests showing that the glass would not break until a suction of 65 lbs. per square foot was reached and that the Aluminex continuous spring glazing strip inside would not give way under a pulsating outside pressure varying up to a maximum of 45 lbs. per square foot. It was therefore clear that there was an ample margin of safety, since the maximum design suction is 50 lbs. per square foot and the maximum design pressure is 30 lbs. per square foot.



It is, however, from the point of view of appearance that the choice of Aluminex has been so notably justified. Aluminex is essentially a neat and precise glazing system. The bars are extruded to a design which represents the strictest adaptation of shape to function. The Aluminex engineers who designed it re-thought "dry glazing" from basic principles. The components and fixings are equally simple, efficient and functional. The result is that, in such structures as the Pimlico tower, when clean, precise lines play an important part in the aesthetic effect of the finished building, Aluminex presents invaluable advantages.

**Aluminex Division** *of* **Williams & Williams Ltd.,** *Reliance Works, Chester*

**Architects:** *Messrs. Powell and Moya, AA.R.I.B.A.* **Chartered Civil Engineers:** *Messrs. Scott & Wilson.* **Consulting Engineers:** *Messrs. Kennedy & Donkin*




Architect: Erno Goldfinger, D.P.L.G., A.R.I.B.A.

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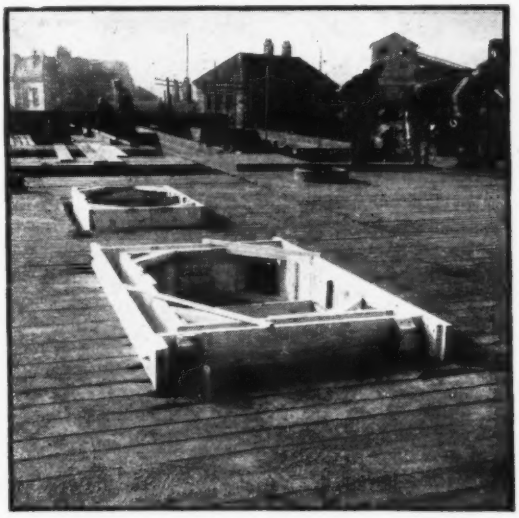

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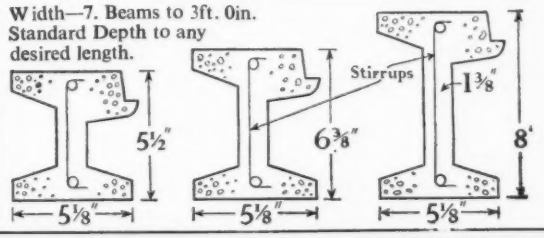


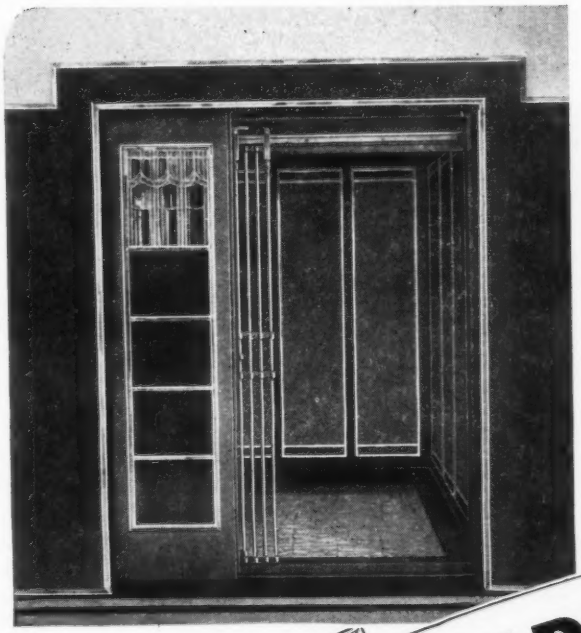

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*Replies to Box Numbers should be addressed care of "The Architects' Journal," at the address given above.*

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Applications are invited for positions of ARCHITECTURAL ASSISTANT (salaries up to £830 basic a year) in the Housing and Valuation Department. Commencing salaries will be determined according to qualifications and experience. Engagement will be subject to the Local Government Superannuation Acts, and successful candidates will be eligible for consideration for appointment to the permanent staff on the occurrence of vacancies.

All rates of pay up to £600 a year (basic) are at present subject to an addition of 10 per cent.

Successful candidates will be required to assist in the design, layout and preparation of working drawings for housing schemes, cottages and multi-storey flats), and will be employed in the Housing Architect's Division.

Forms of application may be obtained from the Director of Housing, The County Hall, Westminster Bridge, S.E.1 (stamped addressed envelope required and quote reference A.A.1). Canvassing disqualifies. (816) 2615

### CAMBRIDGESHIRE COUNTY COUNCIL. COUNTY PLANNING DEPARTMENT.

Applications are invited for the appointment of a CHIEF DRAUGHTSMAN, on Grade A.P.T., V, of the National Joint Council's Scales (salary £570 to £620 per annum).

Candidates must be capable surveyors and levellers and have considerable knowledge and experience of the preparation of Town Planning maps of all kinds, including mapping from air photography, map reproduction methods, and map and plan filing systems, and will be required to supervise staff in these and other duties.

The appointment is subject to the provisions of the Local Government Superannuation Act, 1937, the Council's Conditions of Service, and to the successful candidate satisfactorily passing a medical examination. Financial assistance, up to £2 weekly for a period not exceeding six months, may be given if the person appointed cannot obtain housing accommodation and has to maintain his own present residence in addition to the expense of lodgings in Cambridge.

Applications, stating age, past and present appointments (with dates), experience, qualifications, present salary and the names of two referees, should be received by the undersigned not later than 18th June, 1951.

CHARLES PHYTHIAN,
*Clerk of the County Council.*

Shire Hall, Castle Hill, Cambridge. 2723

### GLAMORGAN COUNTY COUNCIL.

Applications are invited for the following permanent appointments, at Headquarters, County Hall, Cardiff :—

TWO PLANNING ASSISTANTS. Up to Grade A.P.T., IV and VI—according to qualifications and experience.

The appointments are subject to the National Joint Council Scheme of Conditions of Service.

Applications, stating age, training, qualifications, experience and present salary, and accompanied by two testimonials, should be sent to the County Planning Officer, Mr. E. John Powell, at this address, and received not later than 23rd June, 1951.

D. J. PARRY,
*Clerk of the County Council.*

Glamorgan County Hall, Cardiff.
29th May, 1951. 2759

### HEMEL HEMPSTEAD DEVELOPMENT CORPORATION.

Applications are invited for appointments in the office of the Chief Architect, H. Kellett Ablett, as follows :—

(1) SENIOR ARCHITECTURAL ASSISTANT (within the scale £550×£30 to £750).

(2) ARCHITECTURAL ASSISTANT (within the scale £400×£25 to £525).

Applicants for (1) should be Associates of the R.I.B.A. This appointment offers scope to those having considerable experience in design and practical knowledge in that connection. Experience in the design and preparation of contracts for industrial buildings is desirable.

Applicants for (2) should have experience in an Architect's office and have passed the Intermediate Examination of the R.I.B.A.

Appointments, subject to Development Corporation's staff rules and conditions of service, which are broadly similar to Local Government Officers' "Charter."

Contributory superannuation with opportunity of entering or continuing in Local Government Superannuation Fund will be provided.

Housing accommodation can be provided, where appropriate.

Forms of application (to be applied for in an envelope marked "Architect"), which should be returned by 13th July, 1951, may be obtained from the General Manager, Hemel Hempstead Development Corporation, Westbrook Hay, Hemel Hempstead.

W. O. HART,
*General Manager.*

Westbrook Hay, Hemel Hempstead, Herts. 2799

### CUMBERLAND COUNTY COUNCIL. PLANNING DRAUGHTSMEN (£440-£575).

Applications are invited for the above appointments from Draughtsmen with previous experience in a Planning Department. Salary within the above limits determined according to previous experience and capabilities. Further particulars as to duties may be obtained on request from the County Planning Officer, Citadel Chambers, Carlisle, to whom completed forms are to be returned by Monday, the 25th June, 1951.

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

The Courts, Carlisle. 2756

### CITY AND COUNTY OF THE CITY OF EXETER.

Applications are invited for the appointment of HEATING ENGINEERING ASSISTANT on the permanent staff of the City Architect's Department. Salary within A.P.T., Grades III-IV (£450-£525 p.a.).

Forms of Application and further particulars and conditions of appointment may be obtained from H. B. Rowe, F.R.I.B.A., A.M.I.Struct.E., City Architect, Municipal Offices, Exeter.

Completed forms must be received by him not later than 30th June, 1951.

C. J. NEWMAN,
*Town Clerk.*

Exeter.
June, 1951. 2720

### CITY OF LIVERPOOL. ARCHITECTURAL AND HOUSING DEPARTMENT.

Applications are invited for the following appointments :—

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(*a*) THREE SECOND ASSISTANT ARCHITECTS. Salary £685-£760 per annum (A.P.T., Grade VIII).

(*b*) ONE ASSISTANT ARCHITECT. Salary £595-£660 per annum (A.P.T., Grade VI).

(*c*) ONE ASSISTANT ARCHITECT. Salary £520-£570 per annum (A.P.T., Grade V).

(*d*) FIVE ARCHITECTURAL ASSISTANTS. Salary within the range £390-£525 per annum (A.P.T., Grade I-IV), according to qualifications and experience.

(*e*) ONE HEATING AND LIGHTING ENGINEER. Salary £635-£710 per annum 9.P.T., Grade VII).

(*f*) ONE ASSISTANT STRUCTURAL ENGINEER. Salary £520-£570 per annum (A.P.T., Grade V).

(*g*) TWO TECHNICAL ASSISTANTS. Salary £390-£435 per annum (A.P.T., Grade I).

*HOUSING SECTION :*

(*h*) ONE ASSISTANT ARCHITECT. Salary £520-£570 per annum (A.P.T., Grade V).

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(*j*) ONE ASSISTANT ARCHITECT. Salary £595-£660 per annum (A.P.T., Grade VI).

Candidates for :—

(*a*), (*b*), (*c*). Must be Registered Architects, preferably qualified A.R.I.B.A., with experience in modern design and construction of all types of public buildings, particularly schools.

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(*e*) Must be Members of the Institution of Heating and Ventilating Engineers, and have considerable experience in design and execution of heating installations for public buildings. A knowledge of lighting installations would be an additional qualification.

(*f*) Must be Members of the Institution of Structural Engineers, or equivalent, and be experienced in design and detailed construction of steel and reinforced concrete as required in modern buildings.

(*g*) Must be capable draughtsmen, with office experience, knowledge of building procedure, and should be able to make surveys of buildings and assist generally in the work of an architectural drawing office.

(*b*) Must be Registered Architects, preferably qualified A.R.I.B.A., with housing experience.

(*i*), (*j*) Must be Registered Architects, preferably qualified A.R.I.B.A. and/or A.M.T.P.I., and should possess planning experience and an aptitude for the detailed redevelopment of central areas.

Application forms, obtainable from the City Architect and Director of Housing, Blackburn Chambers, Dale Street, Liverpool, 2, must be returned to him by 23rd June, 1951.

The appointments are superannuable and subject to the Standing Orders of the City Council. Canvassing disqualifies.

THOMAS ALKER,
*Town Clerk.*

Municipal Buildings, Liverpool, 2.
May, 1951. (2613) 2729

### BOROUGH OF DAGENHAM.

Applications are invited for the appointment of ARCHITECTURAL ASSISTANT. Salary : Grade A.P.T., VI, *viz.*, £595 to £660 per annum, plus London weighting (£30 at age 26 and over). Applicants must be Registered Architects and hold A.R.I.B.A. or similar qualification. Forms of application, together with further details of the posts, are obtained from the Borough Engineer and Surveyor. Closing date 20th June, 1951. Canvassing disqualifies. Housing accommodation will be made available.

KEITH LAUDER,
*Town Clerk.*

Civic Centre, Dagenham. 2804

### YIEWSLEY AND WEST DRAYTON URBAN DISTRICT COUNCIL.

Appointment of :—

(1) ENGINEERING ASSISTANT.
(2) ARCHITECTURAL ASSISTANT.

The above-named Council invite applications for the posts of Engineering Assistant and Architectural Assistant on their established staff.

In the case of the Engineering Assistant, the salary payable will be in accordance with paragraph 21 (12) of the National Scheme of Conditions of Service, *i.e.*, Grades A.P.T., III-V, according to qualifications and experience. It will be an advantage if applicants possess the Final Diploma of the R.I. Chartered Surveyors (Building Sub-Division).

The salary payable to the Architectural Assistant will be in accordance with Grade A.P.T., III, and applicants should have the qualification and experience appropriate to that Grade.

London "weighting" salary is also payable.

The successful applicants will be required to :—

(*a*) Pass a medical examination;
(*b*) contribute to the Superannuation Fund maintained by the Council; and
(*c*) be, or become on appointment, a member of an appropriate Trade Union or other recognised negotiating body.

The appointments will be subject to the provisions of the National Scheme of Conditions of Service.

Housing accommodation will be provided if, in the opinion of the Council, it is required.

Application forms may be obtained from the Engineer and Surveyor to the Council, Mr. W. T. Morgan, F.R.I.C.S., etc., to whom they must be returned appropriately endorsed not later than 5 p.m. on Tuesday, 3rd July, 1951.

EDWARD C. BARLOW,
*Clerk of the Council.*

Council Offices, Yiewsley, Middx.
29th May, 1951 2757

### LONDON COUNTY COUNCIL. ARCHITECT'S DEPARTMENT.

Applications are invited for positions of ARCHITECT, Grade III (£550-£700) and TECHNICAL ASSISTANT (up to £580) for architectural work on new housing, schools and other public buildings. The positions are superannuable, and the above rates are subject to an addition of 10 per cent. on the first £600 and 7½ per cent. on any remainders. Application forms from the Architect, The County Hall, S.E.1, enclosing stamped addressed foolscap envelope and quoting AR/EK/A. Canvassing disqualifies. (514) 3914

### MINISTRY OF WORKS.

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

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

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

Apply in writing, stating age, nationality, full details of experience, and locality preferred, to Chief Architect, Ministry of Works, Abell House, John Islip Street, London, S.W.1, quoting reference WG10/BC. 2217

### CITY OF ROCHESTER. ARCHITECTURAL ASSISTANT.

Applications are invited for the above appointment in the City Surveyor's Department, at a salary in accordance with Grade III-Grade IV (Administrative, Professional and Technical Division) of the National Scale of Salaries, *viz.*, £500-£575 per annum, according to qualifications and experience.

Preference will be given to candidates who have passed the Intermediate Examination of the Royal Institute of British Architects.

A good general experience is desirable, particularly in the preparation of drawings and specifications for Municipal Housing Schemes. A knowledge of quantities would be an advantage.

In an appropriate case the City Council will provide the successful applicant with suitable housing accommodation.

The appointment will be subject to :—

(1) The Scheme of Conditions of Service of the National Joint Council for Local Authorities' Administrative, Professional, Technical and Clerical Services.
(2) The Local Government Superannuation Act, 1937, and the successful candidate will be required to pass a medical examination.
(3) One month's notice on either side.

Applications, stating age, qualifications and experience, together with names and addresses of three persons to whom reference may be made, should be received by the undersigned not later than the 25th June, 1951.

Canvassing, directly or indirectly, will be deemed a disqualification, and applicants must state whether to their knowledge they are related to any member or senior officer of the Council.

W. LAW,
*City Surveyor.*

66, Maidstone Road, Rochester.
30th May, 1951. 2754

BOROUGH OF WORTHING.
BOROUGH ENGINEER'S DEPARTMENT.
ARCHITECTURAL STAFF.

Applications are invited for TWO ARCHITECTURAL ASSISTANTS, on Grade A.P.T., IV (£530-£575 per annum), in the Architectural Section of the Borough Engineer's Department.

Applicants should be suitably qualified, having passed at least the Intermediate Examination of the R.I.B.A. and have had experience in the design and preparation of working drawings for work carried out by Local Authorities, including school buildings.

The appointments are subject to the National Scheme of Conditions of Service of Local Government Officers, to the Local Government Superannuation Act, 1937, and to the successful applicants passing satisfactorily a medical examination.

Applications, endorsed "Architectural Assistant," stating age, status, qualifications, experience, present and past appointments with dates, and accompanied by at least two copies of testimonials, should be sent to the Borough Engineer and Surveyor, Town Hall, Worthing, so as to reach him not later than Friday, 22nd June, 1951.

ERNEST G. TOWNSEND,
*Town Clerk.*

Town Hall, Worthing.
28th May, 1951. 2758

GOVERNMENT OF NORTHERN IRELAND.
MINISTRY OF FINANCE.
ASSISTANT ARCHITECT (SCHOOLS ADVISORY).

Applications are invited for an unestablished appointment as Assistant Architect in the Schools Advisory Section of the Directorate of Works, Ministry of Finance. Vacancies arise from time to time for established appointments, and the successful applicant will be considered for these appointments.

The duties of the successful candidate will be, *inter alia*, to assist in the examination and reporting on plans for all types of school buildings and community centres submitted to the Ministry of Education for approval.

Remuneration will be according to qualifications and experience within the salary range £700-£900 per annum.

Qualifications: Candidates must be Registered Architects by examination and have had experience in schools design, preferably in the Architect's Department of an Education Authority.

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, discharge the duties efficiently.

Applications, giving date of birth and full details of qualifications and experience, should be sent to the Director of Establishments, Ministry of Finance, Stormont, so as to reach him not later than the 30th June, 1951. 2805

LONDON ELECTRICITY BOARD.
DRAUGHTSMEN.

Applications are invited for three positions of Draughtsman, in the Design and Planning Branch at Falcon House, Aldersgate Street, E.C.1.

Applicants should be capable of making drawings of plant, cable layouts and line diagrams, also prepare details of steel or concrete structures from rough sketches supplied or from Draughtsman's own measurements.

Pending grading of the posts under the national agreement of the appropriate negotiating body, the commencing salaries will be within the range of £300-£500 per annum inclusive, according to qualifications and experience.

Application forms obtainable from Establishments Officer, 46, New Broad Street, E.C.2, to be returned duly completed within 10 days. Please enclose addressed foolscap envelope and quote Ref. EST/V/1243/A on all correspondence. 2790

ROYAL COLLEGE OF ART.
STUDIO ASSISTANT—SCHOOL OF ARCHITECTURE.

Applications are invited from persons with a good education and some experience in architectural drawing. The present salary scale is £175×£15 to £275 p.a.

Further particulars and application forms from the Registrar, Royal College of Art, Exhibition Road, S.W.7, to whom they should be returned within 14 days of the appearance of this advertisement. 2821

DORSET COUNTY COUNCIL.

Applications are invited for the appointment of an ASSISTANT ARCHITECT (A.P.T., Grade III—salary £500×£15—£545 per annum), in the County Architect's Department. The minimum qualification required for the post is Intermediate Examination of the Royal Institute of British Architects.

Full particulars and Forms of Application may be obtained from the Clerk of the County Council, County Hall, Dorchester, to whom applications should be returned by the 27th June, 1951. 2820

WEST SUSSEX COUNTY COUNCIL.
COUNTY ARCHITECT'S DEPARTMENT.

Applications are invited for the appointment of an ASSISTANT BUILDING MAINTENANCE SURVEYOR, at a salary in accordance with Grade I, A.P.T. Division (£440 to £485 per annum), of the National Scales of Salaries.

Further particulars should be obtained from the County Architect, County Hall, Chichester, to whom detailed applications must be submitted not later than the 22nd June, 1951.

T. C. HAYWARD,
*Clerk of the County Council.*

County Hall, Chichester.
1st June, 1951. 2792

CITY OF BATH.
CITY PLANNING AND ARCHITECTURAL DEPARTMENT.

Applications are invited for the appointment of CHIEF ARCHITECTURAL ASSISTANT, Grade A.P.T., VII (£635-£710). Applicants must be Registered Architects, and preference will be given to those who are Associates of the Royal Institute of British Architects. They should have had good experience in design and construction of Municipal Housing and other works.

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

Applications, stating age, qualifications and experience, together with the names and addresses of three referees, should be sent to the City Planning Officer and Architect, 2, Princes Buildings, Bath, not later than the 23rd June, 1951.

JARED. E. DIXON,
*Town Clerk.*

Guildhall, Bath.
June, 1951. 2791

METROPOLITAN BOROUGH OF FULHAM.
ASSISTANT QUANTITY SURVEYOR.

Applications are invited for the above-mentioned appointment in the Quantity Surveying Section of the Housing and Public Buildings Department.

Salary: A.P.T., Grade V-Va, £570×£15 (2) × £20—£660 per annum, plus London weighting.

The person appointed will be mainly employed in "taking-off" for large blocks of flats and other public buildings, together with a certain amount of measurement of works on site and specification writing from bills of quantities.

Membership of a recognised professional institute is desirable but not essential if the applicant has good practical experience.

Applications, on forms obtainable from me, should be returned with copies of not more than three testimonials not later than 25th June, 1951.

CYRIL F. THATCHER,
*Town Clerk.*

Town Hall, Fulham, S.W.6. 2788

BOROUGH OF WALLSEND.

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

(*a*) ARCHITECTURAL ASSISTANT. Salary A.P.T., IV (£480-£525). Applicants should hold a recognised architectural qualification and have had considerable experience in design and layout of Council Houses and Public Buildings.

(*b*) ENGINEERING ASSISTANT. Salary A.P.T., III (£450-£495). Applicants should have passed the Intermediate Examination of the Institute of Municipal and County Engineers or the Royal Institute of Chartered Surveyors, and have had experience in Municipal engineering and surveying, including roads, sewers, housing layouts, etc.

The appointments will be subject to the terms of the National Joint Council's Conditions of Service and to the Local Government Superannuation Act, 1937. Canvassing will be deemed a disqualification, and applicants must disclose whether they are related to any member or senior officer of the Council.

Applications in envelopes suitably endorsed, stating age, qualifications and experience, together with copies of not more than three testimonials, to be received by the undersigned not later than Saturday, 21st July, 1951.

CHAS. E. BRADBURY,
*Town Clerk.*

Town Hall, Wallsend. 2789

GOVERNMENT OF SOUTH AUSTRALIA.
ARCHITECTS, ARCHITECTURAL DRAUGHTSMEN AND SPECIFICATION WRITERS.

Appointments are available for Architects, Architectural Draughtsmen and Specification Writers in the South Australian Public Service.

Fares will be paid for appointees and their families.

Further particulars from:—
AGENT-GENERAL FOR SOUTH AUSTRALIA.
South Australia House, Marble Arch, W.1. 2810

BRITISH ELECTRICITY AUTHORITY.
EASTERN DIVISION.

Applications are invited for the following appointments in the Generation (Construction) Department at Divisional Headquarters in North London:—

(*a*) SENIOR DRAUGHTSMEN (ARCHITECTURAL).

(*b*) SENIOR DRAUGHTSMEN (STRUCTURAL).

The initial salaries for these appointments will depend upon experience and qualifications, but will be within the following salary range—£525-£735 per annum (which includes London allowance).

Applicants should have had experience in one of the following: (*a*) Design and alteration of industrial buildings; (*b*) design of structural steel work and reinforced concrete structures.

The appointments will be Superannuable in accordance with the British Electricity Authority and Area Boards Superannuation Scheme.

Applications, stating age, experience, present position and salary required, and endorsed with the appointment sought, should be submitted to arrive not later than 29th June, 1951, to the Divisional Controller, British Electricity Authority, Eastern Division, Northmet House, Southgate, N.14.

W. N. C. CLINCH.
*Controller.*

Northmet House, Southgate, N.14. 2808

COUNTY COUNCIL OF INVERNESS.
COUNTY ARCHITECT'S DEPARTMENT.

Applications are invited for the appointment of a SENIOR ARCHITECTURAL ASSISTANT in the County Architect's Department. Salary scale, A.P.T., V (£570-£620), with commencing salary of £570 per annum.

Candidates must have had a sound general experience in the preparation of working drawings for housing, schools and other Local Authority projects, and be capable of supervising work during course of construction. Preference will be given to applicants who are Associate Members of the Royal Institute of British Architects.

The appointment will be subject to the provisions of the Local Government Superannuation (Scotland) Act, 1937, and the successful candidate will be required to pass a medical examination. Applications, stating age, qualifications and experience, accompanied by copies of not more than three recent testimonials, should be lodged with the undersigned within fourteen days after the date of publication of this advertisement.

R. WALLACE,
*County Clerk.*

County Buildings, Inverness.
5th June, 1951. 2818

SHEFFIELD REGIONAL HOSPITAL BOARD.

The Board invites applications for the following permanent and superannuable appointment on its Headquarters' Staff:—

PRINCIPAL ASSISTANT ARCHITECT.

Candidates must be members of the Royal Institute of British Architects, and experience must include hospital planning and construction and the relative professional, administrative and executive duties. The person appointed will be required to assist the Architect to the Board on architectural matters concerned with hospitals in the Board's area. The salary scale at present applicable will be £800×£25—£950 per annum, and the appointment will be terminable by two months' notice on either side.

Applications, stating age, present appointment and salary, and including a detailed statement of qualifications and experience, together with the names of three persons to whom reference may be made, and endorsed "Principal Assistant Architect," should be addressed to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to be received not later than 9th July, 1951. 2817

FLINTSHIRE COUNTY COUNCIL.

Applications are invited for the appointment of a QUANTITY SURVEYOR, in the County Architect's Department, at a salary according to qualifications and experience up to Grade A.P.T., VII (£685, rising to £760 per annum). Applicants should be Members of the Royal Institute of Chartered Surveyors (Quantities), and should be capable of preparing Bills of Quantities, Estimates, measuring up and dealing with Contractor's accounts for large contracts, and should preferably have had good experience in the office of a Local Authority. The appointment is superannuable and subject to the passing of a medical examination. Applications will be considered from registered disabled persons.

Applications on a form to be obtained from the undersigned, should be returned so as to be received not later than the 2nd July, 1951.

W. HUGH JONES,
*Clerk of the County Council.*

County Buildings, Mold. 2816

COUNTY COUNCIL OF DURHAM.
COUNTY PLANNING DEPARTMENT.

Applications are invited for the following permanent appointments in the County Planning Department:—

(*a*) TWO PLANNING ASSISTANTS. Grade Va, A.P.T. (£600-£660).

(*b*) ONE DRAUGHTSMAN. Miscellaneous, Grade III (£355-£415).

Applicants for (*a*) must have passed the Final Examination of the Town Planning Institute or some other appropriate recognised professional institute.

The appointments are subject to such conditions of the National Scheme of Service as have been adopted by the Council; to the provisions of the Local Government Superannuation Act, 1937, and the successful candidates will be required to pass a medical examination by the Council's Medical Officer; to termination by one calendar month's notice in writing on either side. Canvassing either directly or indirectly will disqualify, and applicants must disclose in writing whether to their knowledge they are related to any member or senior officer of the Council.

Applications, stating age, whether married or single, and giving full particulars of qualifications, experience and present salary, and the names of two persons to whom reference may be made, must be delivered to the County Planning Officer, 10, Church Street, Durham, by Saturday, 23rd June, 1951.

J. K. HOPE,
*Clerk of the County Council.*

Shire Hall, Durham.
6th June, 1951. 2819

COUNTY BOROUGH OF SOUTHAMPTON.
BOROUGH ARCHITECT'S DEPARTMENT.

Applications are invited for the following positions:—

(*a*) SENIOR ASSISTANT PLANNING OFFICER. Grade VIII (£735-£810).

(*b*) ASSISTANT PLANNING OFFICER. Grade VI (£645-£710).

Applications, on forms obtainable from L. Berger, Dip.Arch., A.R.I.B.A., Borough Architect, Civic Centre, Southampton, should be returned not later than 18th June, 1951. 2815

HALE URBAN DISTRICT COUNCIL.
APPOINTMENT OF ARCHITECTURAL ASSISTANT.

Applications are invited for the appointment of Architectural Assistant, on the staff of the Engineer and Surveyor, at a salary in accordance with Grade A.P.T., VI, of the National Joint Councils' Scale of Salaries (commencing at £645 p.a. and rising to £710 p.a.). The appointment is temporary, but it is anticipated to be for a period of three years, and the appointment may be or become subject to the provisions of the Local Government Superannuation Act, 1937. The appointment will be terminable by one month's notice by either side.

Candidates should be suitably qualified and should have had good experience in the preparation of drawings, specifications and quantities for the erection of Council Houses. In addition to its own Housing Programme the Council has undertaken to build houses for "Overspill" population.

Applications, stating age, qualifications and experience, together with the names of two referees, to be delivered to the undersigned, in a sealed envelope endorsed "Architectural Assistant," not later than mid-day on Monday, 2nd July, 1951.

Canvassing, either directly or indirectly, will be a disqualification, and relationship to any member or senior officer of the Council must be disclosed.

N. S. THOMAS,
*Clerk of the Council.*

Council Offices, Ashley Road,
Hale, Cheshire.
5th June, 1951. 2806

COUNTY BOROUGH OF BARNSLEY.
BOROUGH ENGINEER AND SURVEYOR AND PLANNING OFFICER'S DEPARTMENT.
SECOND PLANNING ASSISTANT.

Applications are invited for the above appointment, at a salary in accordance with A.P.T., Grades IV and V, of the National Scales, i.e., £530-£620.

Applicants should hold a recognised qualification in Town Planning or Architecture, and should have had considerable experience in the detailed planning of Urban Areas, and in administrative work under the 1947 Act.

The appointment is subject to the National Scheme of Conditions of Service, Local Government Superannuation Acts, the passing by the successful candidate of a medical examination, and to termination by one month's notice on either side.

Applications, stating age, present and previous appointments and salaries, qualifications and experience, together with copies of two recent testimonials, should reach the Borough Engineer and Surveyor and Planning Officer, Town Hall, Barnsley, not later than 27th June, 1951.

Canvassing will be a disqualification, and relationship to any member or senior officer of the Council must be disclosed.

A. E. GILFILLAN,
*Town Clerk.*

Town Hall, Barnsley.
June, 1951. 2807

LONDON COUNTY COUNCIL.
ARCHITECT'S DEPARTMENT.

Applications are invited for positions of CLERK OF WORKS (up to £550+10 per cent.) in Housing Division of Architect's Department. Applicants should be experienced in supervising large scale building works. Positions superannuable.

Application forms obtainable from Architect to the Council, County Hall, S.E.1, enclosing stamped addressed foolscap envelope and quoting AR/EK/HCW. (736) 2832

LONDON COUNTY COUNCIL.
ARCHITECT'S DEPARTMENT.

Applications are invited from qualified Architects with experience in contemporary design for a position of ARCHITECT, Grade II (£700-£840) in General (Constructional) Division of Architect's Department. This division designs and erects new buildings other than schools and housing. Position superannuable. Above rates are subject to an addition of 10 per cent. on first £600 and 7½ per cent. on remainder.

Application forms, to be returned by 31st July, 1951, obtainable from Architect to the Council, County Hall, S.E.1, enclosing stamped addressed foolscap envelope, and quoting AR/EK/G. (745) 2833

FINSBURY BOROUGH COUNCIL.
SENIOR ARCHITECTURAL ASSISTANT.

Applications are invited for the appointment of Senior Architectural Assistant on the permanent staff.

Applicants should be Registered Architects and have passed the Final Examination of the Royal Institute of British Architects. They should have a sound experience of architectural work and in particular of the design and construction of Municipal flats. The post is graded on A.P.T., VI, of the National Scales (£645 per annum, rising to £710 per annum), plus "London weighting" (£20-£30).

The successful applicant will be required to pass a medical examination and contribute to the Council's Superannuation Fund, and conform to the National Scales of Service.

Applications, stating age, experience and qualifications, and accompanied by copies of three recent testimonials, should be addressed to the Town Clerk, Finsbury Town Hall, Rosebery Avenue, E.C.1, and should be received not later than 30th June, 1951 2835

CITY OF CARDIFF.
APPOINTMENT OF SENIOR ASSISTANT ARCHITECT (GENERAL).

Applications are invited for the following appointment in the City Surveyor's Department, *viz.*:—

Senior Assistant Architect (General). A.P.T., Grade IX (£790-£910 per annum).

Candidates should possess the minimum qualifications and experience prescribed by the National Joint Council for Local Authorities' Administrative, Professional, Technical and Clerical Services for posts in the above-mentioned grade.

General Conditions of Appointment may be obtained from the undersigned.

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

Applications, accompanied by the names and addresses of three referees and endorsed "Senior Assistant Architect (General), Grade IX," must be delivered to the undersigned not later than the 9th July, 1951.

S. TAPPER-JONES,
*Town Clerk.*

City Hall, Cardiff.
June, 1951. 2836

ROYAL COLLEGE OF ART.
SCHOOL OF ARCHITECTURE.

Applications are invited from practising and qualified Architects for the post of Part-time TUTOR in the School of Architecture at this College. Teaching experience is desirable.

The School of Architecture aims to give, to students of the Fine Arts and of Industrial Design an understanding of architecture, not professional architectural training.

The post is for two days a week, on the scale £250×£20 to £600 per annum.

Further details and application forms from the Registrar, Royal College of Art, Exhibition Road, S.W.7, to whom they should be returned within 14 days of the appearance of this advertisement. 2838

COUNTY COUNCIL OF THE COUNTY OF LANARK.
PROPERTY DEPARTMENT.
ARCHITECTURAL ASSISTANTS.

Vacancies exist within the establishment for Architectural Assistants on the staff of the County Architect's Department (Motherwell). Appointments range from a junior to senior capacity, and salary will be in accordance with the J.I.C. Scheme of Salaries and Conditions of Service, ranging from A.P.T., Grade I to VII. If preferred, appointment could be a temporary one.

While the work of the Department is mainly of an educational character, consisting largely of the design and development of a large schools building programme, an interesting and varied syllabus embraces every branch of architectural development, including Police Housing but not general housing.

Although the salary grade and scale will be discussed and adjusted at the interview of selected candidates, written applications should indicate a preference compatible with the qualifications of the applicant.

Applications, stating age, particulars of training, experience and qualifications, together with the names and addresses of three referees, should be addressed to the County Architect, Property Department, 34, Albert Street, Motherwell, not later than 25th June, 1951.

The appointments (permanent) will be subject to the provisions of the Local Government Superannuation (Scotland) Act, 1937, and the successful applicants will require to pass a medical examination.

Canvassing, directly or indirectly, will be a disqualification.

WM. C. BROWNLIE,
*County Clerk.*

Lanarkshire House, 191, Ingram Street,
Glasgow, C.1. 2798

HAMPSHIRE COUNTY COUNCIL.

Applications are invited for the appointment of a TECHNICAL ASSISTANT on Grade III-IV of the National Scales (£450-£525), to work in the South-East Area Office of the County Planning Department at Fareham. Candidates should have passed the Intermediate Examination of the Town Planning Institute, and have had experience in the Planning Department of a Local Planning Authority. In the event of an applicant being appointed who does not hold the requisite qualification, the appointment will be made at a suitable point in Grade II of the National Scales, pending the passing of the requisite examination. The appointment is pensionable and will be subject to a satisfactory medical report.

Officers using their own cars when travelling on County Council duties will receive travelling allowance on the County Scale for the time being in force. In approved cases, the County Council are prepared to assist newly appointed staff to meet removal expenses.

No form of application is issued, but applications stating age, education, qualification and experience, together with a copy of one testimonial and the names and addresses of two persons to whom reference may be made, should be sent to the County Planning Officer, Litton Lodge, Clifton Road, Winchester, not later than the 29th June, 1951.

G. A. WHEATLEY,
*Clerk of the County Council.*

The Castle, Winchester.
6th June, 1951. 2837

EAST RIDING OF YORKSHIRE COUNTY COUNCIL.
COUNTY PLANNING DEPARTMENT.

Applications are invited for the appointment of TWO PLANNING ASSISTANTS, at a salary in accordance with A.P.T., Grades I to IV, £390-£525, the commencing salary to be fixed having regard to the experience and qualifications of the successful applicants.

Candidates should have passed the Intermediate Examination of the Town Planning Institute or hold an equivalent qualification, and have had practical experience in a Planning Office.

The minimum and maximum of the above salary scales will be increased by £50, subject to the County Council approving the revised National scales.

The appointments will be to the permanent staff and are subject to the National Joint Council's conditions of service as adopted by the County Council. The appointments will be terminable by one month's notice on either side, and will be subject to the Local Government Superannuation Act, 1937. Selected candidates will be required to pass a medical examination to the satisfaction of the County Medical Officer of Health. Applications, stating age, qualifications and experience, should be received by the undersigned not later than Saturday, the 7th July, 1951, and should be accompanied by copies of two recent testimonials. Canvassing, either directly or indirectly, will be a disqualification, and relationship to any member or senior officer of the Council must be disclosed.

T. STEPHENSON,
*Clerk of the Council.*

County Hall, Beverley. 2834

FERMANAGH COUNTY EDUCATION COMMITTEE.
JUNIOR ARCHITECTURAL ASSISTANT.

Applications are invited for the post of Junior Architectural Assistant, in the office of the Committee's Architect, on the salary scale £360×£20 to £500 per annum, inclusive of bonus.

Applicants should have a sound knowledge of design and construction and be capable of preparing working drawings, and must have passed the Intermediate Examination of the R.I.B.A. and had at least five years' experience in an Architect's office.

The actual salary within the above salary range will be determined according to the qualifications and experience of the person appointed.

The appointment, which is pensionable, is subject to the approval of the Ministry of Education, Northern Ireland.

One month's notice in writing on either side will be required to terminate the appointment.

Preference will be given to ex-Service applicants, provided the Committee is satisfied that the successful candidate can, or within reasonable time, will be able to fill the vacant post efficiently.

Candidates should apply to the undersigned by letter, giving full details of education and experience, and enclosing copies of not less than two testimonials. Latest date for receiving applications at the address below is Saturday, 30th June, 1951.

J. MALONE,
*Chief Education Officer.*

Education Office, 27, High Street,
Enniskillen, Northern Ireland. 2839

## Partnership

***6 lines or under, 12s. 6d.; each additional line, 2s.***

BOURNEMOUTH.—Partnership offered in private practice. Please write fully to Box 2812.

A.R.I.B.A. (36) seeks Partnership or position leading thereto. Capital available. Box 2825.

PARTNERSHIP available in long established General Practice, town and country, in North-West. Both architectural and surveying experience desirable. Replies in confidence to Box 2827.

## Tenders for Contracts

***6 lines or under, 12s. 6d.; each additional line, 2s.***

COUNTY BOROUGH OF GREAT YARMOUTH.
ERECTION OF SIX-STOREY FLATS.

The Corporation invite tenders for the erection of two blocks of six-storey flats, each comprising 38 flats, at Middlegate Street Reconstruction Area, Great Yarmouth.

The whole of the work will not necessarily be given to one Contractor.

Bills of Quantities, Conditions of Contract, etc., may be obtained from the Borough Engineer, Town Hall, Great Yarmouth, on and after 11th June, 1951, and plans inspected at the Borough Engineer's Architects' office, 15, Regent Street, Great Yarmouth.

Tenders in plain sealed envelopes, endorsed "Tender for Flats," must be received by me not later than Monday, 2nd July, 1951.

The Corporation do not bind themselves to accept the lowest or any tender.

FARRA CONWAY,
*Town Clerk.*

Town Hall, Great Yarmouth.
31st May, 1951. 2793

## Sale by Auction

*6 lines or under, 10s.; each additional line, 1s. 6d*

SALE OF BUILDERS' MATERIALS.
EX-GOVERNMENT STORES, ETC.

A. GADIE & SON have received instructions from the owners to offer for sale by Public Auction, on the site opposite the Junction Hotel, Queensbury, near Bradford, on Wednesday, 27th June, 1951, at 11 a.m. the Builders' Materials, ex-Government Stores, etc., including :—

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The above may be viewed on the site on Monday and Tuesday, the 25th and 26th June, 1951, between the hours of 10 a.m. and 4 p.m.

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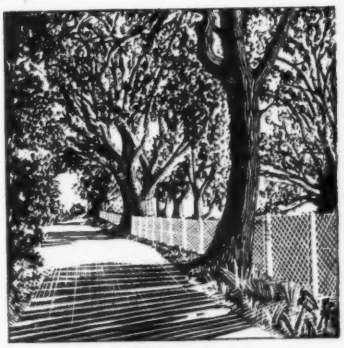

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