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THE ARCHITECTS' JOURNAL

FINE ARTS



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

standard contents

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

NEWS and COMMENT

Astragal's Notes and Topics

Letters

News

Diary

Criticism

TECHNICAL SECTION

Information Sheets

Information Centre

Current Technique

Working Details

Questions and Answers

Prices

The Industry

CURRENT BUILDING

Major Buildings described:

Details of Planning, Construction,

Finishes and Costs

Buildings in the News

Building Costs Analysed

Architectural Appointments

Wanted and Vacant

No. 3376]

[Vol. 130

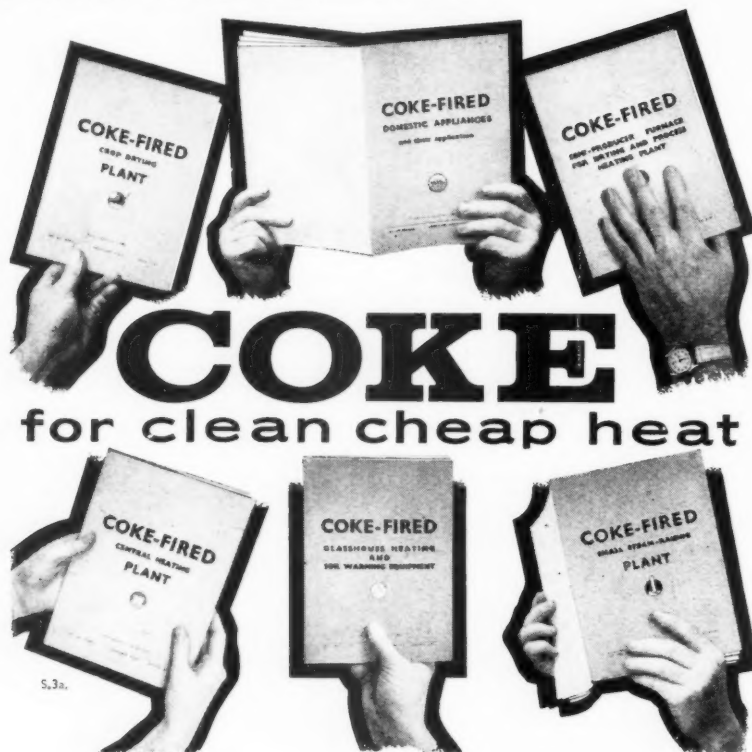
THE ARCHITECTURAL PRESS

11 and 13, Queen Anne's Gate, Westminster,
S.W.1. Phone: Whitehall 0611

Price 1s. 0d.

Registered as a Newspaper.

AA	Architectural Association, 34/6, Bedford Square, W.C.1.	Museum 0974
AAI	Association of Art Institutions. Secy.: W. L. Stevenson, College of Art, Hope Street, Liverpool 1.	Royal 1826
ABS	Architects' Benevolent Society. 66, Portland Place, W.1.	Langham 5533
ABT	Association of Building Technicians. 1, Ashley Place, S.W.1.	Victoria 0447-8
ACGB	Arts Council of Great Britain. 4, St. James's Square, S.W.1.	Whitehall 9737
ADA	Aluminium Development Association. 33, Grosvenor Street, W.1.	Mayfair 7501/8
ARCUK	Architects' Registration Council. 68, Portland Place, W.1.	Langham 5861
BAE	Board of Architectural Education. 66, Portland Place, W.1.	Langham 5721
BC	Building Centre, 26, Store Street, Tottenham Court Road, W.C.1	Museum 5400
BCC	British Colour Council. 13, Portland Square, W.1.	Welbeck 4185
BCCF	British Cast Concrete Federation. 105, Uxbridge Road, Ealing, W.5.	Ealing 9621
BCIRA	British Cast Iron Research Association. Alvechurch, Birmingham.	Redditch 716
BDA	British Door Association. 10, The Boltons, S.W.10.	Fremantle 8494
BE	Building Exhibition. 11, Manchester Square, W.1.	Hunter 1951
BEDA	British Electrical Development Association, 2, Savoy Hill, W.C.2.	Temple Bar 9434
BLA	British Ironfounders' Association. 145, Vincent Street, Glasgow, C.2.	Glasgow Central 2891
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. Whitehall Gardens, Horseguards Avenue, Whitehall, S.W.1.	Trafalgar 8855
BRB	Building Research Station. Bucknalls Lane, Watford.	Garston 4040
BSA	Building Societies Association. 14, Park Street, W.1.	Mayfair 0515
BSI	British Standards Institution. British Standards House, 2, Park St., W.1.	Mayfair 9000
CABAS	City and Borough Architects Society. C/o S. A. G. Cook, A.R.I.B.A., Borough Architect and Director of Housing, Town Hall, High Holborn, W.C.1.	Holborn 3411
CAS	County Architects' Society. C/o S. Vincent Goodman, F.R.I.B.A., Shire Hall, Bedford.	Bedford 67444
CCA	Cement and Concrete Association. 52, Grosvenor Gardens, S.W.1.	Belgravia 6661
CDA	Copper Development Association. 55, South Audley Street, W.1.	Grosvenor 8811
COID	Council of Industrial Design. 28, Haymarket, S.W.1.	Trafalgar 8000
CPRE	Council for the Preservation of Rural England. 4, Hobart Place, S.W.1.	Sloane 4280
CUC	Coal Utilization Council. 3, Upper Belgrave Street, S.W.1.	Sloane 9116
CVE	Council for Visual Education. 13, Suffolk Street, Haymarket, S.W.1.	Reading 72255
DIA	Design and Industries Association. 13, Suffolk Street, S.W.1.	Whitehall 0540
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. 68, Gloucester Place, W.1.	Welbeck 9966
FASS	Federation of Associations of Specialists and Sub-Contractors, 14, Bryanston Street, W.1.	Welbeck 1781
FBBDO	Fibre Building Board Development Organization Ltd. (Fidor), Stafford House, Norfolk Street, W.C.2.	Covent Garden 3008
FBI	Federation of British Industries. 21, Tothill Street, S.W.1.	Whitehall 6711
FC	Forestry Commission. 25, Savile Row, W.1.	Regent 0221
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. 33, John Street, W.C.1. Tel.: Chancery 7583 (6 lines)	
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 4341
GPDA	Gypsum Plasterboard Development Association. 11, Ironmonger Lane, E.C.2.	Monarch 8888
GC	Gas Council. 1, Grosvenor Place, S.W.1.	Sloane 4554
GG	Georgian Group. 2, Chester Street, S.W.1.	Belgravia 3081
HC	Housing Centre. 13, Suffolk Street, Pall Mall, S.W.1.	Whitehall 2881
IAAS	Incorporated Association of Architects and Surveyors. 29, Belgrave Square, S.W.1.	Belgravia 3755
ICA	Institute of Contemporary Arts. 17-18, Dover Street, Piccadilly, W.1.	Grosvenor 6186
ICE	Institution of Civil Engineers. 1, Great George Street, S.W.1.	Whitehall 4577
IEE	Institution of Electrical Engineers. Savoy Place, Victoria Embankment, W.C.2.	Temple Bar 7676
IES	Illuminating Engineering Society. 32, Victoria Street, S.W.1.	Abbey 5215
IGE	Institution of Gas Engineers. 17, Grosvenor Crescent, S.W.1.	Sloane 8266
IHVE	Institution of Heating and Ventilating Engineers. 49, Cadogan Square	Sloane 1601/3158
IIBDID	Incorporated Institute of British Decorators and Interior Designers. 100, Park Street, Grosvenor Square, W.1.	Mayfair 708



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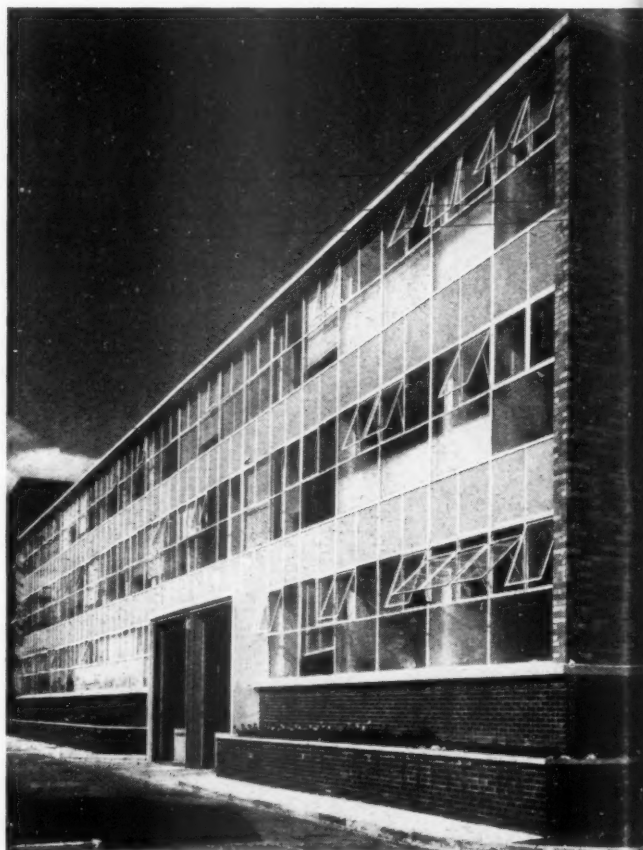
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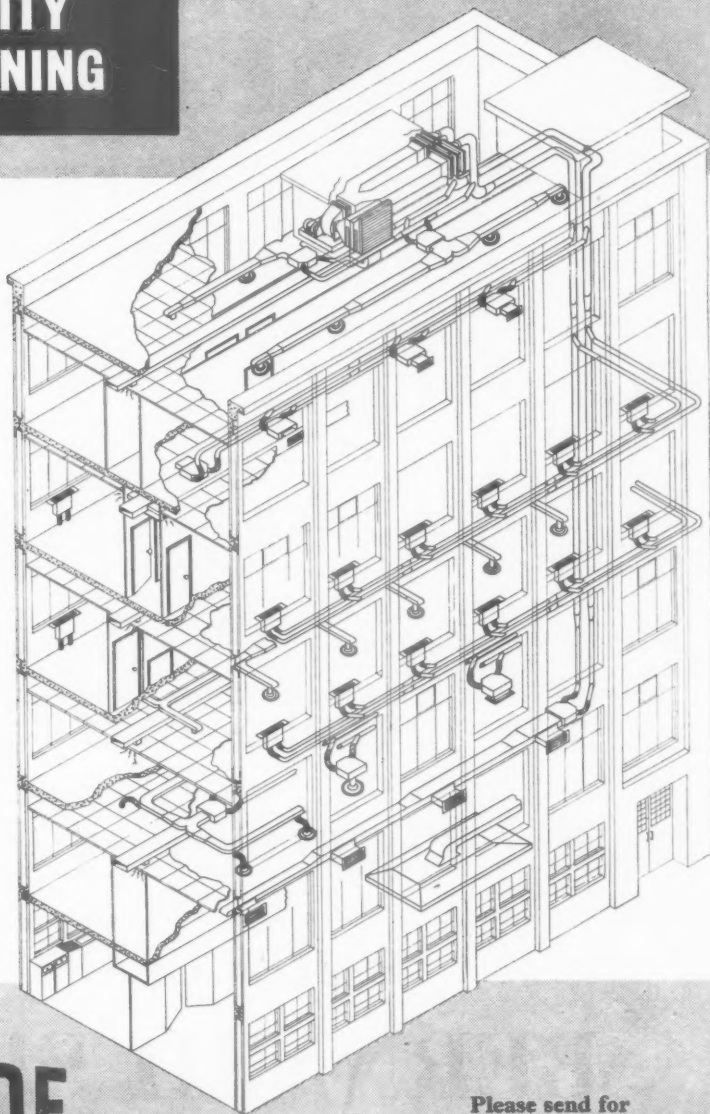
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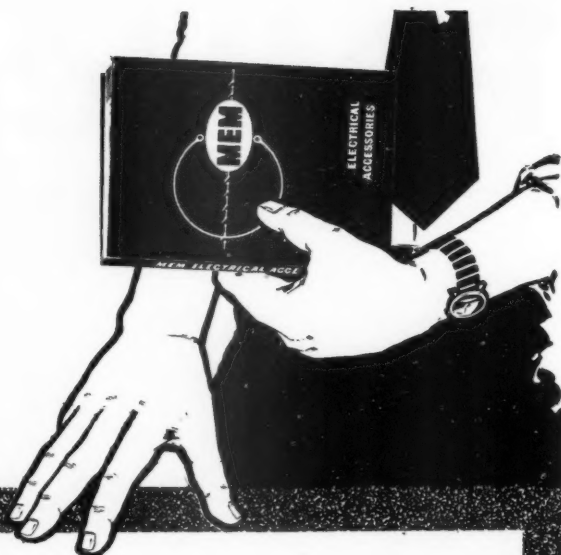
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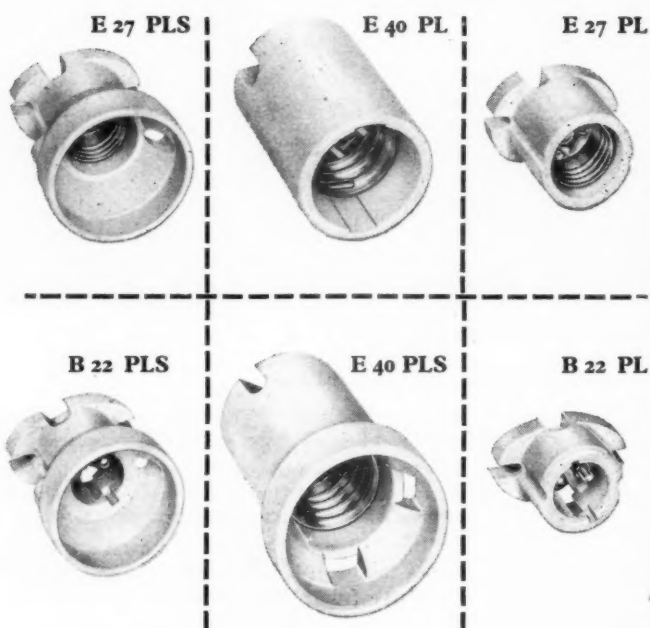
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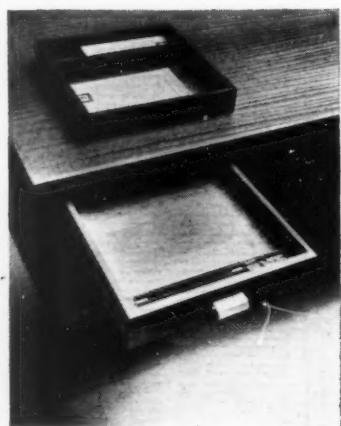
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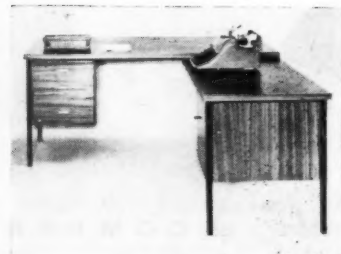
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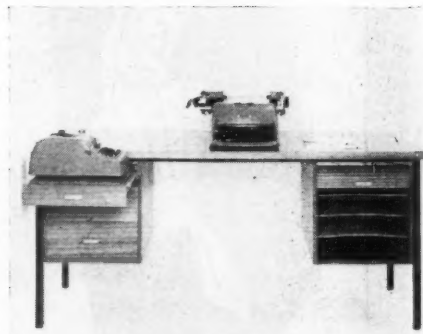
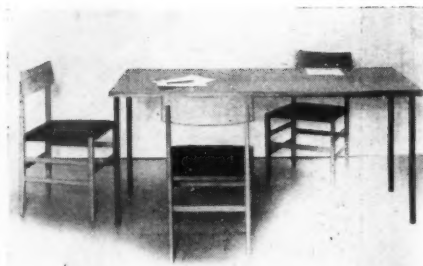
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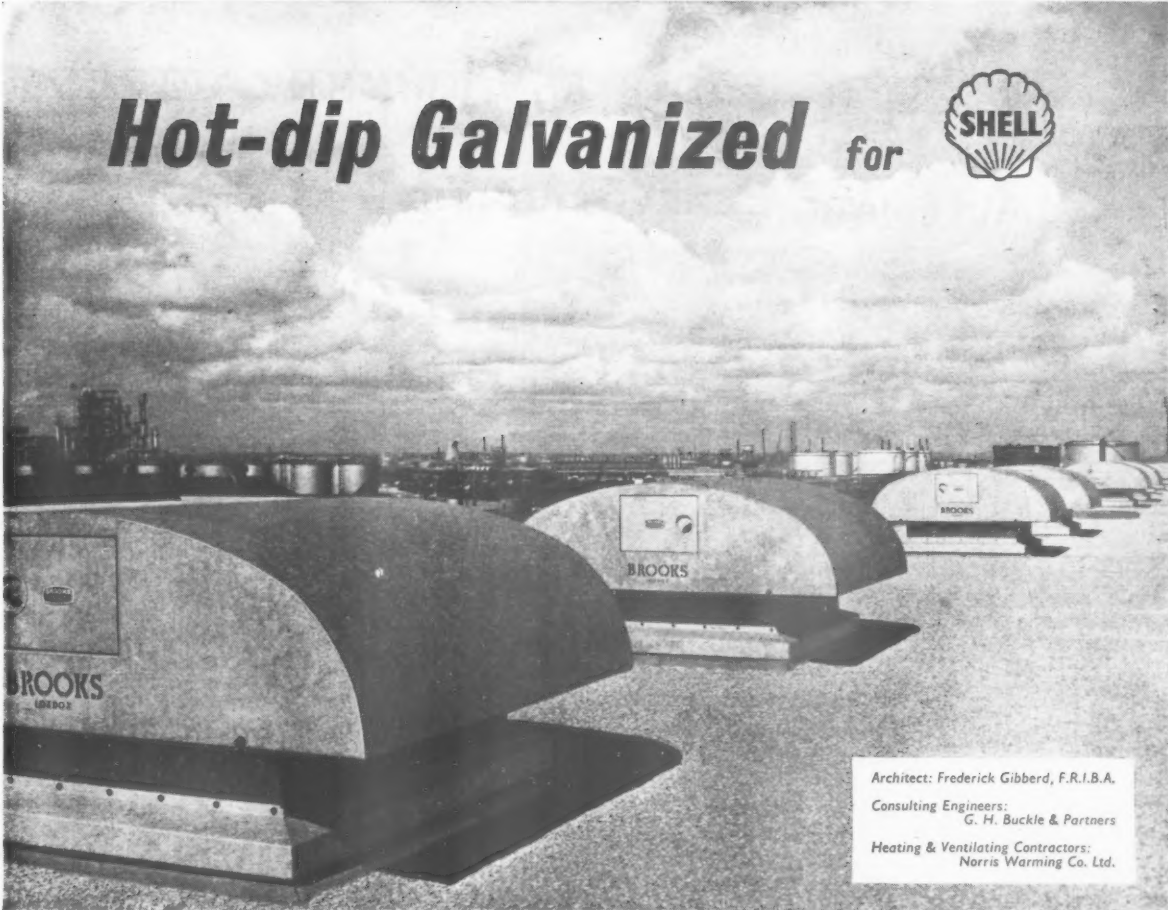


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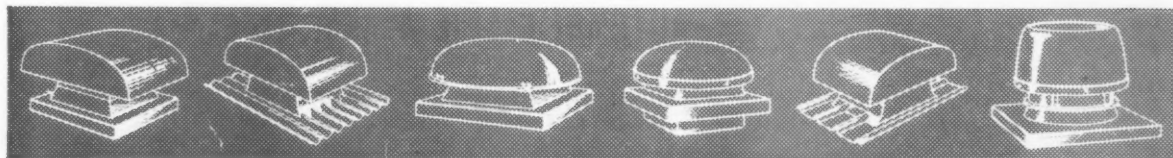
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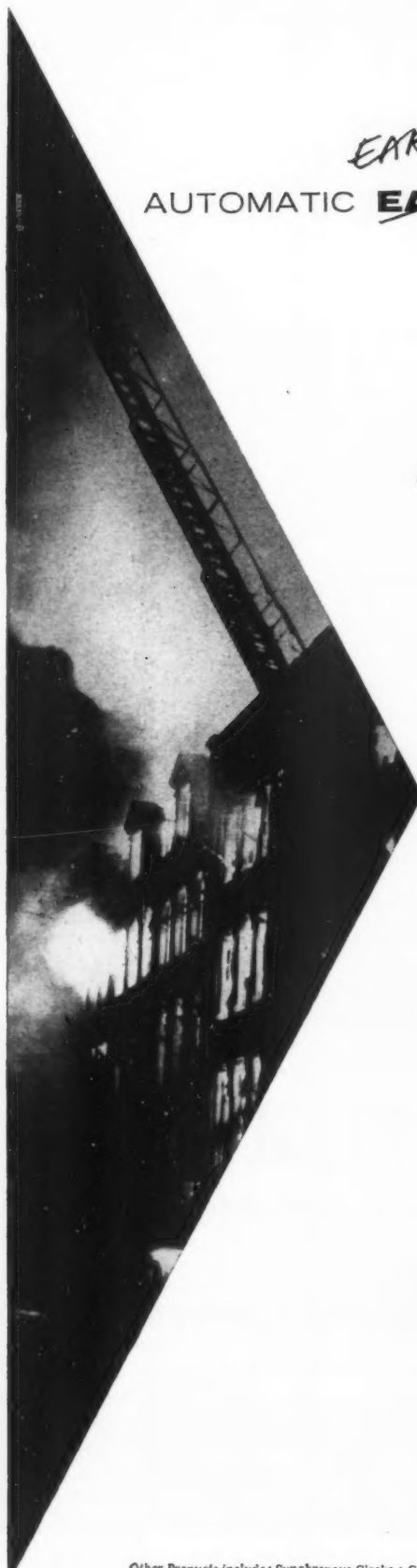
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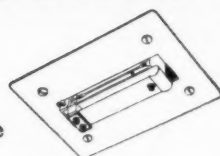
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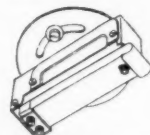
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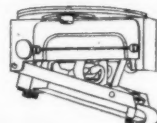
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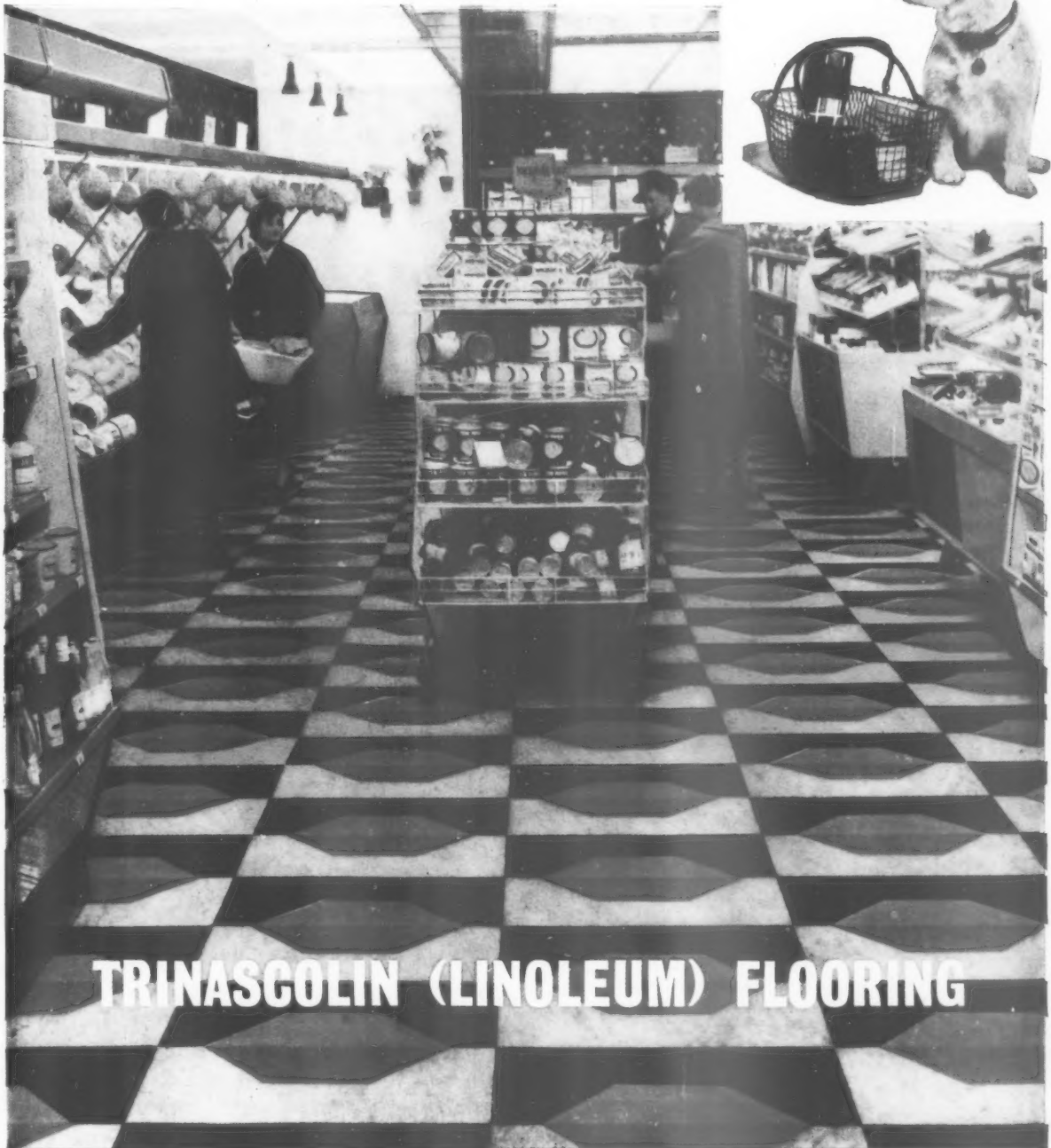
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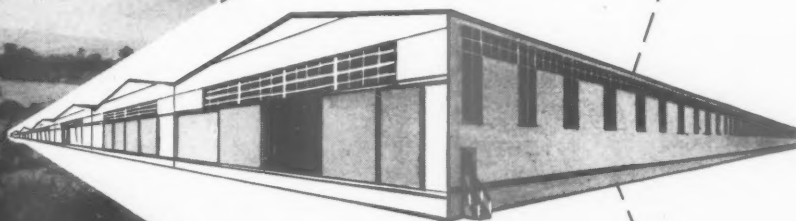
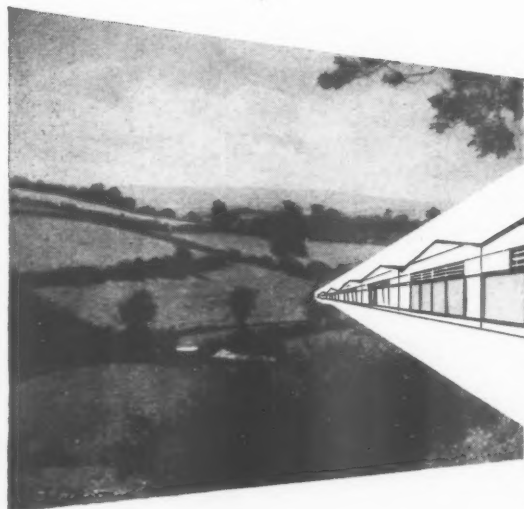


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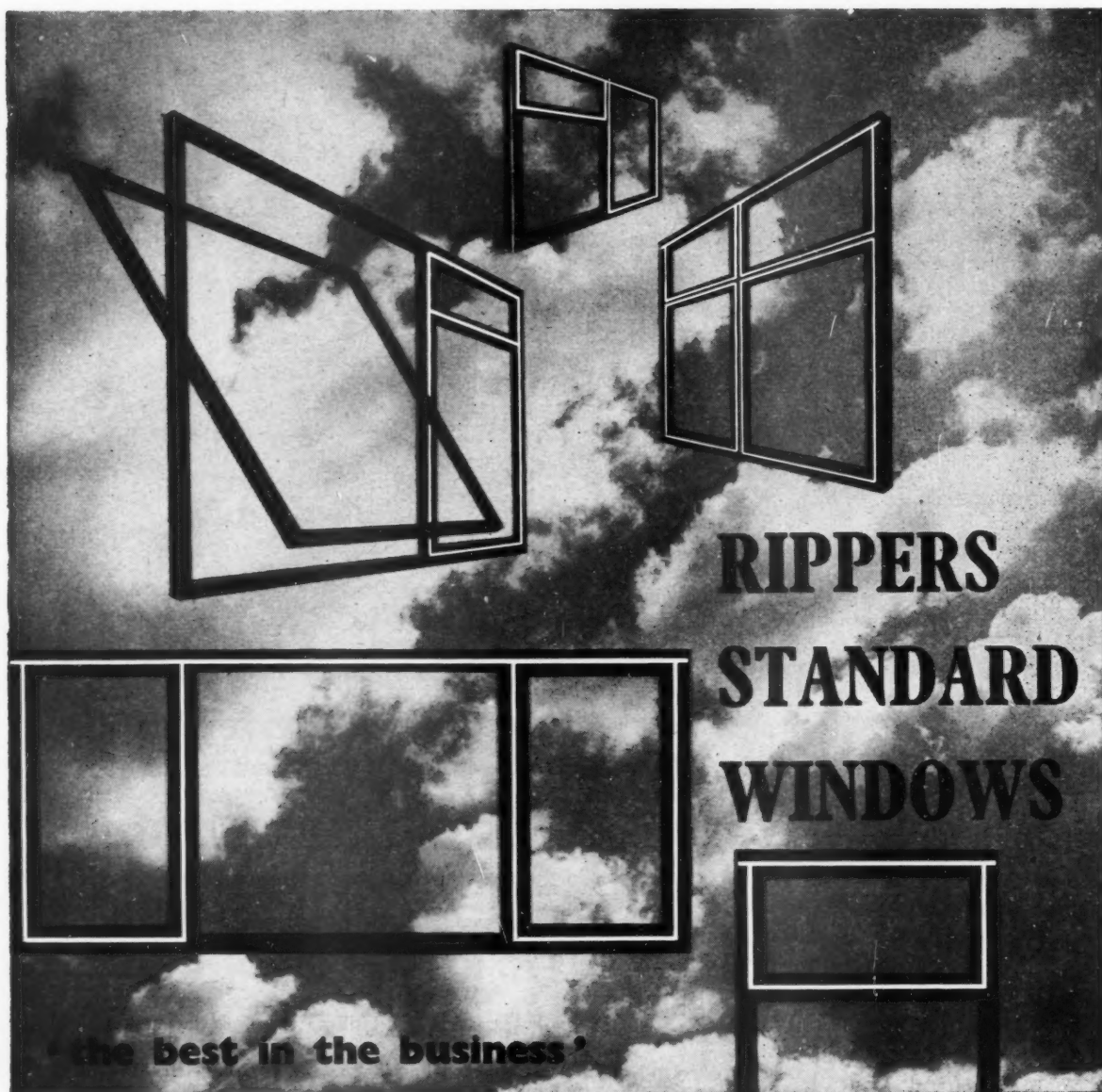
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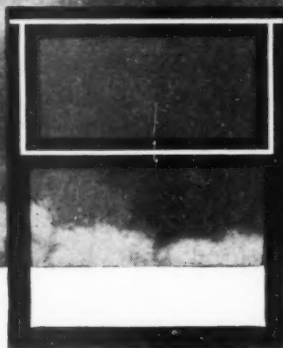
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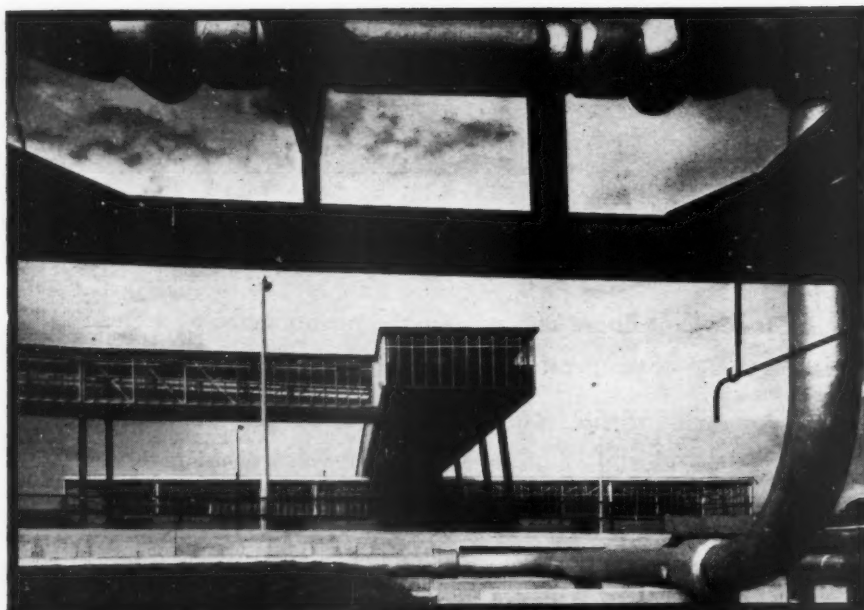
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The new Heinz factory at Wigan is the largest factory to be built in Britain since the war. Shown here is the ancillary can factory, clad in Williams & Williams "Aluminex" vertical patent glazing. The continuous opening lights are gear-operated to give critical control of ventilation.

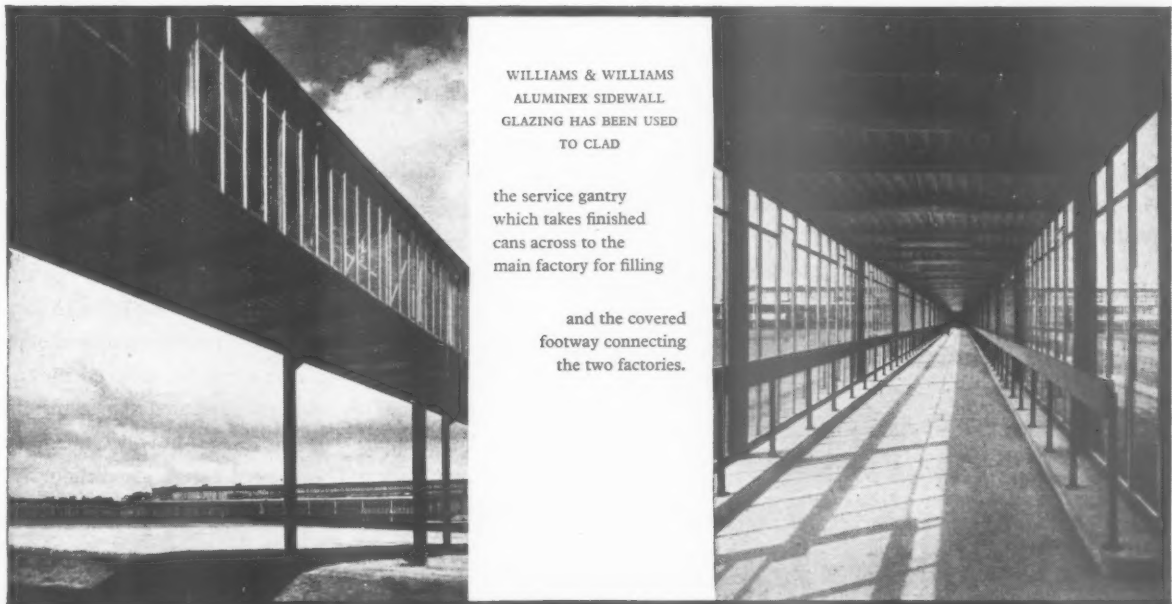
Architects:
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The new Heinz factory is turning depressed Wigan into a boom area. By the time it is in full production it will be employing some 3,000 local people and taking up a good deal of the local agricultural produce, which is both abundant and high in quality.

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which feeds the finished cans into the
appropriate stage of production process.

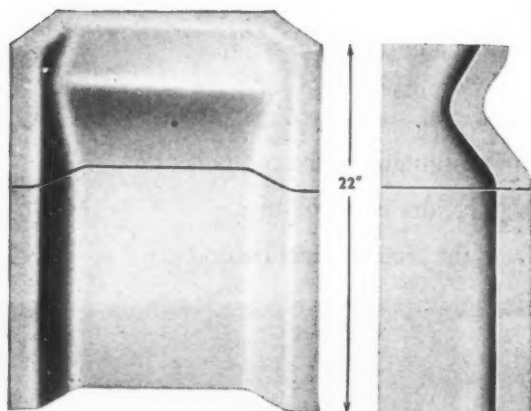
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Williams & Williams make steel windows of every description, ALOMEGA and other aluminium windows, movable steel and glass partitioning, ALUMINEX patent glazing, WALLSPAN curtain walling and many other products, all of which can be seen at our permanent window exhibition at No. 36, High Holborn, London, W.C.1.
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New FIRECLAY GRATEBACKS

● Improve performance of Open Fires



● Facilitate fixing

● Simplify stocking

THE NEW BRITISH STANDARD* governing the design and production of Gratebacks is of special importance to all concerned with the specification, fixing and distribution of heating appliances.

SCALED TO STANDARD SURROUNDS

The standard grateback (22" high) now conforms to the standard height of surround openings.

GREATER EFFICIENCY

Intensive research has determined the height of knee, the extent of its forward projection, and depth from front to back, in order to ensure:—

Uninterrupted flow of gases

Minimum loss of heat via the chimney

Easy installation of standard throat restrictors

Greater protection to back of surround

INTERCHANGEABILITY OF FIRES

With the new standard gratebacks, inset open fires made by different manufacturers become interchangeable, and the design of inset convector fires for universal installation is facilitated.

SECTIONAL GRATEBACKS

The advantages of sectionalised gratebacks for all types of fires is recognised in the new British Standard. These not only expedite initial installation and replacement, but also provide the stress relief necessary to combat the high local temperatures encountered in continuous-burning and other modern appliances. Gratebacks can be supplied in 2, 4 or 6 sections, but the pattern illustrated represents the best value. Supplied in one piece, heavily scored, its sections may be readily separated before installation.

THE VITAL REQUIREMENT

The features outlined here must be accompanied by a high factor of heat resistance or refractoriness (Cone 26), i.e. 1580°C. Experience has proved that the FIRECLAY grateback is unrivalled in its resistance to high and fluctuating temperatures.

Specify FIRECLAY GRATEBACKS to British Standard 1251

Gratebacks conforming to the stringent requirements laid down are now in production and are obtainable from:—

BOWENS (REFRATORIES) LTD., Clattershall Fireclay & Brick Works, Stourbridge.
GEO. CLARKE & SONS (RISHTON) LTD., Norden Fire Clay Works, Rishton, Nr. Blackburn.
D. DUDDELL LTD., Oldfield Brick & Marl Works, Fenton, Stoke-on-Trent.
J. & J. DYSON LTD., Griffs Works, Stannington, Nr. Sheffield.
GUEST, KEEN & NETTLEFOLDS (CWMBRAN) LTD., Refractories Works, Cwmbran, Mon.
HARRIS & PEARSON LTD., Firebrick & Fireclay Works, Stourbridge.
J. HEWITT & SON (FENTON) LTD., Fenton Low, Stoke-on-Trent.
THOMAS MARSHALL & CO. (LOXLEY) LTD., Storrs Bridge Works, Loxley, Nr. Sheffield.
E. J. & J. PEARSON LTD., Stourbridge.
J. T. PRICE & CO. LTD., Stourbridge.
TIMMIS & CO. LTD., River Stour Works, Stourbridge.
TROTTER, HAINES & CORBETT LTD., Brettells Estate Fire Clay & Brick Works, Stourbridge.

★ BRITISH STANDARD 1251: Part 1: 1959. Open Fire-place Components. Part 1. Firebacks for use with Open Fires.

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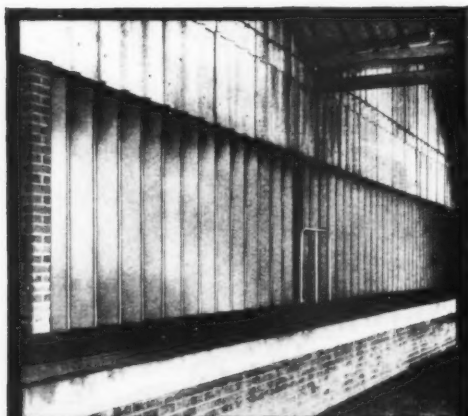
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BOLTON

COLLAPSIBLE SHUTTER DOORS

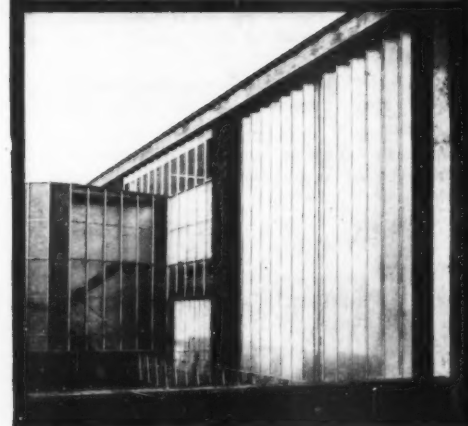
Recent Bolton Patent Shutter Door installations in Cardiff include: Wender Bakery Ltd., Maindy; Elbow Wire Rope Works, Collingdon Rd.; J. Lyons & Co., Ltd., Newport Rd.



1



2



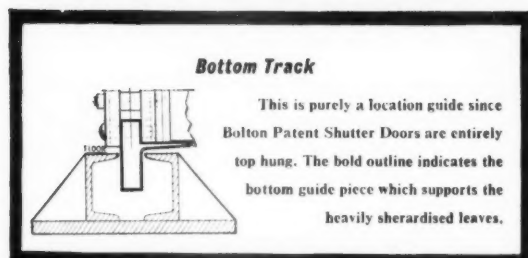
3

The illustrations show how versatile the Bolton Patent Shutter Door really is and installations everywhere are giving lasting trouble-free service. The doors are craftsman built from tested materials to a design which has never been bettered and hand or power operation may be had for any situation. Some of the details of the design and reasons for the popularity of Bolton Patent Shutter Doors will be seen from the diagrams.

- 1 Two hand operated doors fitted to a loading bay for the British Oxygen Co. Ltd., Carlisle.
- 2 Two electrically operated doors at Metropolitan-Vickers Electrical Co. Ltd., Manchester.
- 3 One pair of electrically operated doors at a test bed for the Bristol Aeroplane Co.

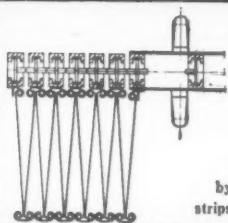
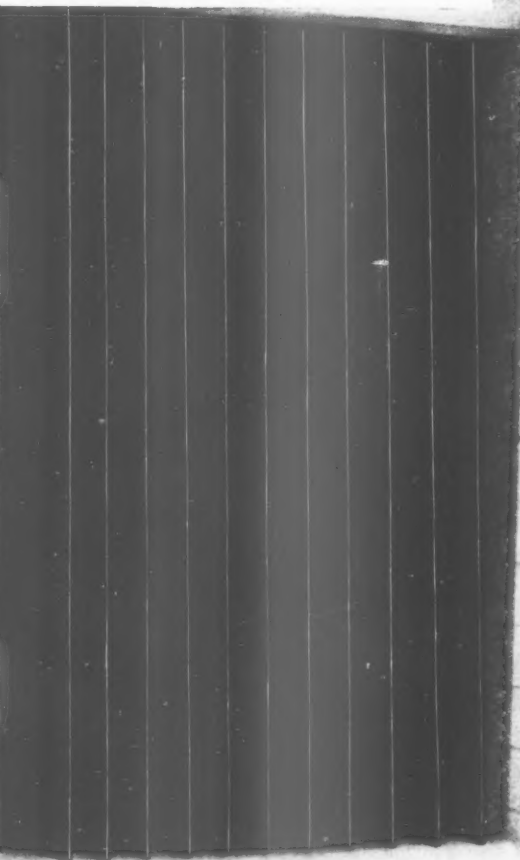
The illustration right shows a partly bunched Bolton Patent Shutter Door at Onehunga War Memorial Swimming Pool, New Zealand.

For full details write now for our comprehensive Catalogue No. AJ306.



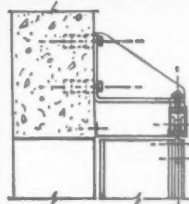
BOLTON GATE COMPANY

FOR EVERY TYPE OF OPENING



Sectional Door Plan

This sectional plan is of a Bolton Patent Shutter Door in its bunched position. Heavily sherardised shutter leaves are curled round $\frac{1}{2}$ " dia. wire reinforcement and are connected by full height bronze or alloy hinging strips. Steel pickets are at the rear side.



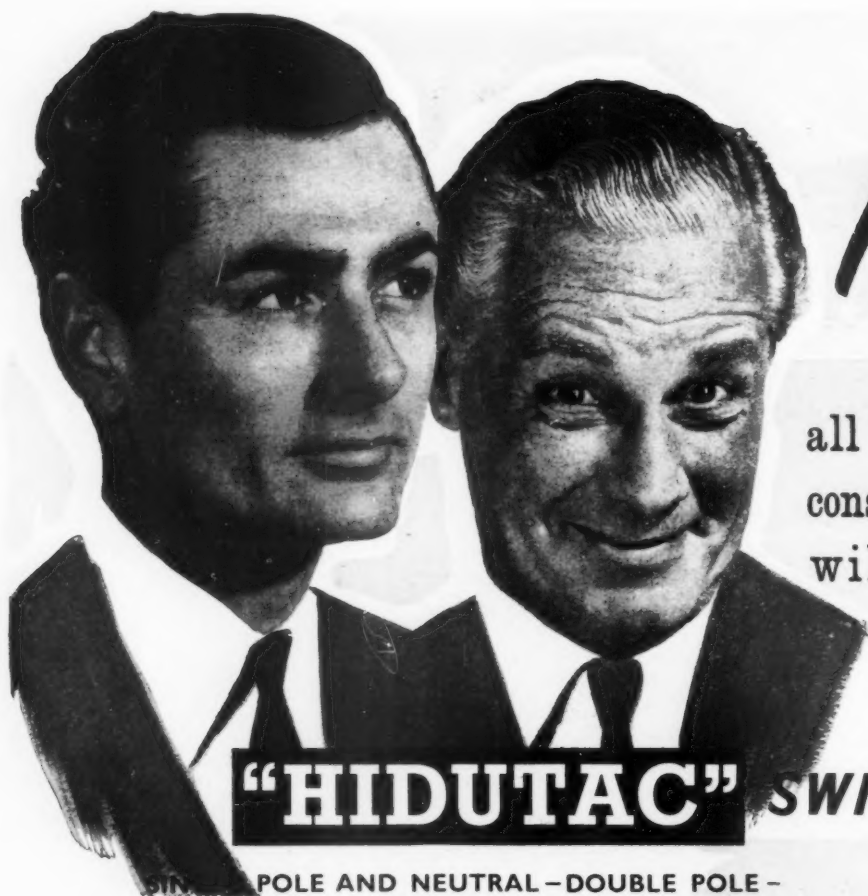
Top Track Fixing

This detail of the ideal fixing shows a box-track suspended from the inside face of the lintel allowing the door to bunch clear of the opening. Other arrangements can be made to suit your particular needs.

LIMITED BOLTON LANCASHIRE *The BIG name in doors*

Branches at Belfast, Birmingham, Bristol, Dublin, Liverpool, London, Manchester, Newcastle-on-Tyne.

dm BG 306



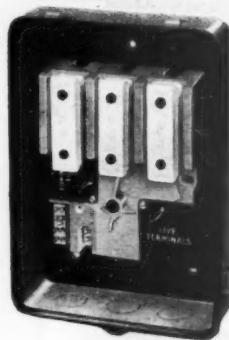
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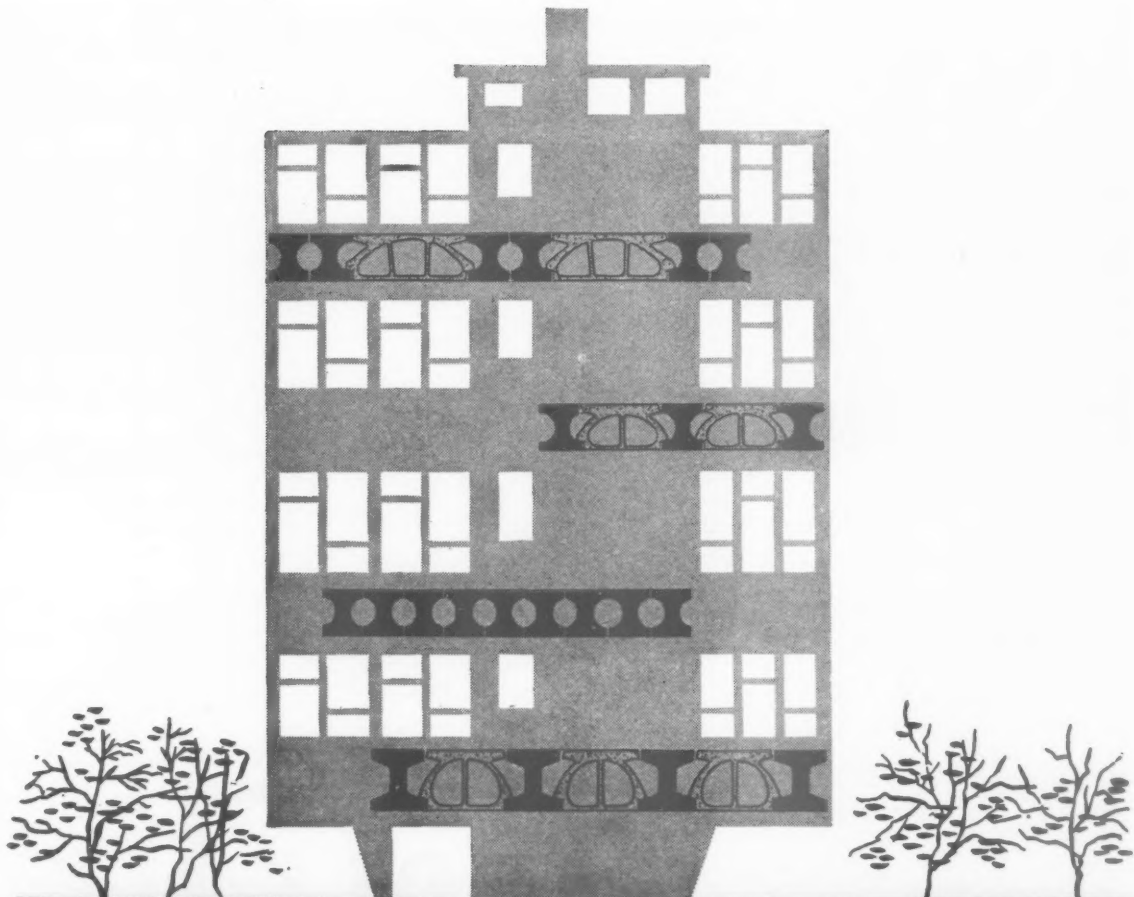
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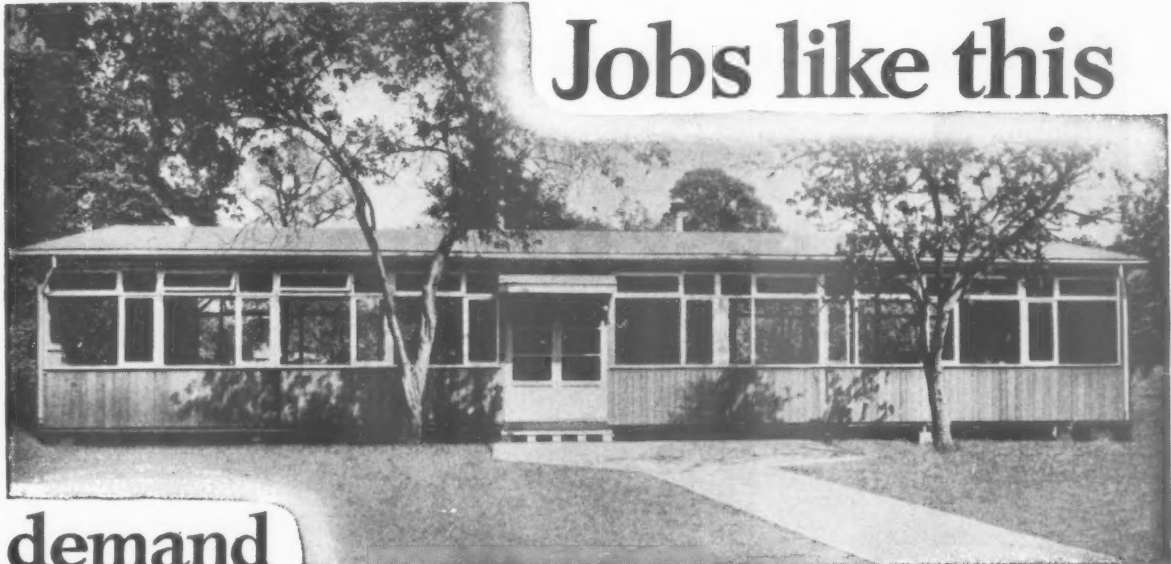
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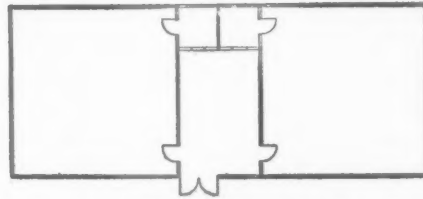
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A timber building to form two classrooms, each 24' x 24'. A store room for each classroom and a cloak bay to house 80 coat pegs. A timber floor and flat ceiling providing space for electric lighting. The building to be based on a panel unit, capable of being dismantled and removed to another site in approximately two years' time. Erection to be carried out by supplier on a prepared foundation.



FAIRFORD FARMOR'S SECONDARY MODERN SCHOOL near Cirencester, Glos.

Photographs by courtesy of the County Architect, Gloucestershire County Council.



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THORNS' prefabricated sections, as used at Fairford Farmor's School, are available on a 6ft. multiple basis.

All or any part of the construction work is undertaken by THORNS, at the client's request.
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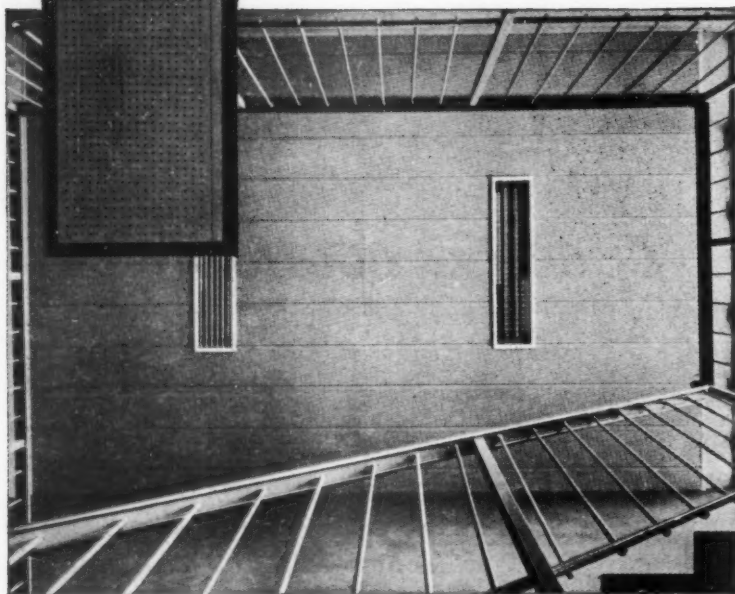
Thorns' Contemporary Design, which conforms to Ministry of Education recommendations for school buildings, was eminently adaptable for this requirement. The consequent saving in time and cost was substantial. A trained THORNS' team was ready to start erection as soon as the foundations were completed.

The size agreed upon was 60ft. x 24ft. x 8ft. 6in. eaves. Walls were clad with vertical tongued and grooved boarding of Western Red Cedar with building paper behind, and lining of hardboard and insulation board. Partitions, similarly lined, were fitted to plan. The floor was constructed of tongued and grooved boards on joists, with sleeper plates. Rain-water goods were included in the contract.

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$\frac{1}{2}$ " or $\frac{3}{4}$ " thick, are available in 12" or 16" widths and in lengths up to approx. 18'. Grooved and ship-lapped for easy fixing. (Also available unperforated as insulation "longboards").

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4 m.m. holes at 15 m.m. centres. Depth of holes is arranged for maximum acoustic effect while corner holes are bored to half thickness, thus ensuring good grip when tiles are screwed or nailed to fixing grounds.

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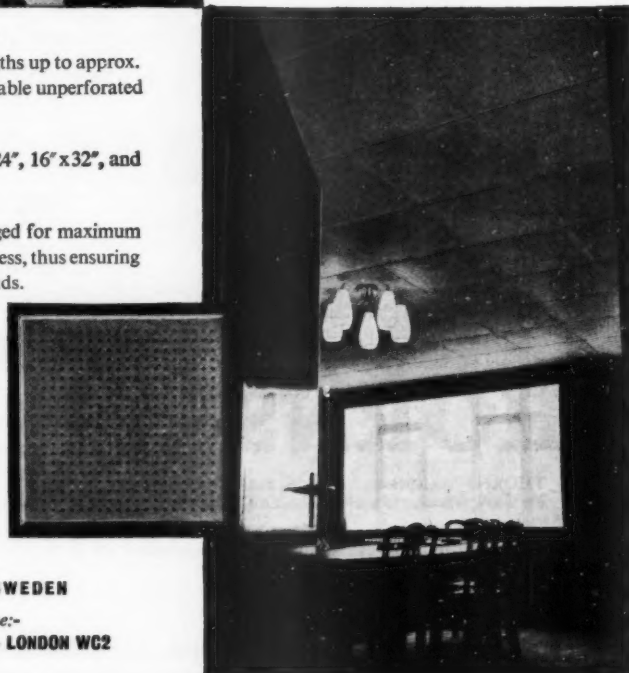


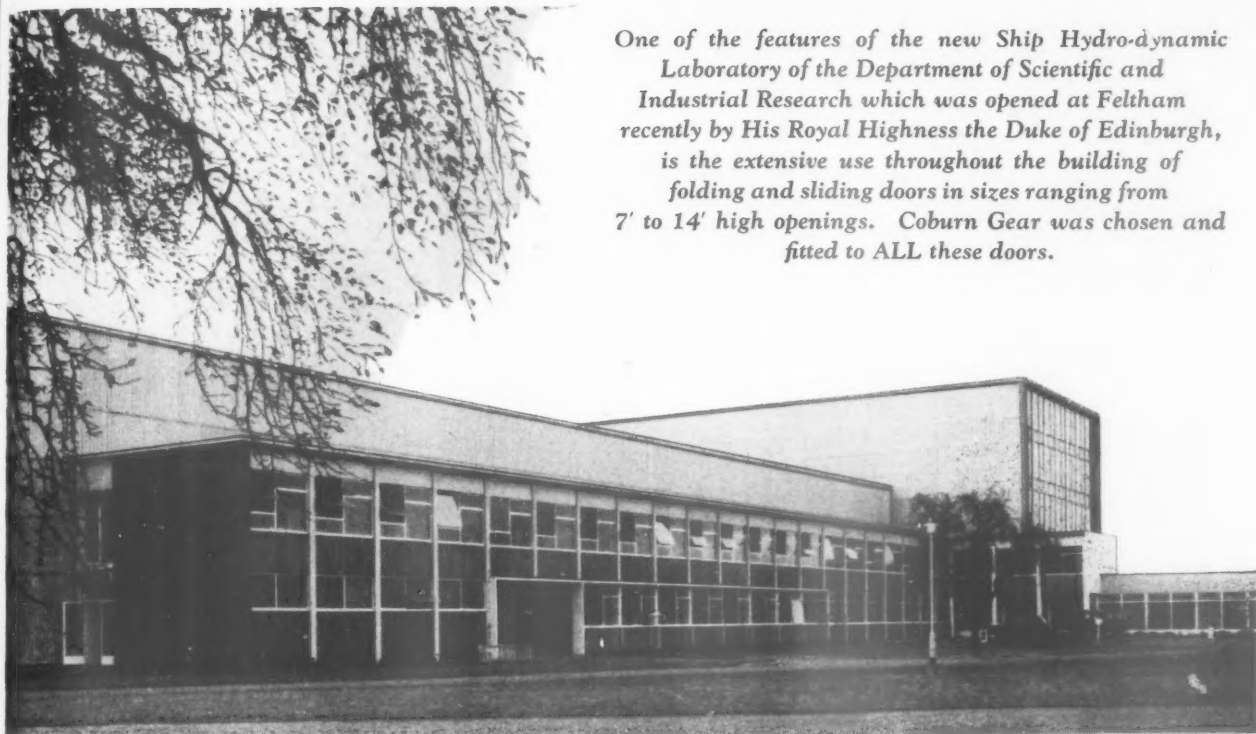
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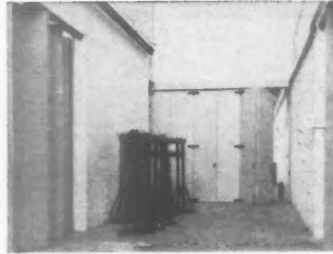
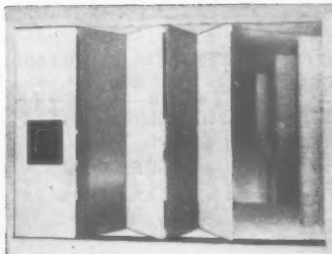
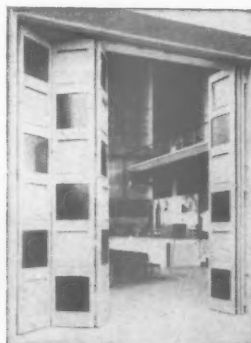
One of the features of the new Ship Hydro-dynamic Laboratory of the Department of Scientific and Industrial Research which was opened at Feltham recently by His Royal Highness the Duke of Edinburgh, is the extensive use throughout the building of folding and sliding doors in sizes ranging from 7' to 14' high openings. Coburn Gear was chosen and fitted to ALL these doors.

Contractors: Sir Robert McAlpine & Sons Ltd., 80 Park Lane, W.1.

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Copper and native bitumen are known to have been in use as long ago as 3100 B.C. because the weatherproof and corrosion-resistant properties of these materials have helped to preserve for 20th Century eyes relics of unbelievably ancient civilisations.

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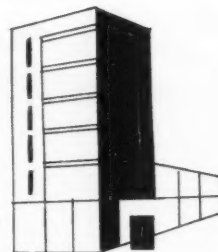
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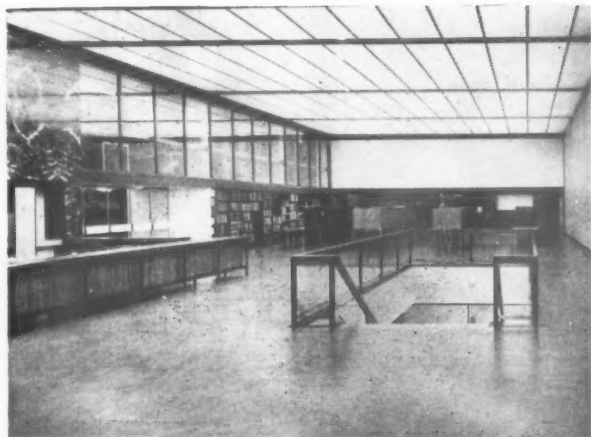
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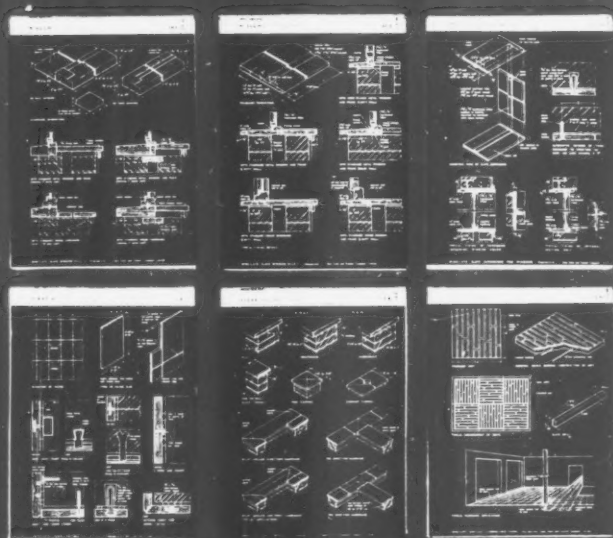
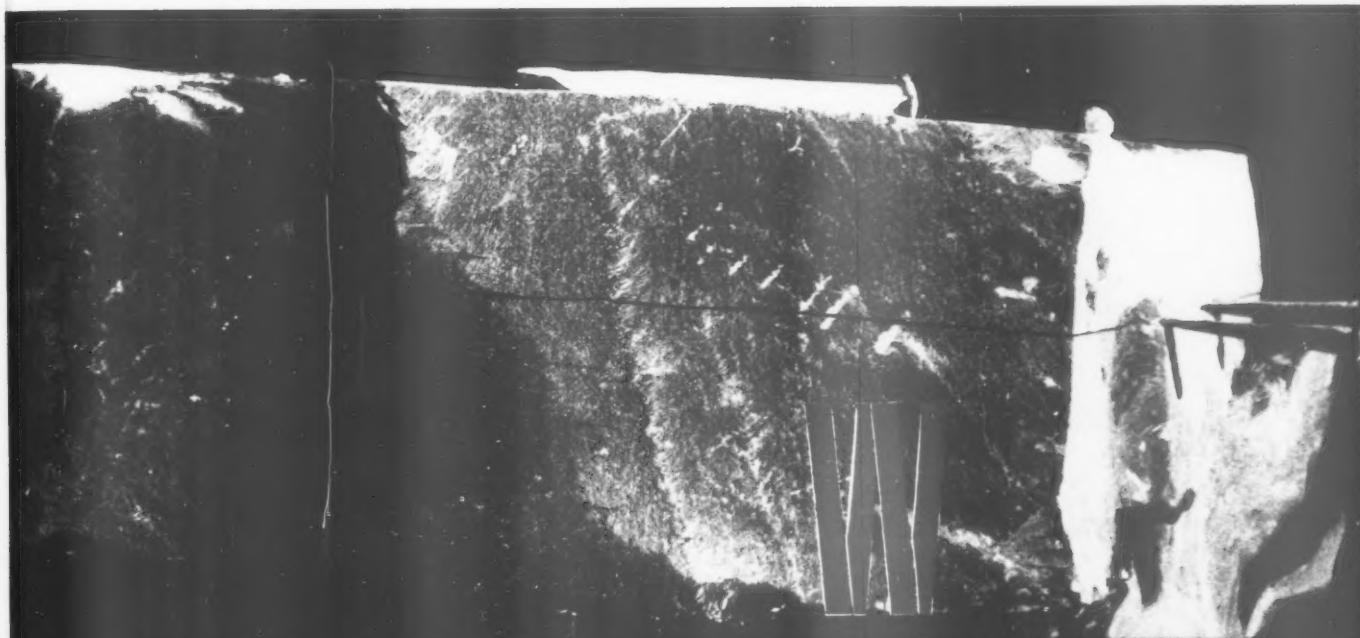


y



THE ARCHITECTS' JOURNAL for December 31, 1959

The modern architect demands a crispness of finish which reflects the precision of mechanical forms. Architecture itself is becoming increasingly 'machine made', yet natural materials are still indispensable and designers appreciate their capacity to withstand wear and weather gracefully.



WINCILATE

Slate can be worked with exceptional precision and it keeps its texture and colour under the severest conditions. In fact, an ancient material ideally suited to the 'machine aesthetic' of modern architecture. There are six Architects' Journal information sheets describing the wide range of Wincilate cills, cladding, flooring and other trim.

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Concrete made with Lyttag provides a high degree of Thermal Insulation.

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Combustible content of Lyttag is less than $\frac{1}{4}\%$. Will withstand temperatures up to 1,000°C without damage.

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A **LAING** COMPANY



For obvious reasons, the real title of the well-known firm of Midland Architects who wrote this letter to us recently, can only be disclosed in confidence. Suffice it to say that, having had the tables turned on us, we happily collaborated with them in the design of some very attractive glasswork for the new public house to which their letter refers.



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We're designing a House.

Bah!

A Public House.

Hooray!

We'll want some mirrors

Well?

Do you think we ought to ask?

Certainly not!!

They say they're good.

Damned fellers'll talk you into somethin' costin' the earth.

But we needn't

Soft in the head, that's it!
All right for some of these fancy London Firms of course

But

Over my dead body - Bah!

I think we'll drop a line all the same ...

The Guvnor'll turn in his grave!

Perhaps they'll give you a couple of days notice, and you said you would like to arrange a nice visit to the sewage pumping works

I'm warning you - Bah!

Yours faithfully,

Stone M. Ullion.

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The Architects' Journal

No. 3376 Vol. 130. December 31, 1959

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NOT QUITE ARCHITECTURE

What!

It was all that propaganda during the heat-wave about the coldest winter being certain to follow the hottest summer that made us decide when we paid our gas bill in August, on the last day of the final notice as usual, to ask for leaflets about those simple little radiators Mr. Therm was excitedly offering to fix "free of charge until November 1" and details of convector fires.

Three weeks passed before we realized that the Gas Board's Accounts Department had no interest in the sale of appliances boosted by its Advertising Department, so one Saturday we trekked over to the nearest showroom and ordered what we liked best from the limited stock on show.

Next week a small, grey inspector called to satisfy himself that the house was suitable: Was there permanent ventilation in the bathroom? There was: we had not yet stuffed up the air brick for the winter. Was there a backboard for the new fire? He tapped it and approved. We signed things.

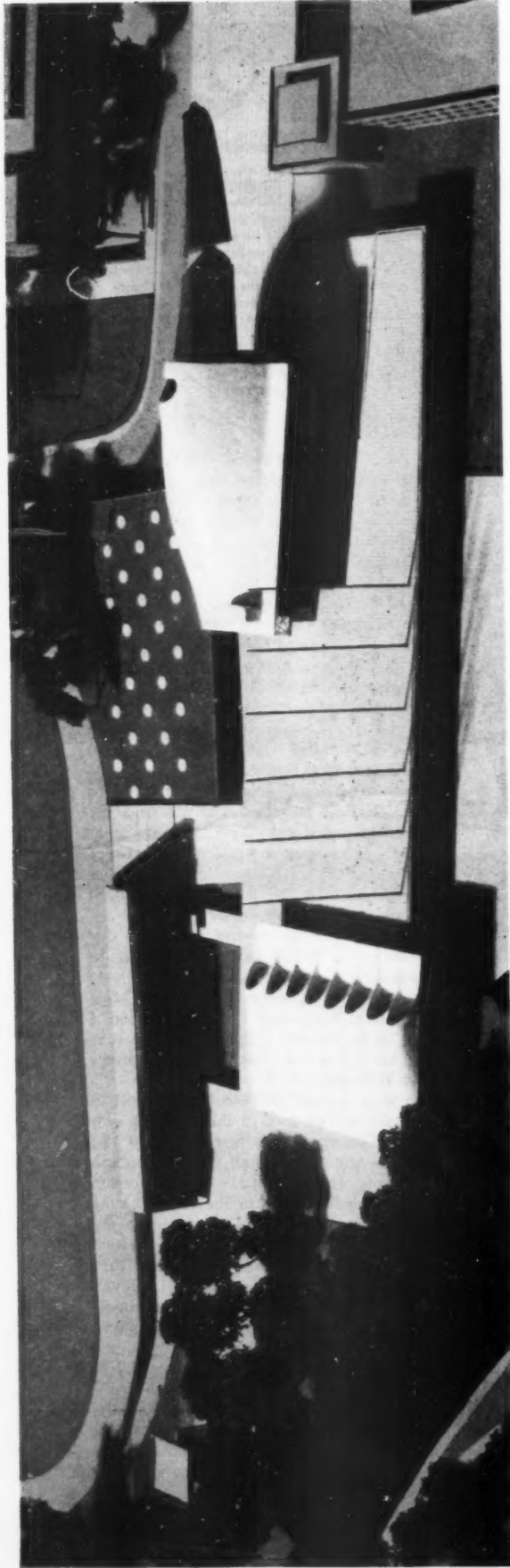
Two weeks passed. A man came and disconnected the old fire and left it standing in the hall with its face to the wall.

One week passed, and with the words "free fixing until November 1" urging me on, I rang up to enquire. The fire arrived next day, but the radiator was "awaiting delivery from the factory."

One week passed. The old fire was still in the hall with its face to the wall, the new fire not yet fixed. The first cold snap was with us—and also a youth from a Northern University who had hitch hiked to London and intended to sleep in the room. I rang up to enquire what had happened to the Third Man—the fixer? And to the Second Man—the collector of old appliances? They would be along in the morning. Triumph! But the triumph was all his. In the middle of the morning came a call to my office: "Afraid I can't fix this fire for you, the backboard's wrong—not asbestosboard."

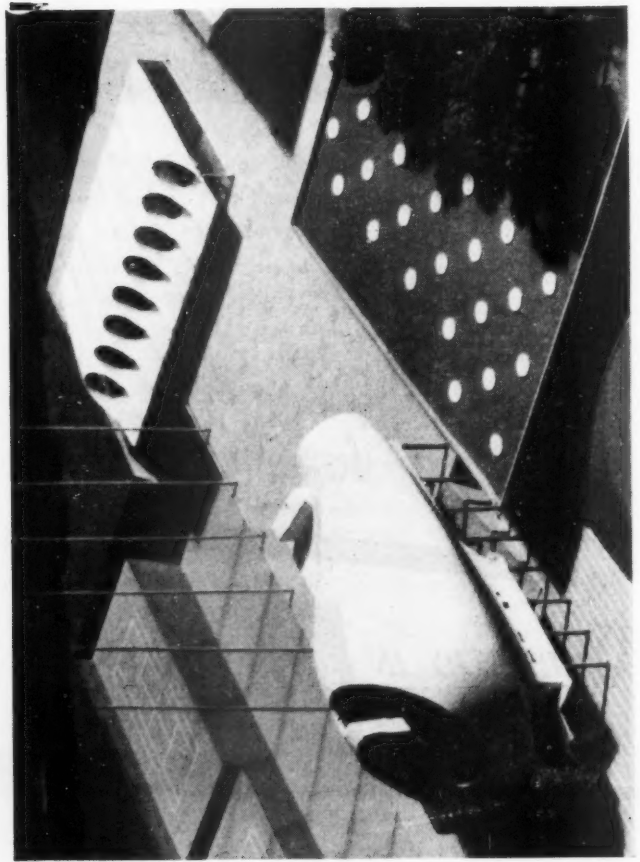
"But your inspector passed the backboard—it's been there for years," I cried shrilly. "Well, he made a mistake. I can't fix it, not without an asbestos backboard," answered the Third Man, heavily incorruptible.

I rang up the little grey man, whose name I had discovered in the course of my two



Architectural Icebergs

An interesting new development in architecture, as is only to be expected from the firm of Chamberlin, Powell and Bon, is demonstrated in the design, shown above, of a sports centre for Birmingham University. A great mass of buildings were required for the physical education department (forming part of the combined subjects degree in the Arts Faculty) on a difficult sloping site by the canal on made-up ground. The accommodation given consists of a sports hall for badminton, and so forth, two large and five small gymnasias, a health centre, staff, lecture and seminar rooms, biomechanics laboratory, study and common rooms, a rifle range, boat club, stadium, swimming pool, eight squash courts, changing rooms and showers, and lockers for four thousand students. The bulk of this accommodation is put into a one and two-storey podium built into the hillside, the roof of which, covered with paving lights, forms a concourse. Above this only five buildings emerge: the boathouse (extreme left, above; the inverted pyramid is a water tank), the stadium, under which are the eight squash courts, the two large, topit, gymnasias, centre; the sports hall, left, with conoid, concrete roof; and, centre right, the climax of the group, the 110-ft. swimming pool. The complex shape of this shell concrete structure is due to the need to keep the total volume of the swimming pool as small as possible. It is asymmetrical because spectators sit on only one side of the pool, the other side being left as a west-facing terrace for swimmers to lie in the sun and enjoy the view. By thus "submerging" a large part of the accommodation, and keeping expensive finishes to a minimum, the architects are evidently hoping to save enough money (total cost: £550,000) to be able to produce at least two or three buildings of exceptional liveliness in sculptural form. It remains to be seen how successfully and economically British builders will cope with such complex concrete curves, shown in more detail in the view, left.



month's campaign. Poor little soul, he has no hiding place now among the Sales and Service departments.

Yes, he admitted sadly, the fixer was quite right. Under completely new fire regulations it was now necessary that the backboard should be of asbestos. "Everyone makes mistakes at times," he added with dignity.

"Do you want a backboard?" he added. "It will cost you 45s. extra." "What!" cried I. "45s. for a small piece of asbestos board we can buy ourselves for a few shillings! Nonsense!"

We agreed that I should buy the board and let him know when I had it so that he could fix the fixer again. Cut to size it cost 13s.

I rang the little grey man and told him. He congratulated me but added with a touch of slyness, "Of course you'll have to pay for the labour of fixing it, you know." This would be, probably, "about 15s."

"What!!" I cried, for by now everything I said to the little grey man started with "What!" "What! for hammering in perhaps a dozen tacks!" "The Board does not look to make a profit out of the labour," he said coldly, "it will be just for the man's time." "Then he must be the slowest worker in England!" I shrieked, beside myself.

A week passed, and then suddenly the fire was fixed, the old one spirited away. It was eminently satisfactory. I don't know what the bill for our free fixing will be, and shall never know because before I look at the next account from the Gas Board it will have been boiled up with the rest of the Final Account Rendered.

But what about the radiator, you are asking anxiously. Well that, of course, is still to be delivered from the manufacturers, whom we picture delving the ore from the earth and melting it down over a charcoal brazier in some opening in the forests, and then steadily, painfully, hammering it out and bending it to shape in the wintry dusk.

"What! Lynd," cries a young colleague. "Have you become a Gaitskellian anti-nationalisation right-winger, and all because of one miserable little radiator?"

No, indeed. I believe in nationalisation hot and sizzling, but I am complaining of this frozen image of nationalisation by the present Gas Board because it is all too exactly like the dear old Gas Light and Coke Company.

That little grey man . . . I'm sure we've met before, and now he is simply carrying on as private enterprisingly as ever.

In those days, let me tell you, if you tried to move across the Thames it was almost impossible to take the oven you were hire purchasing with you, unless you hired a burglar to disconnect it, and a friendly plumber to connect it secretly on the other side.

That was the new oven that the South Metropolitan Gas Co. lost for us during the blitz, and finally replaced with a ninety-year-old survivor after the war, and I don't doubt readers' passionate interest in that story too, but its complexities would call for a special Gasopolis number.

SHEILA LYND

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

The Editors

AN INSPIRING EXAMPLE

THE intervention of the Northern Architectural Association in the controversy about the Pilgrim Street roundabout at Newcastle-on-Tyne has been completely justified by the decision of the Minister of Transport. He has refused to confirm the compulsory order until the City Council has considered alternatives, and particularly the design for a multi-level interchange submitted to the public inquiry by Professor Jack Napper. The architects' alternative scheme was said by the inspector to be not only the most imaginative, but the most attractive from the traffic point of view.

Could there be a clearer demonstration of the wisdom of the RIBA in insisting that architects must participate from the start in the design of urban motor roads? The Minister's recognition that the relief of traffic congestion is not an end to be pursued by itself, but must be considered in the wider context of town planning, is of immense importance. The participation of a town planning inspector as an assessor at the inquiry set a valuable precedent. The Northern Architectural Association has set an example which should be studied, and copied wherever possible, by other allied societies.

KEEPERS OF THE BRITISH (DESIGN) CONSCIENCE

Reading the Royal Fine Art Commission's sixteenth report* calls to mind the image of a spritely village squire who has rashly undertaken to act as goalkeeper on the village green while home and visiting teams practise goal kicks with a large number of greasy balls. About 400 kicks at goal (subjects before the RFAC) have been attempted in the past year—thirty-three of these forays have been described briefly in the report. In twelve of them the squire has stood up and kept the goal and booted the ball far enough down field to get some respite. In eleven cases the RFAC keeper has spotted the shot coming and deflected it from the goal mouth but the ball remains in play: the issue is, in fact, undecided. But in nearly one-third of the cases, in ten of the thirty-three, the ball has bounced off the keeper into the net. And, galling to relate, the ball has often been helped on its way by an individual, such as a planning authority, whom the squire might well have expected to be on his side.

Is the squire's record (if fairly depicted in this report) of one goal let through for every three attempts, good enough?

* Sixteenth Report of the RFAC, January 1958–August 1959. HMSO 1s. 3d.

Considering the pain and contortions he goes through, only the hard-hearted idealists would complain. On a total budget, expenses and salaries, of £9,184 4s. 11d., Britain's towns and countryside are safeguarded—after a fashion. It would be hard to devise a more ingenious and economical way of ensuring that a small coterie of expensive consultants give their time advising their fellow professionals on how to do their job better. Given this country's low standard of taste, both as clients and as designers, the RFAC is a valuable safeguard (if nothing more positive) and the frustrations suffered by some (so often instanced by the advocates of the abolition of controls) are probably not too great a penalty to pay.

This report expresses, in gentler and more guarded terms, very much the views given in the JOURNAL over the past ten years or so: the need for careful landscaping for industries, motorways, power stations and power cables, the need for the preservation of National Parks, green belts and old buildings; the need to include architect-planners when bringing motorways into cities, the need to tidy up street furniture, and the need to avoid demolishing old buildings in town centres for a temporary traffic alleviation when the long-term solution is a by-pass (a policy with which the Ministry of Transport concurs). Most encouraging of all is the strong plea the RFAC makes for comprehensive redevelopment "of far larger areas than are usually the subject of present schemes." It is a great pity that the RFAC did not come out overwhelmingly for such a policy years ago, and it is also a pity that the RFAC still passes the buck on the key to the problem: how comprehensive planning can be financed. But having now made the case in what is, by RFAC standards, strong terms, it is to be hoped someone in the Government will have the wit at last to note it and act on it.

It is good to see that the permanent staff of the RFAC has been doubled: two men instead of one. But it might be worth considering how much more could be attained if the staff were doubled or trebled again. The RFAC has made two blunders recently: over the Staines bridge, and, more monumentally, over the Monico site, Piccadilly. All the present fuss and expense could have been avoided if its second thoughts had been its first. But faced by masses of third-rate work the RFAC had momentarily allowed its tired critical faculties to be dulled. The purpose of extra (professional) staff—if the RFAC is to be the last line of defence against private and official incompetence—would be to help the overworked commissioners by presenting cases more lucidly and criticising, for instance, the performance of buildings in technical terms. Although there are eight architects, four planners and one engineer on the Commission, only three or four of these ever get down to detailed design on the drawing board as professional men, and it is at this level that the pretentiousness and incompetence of the designs submitted is best and most shatteringly exposed. Such exposure is, however, an arduous task best done by permanent staff, rather than inflicted on the overworked commissioners.



PECCADILLOES IRK US

Has there ever been an inquiry before at which nobody could be found to take responsibility for the design of an important building? Jack Cotton may employ Gropius as a consultant in New York, but we are never going to see or hear the architect of his building in Piccadilly Circus. In six days the inquiry heard four witnesses for the development. Sir Howard Robertson, fervent admirer of the building though he is, did not design it. Frank Booth, "consultant architect for the elevations and detail design," was only called in to powder the ugly thing's face.

*

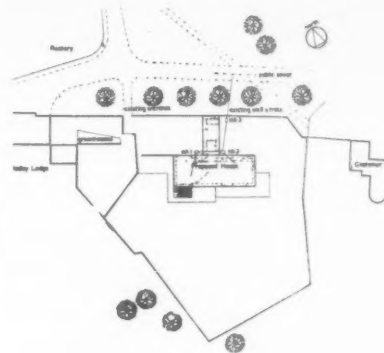
At one time it seemed as if Hubert Bennett, the Architect to the LCC, was going to claim the credit. Drawings dated February 1958, and bearing his signature, were produced to show that he had obligingly presented a design to the developers' architects (Cotton, Ballard and Blow) of a cruciform building bearing a striking resemblance to the finished product. But he, too, denied being the designer, for the building had been varied by Cotton, Ballard and Blow, principally by the division of the rear wing and an increase in diagonal width.

*

On the sixth day, Sir Milner Holland, Cotton's QC, yielded to the insistent pressure of Colin Buchanan, the inspector, who wanted to know why the



Hadley Common is an amenity much prized by the local residents of Barnet, and although they have allowed rather unfortunate development to take place on its fringes they appear to have a strong prejudice against any modern building being built there. In fact the East Barnet Council are the sole opposers of this design by Peter Womersley for a single-storey house behind a high brick wall on Hadley Common, because the Herts County Council panel of architects have approved the design. The Barnet Council, on the other hand, have already approved an earlier more traditional two-storey design (not by Peter Womersley) which was to be on the same site but which did not completely satisfy the client. The choice is, therefore, between a traditional two-storey house the client doesn't want, which everyone could see, and a single-storey house which the client wants and which is invisible behind a brick wall. A wall, incidentally, which the client is prepared to covenant will remain a wall in perpetuity. Fortunately the client is prepared to spend time and money appealing on this to the Ministry of Housing and Local Government; otherwise another competent design by a very promising architect might well have been blocked by the well-meaning but ignorant action of a lay committee. Above right, site plan. Above, perspective of the house from the garden (top) and of the elevation behind the garden wall.



ness of the LCC and by Hubert Bennett's defeatist and negative approach to comprehensive development area procedure, the relevance of which to architecture and planning seems to escape him. Had it not been for the Civic Trust, the inquiry would have been a complete carve-up, with the developers and the LCC singing their happy songs of praise in harmony. Elwyn Jones, the Trust's QC, has done brilliantly. It will be astonishing if the inquiry does not force the Minister to think again about the problems, not merely of Piccadilly, but of central area renewal.

NOBODY CARED

The Institute of Landscape Architects has started a series of meetings to consider problems of collaboration between landscape architects and members of other professions. At the first meeting Sheila Haywood, a private practitioner, spoke for landscape architects and R. W. Rose spoke for engineers. Mr. Rose, who is county planning officer of the Isle of Wight and a member of the ILA, painted a grimmer picture of bad collaboration than necessary by talking only about road design—a job, he said, in which landscape architects are referred to as artists who add plants and trees after the job is completed.

*

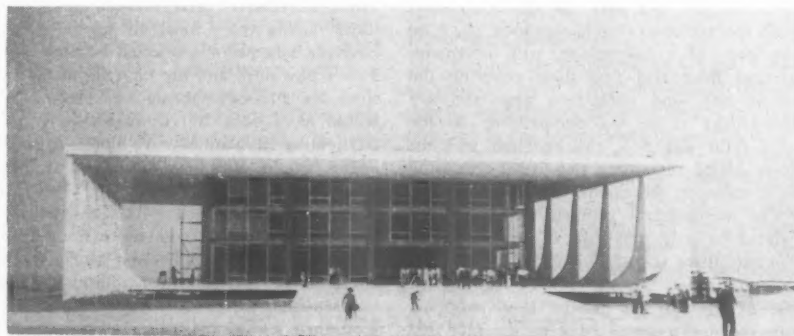
Mr. Rose made several comments of the kind that are known as provocative. He said that the engineer would obviously be the leader of any team of experts and that landscape architecture didn't have to be carried out by landscape architects. Good, irritating stuff—but nobody seemed to mind, and nothing of value was said. Maybe minds were elsewhere, on the Christmas party to follow. Let's hope for a better meeting next time.

building was designed in the way it was, and produced another witness. We all looked expectantly for Mr. Blow, but it turned out to be a Mr. Crickmay, surveyor to the Legal and General Assurance Society. Not even a surveyor would admit having designed the building which, if one is to accept Hubert Bennett's evidence (reported on pages 774 to 776) was designed automatically by the plot ratio, height limits, daylighting and the users' requirements, or to

quote Colin Buchanan's apt description, by the "have a go system," in which an unacceptable design is shaped by negotiation and discussion, each party "having a go" in turn.

The inquiry has been intensely dramatic and is bringing out in the clearest possible way the impossible mess planning has got into in central London—a situation made a good deal worse by the pressure of big money, by the weak-

Oscar Niemeyer's Supreme Court Building, Brasilia, one of the illustrations from Sir William Holford's recent talk on Brazil's new Capital given at the RIBA. The curved columns which are such a conspicuous feature of the president's palace are here used again, but turned at right angles to the building.



FRENCH GOTHIC

If you have a good collection of book tokens and an acquaintance to educate put them together and get *Gothic Cathedrals of France**—a well-printed, fat volume with really superb photographs. I'd have liked more detailed description of the fabric, particularly more dates of restoration work, in the necessarily brief translated text. But it would be hard to find a better introduction to what is now a rather well-worn subject, or one more calculated to arouse an enduring curiosity. The description of the responsibilities of the medieval architect, with the clerk of works acting as a kind of q.s. and accountant, is really fascinating.

WHY AREN'T YOU A MEMBER?

The year book of that grand old organization, the Design and Industries Association, is with us again. I say "grand old" because the title page says, rather pointedly, "founded 1914," and an inside page, equally pointedly, shows that only the RSA is older and that most other design organizations, like the Council of Industrial Design, are mere babes.

*

The year book is in a "knocking" mood. There is a piece on Anti-Uglies, good words like "vernacular" and "functional" get a pasting one way or another, corn flakes' packets are ridiculed, and so forth. And there is some serious stuff on design consultants and the "Face of the Firm" exhibition.

SOCS. NEED PULLING UP

The RIBA secretary, Gordon Ricketts, thinks it the duty of RIBA officers to take news to the provinces and to report back on the state of the allied societies and on "the feelings of members who . . . have little chance of direct contact with the Institute." He said this to much applause during a visit to the Birmingham and Five Counties Architectural Association, and it is reported in the Association's Green Book. But doesn't this mean that the Allied societies representatives on the RIBA Council are neither representing their societies nor reporting RIBA affairs to them?

ASTRAGAL

* *Gothic Cathedrals of France*. Marcel Aubert in collaboration with Simone Gaubol. Nicholas Kaye, Ltd. £5.



ARCUK

Council Report

The Professional Purposes Committee in its report to the Council Meeting on December 16 said:

In the course of their inquiry into an allegation that an architect was using an academic affix to which he was not entitled, the Committee stated that the wilful misrepresentation by an architect that he possesses a professional or academic qualification, which he does not in fact possess, should be a matter of serious concern to the Council, and could be one for disciplinary proceedings under Section 7 of the Principal Act. In the particular case considered, the allegation was proved to be unfounded. Within recent months, the Committee's

attention has been brought to a number of advertisements, published in the lay press, in which building sites are offered for sale by architects on behalf of their clients. In these advertisements, persons interested are asked to apply to the architects, whose names, professional affixes, and office address are printed. The Committee wish to remind practising architects that such advertisements, whether inserted by themselves or their clients, or whether or not at the latter's request, are contrary to the Code and injurious to the standards of the profession.

The Committee considered an allegation that an architect had advertised himself and touted by permitting the following particulars to be included, *inter alia*, in a circular sent out by an estate agent:

"Viewed: On application to the owner, Mr. . . . A.R.I.B.A. (followed by address and telephone number).

Restrictions: The vendor who is a practising chartered architect also stipulates that the purchaser must instruct his firm to design and supervise the building."

Both the estate agent and the architect assured the Registrar that the latter had had no say in or previous knowledge of the drafting of the particulars. The Committee expressed the view that it is preferable, indeed desirable, in such cases (i.e. where an architect wishes to sell his own land) for no mention to be made in the particulars that the vendor is a practising architect. As regards the condition that the architect-vendor shall design and supervise the building, the Committee think it reasonable and not unprofessional when the site adjoins property occupied by him.

We publish extensive excerpts from the evidence given by Hubert Bennett, the Architect to the LCC, at the public inquiry into the proposed development on the Monico site, at Piccadilly Circus. In this evidence Mr. Bennett (who was, in effect, the principal witness speaking in support of the design) admitted that the design was based on sketch plans that he had prepared personally, and vigorously opposed the definition of Piccadilly Circus as an area of comprehensive development. We expect to publish next week a summary of the evidence presented by the Civic Trust, and the conclusion of Mr. Bennett's evidence.

PICCADILLY CIRCUS INQUIRY

Hubert Bennett's Evidence for the Design

Who designed it?

Mr. Bennett said that all the discussions with the applicant's architects took place on the basis of a low group, with basement, ground floor and first floor covering the whole site, and containing approximately three-fifths of the accommodation. As the plot ratio was 5:1, the problem was the form of the remaining two-fifths, consisting of restaurant, offices and illuminated signs. "The architectural problem," he said, "is related to only two-fifths of the scheme. I am sure there is little the architect could do with the shape this site has. In view of the use of the site for ground level shopping one inevitably comes back to the fact that

three-fifths of the plot ratio is fixed."

Three alternatives were considered. A slab block facing the Circus, as in the LCC's advisory scheme, was rejected because, with 5 to 1 plot ratio and the increase in the site since the advisory scheme was prepared, it would have been 200 ft. high and caused daylighting difficulties. A block at right angles would also have been 200 ft. high and "too drastic a statement." So Mr. Bennett's own suggestion was a cruciform block, which would give more floor space per floor, have "an all-round quality" and could make provision for illuminated advertisements.

Examined by Sir Milner Holland for the

developers Mr. Bennett produced a sketch elevation and floor plans, signed by himself, dated February, 1958 (before the appointment of Mr. Booth as consultant). Since then the developers' architects had varied the plan by splitting the rear wing in two, and increasing the diagonal width from 80 to 96 ft.

Cross-examined by Elwyn Jones Mr. Bennett denied that he had actually designed the building, but agreed that it was in substance, mass and design, a variation of his plan. The height had been determined, he said, "by working out the various floors, floor by floor, throughout the areas of the uses of the building, until the total plot ratio was exhausted at a height of 155 ft." Asked if there was any precedent for the design of a building originating in the Planning Department he said, "in complete plan form, yes." Later, Mr. Bennett did not dispute the description of himself as "the father of this design."

Too much out of the site?

Elwyn Jones, Q.C., counsel for the Civic Trust, questioned Mr. Bennett about the commercial basis of the design, and the profit to be anticipated by the developers. Mr. Jones put this at £2,419,000, with rentals of £230,000 a year from shops, restaurants and offices, and £360,000 from advertisements on a capital outlay of £1,500,000 for the building and £3 million for the site.

Elwyn Jones: The essence of the whole design of this building is the developers' profit, clearly, is it not? Bennett: That is no concern of the planning authority.

Q. I am suggesting to you that the trouble here is that this developer is trying to get too much out of this site and out of this building; do you agree? A. I think that applies to most developments.

When various figures about the developers' profits were put to Mr. Bennett he replied that these were of no concern to the planning authority, and of no interest to him. Mr. Jones then suggested that, if the developers hoped to make £2½ million profit, it would be reasonable for the LCC to say "is not a 100-ft. high panel enough, that will give you about £1 million?" Mr. Bennett replied: "One does not approach the design of any building from the point of view of fixing a height limit for signs."

Jones: The difficulty you have got into in regard to that building is that the developer wants to make this massive income out of his shops, restaurants and offices, and his massive income out of 18,000 sq. ft. of advertising space; that is the basis of your problem as an architect, to find the solution to that hungry man's problem, is it not? A. The problem has not been approached in that way at all.

Q. The design for a 5 to 1 plot ratio on this site, plus an allowance for traffic, for this tower hoarding, for car parking—the result of trying to achieve this and pay for the developer has made it almost impossible to provide for the needs of the pedestrian? A. That is not accepted.

Comprehensive development?

One of the most striking things to emerge

from the LCC's evidence was Mr. Bennett's view—apparently endorsed by the Council—that there were no advantages to be gained by designating Piccadilly Circus or any other part of central London as an area of comprehensive development. R. D. Stewart-Brown, Q.C., for the LCC, sought to correct a view (which he seemed to think was widely held) that the definition of a CDA involved a "finite architectural solution" which could then be enforced over a period of years.

Elwyn Jones referred to the statement by Henry Brooke, the Minister of Housing and Local Government, that he would consider sympathetically any proposal by the LCC to make Piccadilly Circus a CDA.

Elwyn Jones: You do not know why the LCC has not made an application to the Minister? Bennett: The reason must surely be that the area is not one that would gain by becoming an area of comprehensive development.

Q. Why not? A. Comprehensive development areas have nothing whatever to do with architecture, and they do not in any way guarantee that the architecture will be any better in those areas than anywhere else.

Q. But they have much to do with planning, do they not? A. But the planning aspects here are not the difficulty.

Q. The planning is important, is it not, in two respects? First of all, does it not actually plan the architecture or the type of building, the type of conception that is to fit into this Piccadilly Circus? A. I do not think so.

Q. But it certainly affects most intimately the fate of pedestrians there, the place as a concourse, does it not? A. Those matters can be looked at quite adequately without the comprehensive development procedure.

Q. If you were asked to advise the County Council even if there was government finance forthcoming, you would be against it being made an area of comprehensive development? A. Personally I do not see any advantage in making this area an area of comprehensive development.

Q. You would have much greater control over your developers, would you not?

A. But that does not appear to show itself in areas which have already been designated and developed.

Q. It could be a very profitable business for the LCC, looking at it from the point of view of the ratepayers? A. I am not sure.

Q. If Mr. Cotton can make £2 million out of it, as we suggest would be the case, it would not be a bad thing for the LCC to do it, would it? A. If that is so.

Upper-level circulation

Mr. Bennett said that he had been "disappointed" to find that the possible developments were, without exception, strongly opposed to the upper level pedestrian walkways suggested in the LCC's advisory scheme, and the reaction of public bodies was not encouraging. The police had misgivings about controlling crowds on boat race and election nights. Mr. Bennett's own objections were the limited depth and shape of the Monico site, the impossibility of extending the system to the west, and the

timing—it would be five years before the Monico site could be connected to the next redevelopment. The walkways could not supplant the subways (used by 33 million people a year), and there would be a 35 ft. difference in height between them. His own solution was to develop the subways imaginatively below Piccadilly Circus into a shopping concourse of which some part might be open to the air, and to introduce first floor circulation from the Circus up Shaftesbury Avenue to Charing Cross Road.

Mr. Elwyn Jones suggested that the timing difficulty might be overcome by the LCC acquiring immediately the leases of the London Pavilion site, due to expire in 1965, so that the Monico, London Pavilion and Trocadero sites could all be redeveloped simultaneously.

Mr. Bennett agreed that this could be done "if thought expedient," but refused to agree that there was any compelling reason, although he conceded it would be "more convenient" to proceed with a larger area at one time, and agreed that earlier development of the other sites would help the Council. The Council had not approached the Minister, he said, because "they have considered the whole of the facts in their wisdom and found out that the only progressive way of dealing with the Circus is to deal with it in stages."

Mr. Elwyn Jones asked about the effects of sending pedestrians underground, forming "a sort of resistance movement underneath Piccadilly."

Q. Do you think it is a good thing? A. I think it is an excellent thing.

Q. You think that troglodyte disappearance below ground level is a good thing? A. I think it is the only way of dealing with segregation on this site.

Q. I thought the idea for Piccadilly Circus is that it should be a place of public concourse where people can walk around and make merry and look at the advertisements of the developers? A. That is accepted by the Council.

Q. If it is accepted, how does that marry with sending them underground? Are there going to be periscopes, or has something been provided at intervals? A. I do not think there has been any view of the Council to the effect that they have been against segregation below.

Mr. Bennett added that the Planning Committee had placed it on record, when considering the Advisory Scheme, that underground segregation was "an excellent thing" in principle. He said that the underground area would be enlarged "if that is possible," but refused to accept that there would be the most unutterable jam down below if it was not enlarged. Asked if the underground area was not already packed, he replied that it was not. When Mr. Jones asked him if it would cost £1 million to enlarge the underground concourse, Mr. Bennett said he did not think the cost needed consideration at this stage.

Then he was asked about the possibility of connecting future walkways to the new building. There was, he said, "no insurmountable difficulty," though the walkway would have to be at the 30-ft. level.

Q. Is there any valid reason why this arrangement should not be embodied in the building before it goes up—it seems a more satisfactory way of dealing with it, rather than patching up the building afterwards in order to provide for it? A. If it were provided for in the building at this stage the planning authority could give no guarantee in the future that it would ever be joined to anything.

Q. Did you have a stand-up effort with the developers to push this thing through? A. I think the position is quite clear, that with regard to first floor or second floor segregation, because of the height the first floor is too low across a traffic route, and the second floor is higher than one would normally require. It would be impossible to ask them, at the first stage of development, to have something which might remain in the air for any future period of years.

Q. Is not the real reason that the developers were unwilling to part with valuable space for the provision of these vertical segregation walkways. A. I do not think that was the prime consideration.

Q. That was one of them? A. One of them.

More office workers?

The office space on the site is being increased from an existing 61,000 to some 64,000 sq. ft. Mr. Jones elicited the fact that many of the existing offices behind the advertisements were empty. This, he suggested, would increase the number of office workers in the Circus, and was contrary to the Council's policy.

Mr. Bennett said that the fact that existing office accommodation was not used was "of no significance to the Council. It is office accommodation for which these people had rights on the site."

Elwyn Jones: If they were not being used as offices, but were empty rooms, it is obvious that there are going to be far more office workers in the new buildings than the old ones? A. That is a point outside the control of the Council.

Q. The Council itself determines the plot ratio? A. That is correct.

Q. And by reducing the plot ratio they can limit the amount of office accommodation? A. That is correct.

Q. So that is the solution to the problem, is it not? A. That is a separate issue at this stage.

Q. There is nothing to stop the Council from altering the plot ratio at any moment is there? A. Except the most careful considerations of the reasons for doing so.

Mr. Jones then quoted Sir Isaac Hayward, leader of the LCC, saying that the Council's policy was "to stem the tide of increasing employment in the centre."

Q. But this building does not do it, does it? A. It does stem the tide. It retains the existing position without allowing an increase of office area.

Q. In practice it substantially increases the tide of office workers working in Piccadilly Circus, does it not? A. It may have less people working in the building. I am not sure.

Elwyn Jones: I do not see how you can say that.

NEWCASTLE ROUNDABOUT INQUIRY

Inspector Praises Architects' Multi-Level Plan

A correspondent writes: The Northern Architectural Association has been successful in its opposition to the roundabout at the junction of Pilgrim Street and City Road, Newcastle-upon-Tyne. The Minister of Transport, on the advice of the Inspector, Sir Maurice Holmes, has deferred his decision whether or not to confirm a compulsory purchase order made by the City Council until the Council has given further consideration to alternative schemes. Six schemes, including the City Engineer's roundabout, were put before the Inquiry, and the Inspector reported that the Northern Architectural Association's multi-level interchange would probably have the smallest overall traffic delay, was the most imaginative from the traffic point of view, and showed the most imagination.

The most important thing about the Inspector's report and the Minister's decision is that both the Inspector and the Minister have recognized that the planning of road improvements is part of town planning. The main advantage that the Inspector saw in proceeding with the roundabout was that it could go forward without delay, but he recognized that "it would be unwise for the sake of a speedy start on the task of relieving congestion to embark on a scheme which was open to serious objections from other points of view."

There was no evidence, he said, that the Council had considered whether the roundabout was an outmoded method of dealing with traffic congestion, or whether by concentrating on traffic needs alone, taking no account of planning considerations, the sponsors of the roundabout were not facing those responsible for planning with a *fait accompli*, and making appropriate planning impossible.

This was no criticism of the Council for when, in December 1957, a smaller roundabout had been proposed the Ministry of Transport had only criticized it in detail, and it was natural for the Council, while correcting those details, to proceed with a roundabout scheme. Moreover, the Council had not time to spare to consider alternatives, for grant in respect of the roundabout was dependent on the submission of plans and specifications by March 31, 1959.

The Inspector concluded: "In recommending that the present Order be not confirmed I do so not on the ground that the City Council's proposals are in my opinion inadequate for the purpose for which they are intended—indeed I am of the opinion that their roundabout scheme would effectively ameliorate traffic conditions for at least the next 12 years—but because I have formed the opinion that means of dealing with the situation alternative to the provision of a roundabout, which have not received the consideration of the Council, offer the prospect of a more lasting improvement of those conditions and, in addition, would give greater latitude to those responsible for the planning of the City."

The Inspector's report also pronounces virtual sentence of death on Dobson's Royal

Arcade. He describes it as a very fine example of architectural design of its period, but notes its dilapidated condition, the substantial cost of renovating it, and lack of any evidence that anybody was willing to meet this cost, and the indifference of the citizens of Newcastle. But the main difficulty is that all of the alternative schemes that might solve the traffic problem, including the NAA scheme, demolish the Arcade. The amelioration of the traffic situation, the Inspector says, must outweigh aesthetic and historical conditions. If the best or an equally good solution would leave the Arcade untouched, so much the better. But if not it would be necessary to acquiesce in its demolition.

It will be recalled that originally the Inquiry into the CPO was to have been held by an Inspector of the Ministry of Transport sitting alone. After the intervention of the Northern Architectural Association, which drew attention to the town planning and architectural implications, J. D. Hossack, a senior inspector of the Ministry of Housing and Local Government was appointed to sit as an assessor. The Northern Architectural Association was represented at the Inquiry in June by Professor Jack Napper, who presented plans and a model of a multi-level interchange set in an appropriate architectural setting. This is the plan which, in the Inspector's view, apart from its architectural merits, also offers the best solution of the traffic problem. The cost of this alternative plan has not been calculated, for lack of time.

BASA

Education Conference

The British Architectural Students' Conference at Bristol, from Friday evening, January 8, to Sunday afternoon, January 10, is on "Architectural Education."

The objects of the conference are (a) to study education in its broadest terms as applied to other faculties in Universities and other academic institutions; (b) to relate this study of the basic truths of education to architectural education; (c) to find out the students' reactions to the Oxford conference and (d) to form a BASA policy on architectural education. Resolutions drawn up by the executive are being circulated to the schools for discussion before the conference.

On the Friday evening there is a dinner and dance, the conference proper opening on Saturday morning with a paper on "Knowledge and Experience." Other papers to be delivered are on "Analysis," "Synthesis" and "Execution of the Solution."

The resolutions will be discussed on Sunday morning, and in the afternoon the conference discusses "course of subsequent action."

Applications to join the conference (for which the fee is £3 3s.) should be made to the Permanent Secretary, BASA, Building Centre, Store Street, London, W.C.1.

LIBRARY

for
designed by
SHEFFIELD UNIVERSITY
GOLLINS, MELVIN, WARD and
PARTNERS
assistant architects
M. LITCHFIELD, B. J. MAYES,
H. PRIME
consultants, structural
W. V. ZINN
heating and ventilating
G. N. HADEN and SONS, LTD.
electrical
H. B. LEIGHTON
quantity surveyors
DAVIS, BELFIELD and EVEREST

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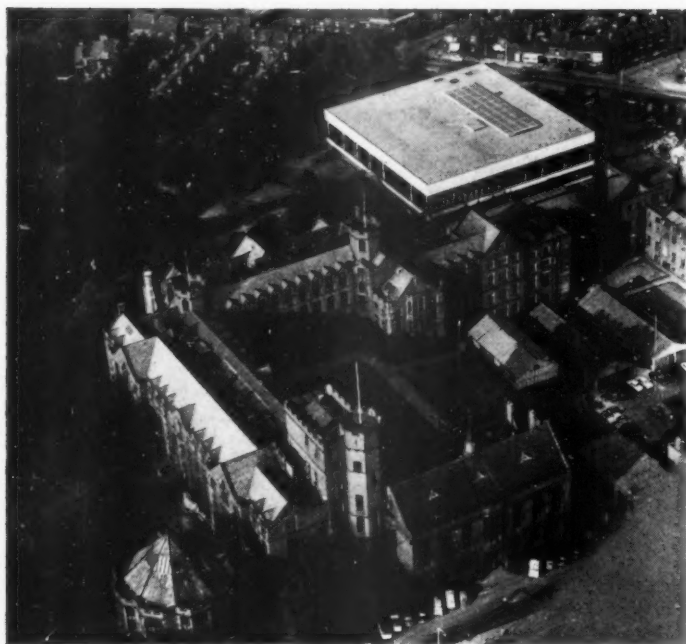
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Designed to hold a million books, this is one of the biggest university library buildings in the country (Oxford and Cambridge have about 1,500,000 each). It is the first building to result from the competition promoted six years ago to obtain a development plan for the expanding university.

The south east (entrance) corner from the campus level. The reading room curtains are all drawn—note the darkening effect of twin sheets of anti-sun glass opposite the end of the open access bookstack.



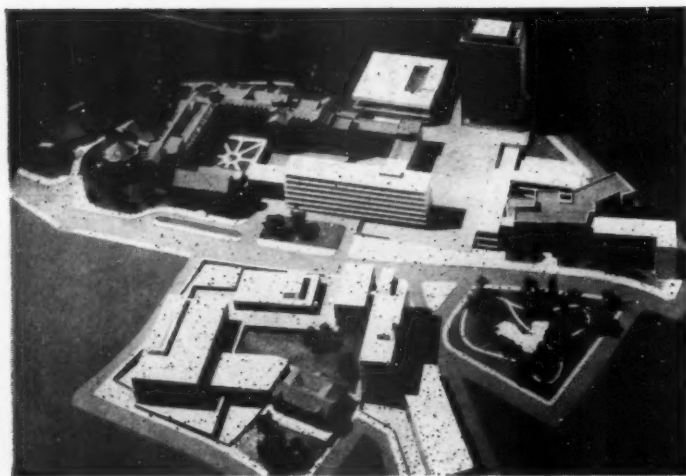
building illustrated



Aerial view from the south west. Existing university buildings and public park in left foreground. Lens glass slab over catalogue hall in centre of library roof.



Above: the competition-winning layout looking from the south east. Western Bank runs diagonally across the picture from left to right. Below: the new (1959) layout from the south east.



Background: The University Library began with the book collections of the local institutions which joined over 50 years ago to form the University of Sheffield. By 1909 the library had a new building of its own, to seat 100 readers and hold 100,000 volumes; it seemed ample provision for a university of 200 students and a stock of 22,000 books.

Forty years later the University faced a student population rising to 2,000 and an accumulation of books approaching 200,000 at a rate of 5,000 per year. The position was desperate, and a new library was therefore given top priority in the



Site plan

KEY: 1, New Library. 2, Proposed Arts Building. 3, Boiler house. 4, Proposed Chemistry Blocks. 5, Bursar's department. 6, Proposed Natural Science Block. 7, Theatre. 8, Assembly hall.

competition promoted in 1953 to obtain designs for this and several other buildings, and to produce a development plan for university expansion.

Competition programme: Given an existing book stock of 200,000 and an estimated yearly intake of 8,000 books, a building life of 100 years requires an ultimate capacity of 1,000,000 books: this was the basis of the competition programme for the library. A reading room capacity of 360 places was asked for, not counting periodicals reading facilities. This was 20 per cent of the student population to be centred on this part of the university development. The ratio of one reader in five students is generally accepted as a guide to the need for working space but is very much open to question. It is not known for instance how many students use the library purely as a place to work in, and how many are there because they need to use the books. Nor is it known how these numbers will be affected by improvements in the students' living and working conditions.

The competition design: In the model of the winning competition layout by Gollins, Melvin, Ward and Partners the library is a low square building on the northern perimeter of the university development site. It is flanked by existing buildings on the south with a public park on the west, and, on the other side, part of the campus with the high tower adjacent containing the arts departments (languages, economics and architecture). The library is placed on a podium above the campus level with the reading room floor higher still on a level with the park which is 20 ft. above the campus. The book stack is underground. This site was indicated in the competition conditions as most suitable for the library because it was quiet, close to the park, and immediately available.

It was required that the library and the arts block should be close together since it is the arts faculties which make most use of the library. This is partly because science students read fewer books and cover a narrower range of subjects than arts students, but also because there is a growing tendency for science departments to build up their own libraries, and so become partly independent of the main library. This tends to reinforce the growing isolation of each field of study, a particular evil in the newer universities, where there is no close grouping of residential accommodation to counteract it.

Duplication of this sort also reflects what is happening on a national scale. Each university appears to be developing its own library facilities with little regard for the rest of the country and a good deal of money and resources may be wasted for lack of a clear policy on the provision and size of university libraries, and on the distribution of library facilities amongst the different departments. Not least in need of study is the future effect of modern communication techniques like microfilm on the whole traditional library structure.

The new development plan: The changes which have been made in the latest version of the layout arise from an increase of no less than 125 per cent in the projected student population, from 2,000 to 4,500 by 1966, owing to recent changes in government educational policy.

While the library is kept at its original size most of the other buildings have been enlarged. The size of the campus has been increased by, among other things, lowering the library entrance level so that it is now two floors below

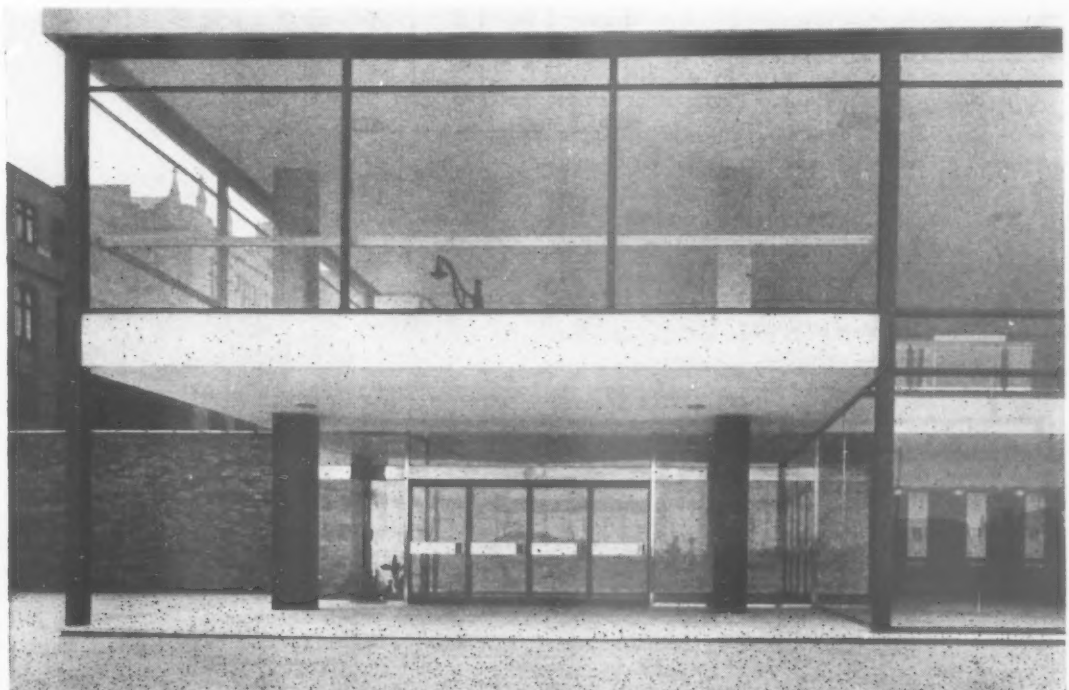
the reading rooms with access directly off the campus. The contrast between the tall arts block and the low spreading library is strengthened by the long axis of the arts tower being turned through a right angle and the two buildings thus brought closer together. This produces clearer definition of the campus which now becomes a big scale public space where in the competition design it was little more than a confluence of circulation routes.

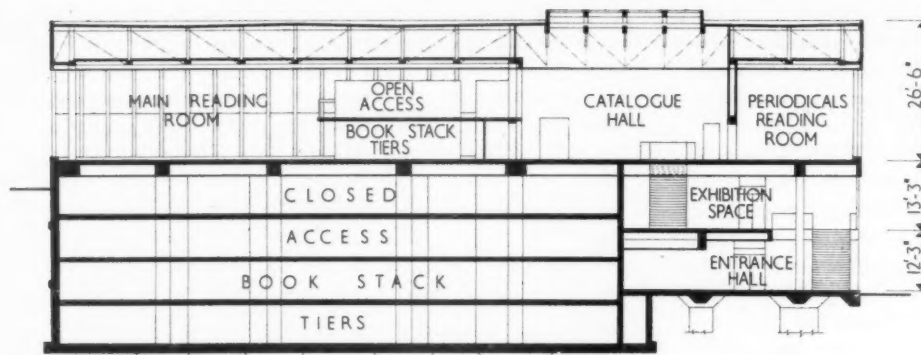
The development of the campus idea in this way raises forcibly the question of Western Bank—the main traffic road which bisects the university development site from west to east. In the winning design the road was accepted—even emphasised—by flanking parallel blocks of street architecture which implied no great degree of contact between the building groups on either side. The enlarged campus has outdated this conception and now suggests a strong spatial connection across this road. That there will be a strong functional connection is guaranteed by the fact that the new assembly hall, students' union and staff club are to be on the south side of the road, with the majority of the teaching space, the library and the administration on the north—without either bridge or subway to penetrate the barrier. The cost of this in the disruption of community life, if not in death and physical injury, may be serious as student and traffic densities rise together in future years, and a subway is now being considered in a belated attempt to deal with this problem.

The effect on the library of the massive rise in student population has not been great because it simply could not be accommodated. Building was well under way when the change was made known, and this sort of building can only

The entrance at campus level. Mezzanine exhibition space above. Materials—dark blue grey painted aluminium clad mullions and glazing bars, dark blue brown bricks, edge beams faced in Portland stone. The patchy weathering of the Portland stone is already

belying the architects' hopes of an even white surface. Floor of porch in travertine. White painted plaster ceiling. Stainless steel door frames. Rear wall of lobby in Piastraccia marble (white with grey veining).

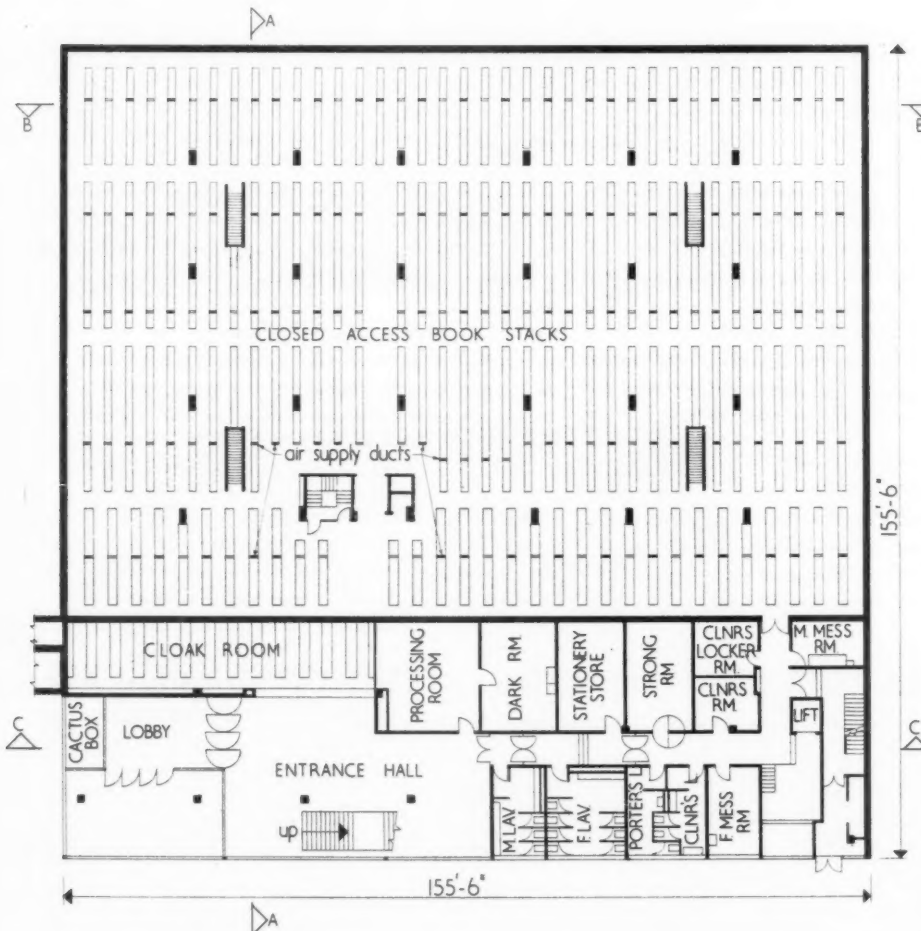




Section A-A [Scale: 1/4" = 1' 0"]

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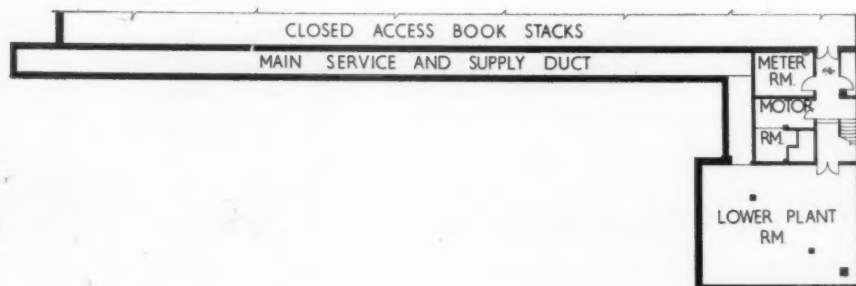
Opposite, top: the entrance hall seen from the lobby. Travertine floor, Piastraccia marble wall on left, cloakroom counter and doors to lavatories, etc., beyond. Stair to mezzanine on right. Rear wall painted dark yellow.



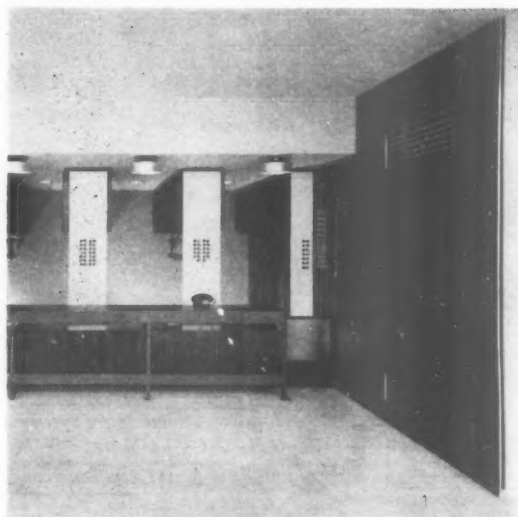
Ground floor plan [Scale: 1/4" = 1' 0"]

Opposite, centre: the cloakroom counter. Rectangular section metal frames painted dark blue grey. Woodwork veneered in macassar ebony (red brown with black figure).

Opposite, bottom: the stair to mezzanine level. Dark and light brown close laminated treads. Noir vein marble strings and margins. Ebomised hardwood risers. Mahogany handrail with toughened plate glass below held in silver bronze rails running between black painted steel uprights. Upper end wall painted purple, lower wall dark yellow, white fibrous plaster ceilings. The column casings are aluminium extrusions cellulosed dark blue grey like the rest of the metalwork. These were substituted in order to get a more precise line and avoid the appearance of pseudo masonry columns. This intention is somewhat frustrated by the surface ripple on the extrusions which gives the columns an unsubstantial look.



Basement plan



be added to at the expense of its formal qualities.

The anticipated student population in the Western Bank area is now 3,500—equivalent to 700 reading places in the main library, or nearly twice as much as the competition conditions laid down. It has not been found possible to increase the original capacity by more than 80 places, provided on the stack floors, to give a total of 444. The balance is to be provided by departmental reading rooms to seat 400 in the arts block nearby. It is hoped that these will not develop into the kind of small departmental libraries which would be likely to undermine the status and function of the main library. It is not known how the population increase will affect the yearly intake of books, but since in any case this has now passed 10,000 and may well approach 15,000 in a few years, it looks as though the useful life of the building could drop to 50 years unless either the rate of discarding old stock increases, or there is a much greater use of microfilm techniques.

The library plan—entrance level: This is positioned at the south-east corner for reasons which are obvious from the precinct plan, and leads through a lobby into the entrance hall. On this level (ground floor) is the cloakroom opening off one side of the entrance hall. To the north a passage leads to the students' lavatories and various staff and workrooms, with the service entrance, goods lift and staff stair at the far end.

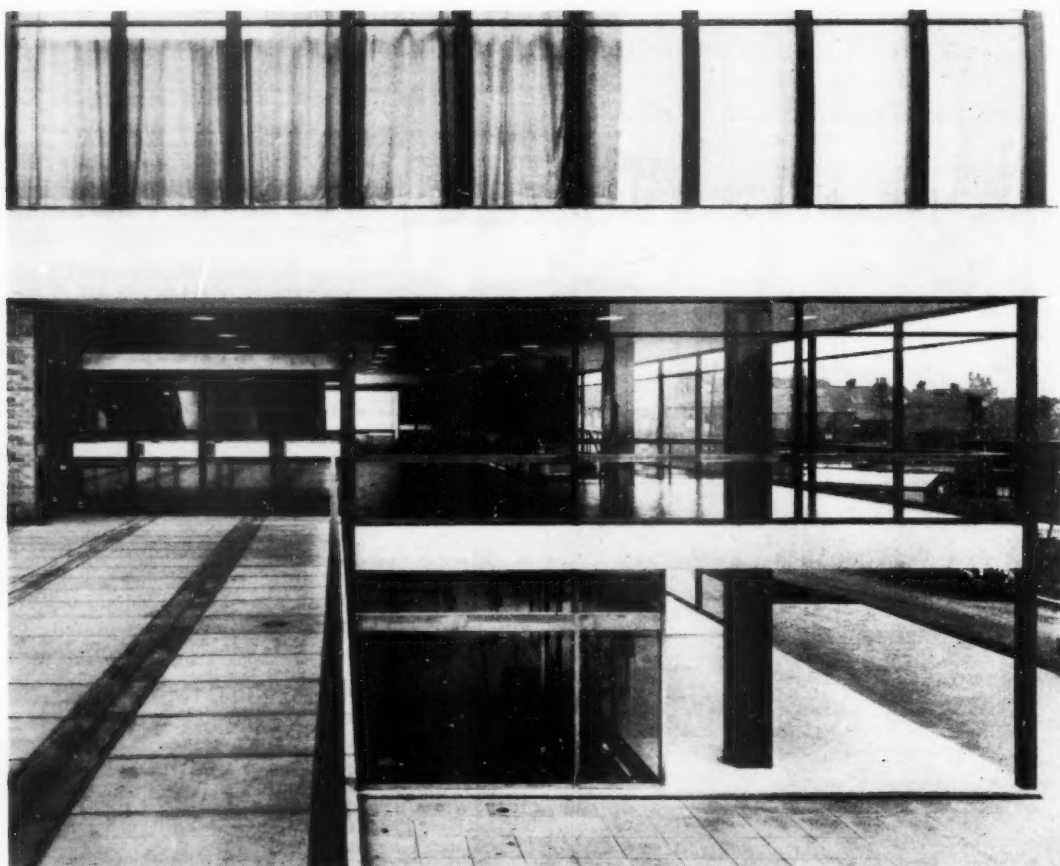
The mezzanine: From the entrance hall a generously proportioned stair rises to the mezzanine level containing a large exhibition space, the librarian's office suite, and the control counter and turnstiles. No one can leave the library with a book without passing through this control point and surrendering a voucher which identifies the book and the borrower. On this level too there is another entrance from a raised terrace on the south side of the building. Although this provides an easy route to the library from the existing buildings, it also discourages use of the cloakrooms because people coming in this way have to go downstairs to leave their coats and cases.

It is surprising to find an exhibition space as big as this in a library which is already short of reading space. Perhaps it remains, like the entrance on this level, as a vestige of the entrance podium in the earlier design. However, even though it is outside the control turnstiles, it has been earmarked for use as an emergency reading space and the terrace outside is a good place for relaxation and a smoke. The projected bridge from this part of the library to the future arts block will give further meaning to this rather arbitrary space.

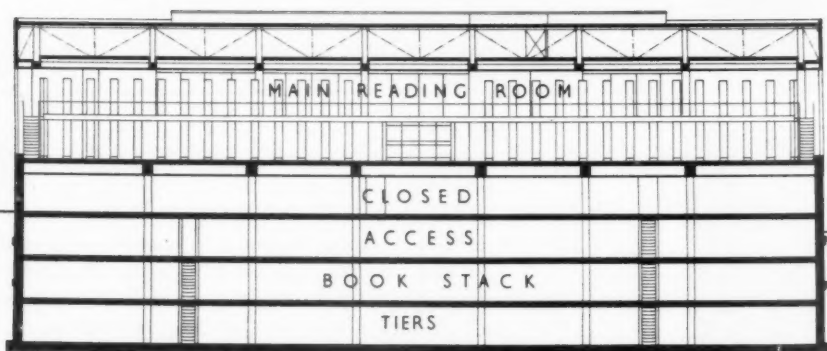
The first floor: Beyond the control counter a second flight of stairs rises into the catalogue hall on the first floor. This is a most satisfactory room—perhaps the greatest success of the whole building. For staff and students it is the heart of the library, accommodating the indices and essential references giving quick access to the whole of the book stock, and surrounded by the reading rooms. These are thus all on one level, looking out over the campus on the south and east sides, and to the west and north on a level with the grass, trees and lake of the park.

The reading rooms: The main reading room opens off the west side of the catalogue hall with the two-tier open access book stack between. This has a capacity of 130,000 volumes (13 per cent of the ultimate total) and it is here that the newer books are kept and the bound volumes of "live" periodicals. There is no firm basis for this particular ratio of open to closed access books, but the estimate that 80 per cent of under-

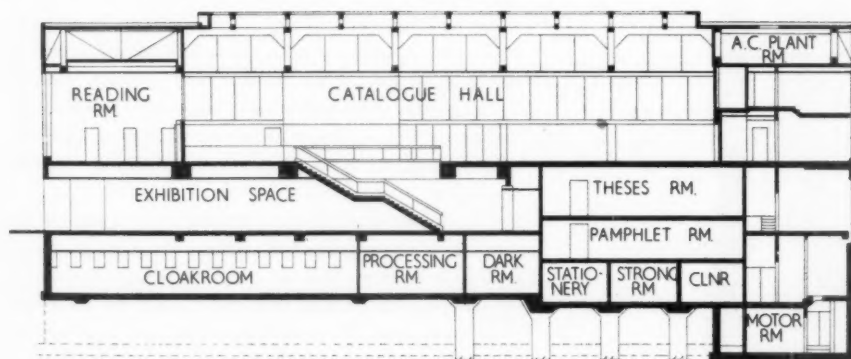
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Above: the mezzanine entrance looking towards the exhibition space. The suggested bridge from the arts block would join on from the right.

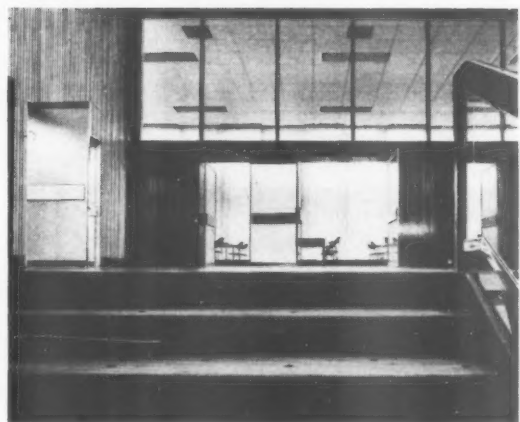
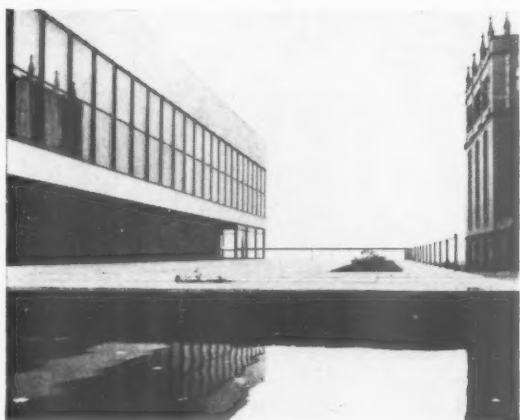


Section B-B [Scale: $\frac{1}{4}'' = 1' 0''$]



Section C-C

Opposite, top to bottom: control counter and turnstiles; floor in missanda wood strip (dark red brown); rear wall noir vein marble (black with white veining); counter dark blue grey metal frame with maple veneered woodwork, remaining surfaces faced in white or black plastic sheet with stainless steel trim. The mezzanine entrance terrace looking towards the east. Looking from the top of the main stairs at first floor level across the end of the catalogue hall into the post-graduate reading room; doors to periodicals reading room on left; obscured toughened glass doors, macassar ebony and Danish panelling in maple (light yellow brown); note the lack of clear relationship between the glazing divisions, and the air grilles and lighting fittings in the heated ceiling beyond. Looking back down the main stairs from the catalogue hall to the control counter on the mezzanine. Doors beyond to librarian's suite.



graduates in *all* faculties need no more than 10,000 titles for their degree courses suggests that in this case it is generous. The shelving on this stack is in standard bays placed back to back at 4 ft. 6 in. centres. It is the slotted type in which the shelves can only be moved if they are empty, but it has been used here because it was thought to be neater than the bracket type with side cheeks which is used in all the closed access stacks and can be moved without disturbing the books.

With the addition of 40,000 volumes in the medical reading room which is mentioned later, these 150,000 are the only books in the library to which the reader has direct access. Two smaller reading rooms also connect directly with the catalogue hall. To the south is the post graduate reading room with 50 private book lockers and three microfilm reading cubicles. To the east the periodicals reading room provides open access to current issues of 2,000 journals.

The remainder of the first floor is occupied by workrooms and offices directly related to the daily running of the library, where incoming and outgoing books are dealt with.

The position of the catalogue hall in the centre of the plan with all the other functions ranged round and directly accessible means that readers can work undisturbed by the movement of books and people with which they are not concerned.

The book stack: The closed access stack consists of four superimposed tiers each of 16,264 sq. ft. and each holding about 217,000 books. The floor to ceiling height is 7 ft. 3½ in. throughout so that the floor level of the lowest tier is some 30 ft. below park level and 10 ft. below the future campus. The decision to build the stack below the reading rooms was taken during the competition design, mainly for functional reasons. It was confirmed later by a cost comparison between this and the more usual multi-storey stack rising above the main library floors. This latter method probably has the advantage in cost if the conventional steel "bird-cage" construction is used with each tier of shelving resting on the one below independently of the main building fabric. But it was found that the Sheffield bye laws required that such a structure must be encased in concrete in order to achieve the necessary fire grading. Each tier of the stack therefore has its own independent structural floor and fire barrier—a beamless r.c. slab—carrying the shelving standards which are fixed between floor and ceiling and do no more than transfer the weight of the books to the floor. Another factor in the economy is that the stack floor slabs provide continuous support at close vertical centres for the retaining walls whose cost is thereby reduced.

Additional space is provided off the east side of tiers 3 and 4, nominally for the storage of pamphlets and theses. These rooms may in fact be used for microfilm storage and the temporary shelving of large collections awaiting cataloguing. It was a competition requirement that the book stack should be capable of being built in stages as the stock increased, and in the initial design it was intended that this should be done by building the whole volume to start with and then gradually filling it in year by year with a self-supporting stack structure. Apart from turning out to be impracticable with a concrete clad structure this also meant a continual movement of books as each classified section expanded and pushed the adjacent section outwards. Instead of this the librarian has estimated the ultimate space requirement of each main classification

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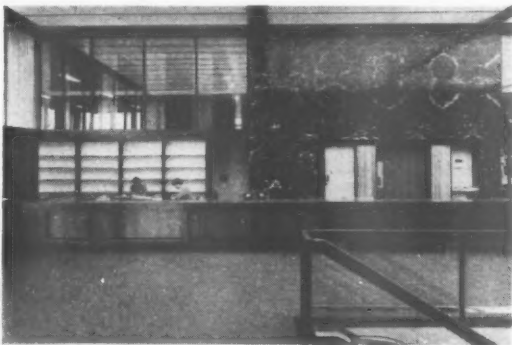
Above: the west facade of the main reading room from the park. Below: the catalogue hall from the doorway of the post-graduate reading room. Grey lino floor. Voucher and staff counter on left. Doors to main reading room adjoining with glazed wall above to upper tier of open access bookstack. End wall white painted plaster (A/C plant room behind). Right wall maple strip. The illuminated ceiling consists of 3 ft. wide corrugated white vinyl plastic sheets held in alloy channels hung from the roof trusses. This transmits light from the lens glass roof above, or from 120, 5 ft., 80 w. fluorescent tubes distributed over the area, to

give a remarkably even intensity of about 35 lumens/sq. ft. on the working plane 14 ft. below. Maintenance and relamping is provided for by a specially designed trolley and cradle running on tracks fixed above the ceiling to the bottom cords of the roof trusses. From this the corrugated sheet can be withdrawn from the channels and rolled up for cleaning. This is very necessary since the least speck of dirt shows up on the underside of the plastic sheet which, however, is beginning to get crumpled at the edges due to repeated removal and replacement. Separately detachable panels would seem to be a better solution.

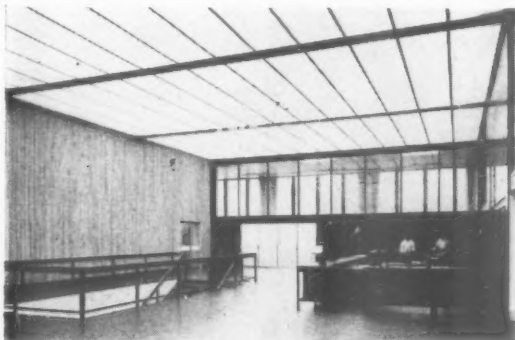




The main reading room from the upper tier of the open access stack. White painted heated ceiling. Grey lino floor. Mullions painted dark blue grey standing on noir vein marble sill. Aluminium column cladding cellulosed aluminium colour. Table tops and chair seats in black leather cloth. White curtains.



The voucher and staff counter in the catalogue hall. Lift wall in alpes green marble (dark green with light green and white veining) puzzle, find the clock! Doors to stairs and book lift bright yellow with black fascia and reveals. Lift controls on reveals. Maple strip on each side of mid-grey trolley lift doors.



Catalogue hall looking towards post-graduate reading room. Note lack of clear relationship between glazing divisions and supporting strips to plastic ceiling.

and divided the whole stack up accordingly. Thus each subdivision has its own space for expansion, and the whole of the stack is brought into use from the first.

The shelving is placed back to back at 4-ft. centres over 80 per cent of the area, and at 4-ft. 6-in. centres over the remainder for large size volumes using deep shelves. Care has been taken to avoid tie rods or solid backs to the standard rack units so that large folios can be stored flat across two back-to-back shelves. The 4 ft. dimension is really a bare minimum for convenient working with a trolley though a specially designed trolley has been provided in this case.

Stack communications: Connection between the four stack tiers and the rest of the library is provided chiefly by the circulation core of stair, trolley lift and book lift which runs through the east side of each tier up to the staff enclosure in the catalogue hall. Intercommunication between one tier and another is by superimposed straight-flight stairs—one near each corner of the stack. The stair at the south east corner is not really necessary since the main stair is so near. Three of these stairs end on tier 4 since it is obviously inappropriate for them to continue up into the public part of the library. But one of them, at the north-east corner, ends on tier 3 and it is here that a major discontinuity occurs in the organisation—though, significantly, not in the form—of the whole building. For the part of tier 4 which this stair would normally have served has in fact been made public as an afterthought.

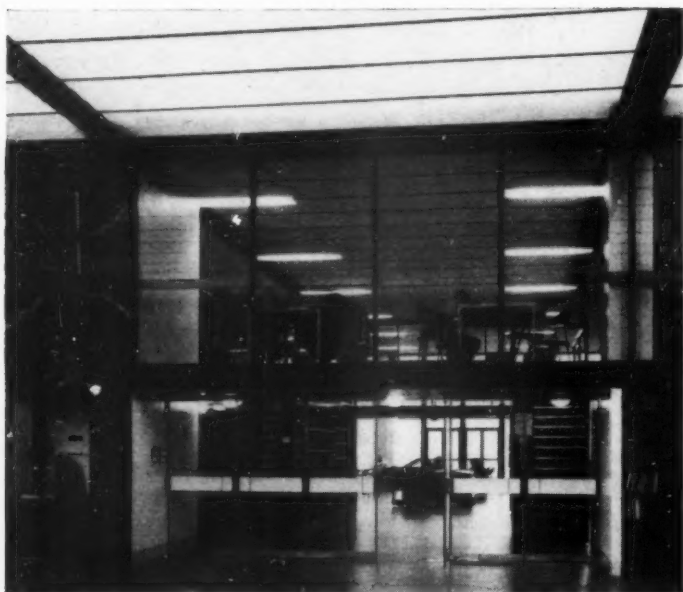
The library organisation: This north east section of tier 4 has been set aside for the medical library. Here the undergraduate doctors work in an atmosphere designed more for books than people, beneath bare tungsten bulbs, with a headroom of 7 ft. 3 in., and using shelving a good deal of which is at 4-ft. centres and intended for closed access. How does this come about in a building otherwise so carefully adjusted to the requirements of its users?

The answer lies in a dilemma which runs through the whole theory of library administration—whether it is more important to give the readers every possible comfort for reading and working and completely free access to the books (even though this may mean increased losses through theft and greater difficulties of supervision), or whether administrative ease and book security should be put before the comfort of the reader wherever these interests clash—as they frequently do.

It appears from the competition conditions that the programme for the Sheffield library was biased towards the second of these two propositions.

It is argued in justification that it is against the interests of the undergraduate to allow free access to the whole book collection—the sheer mass of it may be overwhelming, and books replaced on the wrong shelves are as good as lost. Further, many historical books, such as obsolete medical texts must be placed under closed access for the sake of public safety. While, however, the 130,000 volumes provided on open access at Sheffield are now as much as half the total collection, this will drop to less than 15 per cent. as the library fills up—a relationship of a very different order. Again, the vast space of the main reading room is unavoidably noisy. The long reverberation period, with the lack of intimacy and seclusion, makes it a place where the least sound is a distraction and only the iron-willed can concentrate. The graduates, on the other hand, are given a small reading room with lockers and microfilm cubicles close to hand.

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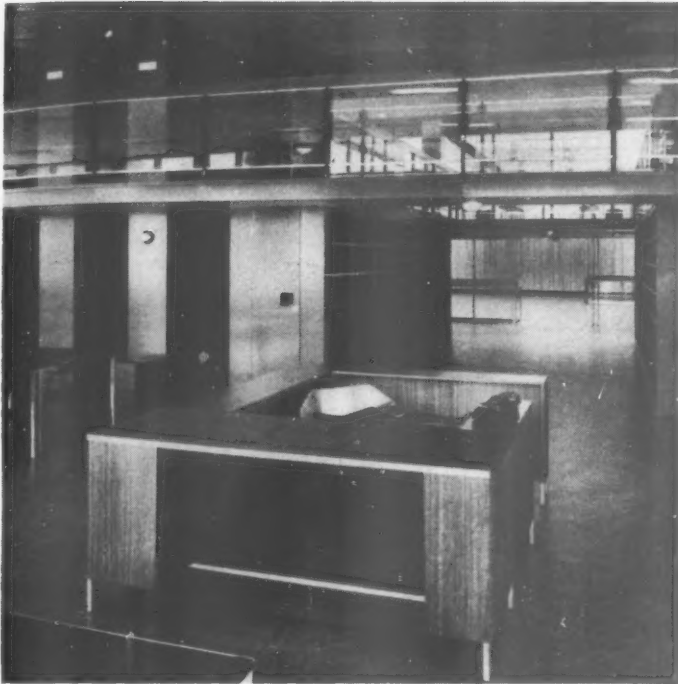


Left: main reading room entrance from catalogue hall. Note the extremely pleasant small scale workplaces on the upper tier of the open access stack. See bottom picture page 788. Opposite, top: supervisor's desk in the main reading room with the open access stack and catalogue hall beyond.

Opposite bottom: looking along the south wall of the main reading room towards the open access stack which is all painted dark blue-grey. The conditioned air supply grilles run along the outer edge of the ceiling parallel to the curtain track. The general reading room lighting is supplemented in the stack by local tungsten lights to illuminate the shelving.

Below: post-graduate reading room. Window to microfilm reading cubicles in maple strip rear wall. Book lockers on right.





The building itself does much by its lightness and grace to compensate for these authoritarian overtones. It is possible too that the underlying expectation of misbehaviour is justified by experience. But the fact remains that the great difficulty in the modern university is to get the student to read books at all—even those relating to his own course of study. And it is one of the chief tasks of the library to persuade students—especially in the scientific subjects—to read outside their set books and beyond their own faculty. To the extent that a library makes this more difficult than it need be, the money spent on it is wasted.

The interesting thing at Sheffield is that departures have already occurred from the rigid organisation of space and movement set out in the competition programme. Apart from the makeshift separation of the medical group, small scale work spaces have also been introduced on the upper tier of the open access book stack, and in the closed access stack tiers. Despite the relatively poor conditions of light, view and ventilation, these moves are popular with the readers who, it is generally conceded, prefer to work in small spaces rather than big ones. While these changes are partly due to the pressure on space caused by the rising student population, they also seem to reflect uncertainties about the way the building is to be run—uncertainties which seem to an observer not unconnected with the fact that the librarian who was responsible for preparing the competition programme for the library retired in 1956.

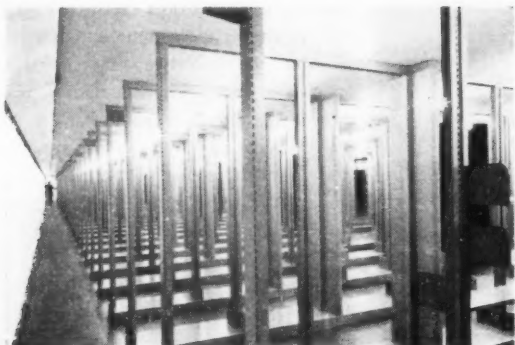
Whether this is so or not, it is certain that this form of library organisation is by no means the only possible one. It is easy to foresee all sorts of different requirements arising in the number and size of reading rooms, the proportion of open to closed access stacks, and the methods used for book storage. But the highly stressed structure, wide use of load-bearing walls, and close coupling of structure, services and internal divisions make it very difficult to adapt the building to any form of organisation which departs in principle from the basic assumptions of the competition programme.

Flexibility: While it is much too early in the life of the building to draw definite conclusions, what has happened so far at Sheffield suggests that there is not a big enough margin in the design for expansion or adaptability to change of use. It has been tailored too precisely to the stated requirements; it is too functional!

This contradiction is becoming increasingly common in all sorts of building. To avoid this difficulty it seems that the designer must accept the responsibility for building-in as much flexibility as the budget will stand. But where, as in this case, the design is the subject of a competition based on rigid conditions, the chances of doing this are remote.

The maximum range of flexibility for university libraries would seem to lie between the open access book stack interspersed with small work spaces and reading rooms on one hand, and the centralised mass reading room and closed access stack on the other. Whether a building which could accommodate this range of use would amount to anything in conventional architectural terms is open to question; it would probably look like a train collision.

So at this point one must recognise that the library building of a university may have another need to satisfy—the need to symbolise the seat of learning. To do this it must have an appropriate presence—an aura of dedication to the search for truth. There is little doubt that the Sheffield design succeeds in this sense. Its restrained precision stands

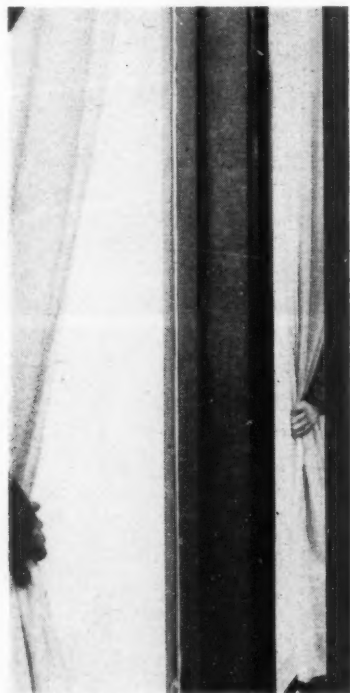


building illustrated

Left: stack tier 4 - book racks without shelving.



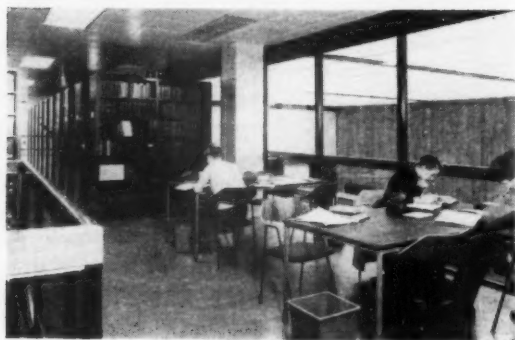
Below left: shelves being fitted to 4-ft. c/c racks in closed access stack. Specially designed book trolley in foreground.



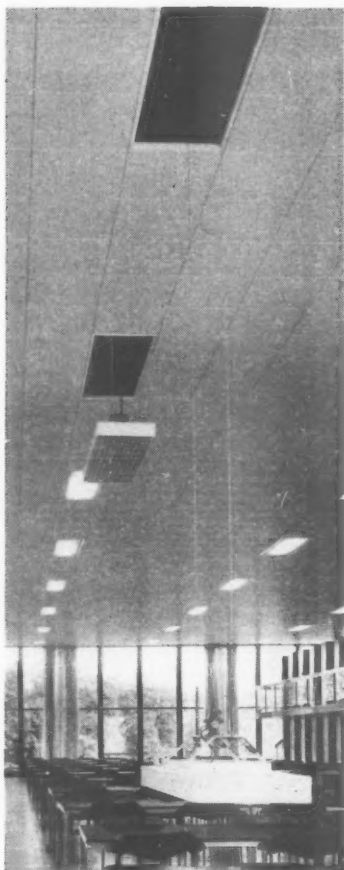
Above: mirror strip used at the junction between glazed cladding and partitions.



Left: medical reading room in stack tier 4. A wire mesh screen is used to cut this off from the rest of the closed access stack.



Left: human scale workspace on upper tier of open access stack—view beyond into catalogue hall. See also top picture on page 786.



The reading room lighting fittings can be lowered for cleaning and maintenance by operating winches in the roof space. Is the expense of this clever design justified by the time saved over the use of light portable staging?



This carefully worked out solution to a door furnishing problem that is usually left to take care of itself is typical of the standard of detailing throughout the building. Attention has been paid to every surface and junction and each item of equipment has been judged in relation to its context. Unfortunately in this case the handle is too sharp at the edges and so close to the jamb that fingers can easily be trapped.

out from the squalid muddle of nineteenth century Sheffield as a simple clear statement of the facts, while it puts the modern city to shame by the patient, loving care with which each detail and design problem has been attended to.

How much this quality that has been achieved depends on the rigid organisation within, and how far the architects could have achieved this clarity of form with a more complicated and fluid programme—these are open questions.

Structure: Two main considerations have determined the form of the roof structure. Firstly the need to house large air conditioning ducts above the reading room ceilings, and secondly the wish to avoid columns in the middle of the reading rooms. The architects were particularly concerned to make the main reading room and the open book stack parts of a single enclosure with the least possible suggestion of a barrier between them to deter the students from getting at the books. The answer was a deep lattice girder structure with the primary trusses spanning the width of the main reading room and carrying secondary trusses to support the roof and ceiling decks which enclose the duct space. The primary trusses continue over the catalogue hall and cantilever a final 25 ft. across the width of the periodicals reading room, the whole being designed as a continuous beam.

The cantilever structure is used, in the architects' own words, "principally on the ground that it allowed us to have the main staircase immediately behind the east glass elevation with the columns behind the staircase and not between it and the glass." The first and mezzanine floor slabs are also cantilevered out to the cladding for the same reason. At the north east and south east corners on the first floor, however, the cantilever system is abandoned, and odd solitary columns appear in a rather arbitrary way.

The steel I-section columns carrying the roof stop at first floor level and the structure continues downwards as reinforced concrete. The first floor is a heavily reinforced beam and slab structure designed to take eccentric loads arising from differences in the column centres above and below the slab, and also to support the weight of the open access book stack. The upper tier of this is a hollow pot slab carried on angle- and T-section steel frames concealed in the shelving.

The space created by the beams below the first floor slab is used to house the distribution ducts carrying conditioned air to the four stack tiers below. The remainder of the structure below the first floor is divided between a framed system for the public parts, a structural wall and slab system for the work rooms and administration, and beamless slabs for the stack.

The cladding mullions are I- and box-section steel members fixed at the bottom and held in sliding joints where they meet the roof structure so that they are relieved of all loads except wind and cladding weight. The joints are designed to deal with thermal movement as well as deflection of the roof structure. They were adjusted to a push fit on the site and then clamped in position by welding to maintain this precise degree of friction. The rubbing parts are of steel and under cover; no special precautions are taken against rusting.

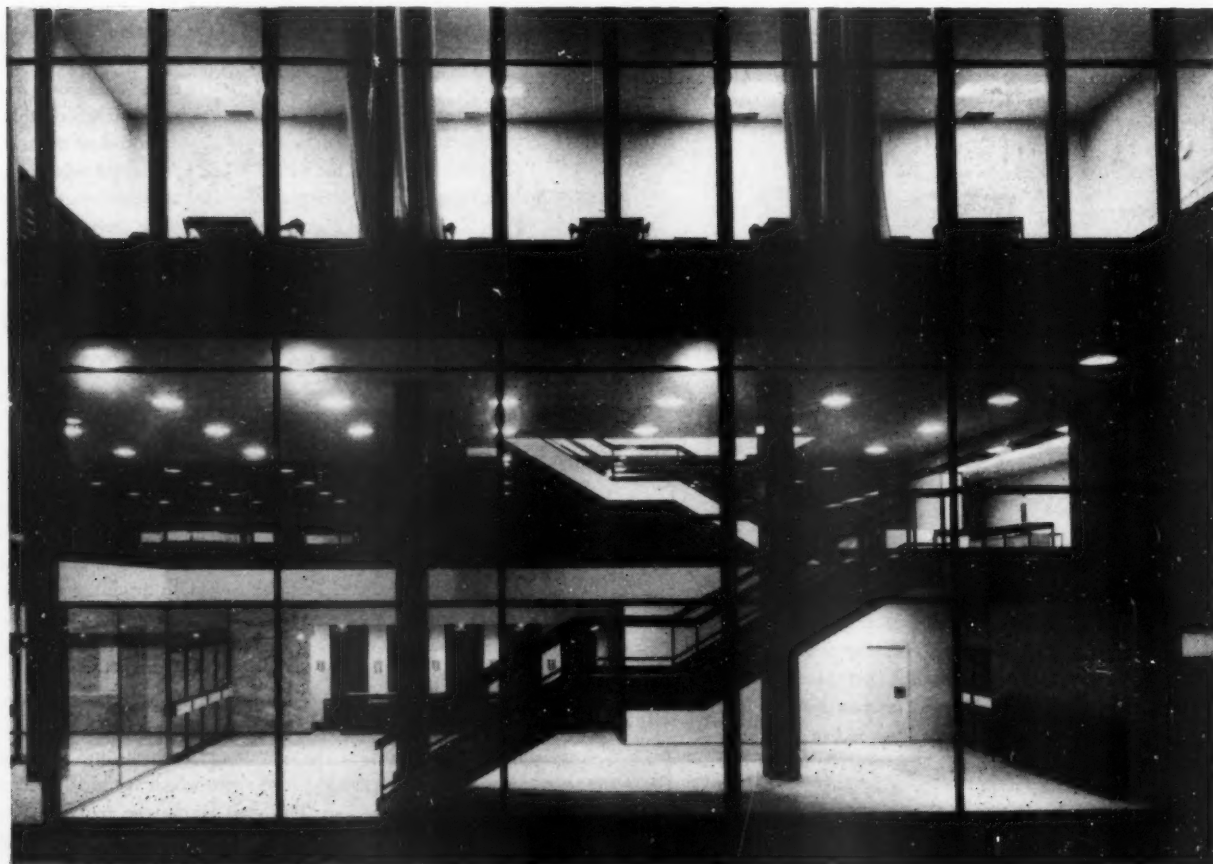
The structure is designed throughout to a two hour fire grading. The bottom booms of the roof girders are encased in concrete to carry the precast units which form the roof slab and the floor of the duct space which at the same time acts as a fire barrier. The steel within the roof space is therefore unclad. Over the catalogue hall a lens glass roof

building illustrated



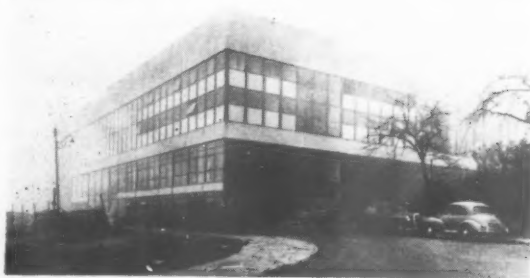
Above: the east facade. Curtains are drawn in the periodicals reading room. The difference between the cladding systems used above and below the first floor (reading room) slab, and the lack of a clear structural hierarchy robs the building of that degree of visual unity which the strictly cubic envelope presupposes. One suspects that this kind of architecture works best on a level site. If the ground line came up to first floor level all

round this would be a masterpiece—try it with your hand. Below: the east facade showing the entrance hall, mezzanine exhibition space and periodicals reading room on first floor above. The roof structure is cantilevered from the back wall of this reading room out to the face of the building. The first floor is cantilevered from the column row running behind the stairs.





Entrance hall looking towards the lobby, showing the extent of the cantilevered slabs to first and mezzanine floors.



This picture of the north-east corner taken on a day of typical Sheffield weather suggests that a building of this kind stands up better to the northern murk than more conventional solutions relying on texture and shadow and the rich surfaces of natural materials. While these dissolve into a shadowy muddle, the crisp geometry and precise detailing of a building like the library survive and even have a heightened effect in poor visibility, and there is always some sky reflection in the glass to lighten the gloom.

provides top light for the illuminated ceiling. Here, where the occupied volume of the building penetrates the roof space, all the steelwork is concrete clad, the horizontal fire barrier being carried up around the sides of the opening as gypsum plaster on metal lath and lightweight concrete block walls. This is not, apparently, a building whose authors have striven very hard to achieve a particularly systematic or elegant structural solution. In order to keep the structural elements in their place (which is usually out of sight), these problems are generally solved in an empirical way which gives first priority to the complete satisfaction of visual and spatial aims. This is in fact one of those rare buildings that look worse as a skeleton than they do when clad.

Another aspect of this approach is the lack of clear relationship between basic dimensions, a surprising thing to find in a building which otherwise so ably develops this idiom of jewel-like and geometric precision.

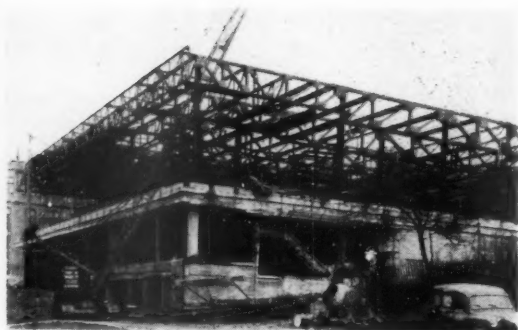
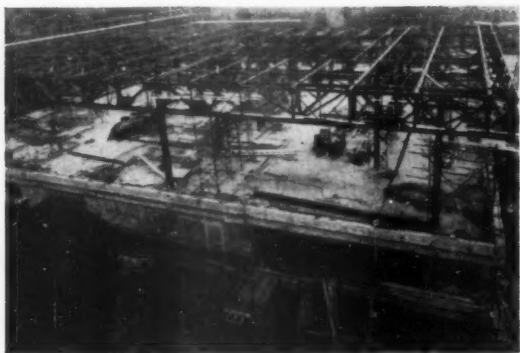
It can be argued that none of these considerations have any bearing on the impact which the building has on those who use and live with it. The facts remain—that, for instance, the lack of agreement between the column grids above and below the first floor slab has produced some extremely uneconomic and heavily loaded beam sections at this level; that a deal of the building cube has gone into space above false ceilings—by no means all of which is occupied by services; and that, considering the quality of the east facade, the giant floor and roof cantilevers seem to be wasting their strength.

Heating and ventilation: This is the first big library in this country to be designed from the outset with facilities for the control of temperature and humidity and the supply of filtered air in the reading rooms and bookstacks throughout the year. Separate air conditioning plants are provided for these two groups of accommodation because they possess very different thermal characteristics.

The bookstack has a high thermal inertia with small heat gains and losses (being mainly underground), while the books, which are made from hygroscopic materials, tend to absorb water vapour from the air. The most important consideration here is to avoid stagnant air pockets. This is achieved, with brilliant ingenuity, by using the hollow book rack supports as continuous 3 in. \times 20 in. vertical ducts with inch diameter holes as outlets on each tier. These are fed from horizontal distribution ducts in the space above the suspended ceiling on tier 4. Air is extracted at a single point on each tier into a duct running up the back of the book lift shaft. By these means good distribution has been achieved with a total air circulation of only two changes an hour, and the books in all parts of the stack are completely protected from both over-brittleness and mildew. Fabric losses in the stack, which are reduced by a 2-in. cork lining on the walls, are offset by a pipe coil running round the perimeter of each tier at ceiling level.

The three reading rooms present a very different picture. Heat gains and losses are high, the thermal inertia is low, and the relative humidity will tend to increase in conditions of high occupancy. Two different but complementary systems are employed for the addition and extraction of heat from these spaces. A heated suspended ceiling consisting of perforated aluminium trays insulated with glass fibre and clipped to a network of steel tubes carrying heated or cooled water serves to offset the radiant cooling effect of the glass walls in winter, and improves comfort conditions in summer

building illustrated

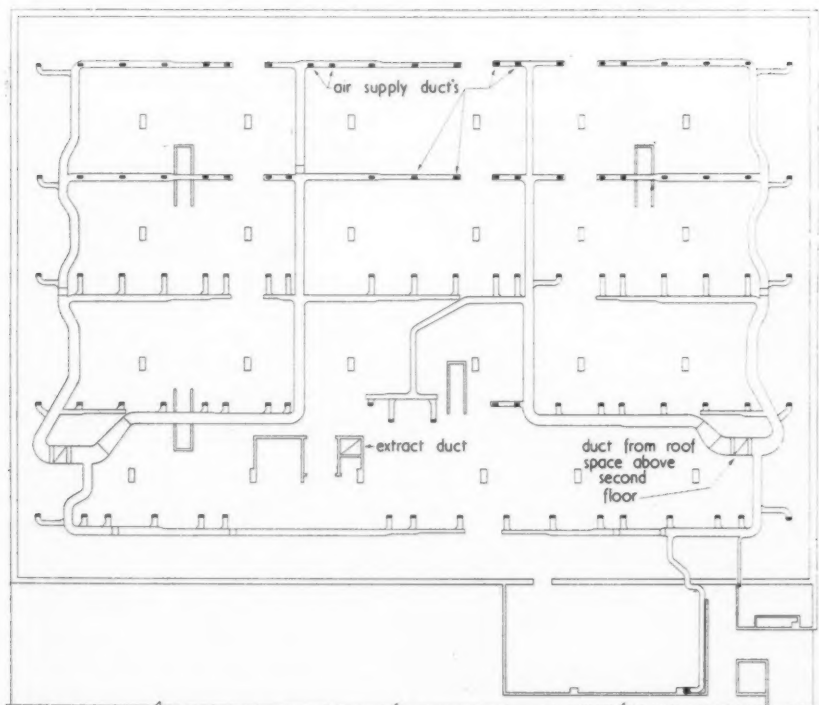


Left: progress view from the south (November 1957) showing junction between steel and r.c. structures at first floor level. Extent of eastwards roof cantilever is from second column row from the right. The corner column is typical. Depth of roof trusses is 7 ft. 6 in.

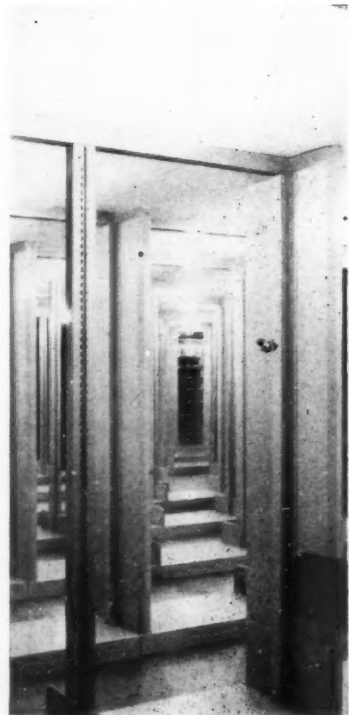
Below left: progress view (January 1958) looking up into roof lattice. Roof deck units are placed but not aligned. Bottom booms of trusses have been concreted ready to take deck units for fire-barrier ceiling slab.

Above: progress view of north-east corner. Compare with picture at foot of page 791.

Below: detail of book racks. The supply hole for conditioned air can be seen in the wide rack support.



Layout of air conditioning system [Scale: $\frac{1}{8}'' = 1' 0''$]



analysis

CLIENT'S REQUIREMENTS

A library to hold 1,000,000 books (open access 130,000, closed access 870,000) and seating a total of 484 readers as follows:

Main reading room	280	8,343 sq. ft. = 29.8 sq. ft./reader
Open access stack	20	—
Post-grad reading room	48	1,650 sq. ft. = 39.3 sq. ft./reader
Periodicals reading room	10	1,572 sq. ft. = 36.5 sq. ft./reader
Medical reading room	16	(in stack tier 4)
Catalogue hall	16	—
Closed access stack	64	(4 tiers at 16 per tier)

Total excluding periodical reading room is 444.

Emergency reading accommodation: mezzanine 60 places, main reading room, 25 places extra.

SITE

The site is a corner of Weston Park which the City Corporation made available for the University: it is roughly 160 ft. square and lies immediately to the north-east of the existing University buildings, with a fall in level of some 20 ft. from west to east.

SUMMARY

Ground floor area: 23,174 sq. ft.
 Total floor area: 104,840 sq. ft.
 Type of contract: RIBA.
 Tender date: October, 1955.
 Work began: December, 1955.
 Work finished: May, 1959.
 Tender price of foundations, superstructure, installations and finishes: £512,042.
 Tender price of external works including drainage and ancillary buildings: £13,278.
 Total: £525,320.

Preliminaries and insurances	2 11½
Contingencies	4 9½

Work below ground floor level	7 9½
Demolitions and excavations.	
15-in. reinforced concrete slab tanked with asphalt and thickened for column bases to Book Stack area.	
7½-in. reinforced concrete slab tanked with asphalt and thickened to form ground beams and column bases to Administration area.	

STRUCTURAL ELEMENTS

Frame or load-bearing element	10 11½
Above first floor, steel stanchions cased in concrete and steel beams to second floor. Lattice girders to firebrake ceiling and roof.	
Below first floor, reinforced concrete columns and beams.	

External walls	5 7½
Above first floor, reinforced concrete fascia wall faced with Portland stone.	
Below first floor, 12-in. reinforced concrete tanked with asphalt and protective brickwork. Portland stone facing at first floor and mezzanine levels.	
solid wall	0.2074
Ratio: $\frac{\text{solid wall}}{\text{floor area}} = \frac{0.2074}{1}$	

by presenting a large cool surface area. By reducing the load on the air conditioning plant this enables its size to be reduced and lowers running costs.

Conditioned air is delivered into the reading rooms by ceiling grilles near the outside walls, and is extracted, again at ceiling level, along the line of the inside walls. The supply ducts in the roof space are heavily insulated. In the main reading room additional lines of extracts are provided along the east side of both levels of the open access book stack to avoid stagnant air pockets among the shelving. The glass walls of the reading rooms are double glazed to improve thermal insulation and, on the south and west sides, the outer sheet is of anti-sun glass to reduce solar heat gain in summer. Where the book stack comes near to the outside walls both sheets are of anti-sun glass. Electrically operated curtains of woven fibreglass are also provided, and the combined effect of these devices is to reduce the solar heat gain to 40 per cent. of what it would be with unshaded single glazing. The performance of the building during the 1959 summer has testified to the adequacy of these arrangements, which have only failed when the curtains have been left open at night, thus permitting the early morning sun to produce an excessive internal temperature rise before the cooling plant had been switched on. This could easily be remedied by linking the motor curtain closing circuits with the clock which shuts down the conditioning plant at night.

The catalogue hall, work rooms and administration are excluded from the air conditioning system. Fabric losses from the catalogue hall (which are small) are offset by floor heating coils, and ventilation is controlled by five propellor fans mounted in the upstand of the glass lens roof and venting to the outside air. These extract from the reading rooms, work rooms and entrance spaces by way of the intervening doors and stair wells, and through the clearance cracks of the corrugated plastic ceiling. This produced during the summer a concentration of heated air in the catalogue hall which, added to the high solar heat gain through the glass roof, made conditions distinctly uncomfortable—the more so by comparison with the perfect atmosphere of the reading rooms and stack.

The rest of the building is heated and ventilated in a similarly empirical way. It is difficult to understand why, when the greater part of the building volume was already air conditioned, it was thought a worthwhile saving to exclude the rest.

The heat source for the whole of the plant is the central boilerhouse in the existing buildings (shortly to be replaced by a new boilerhouse at present under construction). Steam mains from the central plant run through a subway into a basement plant room on the level of stack tier 1. This contains the calorifiers, circulating pumps, and refrigeration plant for summer cooling and de-humidification. A vertical duct rising up the west side of the staff staircase links this equipment with an upper plant room. This shares the second floor with the staff rest rooms and continues up into the roof space. It contains, by a miracle of compression, both air handling plants for the reading rooms and bookstack. Although it makes its presence audible in the adjoining parts of the catalogue hall and main reading room, it is in an ideal position as the origin of all the distribution ducting in the roof space and indeed typifies the excellent integration of structure and services which is found throughout the building.

analysis

Windows and external doors

Metal windows, screens and doors and toughened glass doors.

Sliding folding door to unloading dock.

Ratios:	$\frac{\text{windows}}{\text{floor area}} = \frac{0.1506}{1}$ $\frac{\text{external doors}}{\text{floor area}} = \frac{0.0048}{1}$
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Upper floors

R.c. as follows:

Thickness	Span of each type	Area of each type in sq. ft.
5-in.	Various spans	6,894
6-in.		8,208
6½-in.		72
7-in.		901
8-in.		19,296
8½-in.	20 ft.	234
9½-in.	11 ft. 1 in.	162
10½-in.	7 ft. 9 in.	51,903
12 in.	20 ft.	414
	17 ft. 11 in.	

10-in. hollow tile and r.c. at second floor, *

1,620 sq. ft.

Superloads

Bookstacks: live load in gangways, 60 lb./sq. ft.

Average superimposed load (including single storey book racks), 120 lb./sq. ft.

Ground floor: live load, 80 lb./sq. ft.

Mezzanine floor: live load, 80 lb./sq. ft.

Thesis and pamphlet rooms: superimposed load, 150 lb./sq. ft.

First floor: live load generally, 80 lb./sq. ft.

First floor book store: average superimposed load (including double storey book racks), 260 lb./sq. ft.

Staircases

No. of staircases, excluding stairs to bookstacks: 11.

Widths	Total rise
7 ft. 6 in.	25 ft. 6 in.
2 ft. 9 in.	35 ft.
3 ft. 10½ in.	37 ft. 3 in.
2 ft. 9 in.	24 ft. 9 in. (four staircases)
2 ft. 6 in.	5 ft. 3 in.
2 ft. 5 in.	3 ft.
6 ft.	8 ft.
2 ft. 6 in.	4 ft. 3 in.

Main public stairs: laminated beech (*Hydulignum*) treads on cranked steel beams. Marble strings and margins. Steel balustrades with armour-plate glass infilling held in silver bronze frames. Mahogany handrail.

Staff and service stairs: Terrazzo treads and risers on r.c. Steel balusters carrying ebonized hardwood hand and knee rails.

Bookstack stairs: As for service stairs but with cork tiles on treads and landings

Roof construction

5-in. pre-cast concrete beams to roof level and similar lower slab at "ceiling" level, with 5-in. reinforced concrete slab at edges of panels.

Area of 5-in. precast concrete, 34,443 sq. ft.

Area of 5-in. reinforced *in situ* concrete, 1,620 sq. ft.

Rooflights

1 rooflight of reinforced concrete and glass lens with illuminated ceiling underneath.

Area: 4,050 sq. ft.

s d

6 2½

Glazing

Double glazing (outer sheet, anti-sun glass) and laminated glass to windows above first floor level. Elsewhere, polished and Georgian wired polished plate and sheet.

Total of structural elements: 35s 11½d

PARTITIONS AND FITTINGS

6 4

Internal partitions

Type of partition	Area of each type
6-in. reinforced concrete	14,202 sq. ft.
4½-in. brick	963 sq. ft.
Lightweight concrete blocks	13,446 sq. ft.
1½-in. terrazzo	498 sq. ft.
(Metal screens are included with "Windows and external doors")	

Internal doors

Hardwood-veneered plywood faced skeleton framed or solid core, 1⅝-in., 1⅜-in. or 1¼-in.

No. of single, 96. Pairs of double, 5.

Ironmongery

Satin bronze finish.

Fittings

Cloakroom fittings, including counter, central counter with turnstiles, voucher counters and steel book racks. (Structural portion of book racks only is included in contract.)

Total of partitions and fittings: 10s 11½d

FINISHES

Floor finishes

1 8½

Type of finish	Area in sq. ft.	Cost per sq. yd. (including screeds, etc.)
Granolithic	2,934	13s. 1½d.
Quarry tiles	486	44s. 6½d.
Thermoplastic tiles	1,332	42s. 5½d.
Terrazzo and skirtings	1,350	67s. 2d.
Marble paving slabs	2,326	237s. od.
Hardwood block	657	49s. 7d.
Hardwood strip	4,375	60s. 4d.
Cork tiles	720	50s. 5½d.
Linoleum (in reading rooms)	24,148	45s. 0½d.
Screed (for linoleum in stack which is not in contract)	65,052	5s. 3½d.

Wall finishes

1 9

Marble	1,575	328s. od.
Aluminium column lining	1,720	189s. od.
Terrazzo dadoes	588	60s. od.
Hardwood-faced plywood panelling	2,240	328s. 1½d.
Danish panelling	2,990	186s. 6½d.
Cement glaze	1,926	22s. 5d.
Fibrous plaster	3,456	55s. 0½d.
Acoustic tiles	2,250	41s. 6d.
Wall tiling	2,286	67s. 5½d.
Gypsum plaster on cork	11,439	28s. 1d.
Gypsum plaster on walls	39,924	8s. 2½d.
Cement and sand plain face	495	7s. 4½d.

s d

2 1½

1 5½

8½

3½

8 5½

2 9

3 11

analysis

Ceiling finishes

Gypsum plaster on concrete	59,364	8s. 10½d.
Gypsum plaster on and including expanded metal	17,974	20s. 6d.
Cement and sand plainface on and including expanded metal	1,890	15s. 4d.
Fibrous plaster	3,150	64s. 0½d.
Acoustic tiles	3,690	44s. 8¾d.
Acoustic plaster	288	29s. 0¾d.

Roof finishes

Paropa paving on asphalt and screed.
Area: 20,718 sq. ft.

Decorations

Mainly eggshell finish paint to plastered walls and ceilings.
Oil paint to wood and metalwork.

Total of finishes: 10s 6½d

SERVICES

External plumbing

Rainwater outlets in flat roof. Cast iron rainwater pipes in void below roof into ducts to ground level.

Sanitary fittings

Type of fitting	No. of each type
Sinks	9
Lavatory basins	21
High level w.c.s	17
Urinals	2
Drinking fountains	2
Incinerators	2
Mirrors	18

Hot water, heating and ventilation

No heat source inside building—steam main from central boiler house feeding separate calorifiers for heated suspended ceiling, l.p.h.w. radiator circuits, and hot water supply.

Live steam supplied direct to A/C plant heater batteries.

Refrigeration plant controlled in four stages (two compressors each run at half or full load).

External design conditions:

Minimum winter temp. 30 deg. F. with reserve overload capacity to deal with short periods at lower temperature.

Maximum summer wet bulb temp. 68 deg. F.

Internal design conditions (reading rooms):

65 deg. F. winter, 70 deg. F. summer, r.h. 55 per cent. to 65 per cent.

2.75 air changes per hour of which 1.75 air changes are recirculated.

Individual temp. control in each room.

Internal design conditions (bookstack): 65 deg. F. winter, 70 deg. F. summer.

r.h. 55 per cent. to 65 per cent.

2 air changes per hour of which 1.75 air changes are recirculated.

Full air conditioning to reading rooms and bookstack by means of separate plants. All fresh air electrostatically filtered. Reading rooms have heated suspended ceilings arranged to circulate hot or cooled water. Bookstack has pipe coil around each tier.

s d

1 4½

Mechanical air extract from kitchens, lavatories, service and workrooms.

Minimum temperature control to rest of building by l.p.h.w. radiators, pipe coils and fan convectors set to 65 deg. F. except for corridors and stairs (60 deg. F.), and lavatories (55 deg. F.).

All plant provided with full automatic control by clock and thermostat.

U of walls: bookstack 0.12; reading rooms 0.5 (not allowing for anti-sun glass and curtains).

U of roof: 0.11.

Electrical installation

Type of point

1 4½

Tungsten light points

No. of
each type

3,165

Fluorescent light points

241

13-amp. socket outlets

246

1 1½

Motors of various powers from fractional h.p. to 45 h.p. for heating and ventilating plant

42

Lifts

3

Emergency lighting points with automatic control panel and battery

38

Synchronous electric clocks

18

Electric bells

14

Fire alarm points

354

2

Motorised valves in heating system; thermostatic control of heating and ventilation, electrostatic precipitators; low voltage points and transformers for hand lamps in plant and lift rooms; conduit systems provided for post office and automatic telephones and for the fire detector system.

6

Lifts

2 6½

3 electric lifts.

1 for passengers and goods from basement to second floor (42 ft. 9 in.), 6 stops, 10 openings.

1 for passengers and goods from ground to second floor (33 ft.), 4 stops, 4 openings.

1 service and book lift from basement to first floor (35 ft.) with 5 stops and 5 openings.

12 10

Total of services: 24s 9d

Drainage

6½

Mainly cast iron.

External works

2 0

Retaining walls and paved terrace with pool.

Repairs to access road to existing university buildings and temporary road to forecourt.

Shillings per sq. ft. of floor area:

£512,042 (net cost excluding external works and drainage)

104,840 sq. ft. (measured inside external walls) = 97 8½

analysis

DESIGN PARAMETERS

$$\begin{aligned} \text{Total floor area per reader: } & \frac{104,840 \text{ sq. ft.}}{484 \text{ readers}} = 216.6 \text{ sq. ft.} \\ \text{Net cost per reader: } & \frac{\pounds 512,042}{484 \text{ readers}} = \pounds 1,057 \text{ 18s. 9d.} \\ \text{Net cost per book, taking open and closed access stacks} \\ \text{together: } & \frac{\pounds 512,042}{1,000,000 \text{ books}} = 10s. 3d. \\ \text{Number of books per sq. ft. of total floor area:} \\ \frac{1,000,000 \text{ books}}{104,840 \text{ sq. ft.}} &= 9.5 \\ \text{Number of books per sq. ft. of gross area of stack floors} \\ \text{(including stairs, etc.):} \\ \text{closed access } &= \frac{870,000 \text{ books}}{4 \times 16,264 \text{ sq. ft.}} = 13.3 \\ \text{open access } &= \frac{130,000 \text{ books}}{18,324 \text{ sq. ft.}} = 7.1 \end{aligned}$$

COST COMMENTS

It is difficult to deal with the economy of this building in a comparative way because nothing of a similar kind has yet been published. The nearest building types as far as cost is concerned would be those characterized by big span spaces with small ancillary rooms, a high standard of internal and external finish, precise control of indoor climate, and high superimposed loads.

This suggests as a near parallel, museums, art galleries and entertainment buildings like theatres and swimming pools. Reference to two recent analyses of the Wales Empire Pool at Cardiff and the Coventry Belgrade Theatre shows total costs of about 30s. more per sq. ft. than the Sheffield Library. The swimming pool is naturally higher on services, and the theatre on finishes, than the library, but in general the difference in cost between these two buildings and the library is spread over all the elements.

One might conclude, therefore, that the library, which has certainly not been skimmed in any respect, represents excellent value for money. Perhaps the chief reason lies in the simple outline of the building and its square plan form—a shape which gives the least area of external wall in relation to a given floor area (assuming a rectangular enclosure). Compare the ratios of total external wall to floor area for the three buildings:

Belgrade Theatre, $R = 0.802$, cost = 127s. 3d. per sq. ft.
Wales Empire Pool, $R = 0.465$, cost = 124s. 2½d. per sq. ft.
Sheffield Library, $R = 0.363$, cost = 97s. 8½d. per sq. ft.
Another recently published building, the Old Vic Workshops, also offers an interesting comparison. With extensive use of self-finished structure inside and out, and relatively simple services, it still cost practically as much as the library. In this case $R = 0.791$, and the whole building is of very complex shape owing to exigencies of site and function. While this may tell us something of the degree to which form can influence cost, it certainly shows how difficult it often is to find convincing explanations for variations in building cost, and how great these variations can be.

Two further points shed a little light on the inexpensiveness of the library, firstly, the heating costs contain nothing for steam-raising plant and fuel storage. For a fair comparison, the library costs should really bear a proportion of the central boiler house costs, both for plant and structure.

Secondly, the low cost of finishes, in spite of the lavish use of expensive materials in the public spaces, may be due to the large bookstack area, which, as far as this analysis is concerned, is finished in screed and plaster. If the linoleum for these floors had been included in the contract, and therefore in the analysis—it would have added 1s. 9½d. to the cost per sq. ft.

Even so, these areas still have to bear the high costs of bookrack fittings, full air conditioning, and a heavy structure to deal with the high super load.

The budget for the building was based on the estimate of half a million pounds given by the architects at the time of the competition: they are to be congratulated on keeping so close to the mark after six years of rising prices.

CONTRACTORS

Clerk of works: F. Rowe. *Site agent:* R. Peacock.
General contractors: W. J. Simms Sons & Cooke Ltd. *Sub-contractors:* *Electrical installations:* Yorkshire Electricity Board. *Mechanical, heating and air conditioning:* G. N. Haden & Sons Ltd. *Air conditioning ducting:* Andrew Machine Co. Ltd. *Library bookstacks and shelving:* Roneo Ltd. *Structural steelwork:* Thos. W. Ward Ltd. *Portland stone:* Bath & Portland Stone Firms Ltd. *Fire detection installation:* Pyrene Co. Ltd. *Lumenex ceilings:* Lumenated Ceilings Ltd. *Lifts:* Otis Elevator Co. Ltd. *Metal windows, doors, ventilators and frames:* Mellowes & Co. Ltd. *Glass lense rooflights:* Lenscrete Ltd. *Collapsible gates:* The Bolton Gate Co. Ltd. *Paropa roof paving:* Frazzi Ltd. *Fibrous plaster and acoustic tile ceilings, and fibrous plaster mullion casings:* Claridges (Putney) Ltd. *Terrazzo paving:* Hodkin & Jones Ltd. *Asphalt tanking to basement:* Val de Travers Asphalte Ltd. *Asphalt paving and cork insulation:* Limmer & Trinidad Lake Asphalt Co. *Suspended ceiling:* Sundeala Board Co. Ltd. *Marble wall linings, facings and flooring:* Walter W. Jenkins & Co. Ltd. *Danish panelling:* John Dale Ltd. *Balustrading and handrails:* Grundy Arnatt Ltd. *Sprayed asbestos columns:* Dicks Asbestos & Insulating Co. Ltd. *Turnstiles:* Dixon Powner & Sons. *Hardwood block and strip flooring:* Acme Flooring & Paving Co. Ltd. *Plywood panelling:* John P. White & Sons Ltd. *Furniture and cloakroom fittings:* Conran Furniture. *Cork, p.v.c. and linoleum flooring:* Horsley Smith & Co. (Hayes) Ltd. *Linoleum:* John Walsh Ltd. *Window blind gear:* W. J. Furse & Co. (London) Ltd. *Travelling cradle and gear:* Palmers Travelling Cradle & Scaffold Co. Ltd. *Double glazing units:* Pilkington Bros. Ltd. *Main reading room ceiling:* Frenger Ceilings Ltd. *Facing bricks:* Richard Parton (Builders Merchants) Ltd. *Laminated wood stair treads and landings:* Hordern-Richmond Ltd. *Sanitary fittings:* W. Emery & Co. Ltd. *Timber doors:* F. Hills & Sons Ltd. *Extruded aluminium columns:* Northern Aluminium Co. Ltd. *Steel gate:* Hobbs Hart & Co. Ltd. *Partition blocks:* Thermalite Ltd. *Protection to Portland stone:* RIW Protective Products Ltd. *Slate copings and sills:* John Fletcher Dixon Ltd. *Stainless steel ventilators:* J. R. Bramah & Co. Ltd. *Ironmongery:* Smith Bros. & Widdowson Ltd. *Paint:* Jenson & Nicholson Ltd. *Clocks:* Gents & Co. Ltd. *Electric light fittings:* Troughton & Young (Lighting) Ltd. *Merchant Adventurers Ltd. Associated. Electrical Industries. Modular fittings lowering gear:* London Electric Firm Ltd. *Curtains:* Liberty & Co. Ltd.



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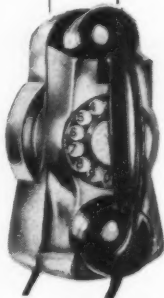
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technical section

THE LIBRARY OF INFORMATION SHEETS

This week part of the Technical Section is devoted to the customary annual review of the Library.

From time to time, and regularly each December, all Sheets are examined and checked, and where a manufacturer's products form the subject of a Sheet the manufacturer in question is asked to certify that the data are still current. Where a Sheet is found to require considerable modification, it is cancelled and readers should remove such Sheets from their collections. Where only small variations are involved, revision notes enable the Sheet to be corrected.

The Sheets 46.Z1 (A-D) published in the issue of 10.12.59, Sheets 46.Z2 (E-L) and 46.Z3 (M-R) in the issue of 24.12.59 and Sheet 46.Z4 (S-Z) in this issue, give an up-to-date index cancelling all previous indexes.

On the following pages will be found a list of the revisions and cancellations which have become necessary during the year, and a statement of the contents of the Library with all Sheets current at this date in correct sequence. For the benefit of new subscribers, we also give information on the method of filing Sheets.

REPRINTS

Reprints of all Information Sheets in the current Library are available either singly (price 3d. each) or in complete sets in classified order. Specially-designed loose-leaf binding cases to hold approximately 100 Sheets may also be obtained and four to five are necessary to contain a complete set to date. Prices are as follows:

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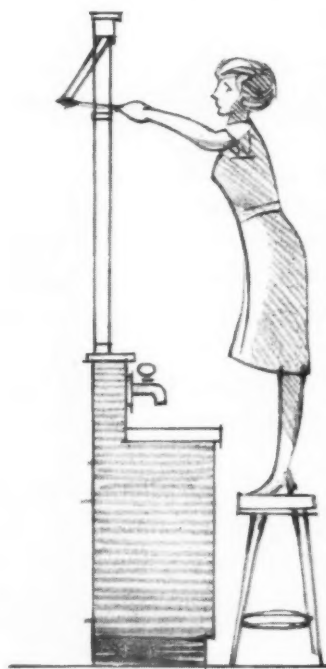
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8.E1
10.B4
10.G3
10.G12
10.G22
12.F1
13.F1
14.F1
14.L12
15.B5

technical section

FILING INSTRUCTIONS

Every Information Sheet is perforated so that it may be readily removed from the JOURNAL and has a classification symbol printed in the top corner, for example, 32.C20. The key to the classification system is contained in Sheet 1.A1, reference to which should make filing a simple matter.

The first number of the symbol, 32, refers to one of the 46 main subjects into which the Library has been divided (in this case, water heating); the letter that follows refers

to the section, C (in this case, units : gas), under subject 32: the final number indicates the position in which the Sheet is to be placed in the appropriate section.

Every December a check list of the contents of the Library is issued showing the correct sequence of all Sheets published to date. Throughout the year, any revisions to or cancellations of Sheets are noted in the JOURNAL and the Editor will always be pleased to assist if any difficulty is encountered in keeping the Library in order.

CORRECT SEQUENCE OF COMPLETE LIBRARY AT DECEMBER 10, 1959

1.A1	1.A2	1.A3	1.B1	1.B2	1.B3	15.R1	15.S6	15.S8	15.T6	15.T8	15.T9	29.B1	29.C1	29.C2	29.C3	29.C4	29.C10
1.B4	1.B5	1.B5a	1.B6	1.B7	1.B8	15.T10	15.U1	15.Z1	15.Z2	16.B1	16.B2	29.F1	29.G1	29.G2	29.H2	29.H5	29.H6
1.B9	1.B10	1.B11	1.B12	1.B13	1.B14	16.B3	16.C1	16.J1	17.B1	17.B2	17.D1	29.H7	29.J1	29.J3	29.J4	29.J5	29.J6
1.B15	1.B16	1.B18	1.B19	1.B20	1.B21	17.D2	17.D3	17.D4	17.H2	18.E1	18.F2	30.B1	30.B2	30.B3	30.B4	30.B5	30.C1
1.B22	1.B23	1.B24	1.B25	1.B26	1.B27	18.H1	18.N1	19.D1	19.F1	19.F2	19.F3	30.C2	30.C3	30.C4	30.D1	30.D10	30.D11
1.B28	1.B29	1.B30	1.B31	1.B32	1.B33	19.F11	19.G1	19.G2	19.G3	19.G4	19.K1	30.D12	30.D21	30.D22	30.E1	31.C2	31.C3
1.B34	1.B35	1.B36	1.B37	1.B38	1.B39	19.Z1	19.Z10	19.Z11	20.C10	20.C13	20.D2	31.C4	32.C3	32.C4	32.C10	32.C11	32.C20
1.B40	1.B41	1.B48	1.B49	1.B55	1.B56	20.D3	20.D4	20.D5	20.E1	20.E3	20.Z1	32.C21	32.C22	32.C23	32.C24	32.C25	32.C26
1.B57	1.C1	1.C2	2.A1	2.A2	2.A3	20.Z2	20.Z5	20.Z7	20.Z9	20.Z10	20.Z11	32.C27	32.C28	32.C29	32.C30	32.C31	32.C32
2.A4	2.A5	2.B1	2.B2	2.B3	2.B4	20.Z12	20.Z13	21.C3	21.E2	21.E3	21.E4	32.C33	32.C34	33.B1	33.B2	33.C1	33.C2
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4.L5	4.L6	4.L7	4.L10	4.L11	4.N1	23.B3	23.C1	23.C2	23.C3	23.E1	23.H7	33.P2	33.Q1	33.Q6	33.S1	33.S2	33.S3
4.N2	5.B1	5.B2	5.D1	6.A1	6.A10	23.Z1	23.Z2	24.C1	24.D1	24.D2	24.D3	33.T1	33.U1	33.U4	33.U5	34.B1	34.B2
6.A11	6.A20	6.A21	6.B1	6.B2	6.Z1	24.D4	24.H1	24.J1	24.J2	24.J3	24.L1	34.B3	34.K1	34.K2	34.Z1	34.Z2	35.B1
6.Z2	6.Z3	6.Z5	6.Z6	7.C1	7.C2	24.L2	24.L3	24.M2	24.M3	24.M4	24.N1	35.B2	35.Z1	36.A1	36.A2	36.A5	36.A6
8.E1	8.F1	9.C1	10.B1	10.B2	10.B3	24.N2	24.N3	24.N4	24.S1	24.S2	24.T1	36.B1	36.B2	37.C1	37.C2	37.C4	37.D1
10.B4	10.B5	10.E1	10.F1	10.G1	10.G2	24.Z1	24.Z2	24.Z3	25.A1	25.A2	25.A3	37.D2	37.D3	37.D4	37.D10	37.H11	38.B1
10.G3	10.G4	10.G5	10.G6	10.G10	10.G11	24.A4	25.A5	25.A6	25.B1	25.B2	25.B3	38.C1	38.C2	38.E1	38.H1	38.H2	40.A2
10.G12	10.G13	10.G14	10.G15	10.G20	10.G21	25.B4	26.A1	26.A2	26.A3	26.C1	26.C2	40.B1	40.B2	40.C1	40.C2	41.B1	41.B2
10.G22	10.J1	10.J2	10.J3	10.J4	11.C1	26.D1	26.D2	26.D6	26.E1	26.E2	26.J3	42.B2	42.C1	42.C2	42.C4	42.C6	42.C7
12.F1	12.F2	12.N1	13.C10	13.C11	13.C12	26.J4	26.J10	26.J20	26.K1	26.M1	26.M2	42.D2	42.E1	42.K2	42.K3	42.Z1	42.Z2
13.F1	13.H1	14.B1	14.B2	14.B3	14.B4	26.M3	26.M4	26.Z1	26.Z2	26.Z3	27.B9	43.E1	43.E2	43.E12	43.E13	43.E14	43.E15
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15.B5	15.C1	15.C2	15.C3	15.C4	15.C11	28.A3	28.D1	28.E10	28.E20	29.A1	29.A2	46.Z1	46.Z2	46.Z3	46.Z4		



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C112

technical section

REVISIONS 1959

6.Z1, 6.Z2, 6.Z3, 6.Z5—The manufacturer's address is now 64-66, Battersea High Street, London, S.W.11. Telephone: Battersea 9221.

10.B1—Face of Sheet, Structural applications, last column (Surface treatment, etc.), first sentence, add NP5/6 N6 before H30; third sentence, add LM10 after LM7. Roof covering applications, last column, add "Nails, etc., are left untreated or may be oiled."

10.B2—Face, application Rainwater goods, third column, delete existing wording and substitute "Alloys specified in B.S. 2997: 1958." Reverse, heading "Manufacturers," delete, "Imperial Chemical Industries Ltd." and substitute "Imperial Aluminium Co. Ltd., Kynoch Works, P.O. Box 216, Witton, Birmingham, 6." "T.I. Aluminium Ltd." should now read "Reynolds T.I. Aluminium Ltd."

13.H1—Face, heading "Characteristics," sub-heading "Durability" (d) Atmospheric gases, substitute for existing wording "There is some increase in strength through the action of atmospheric carbon dioxide. In highly polluted atmospheres, under adverse conditions, sulphurous gases may, after a period of years, cause surface deterioration similar to that occurring with natural limestones." Reverse, heading "Laying instructions," recommended mortar mixes (a), last line should read "Or—1 part hydraulic lime . . ." The manufacturer's telephone number is now Holborn 5434.

14.K1—Reverse, heading "Internal plastering," sub-heading "Gyplite ready-mixed vermiculite plaster," delete "vermiculite."

14.L4—Reverse, heading "Spread of flame," amend to "(B.S. 476: Part 1: 1953)": after "B.R.S. report . . ." add "and J.F.R.O. (reference S.I. 917 and S.I. 1450)" and "specially treated or" before "plastered." Heading "Thermal Conductivity" add at end of first paragraph "As the standard thickness of the slabs is 2 in., their thermal conductance is 0.30."

15.B4—Face, heading "Properties," sub-heading "Fire resistance," ninth line should read "... ½-in. Asbestolux at least 1 hour's (Grade D) protection"; sub-heading "Durability," second sentence should read "... tensile strength 400 lb./sq. in." Heading "Sizes," the 4 ft. and 6 ft. long boards are now available in all three thicknesses.

15.B5—Two patterns have been added to the range, Type G (wide slatted) and Type H (corrugated).

16.B1—Reverse, add paragraph, headed "Relevant Code of Practice," to read "B.S. C.P. 143: Part 1: 1958 *Sheet roof coverings*."

20.D2—Face, lower of two drawings headed "Typical bearing details," add two anchor rods to project from top of prestressed beam.

Reverse, heading "Further information," add "Hollow planks are also manufactured."

20.D3—Face and reverse, delete all reference to 4½ in. deep reinforced and prestressed slabs.

20.E1—Reverse, heading "Finish," add "It can be supplied pretreated at the factory with two coats of Glitsa which renders further sanding and finishing after laying unnecessary."

21.G2—Reverse, heading "Properties," delete paragraph sub-headed "Thermal insulation"; and under sub-heading "Fire resistance and spread of flame" delete "Fire resistance" from sub-heading and delete first paragraph.

22.D12, 22.D13—The manufacturer's address is now Cambridge Road, Twickenham, Middlesex. Telephone: Popesgrove 4444.

22.F1—Reverse, heading "Plastering," substitute Paristone Haired Plaster for Hardwall (Haired) Plaster and Paristone Wall Finishing Plaster for Hardwall (Unhaired) Plaster and for Gypstone Board Plaster in the last sentence. Headings "Fire resistance" and "Thermal insulation": the manufacturer should be consulted for details of latest tests.

22.F2—Reverse, heading "Sizes and calculations," sub-heading "Lathing dimensions" delete: "⅜ in. size of mesh." The manufacturer's telephone number is now Abbey 7766.

23.E1—Face and reverse, alter dimension of end member to 5 in.

23.Z2—Face, "Table of dimensions," column headed "heavy," amend top three entries to 12 ft. 0 in., 6 ft. 0 in., 12 ft. 0 in., respectively, and similarly amend reverse under "Sizes." Drawings headed "Detail of heavy doors," sub-heading "View of underside of top plate" amend 1½ in. (top left) to 1 in., 3½ in. to 5½ in. in each case, 1½ in. (right) to 2½ in., 2½ in. to 3 in. and 10 in. to 12 in.: add dimension from last fixing hole to right end of top plate, ½ in. Lower details of light and heavy doors, amend ⅜ in. to ¼ in. from line of floor in each case.

24.H1—The manufacturer's address is now Town Square Chambers, Stevenage, Hertfordshire. Telephone: Stevenage 2570.

24.L3—Reverse, heading "Types and sizes," sub-heading "Rectangular," add "3 ft. 6 in. by 3 ft. 0 in.," sub-heading "Modular," add "Domed end sections may be paired together to form 8 ft. 0 in. by 4 ft. 0 in. and 8 ft. 0 in. by 6 ft. 0 in. rooflights." Heading "Fire resistance," substitute for existing wording "Galt-Glass domes have been tested (reference F.R.O.S.I. No. 1423) at the Joint Fire Research Station, in accordance with the latest requirements of B.S. 476 Part III and are classified EXTS A-A (highest rating). Domes to this specification are available to order."

24.S1, 24.S2—The manufacturer's address is now Trowers Way, Holmethorpe, Redhill, Surrey. Telephone: Redhill 4391.

24.Z1—Reverse, heading "Further products," sub-heading "Slate coping" amend first sentence to "... in lengths of up to 4 ft."

26.E1—The manufacturers' Midland Office is now at Griffin House, Ludgate Hill, Birmingham, 3. Telephone: Central 1416, and the Scottish Office 183 West George Street, Glasgow, C.2. Telephone: Central 8351.

26.J4—The method of suspension from the purlin has been revised: the manufacturer should be consulted for details.

26.K1—See 22.F2.

27.B9—Reverse, heading "Sound absorption," delete last sentence.

27.F2—Reverse, heading "Types of clip," sub-heading "Type F.F." add "A special type F.F. is also available with heavy extended base plate for machine fixing into the structural concrete."

29.C4—The Sapphire 25 is no longer obtainable and the Sapphire 15 is now fitted with flint ignition.

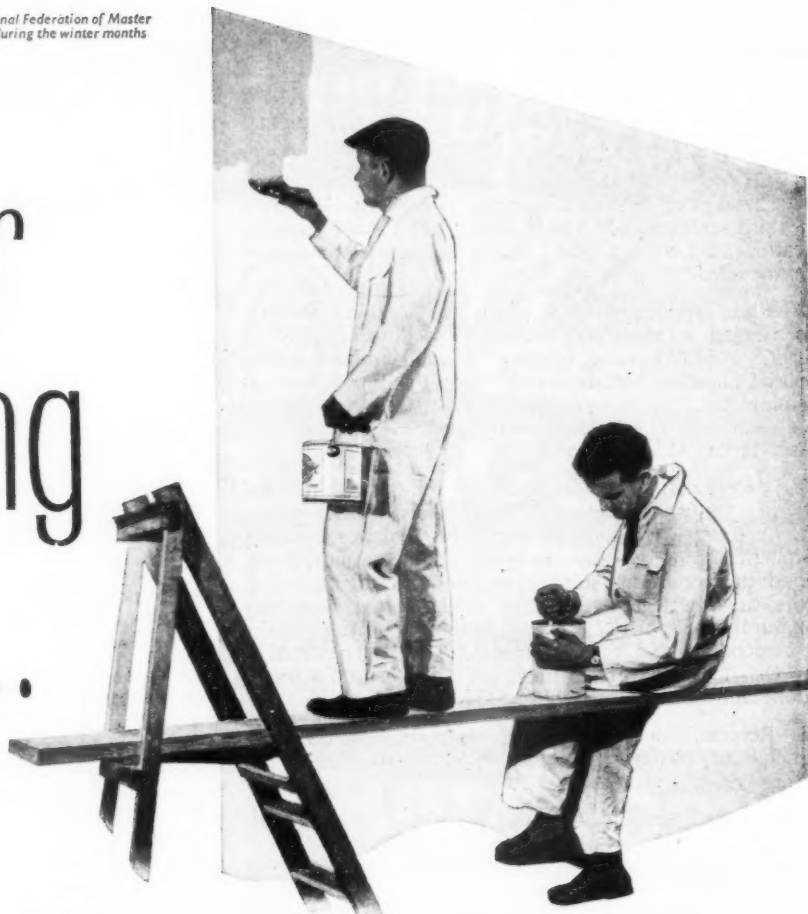
29.H7—Reverse, heading "General," last sentence, amend to "... type CRI-B (200-250 volts a.c.)."

29.J1, 29.J3-6—The manufacturer's Nottingham address is now 62, Clarendon Street, Telephone: Nottingham 48060.

31.C2—Reverse, heading "Construction," sub-heading "Hot-plate burners," add to end of paragraph "The heads of the four burners have slotted ports and are pressure die-cast aluminium alloy. A hotplate well completely covers all tap

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technical section

bodies, governor, thermostat and pipework and is removable for servicing"; sub-heading "Storage compartment," for existing paragraph substitute "The inside dimensions of the storage drawer are 4½ in. high (headroom 6 in.), 1 ft. 4¼ in. deep and 1 ft. 5¼ in. wide. It is sheet steel, runs on nylon wheels and is removable."

32.C4—Reverse, heading "Components," sub-heading "Combustion chamber," second sentence from the end to read "... incorporating pilot filter."

33.B1, 33.B2—Reverse, heading "Design and construction," second sentence from end, amend "patent split ring" to "nylon ring." The manufacturer's address is now Aqua Works, Highland Road, Shirley, Solihull, Warwickshire. Telephone: Solihull 3078.

33.B1—Face, drawing headed "Part plan and elevation of vented waste range," alter dimension from floor to centre line of 2-in. waste pipe at basin 1 from 1 ft. 1½ in. to 10½ in. Drawing headed "Details of traps," sub-heading "Vented basin trap unit" alter 4 in. to 8 in. and 60° to 45°; drawing sub-headed "Vented sink trap unit" alter 4 in. to 6½ in.; table of sizes alter second column to 6½ in., 9 in. and 11½ in. and last column alter 7½ in. to 5½ in.

33.B2—Face, common trap, table of sizes, amend 1½-in. trap sizes *b* to *f* to 3 in., 3½ in., 7½ in., 3 in., 1 ft. 0 in., respectively; separate trap, table of sizes, amend 1½-in. trap sizes to 3 in., 3½ in., 1 ft. 0 in.

33.Q6—Face and reverse: The standpipe is now moulded in one piece from black low-density polythene, the metal threaded connection being dispensed with; the float is now blown polythene, not heat-sealed.

37.C1—Reverse, heading "Finish," delete "black stove enamel." The manufacturer's address is now 21, Bloomsbury Street, London, W.C.1. Telephone: Museum 1600.

37.C2—Face, the surface socket outlet no. 4523 has been replaced by a new design no. 4534. Heading "Fused plug and adaptor," amend to "Fused adaptor." Reverse, heading "Socket outlets," second line, amend to "fused adaptor." Delete "main" in "ring main circuits" wherever it occurs. Heading now "Ring circuit," sub-heading "Circuit," should read "... installed as loops starting from, and returning to, their respective terminals on the main fuse or distribution board. The rating of the main fuse must not exceed 30 amp. The loops are installed around ..." In the table, add to second heading from end "(... electric clocks fitted through fused clock connectors or electric shaver supply units complying with B.S. 3052)." The name of the company is now Siemens Edison Swan Limited.

37.D10—The manufacturer's telephone number is now Wednesbury 1771 (5 lines).

37.H11—Face, drawing headed "Spacer requirements for typical installations," sub-heading "100 line exchange with 2 manual switchboards": this layout has been completely revised and the manufacturer should be consulted for details.

38.B1, 38.C1, 38.C2—The address of the manufacturer's London office is now 5, Charles II Street, St. James's Square, London, S.W.1. Telephone: Trafalgar 7686-9.

38.B1—Reverse, heading "General," end of first paragraph, delete "must be specified" so that last sentence reads "Exterior quality Walpamur should not be applied during damp or frosty weather." Heading "Materials," sub-heading "Walpamur stainers," amend to "Walpamur liquid stainers."

38.H2—In addition to the revisions notified 26.11.59 the following amendments should also be made. Table on face, under "Old Floors, Softwood" delete first five lines; under "New Floors, Linoleum" third sentence to read "When dry, after 48 hours, two coats. ...". Footnote, delete "seals" after "spirits".

40.B1—Reverse, heading "Limitations," last paragraph to read "... cisterns, buckets, etc., cannot be economically treated, but the process is most suitable for small components, particularly where a uniform coating is required on intricate shapes such as nuts and bolts, pressing and forgings. Fragile articles are difficult but long rods, tubes and thin pressed ...". Heading "Finish," add to list of further finishes "treated with Sherabrite to give an aluminium finish." The telephone number of the Midland Works is now Wolverhampton 27531 (5 lines).

40.C1—Reverse, heading "Application," end of first paragraph amend to "... usual pressure ... being 30 to 40 lb. per sq. in."

41.B2—Reverse, addresses of dye suppliers, amend that of Bard and Wishart to Parkside Road, Sale, Cheshire.

42.E1—A modified Pattern B locker is now available, Pattern B1: the manufacturer should be consulted for details.

42.K2—The manufacturer's telephone number is now Croydon 8758.

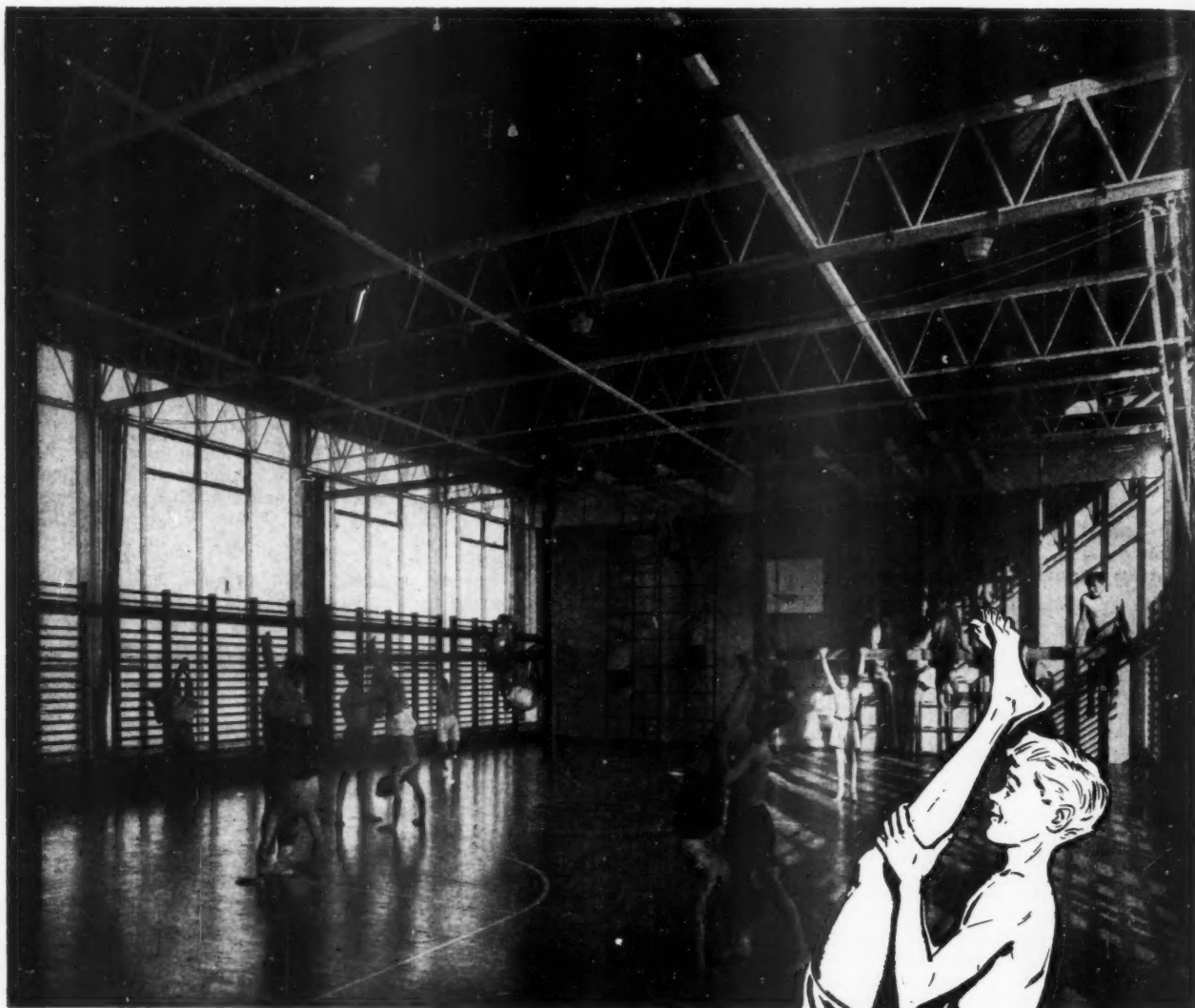
44.E1—Models O and E are not longer in production.

44.J3—Walter Lawrence & Son Limited are no longer distributors for Dexter locks in the U.K.: readers will be informed when a new distributor has been appointed.

44.J4—Reverse, heading "Construction," amend fourth sentence to "Face plates are of brass, suitably finished to match the knobs and roses and are ...". Amend the following sentence to "Striking plates are 2¼ in. by 1½ in. and are of brass, finished to match the face plates ...". Heading "Types," sub-heading "Push button set (Model No. 9101)," add before last sentence "Should the button be pressed while the door is open, closing the door releases it automatically." Two types have been added to the range—*Communicating door set (Model No. 9107)* and *Key and push button set (Model No. 9108)*: the manufacturer should be consulted for details.

CANCELLATIONS

Sheets **14.B1** and **14.B3** were cancelled and republished this year. Sheets **15.B3, 17.H1, 20.C3, 20.C4, 20.D1, 21.Z1, 21.Z2, 27.B12, 27.B13, 38.A1, 38.C3, 38.D2, 40.A1** and **42.K1** have been cancelled and should be withdrawn from the Library.



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technical section

THE INDUSTRY

This week Brian Grant reviews a catalogue of patent glazing and lantern lights and describes a system of partitioning, a range of refrigerators, solid fuel conveyors and a plastic wall coating.

Patent glazing and lantern lights

Hopes have just issued a new catalogue dealing with patent glazing and lantern lights. The whole publication is as thorough as one would expect, with quarter, or half, and full size details of most of the jobs illustrated, as well as standard fixing details to steelwork, concrete and timber. Draughtsmanship and printing are both impeccable, and it is something of a pity that the publication, measuring about 14½ in. by 9½ in., is really too big to go into most conventional filing systems. (Henry Hope & Sons Ltd., Halford Works, Smethwick, Birmingham, 40.)

Movable partitions

The Walways system of partitioning, which was announced about a month ago, costs approximately 9s. 6d. per square foot, though the figure naturally depends on the type of finish required. The primary structural unit of the partition is a steel pressure post with a screw jack and compensating spring. The stiles and rails of the main frame are built up from lengths of hardwood in a dumb-bell section which provides a two, three or four-way connection for the panels, which are fixed with spring clips. Doors, solid panelling or glazing can be provided where required, and the system also allows for the running of electrical

services. (Walways Ltd., Campden House, 48a, Elizabeth Street, London, S.W.1.)

New refrigerators

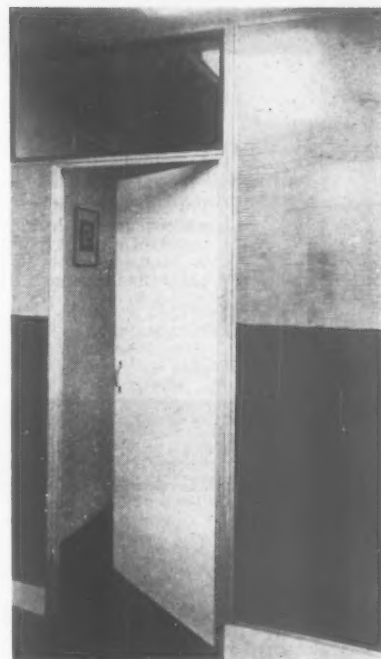
Kelvinator have just introduced a new range of six refrigerators with capacities ranging from 4.6 to 18 cu. ft., and also a 10 cu. ft. deep freeze unit. The designs are pleasantly simple, and special efforts have been made to provide a maximum storage capacity with a minimum floor area: the 6 cu. ft. model, for instance, is only 22½ in. by 22½ in. on plan, the 7.7 and 9.4 cu. ft. models being only 1½ or 2 in. larger each way. All models except the smallest have an extra-low-temperature compartment in which frozen food can be kept indefinitely, and which can also be used for quick freezing garden produce. Prices are reasonable, the 4.6 and 6 cu. ft. models costing £70 7s. 0d. and £84, and prices are about 7 per cent down on last year in terms of cost per cubic foot of storage space. (Kelvinator Ltd., Great West Road, Chiswick, London, W.4.)

Conveyors for solid fuel

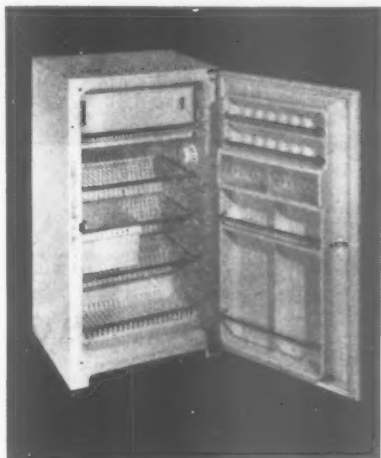
In the days when solid fuel in one form or another was more or less standard practice for central heating boilers it was quite usual to install automatic stokers fed from overhead hoppers which had to be filled at regular intervals by hand. The illustration shows a Mayrath conveyor which overcomes this difficulty. It is mounted on a rail at ceiling level and can be moved from one boiler hopper to the next. The delivery tube is 6 in. diameter and contains an Archimedean screw driven by an electric motor or petrol engine at the head of the conveyor. The pick up end of the pipe is placed in the bunker and the coal is carried up the tube and falls into the boiler hopper. The conveyors are made in five different models and prices start at £45. (Gordon Felber & Co. Ltd., Oxford Circus, London, W.1.)

Sprayed vapour barriers

While it is very often quite satisfactory to form a vapour seal by using a thin plastic film applied in sheet form, it is not always



Above, a door unit with glazed transom from the Walways partitioning system. Below, the Kelvinator K60M refrigerator.



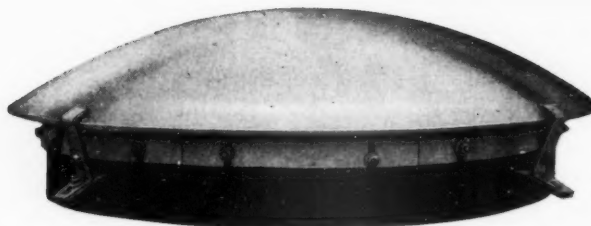
The Mayrath solid fuel conveyor in action.



possible to provide a completely impermeable barrier because of jointing difficulties. Plastapak, a vinyl based coating, is supplied by Brand & Co., who have had considerable experience in cocooning service equipment and in packing goods for export. The material is applied by brush or spray, and is made in various forms, depending on the size of any gaps which may have to be bridged: it can also be pigmented in any colour, and can be supplied with a gloss or any degree of matt finish. As well as providing a vapour seal the system is also used where washable aseptic coatings are needed in hospitals or laboratories, and in factories making electronic equipment or delicate instruments where no movement or dust can be allowed. (R. A. Brand & Co. Ltd., Works Road, Letchworth, Herts.)

Pilkingtons' Spherical Rough Cast Glass Domes

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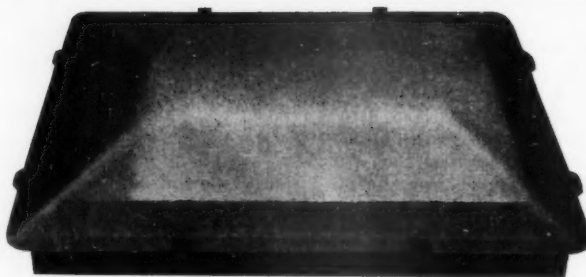
Pilkingtons' Spherical Wired Cast Glass Domes



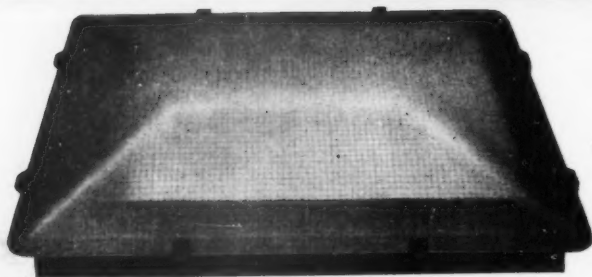
Pilkingtons' Glass Domes are available in spherical and rectangular shapes in both Rough Cast Glass and Wired Cast Glass (where safety is of particular importance).

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ALPHABETICAL INDEX TO DEC. 10, 1959 S-Z

The Architects' Journal Library of Information Sheets 746. Editor: Cotterell Butler, A.R.B.A.

46.Z4

- Sandlime Brick Manufacturers' Association Ltd.*, sandlime bricks .. 13.H1
- Sanitation, Fittings**, see Baths; Chemical Closets; Cisterns; Incinerators; Lavatory Basins; Pipes; Sinks; Urinals; W.Cs
- Sanitation, Services**, see Plumbing, Water
- Sankey, Joseph, & Sons Ltd.*, steel door frames, skirtings, picture rails, angle beads 26.J20
- Sapphire*, see Sugg, William, & Co. Ltd.
- Screeding**, woodwool slabs .. 14.L14
- Sealers**, mastic .. 26.M1 26.M2 26.M3
synthetic rubber .. 26.M4
- Seating**, common sizes .. 4.A10 4.A13
latex-foam .. 42.D2
theatres .. 4.L3 4.L6
- Seawright*, see Venetian Blind Specialists (Seawright) Ltd.
- Secomastic Ltd.*, joint sealing compound .. 26.M1 26.M2
- Selleck Nicholls & Co. Ltd.*, reconstructed stone blocks .. 14.F1
- Semtex Ltd., A Dunlop Company*, anti-static rubber flooring .. 19.F11
- Sewage Disposal**, general data 33.L2 33.L3
units .. 33.L1
- Schools**, furniture, sizes .. 4.A13
gymnasium, play equipment .. 4.A14
heating, water, gas .. 32.C26
lavatory cubicles, metal-faced plywood .. 43.Z2
lavatory cubicles, tile, terrazzo slab 43.Z3
- Shadows**, projection of .. 1.B55 1.B56 1.B57
cast by sun .. 4.A1 4.A2
- Shanks & Co. Ltd.*, lavatory basins, vitreous china .. 33.S2
- Sheen*, see Floor Treatments Ltd.
- Shelving**, see Furniture, Shelving
- Sherardizing**, see Corrosion Prevention
- Siemens Edison Swan Ltd.*, fittings for Celotex ceilings .. 27.B14
socket outlets .. 37.C2
- Sigmix*, see Sigmund Pumps Ltd.
- Sigmund Pumps Ltd.*, accelerator, electric .. 29.H7
- Silicones**, treatments, anti-water penetration .. 40.C2
- Sills**, see Windows
- Sinks**, fireclay .. 33.T1
kitchen, stainless steel .. 43.E12 43.E13 43.E14
laboratory, lead lining, plumbing .. 33.C11
- Sizes**, Common, chairs, tables .. 4.A10
china, cutlery, kitchenware .. 4.A11
miscellaneous items .. 4.A12
school furniture .. 4.A13
schools, gymnasium, play, equipment 4.A14
- Skirtings**, aluminium .. 19.Z1
cement/rubber-latex .. 19.Z1
linoleum .. 19.G2 19.G3
p.v.c. .. 19.K1
rubber .. 19.F1
steel .. 19.F1 19.Z1 26.J20
tiles, clay .. 18.E1
wood .. 19.F1 19.Z1
- Slabs**, polystyrene, foamed .. 14.K4
straw, general data, jointing .. 14.L4
woodwool 14.K1 14.L12 14.L13 14.L14 14.L15
see also Partition Construction; Roof and Wall Linings
- Slate, copings** .. 5.B1
facing .. 5.B2
flooring, paving .. 18.N1
sills .. 24.Z1 24.Z3
surrounds, window .. 24.Z2
- Slide Rule** .. 2.A5
- Small & Parkes Ltd.*, aluminium, plastic-filled stair treads .. 19.Z10
- Smoothedge Ltd.*, carpet fixing .. 26.J10
- Snaprib*, see Northern Aluminium Co. Ltd.
- Socket Outlets**, see Power Supply, Electric
- Sommerfelds Ltd.*, beams, lattice .. 20.C10 20.C13
- Sound Control**, anti-vibration mountings 27.Z1 27.Z2
- Spandoplast*, see Monsanto Chemicals Ltd.
- Specifications**, linoleum flooring .. 19.G3
painting .. 38.B1 38.C1 38.C2
windows, standard metal .. 24.C1
- Speedwell Gear Case Co. Ltd.*, The, lockers, steel .. 42.E1
w.c. compartments, steel .. 43.Z5
- Spirax-Sarco Ltd.*, E.T.O. Controller for hot-water heating systems .. 29.A1
- Sports Facilities**, see Recreation, Games; Swimming Baths
- Stages**, see Theatres
- Stainless Steel Sink Co. Ltd.*, Pland stainless steel sinks, sink units .. 43.E12
- Stairs**, carpeting .. 26.J10
escalators .. 35.B1 35.B2
nosings, aluminium, cork .. 18.F2
nosings, metal, non-slip filling 19.Z10 19.Z11
nosings, p.v.c. .. 19.K1
nosings, rubber .. 19.F2
planning sizes .. 4.A20
risers, rubber .. 19.F2
risers, tiles .. 18.F2
treads, tiles .. 18.F2
- Steel**, beams .. 9.C1 20.C10 20.C13
columns .. 9.C1
fire protection .. 36.A1 36.A2
fittings, for tubular steel assemblies 26.Z2 26.Z3 42.Z1 42.Z2
formwork .. 6.Z6
roof decking .. 20.Z2 20.Z9 20.Z10
r.w. goods, pressed .. 33.U4 33.U5
see also Furniture; W.Cs, Compartments
- Stephenson, G., & Co. Ltd.*, Gesco cork tiles .. 18.F2
- Sterling Metals Ltd.*, aluminium .. 10.B2
- Stic B Paint Sales Ltd.*, stone paints .. 40.C1
- Stokers**, see Heating, Boilers
- Stone**, reconstructed, wall blocks .. 14.F1
restoration .. 5.D1
silicone treatments .. 40.C2
- Slate**, copings .. 5.B1
facing .. 5.B2
flooring .. 18.N1
sills, copings, creasing .. 24.Z1 24.Z3
surrounds, window .. 24.Z2
- Stone Paints** .. 40.C1
- Stonite*, see Callow & Keppich Ltd.
- Storage**, bins, industrial .. 42.C1
fuel oils .. 29.A2
lockers, steel .. 42.E1
racking .. 42.C4 42.Z2
shelving, timber .. 42.C6 42.C7
- Stoves**, see Heating, Space, Solid Fuel
- Stramax Ceilings (G.B.) Ltd.*, acoustic heating ceilings .. 29.H5
- Stramit Boards Ltd.*, Stramit slabs .. 14.L4
- Stratalyn*, see Radiation Ltd.
- Stressed Concrete Design Ltd.*, prestressed concrete, principles .. 6.A1
shell roofs .. 6.B1
- Strowger*, see Automatic Telephone & Electric Co. Ltd.
- Structural Insulation Ltd.*, thermal insulation, general data 28.A1 28.A2 28.A3
roof linings, fixing .. 28.E20
- Structures**, see Framed Structures
- Sugg, William, & Co. Ltd.*, gas fired incinerators .. 33.K1
gas space heater .. 29.C4
- Sun**, apparent movement of 4.A1 4.A2
- Supacoust*, see Petradene Ltd.
- Swimming Baths**, covered, dimensions 4.L11
diving equipment .. 4.L10 26.Z3
fittings, ceramic, terrazzo .. 43.Z4
- Sylenz*, see J. C. Birch Ltd.
- Tanalith C, Tanaply*, see Hickson's Timber Impregnation Co. (G.B.) Ltd.
- Tanking**, asphalt .. 12.F1 26.A3
- Tanks**, Fuel Oils, storage of .. 29.A2
Water, steel, galvanised, general data 42.B2
- Teco*, see MacAndrews & Forbes Ltd.
- Telecommunications**, private branch exchanges 37.H11
- Terrazzo**, lavatory cubicles .. 43.Z3
swimming pool fittings .. 43.Z4
- Theatres**, planning 4.L3 4.L4 4.L5 4.L6 4.L7
- Thermadore (Great Britain)*, floor heating .. 29.G2
- Thermolok*, see Anderson, D., & Son Ltd.
- Thermopak*, see Sigmund Pumps Ltd.
- Thermal Conductivities**, various building materials .. 28.A2
- Thermalite Ytong Ltd.*, building blocks, light-weight .. 14.K3
- Thor*, see Ascot Gas Water Heaters Ltd.
- T.I. Aluminium Ltd.*, aluminium .. 10.B2
- Tiles**, Acoustic, asbestos composition 27.C1
bagasse fibre .. 27.B10
gypsum plaster 27.C3 27.H5 27.H6
heating ceilings .. 29.H5 29.H6
metal, insulated .. 27.B11 27.B14
- Clay**, floor .. 18.E1
lavatory cubicles, details .. 43.Z3
roofing, details, general data 17.B1 17.B2
swimming pool fittings .. 43.Z4
- Concrete**, interlocking, roof .. 17.D1 17.D2 17.D3 17.D4
- Copper**, roofing .. 17.H2
- Cork**, details, general data .. 18.F2
- Rubber**, details, general data .. 19.F1
- Thermoplastic**, p.v.c. .. 18.H1 19.K1
- Tileseal, Tilesweep*, see Floor Treatments Ltd.
- Timber**, connectors .. 11.C1
flooring, beech .. 20.E1
preservation, protection .. 40.A2
roof trusses, prefabricated .. 20.E3
shelving .. 42.C6 42.C7
see also Roof construction, Timber
- Tin**, coatings, metal spraying .. 40.B2
- Town and Country Planning**, development control chart .. 4.N1
map notations .. 1.B5 1.B5a
planning, control, exemptions .. 4.N2
- Transport**, cars, private, dimensions, turning circles .. 4.E1
commercial vehicles, dimensions, turning circles .. 4.E2
- Traps**, cast iron, with overflow .. 33.S1
polythene .. 33.P2
- Triton*, see Wheatly & Co. Ltd.
- True Flue Ltd.*, domestic flues .. 30.C1 30.C2 30.C3 30.C4
- Truscon Ltd.*, concrete floor units .. 20.D4
expanded metal lathing .. 22.D5 22.F3
- Union*, see Parkes, Josiah, & Sons Ltd.
- Universal*, see Associated Builders Merchants Ltd.
- Urinals**, basins, stalls, lead plumbing 33.C9

46.Z4 ALPHABETICAL INDEX TO DEC. 10, 1959 (S-Z)

- Val de Travers Asphalte Ltd., d.p.c.s.* .. 26.A2
 flooring 19.D1
 general data 12.F1
 roofs 12.F2
 tanking 26.A3
Vanguard, see Newman, William, & Sons Ltd.
Velux Company Ltd., The, rooflight windows .. 24.H1
Veneers, plastic. .. 15.S6 15.S8 15.T6 15.T8 15.T9 15.T10
Venetian Blind Specialists (Seawright) Ltd., Venetian blinds .. 42.K3
Vent-Axia, see English Rose Kitchens Ltd.
Ventilators, glass louvres .. 30.D22
 roof .. 30.D1 30.D10 30.D11 30.D12
 extract, inflow, recirculating, roof .. 30.E1
 shutters, roof .. 30.D21
Versatile Fittings (W.H.S.) Ltd., display fittings .. 43.H1 43.H2
Vizusell, see Versatile Fittings (W.H.S.) Ltd.
- W.Cs, flushing cisterns .. 33.Q6
 multi-branch fittings .. 33.D1
 ranges, plumbing, lead .. 33.C2
see also Chemical Closets
Compartments, plywood, metal-faced .. 43.Z2
 sizes .. 33.C2
 steel .. 43.Z5
 tile, terrazzo slab .. 43.Z3
Wall Construction, Aluminium, cladding .. 16.B3
 prefab, system .. 25.A1
 25.A2 25.A3 25.A4 25.A5 25.A6
Blocks, Clay, Hollow, external, building board insulation .. 28.D1
 general data .. 14.B2 14.B3
Brick, cellular .. 13.F1
 designed brickwork .. 2.B6
 external, building board insulation .. 28.D1
Cavity, cloaks, d.p.c.s, lead .. 26.A1
Concrete, external, building board insulation .. 28.D1
 formwork, metal .. 6.Z6
 lightweight .. 14.K2 14.K3
 prefab. systems .. 25.B1 25.B2 25.B3 25.B4
 woodwool insulation .. 14.L13
Lightweight, external, building board insulation .. 28.D1
Parapet, D.P.C.s, bitumen, flexible .. 16.J1
 lead .. 26.A1
Parapet, Flashings, bitumen, flexible .. 16.J1
- lead flat roofing .. 10.G11
 lead, rain water outlet .. 10.G13
 zinc flat roofing .. 10.J1 10.J2 10.J3
Parapet, Weatherings, zinc .. 10.J1 10.J2
Stone, blocks, reconstructed .. 14.F1
 external, building board insulation .. 28.D1
Wall Facings, External, slate .. 5.B2
 Internal, hardboard, moulded .. 15.B5
 laminated plastics .. 15.S6 15.S8 15.T6 15.T8
 tiles, clay .. 18.E1
Wall Linings, asbestos board. .. 15.B4 22.D12 36.A2
 asbestos-cement sheeting .. 22.D12
 building board .. 15.C11
 insulating board .. 15.C2 22.D1 22.D2 22.D4 22.D5 22.D6 22.D12
 plaster board .. 22.D12
 woodwool slabs .. 14.K1 14.L12 14.L13 22.D12
- Wallboards, see Boards*
Wallpapering, building boards .. 15.C1
Walls, Sound Insulation, building board .. 15.C11
 glass fibres, general data .. 8.E1
 polystyrene boards, foamed .. 14.K4
 woodwool slabs .. 14.K1
Thermal Insulation, building board .. 15.C11
 glass fibres, general data .. 8.E1
 insulating board .. 15.B1 28.D1
 polystyrene boards, foamed .. 14.K4
 U values, typical constructions .. 28.A3
 woodwool slabs .. 14.K1
Walpamur Co. Ltd., Duradio paint .. 38.C2
 oil-bound water paint .. 38.B1
 Muromatte paint .. 38.C1
Wardle Engineering Co. Ltd., Maxheat tubular electric heater .. 29.G1
Wastefto, see Bilston Foundries Ltd.
Water Heating, see Heating, Water
Water Supply, Fittings, see Cisterns; Cylinders, Water; Heating, Water, Pipes; Tanks, Water; Troughs, Flushing
Services, see Plumbing, Water
Wayne Tank & Pump Co. Ltd., loading ramp, automatic .. 35.Z1
Weatherban, see Minnesota Mining & Manufacturing Co. Ltd.
Weatherings, Lead, canopies, projections .. 10.G10 10.G21 10.G20
 dormer windows, timber framed .. 10.G21
 northlight, raking edge .. 10.G20
 Zinc .. 10.J1 10.J2 10.J4
Webster, James, & Bro. Ltd., beech flooring .. 20.E1
 Weights, building materials .. 2.B5
- Wenlock, see Radiation Ltd.*
West's Piling & Construction Co. Ltd., concrete tubular shell piling .. 26.E1
Wheatly & Co. Ltd., Triton, Triton Romulus, clay roofing tiles .. 17.B1 17.B2
Williams & Williams Ltd., door frames, steel .. 23.C1 23.C2 23.C3
Wincilate, see Bow Slate & Enamel Co. Ltd.
Windows, adjustable spring tape sash balance control systems, distant operation .. 24.S1 24.S2
 glass louvres, ventilating .. 30.D22
 joint sealing .. 26.M1 26.M2 26.M3 26.M4
 sills, slate .. 24.Z1 24.Z3
 surrounds, slate .. 24.Z2
Boards, steel, general data .. 26.J20
 Steel, direct fixing .. 24.D3 24.D4
 specification .. 24.C1
 steel subframe, fixing .. 24.D2
 wood surround, fixing .. 24.D1
 Timber, rooflight windows .. 24.H1
Wirework, Woven, typical patterns .. 26.D2
Woodwool Slabs, ceilings, roof linings .. 22.D12 24.L2
 general data .. 14.K1
 partitions, wall linings .. 14.L12
 permanent shuttering .. 14.L13
 plastering .. 14.K1 14.L12
 roofs, flat, pitched .. 14.L14 14.L15
Woodworm, treatment for .. 40.A2
Woolliscroft, George, & Son Ltd., clay tiles .. 18.E1
- Working Drawings, 1/500, 1/32 in., 1/16 in. scale presentations* .. 1.B18
 1/2-in. scale presentation .. 1.B19
 1/4-in. scale presentation .. 1.B20
 1/2-in. and 1-in. scale presentations .. 1.B21
 full size presentation .. 1.B22
- Zinc, coatings, metal spraying .. 40.B2
 coatings, sherardizing .. 40.B1
 general data .. 10.J1
see also Zinc Development Association
Zinc Alloy Rust-Proofing Co. Ltd., sherardizing .. 40.B1
Zinc Development Association, Italianized roofing .. 10.J3
 rainwater goods .. 33.U1
 roll cap roofing .. 10.J1 10.J2
 weatherings .. 10.J4

working detail

FURNITURE AND FITTINGS: 84

RECEPTION COUNTER: TRAINING CENTRE IN STOCKHOLM

Anders Tengbom, architect (material supplied by Alice Mylo)

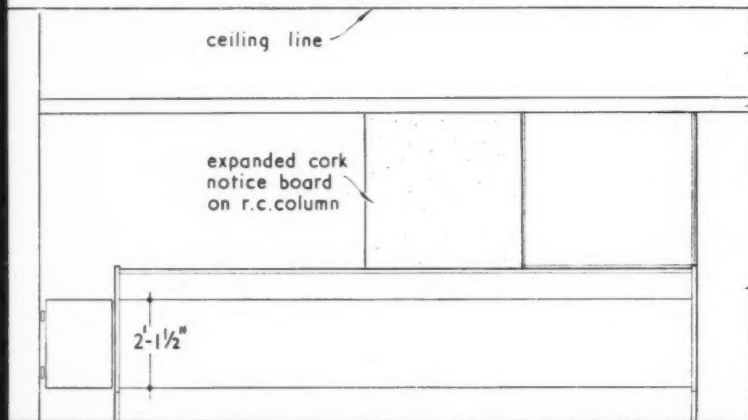


This dual reception desk/shop counter is interesting for its careful planning and for its choice of finishes. A dark brown linoleum has been used for the counter top, for the back of the recess beneath and for the skirting. The underside of the suspended ceiling over the counter is of polished Oregon pine (golden brown in colour) as are the other visible wood surfaces. One last but important refinement is that the metal brackets and tracks for the glass shelving are oxidised a dark brown.

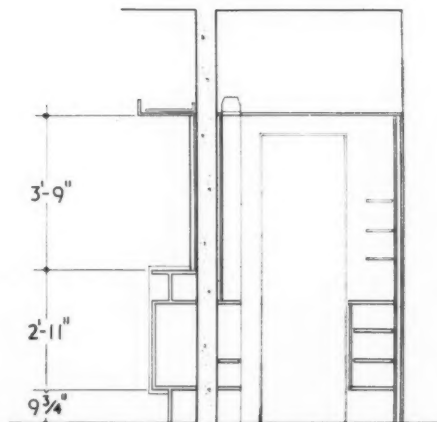
working detail

RECEPTION COUNTER: TRAINING CENTRE IN STOCKHOLM

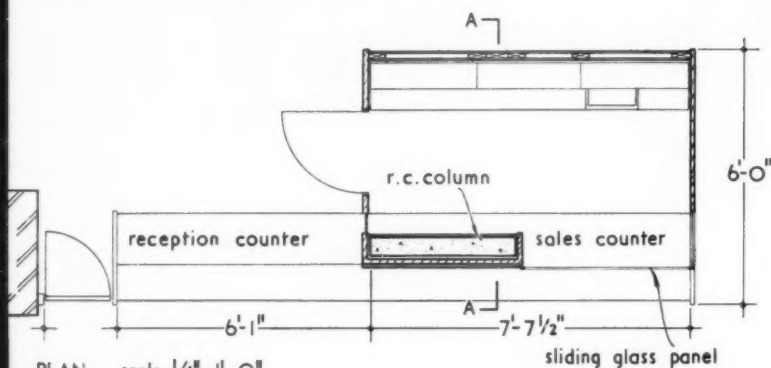
Anders Tengbom, architect (material supplied by Alice Mylo)



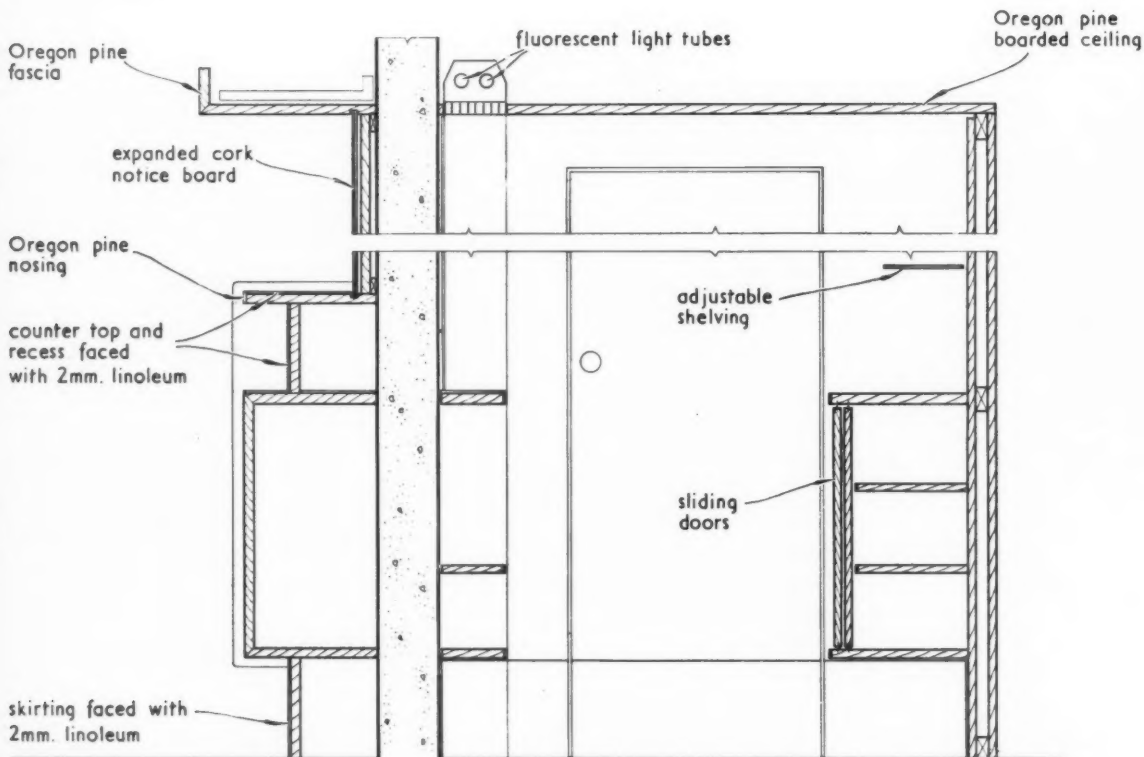
ELEVATION. scale $\frac{1}{4}'' = 1'-0''$



SECTION. $\frac{1}{4}'' = 1'-0''$



PLAN. scale $\frac{1}{4}'' = 1'-0''$



SECTION A-A. scale $\frac{3}{4}'' = 1'-0''$

note: figured dimensions in feet and inches are approximate

working detail

MISCELLANEOUS: 30

CHANGING CUBICLES: SWIMMING POOL IN MILAN

Nichelli Bozzetti, architect (material supplied by Martin Reynolds)

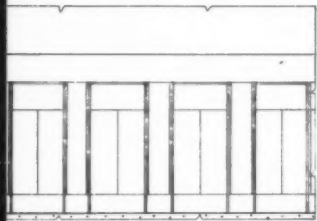


The problem of the bathing cubicle is one which, to the best of our knowledge, has never received serious attention in this country. The care which has gone to the designing of this Italian example is better judged from the drawing than from the photograph. Note the device of a hinged seat to give absolute protection against surprise from behind.

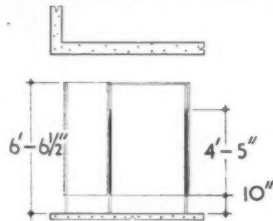
working detail

CHANGING CUBICLES: SWIMMING POOL IN MILAN

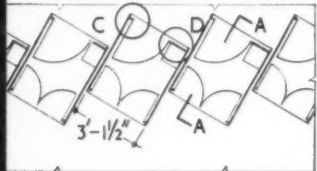
Nichelli Bozzetti, architect (material supplied by Martin Reynolds)



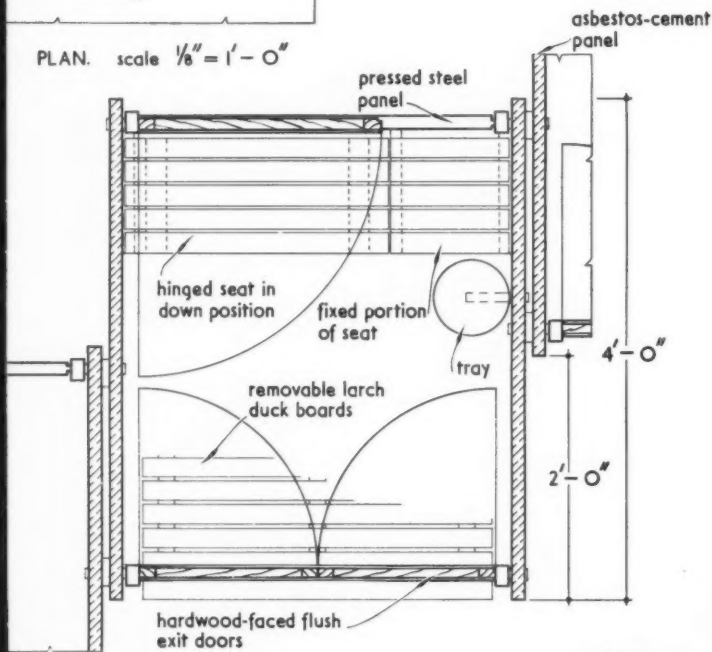
ELEVATION. scale $\frac{1}{8}'' = 1' - 0''$



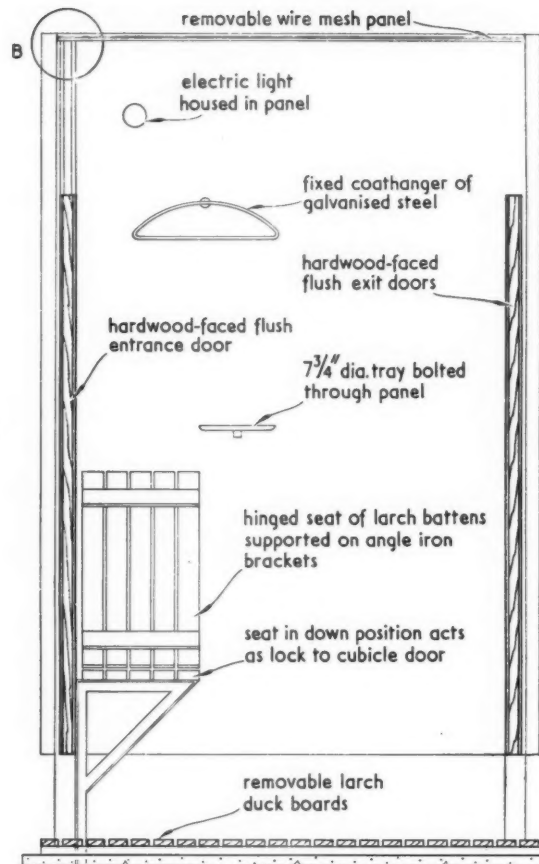
SECTION.



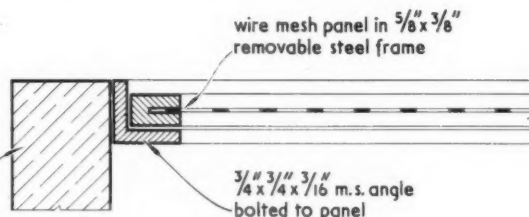
PLAN. scale $\frac{1}{8}'' = 1' - 0''$



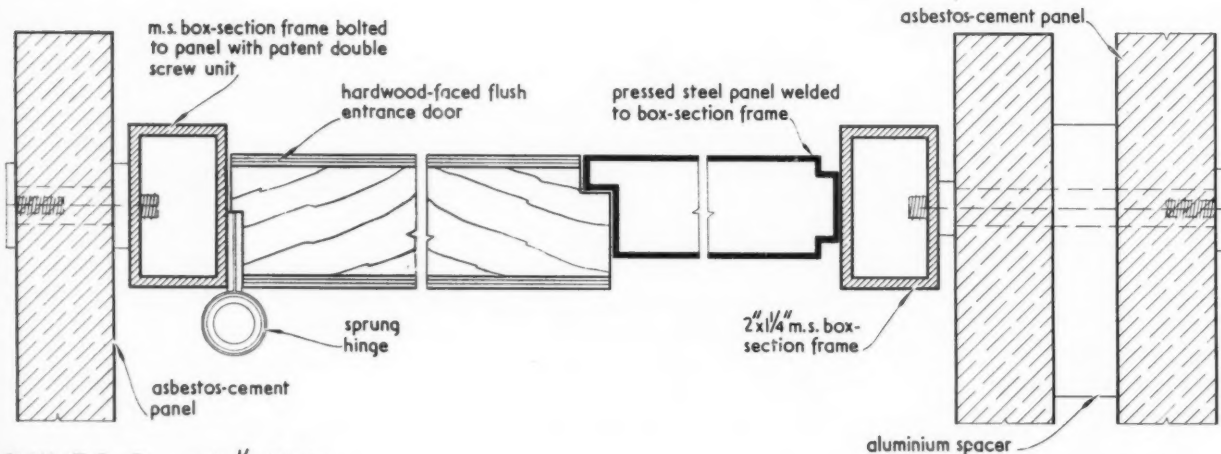
PLAN. scale $\frac{3}{4}'' = 1' - 0''$



SECTION A - A. scale $\frac{3}{4}'' = 1' - 0''$



DETAIL AT B. scale $\frac{1}{2}$ full size



PLAN AT C - D. scale $\frac{1}{2}$ full size

note: figured dimensions in feet and inches are approximate



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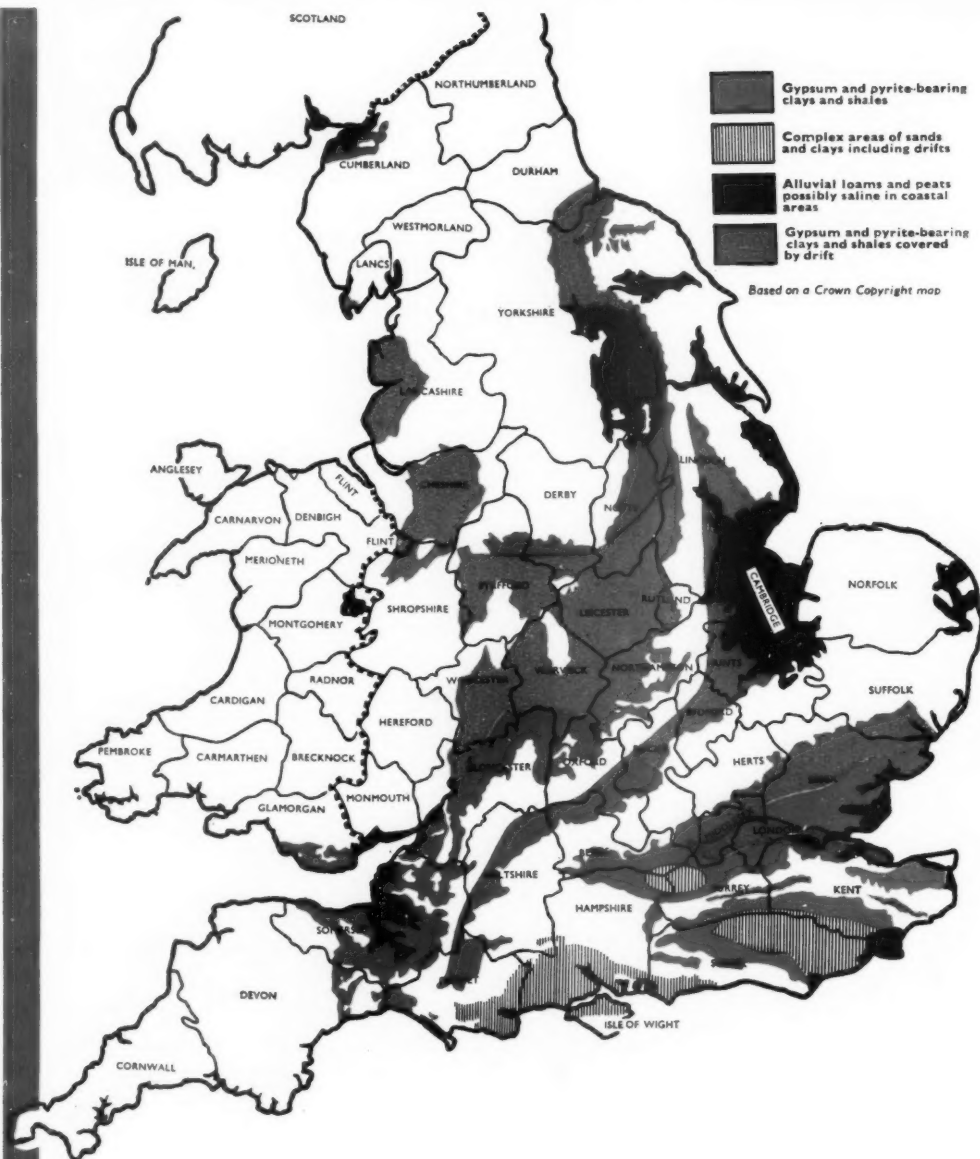
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11/15



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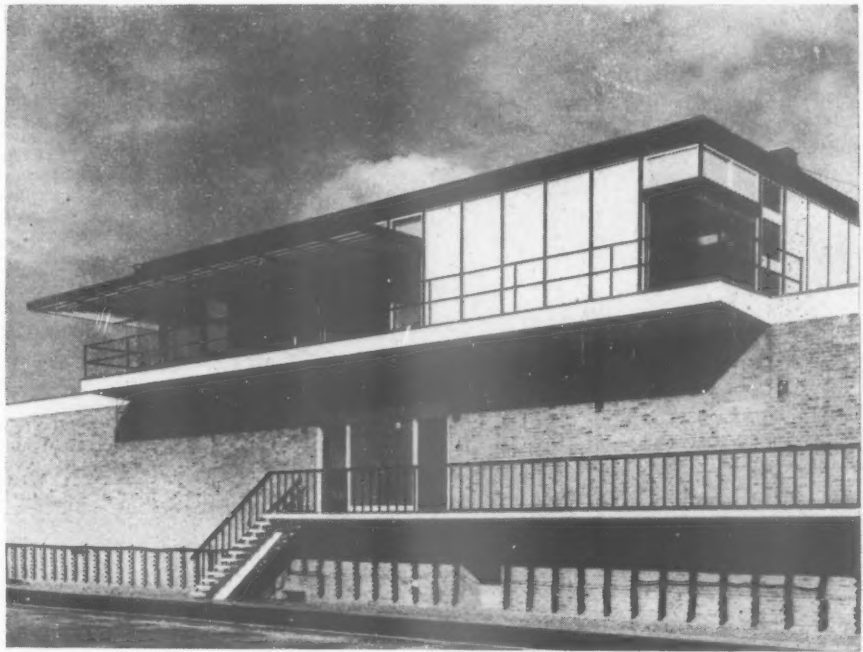


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CVS16

B.R. SIGNAL BOXES AT BARKING AND HACKNEY DOWNS

Under the general direction of A. K. Terris, chief civil engineer, H. H. Powell has designed two signal boxes recently built by Holliday and Greenwood; one at Barking (right) and one at Hackney Downs (see over). Both boxes have been designed to give the signalmen an uninterrupted view of the tracks and a glare-free lighting of even intensity to enable the small lights on the control panel to be seen without difficulty. The signal box at Barking combines in one building separate signal rooms for the Eastern Region and the London Transport Executive. The London Transport Executive did not require a full view of the tracks and so it has been given



different treatment. The Eastern Region signal room has a horizontal-louvered sun baffle and the clerestory windows above the baffle are glazed in plyglass to diffuse the light. At Hackney Downs the sun baffle and overhanging eaves completely shade the signal room from direct sunlight. The lower edge of the baffle obstructs the signalman's view of the whole of the sky down to the horizon. The inside

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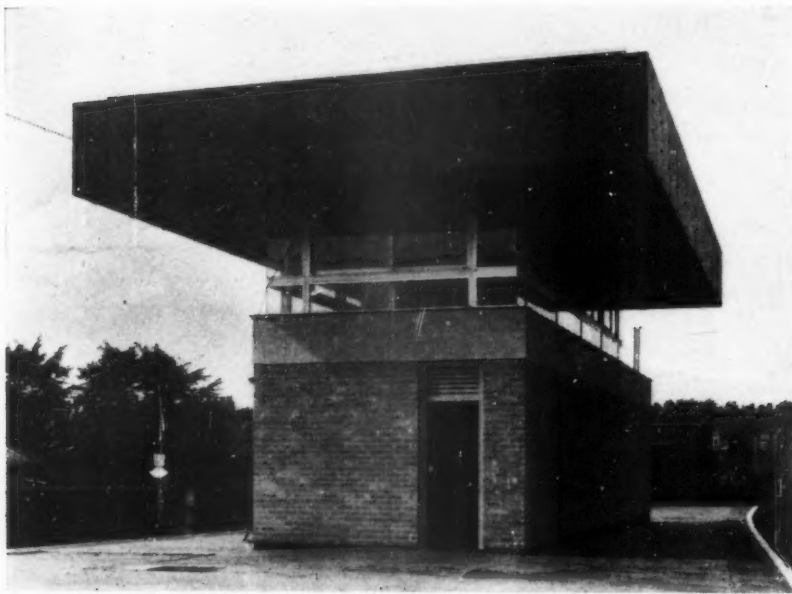
Telephone: EASt 2261.

Telegrams: Speedwell, Birmingham.



Technical layouts and specifications are available and our Technical Representatives will gladly call to give any assistance which you may require.

SIGNAL BOX AT HACKNEY DOWNS continued



of the baffle is painted white and is lit from a gap between the baffle and the eaves so that the contrast is minimized. To make the baffle as maintenance free as possible it was made of polyester resin reinforced with fibreglass. The exterior is dark green and the colour is permanent.

Announcements

PROFESSIONAL

The Hatfield Development Corporation have appointed W. W. Chapman, O.B.E., A.R.I.B.A., T.D., as Planning Consultant.

Clarence E. Smart & Partners, F./A./A.I.Q.S., of 42, Theobalds Road, London, W.C.1, have opened a Branch Office at Barclays Bank Chambers, St. Giles Square, Northampton (telephone Northampton 3611). The office will be under the direction of J. Boon, A.I.Q.S., one of the Partners.

TRADE

Air Control Installations Ltd. have appointed J. H. Brindle as Manager of the Publicity Department.

Transworld Feature Syndicate Inc., N.Y. have moved their offices to 114, Fleet Street, London, E.C.4 (telephone Ludgate Circus 8237).

Thames Plywood Manufacturers Ltd. have made arrangements to transfer all production of their moulded goods to the Coventry Timber Bending Co. Ltd., Torrington Avenue, Coventry.

The registration and development of Thermoduct Ltd. as a separate company (although still with the same directors as the parent company H.V.E (Electric) Ltd.), will enable them to concentrate upon the supply of Thermoduct electric floor heating equipment and associated control gear.

CORRECTION

A. E. Ward is the Secretary of the Institute of Registered Architects, and not Paul Ritter as stated in the Letters column in the JOURNAL for December 17.

**National
Provincial
Bank
Swanage**

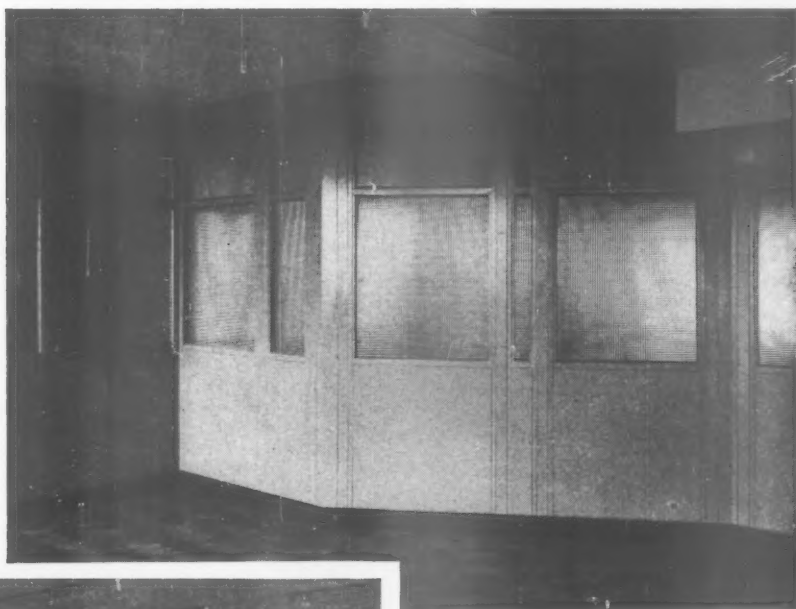
The counter, panelling, doors and other specialist joinery for this new branch were manufactured by Waring & Gillow Ltd. to the design of the Bank's architect, Mr. B. C. Sherren, F.R.I.B.A.



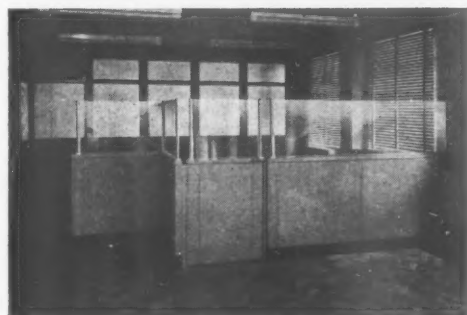
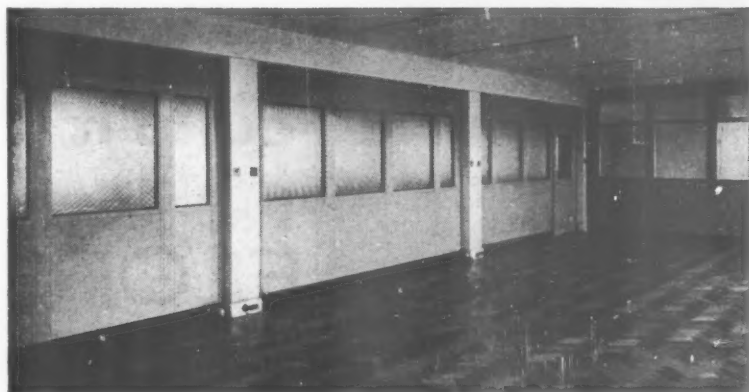
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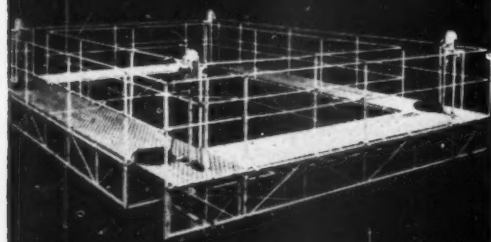
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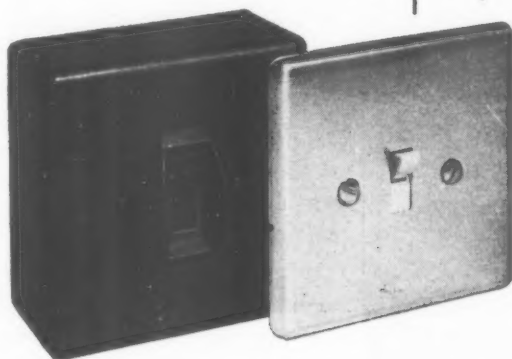
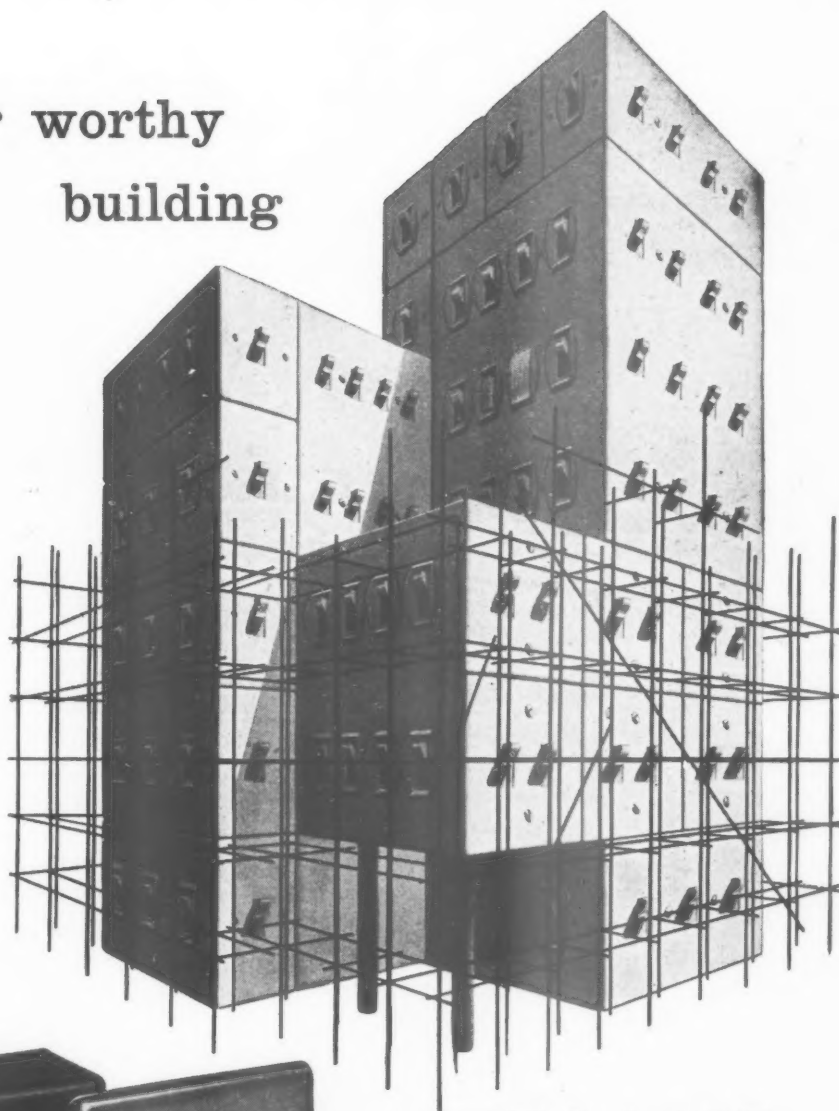
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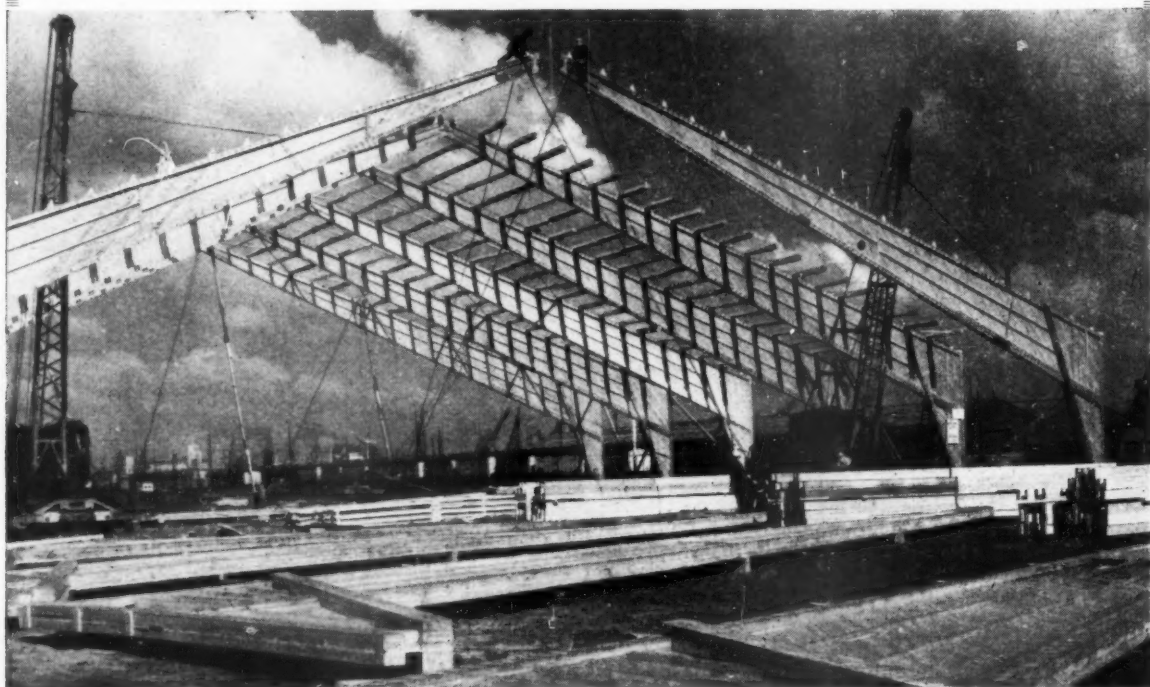
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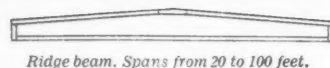


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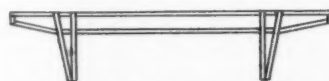
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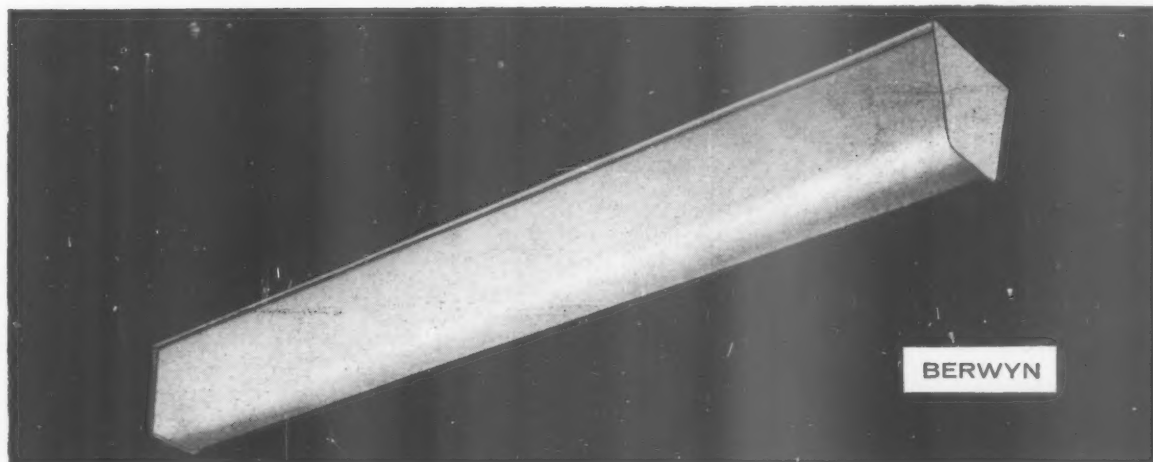


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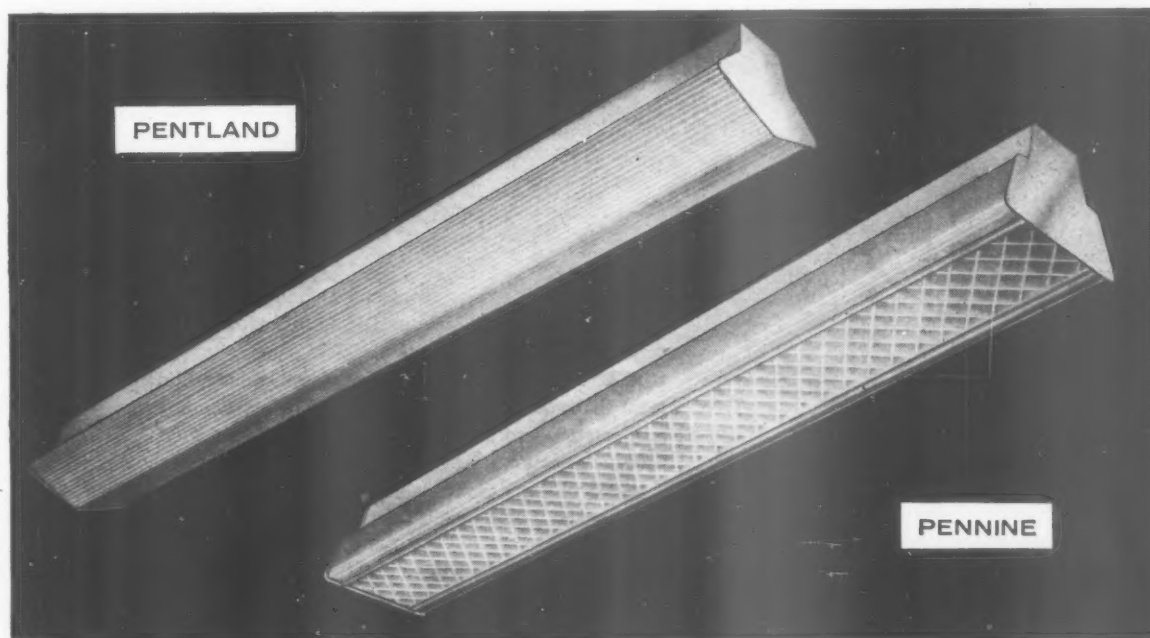
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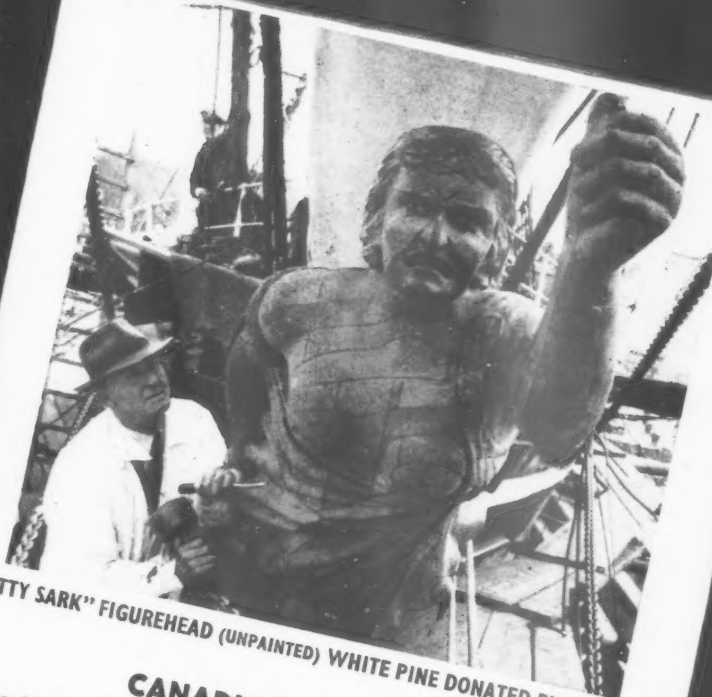
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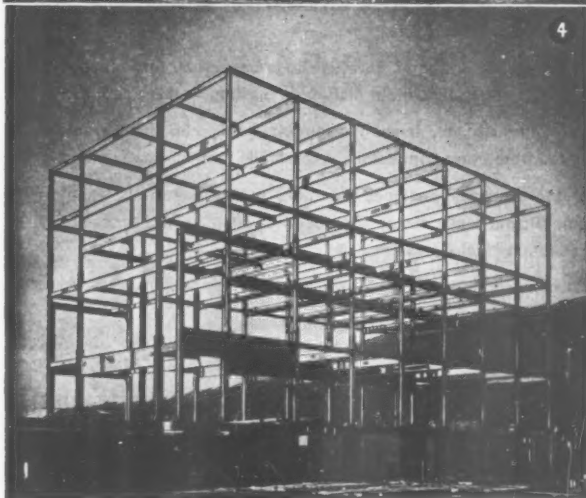
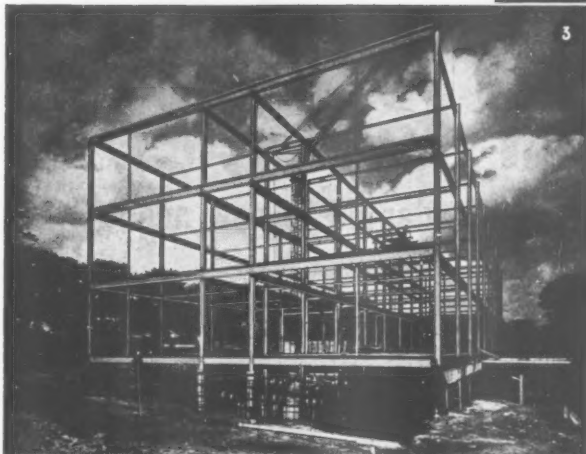
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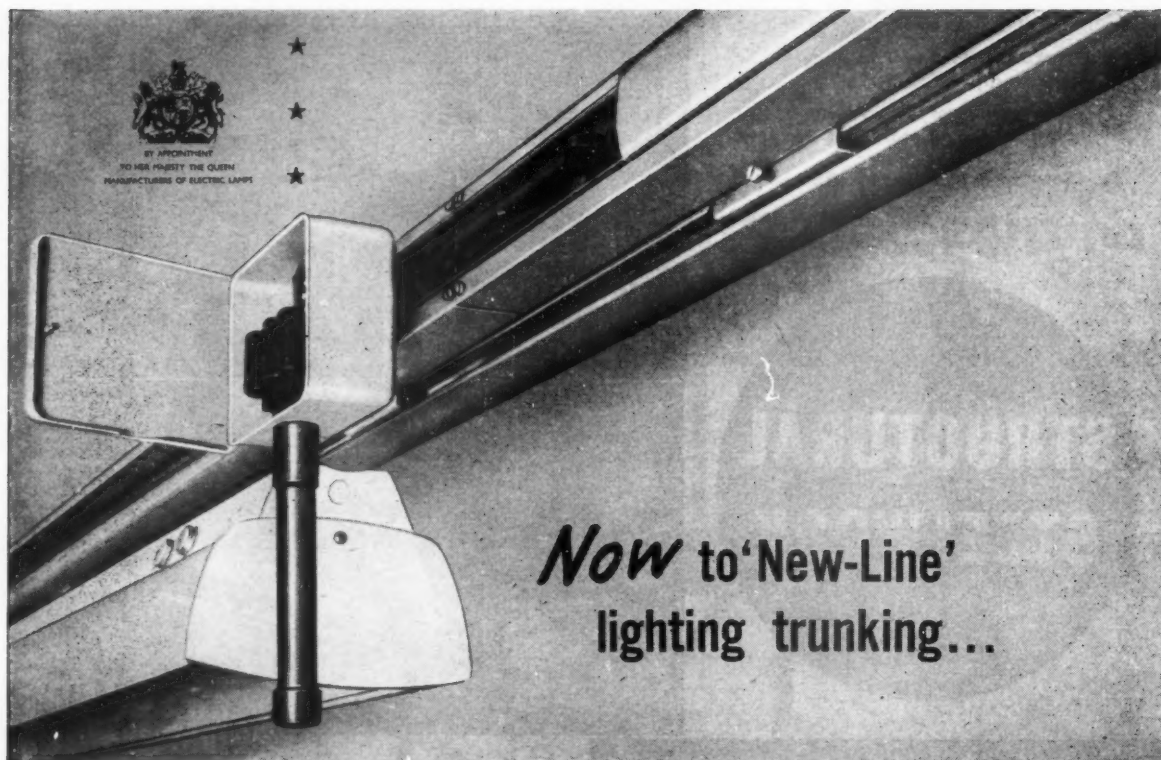
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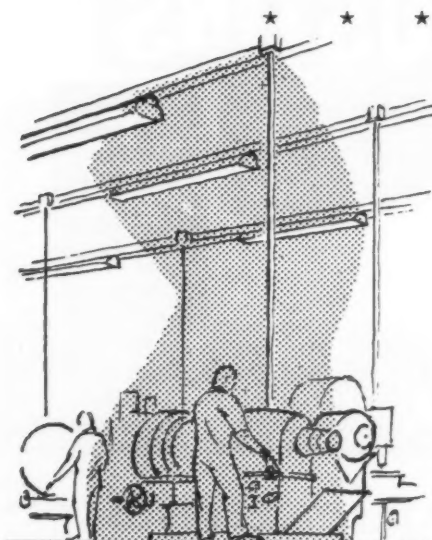
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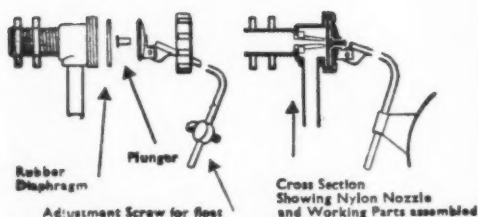
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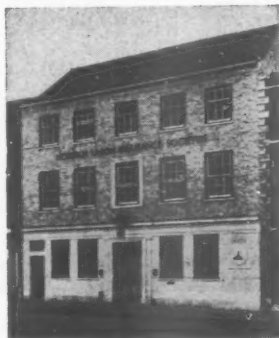
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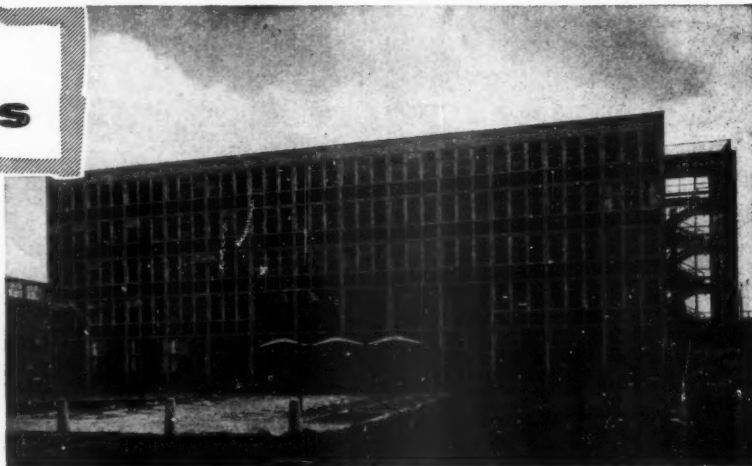
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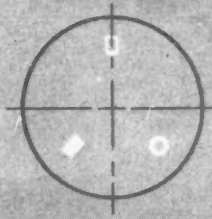
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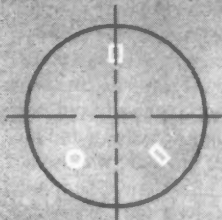
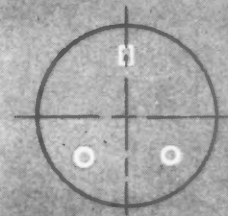
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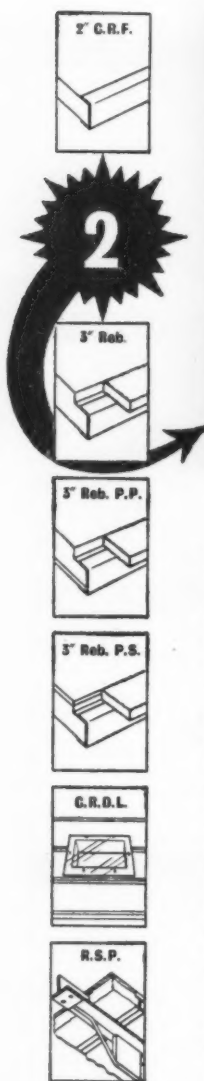
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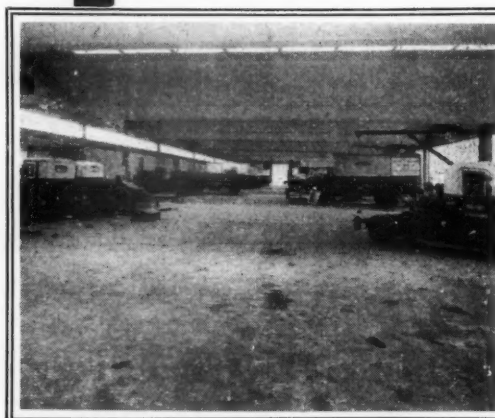
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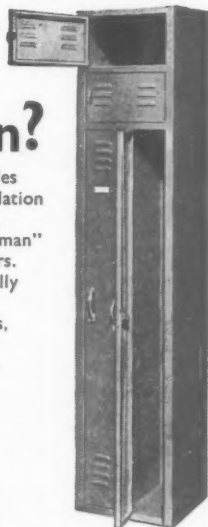
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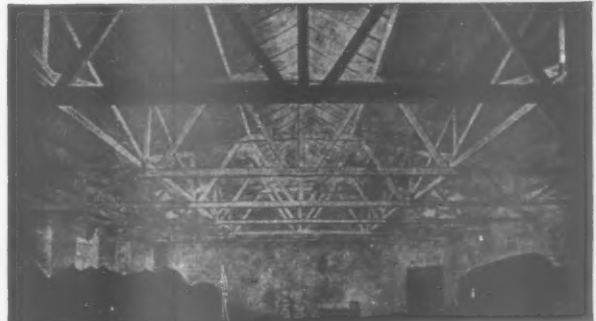
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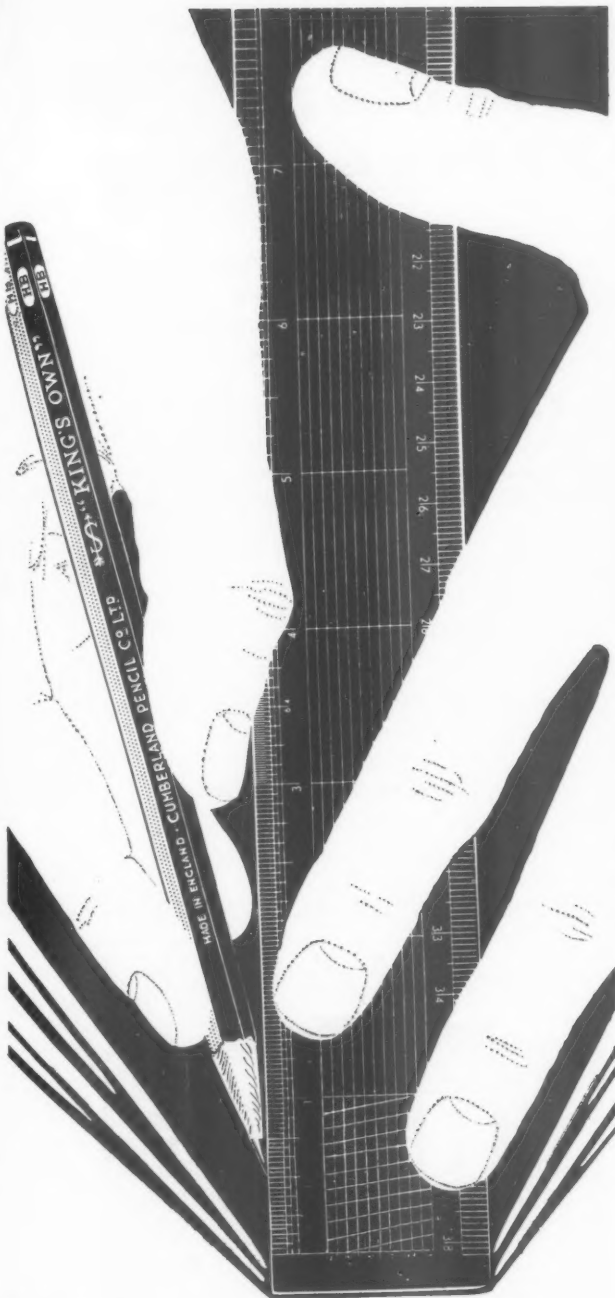
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Advertisements should be addressed to the Advt. Manager, "The Architects' Journal," 9, 11 and 13, Queen Anne's Gate, Westminster, S.W.1, and should reach there by first post on Friday morning for inclusion in the following Thursday's paper.

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

AIR-MAIL SERVICE available on request: In response to requests from a number of Overseas subscribers for air-mail delivery of Public and Official Appointment details and Other Appointments Vacant, we have been pleased to arrange that cuttings of all such classified advertisements appearing in the A.J., shall be despatched by air-mail on Wednesday of each week (one day prior to A.J. publication date). The cost of this special service to Overseas subscribers will be 5s. for four weeks (1s. 3d. for each additional week) and prepayment should be sent by subscribers wishing to take advantage of this service. The charge we are making represents only the actual cost of the postage involved.

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BUILDING SURVEYORS

Architect's Department, L.C.C., has vacancies in Building Regulation Division and District Surveyors' Service for work in connection with applications under London Building Acts and bye-laws. District Surveyors' offices are located in Metropolitan Boroughs and work involves negotiations with developers and supervision of works in progress.

Up to £1,135, commencing according to qualifications and experience. Application form and particulars from Hubert Bennett, F.R.I.B.A., Architect to Council, EK/11/59, County Hall, S.E.1. (2628.) 7132

ST. THOMAS' HOSPITAL
BOARD OF GOVERNORS

REBUILDING OF HOSPITAL AND ENVIRONS
Design and Working Drawings for the first stage of this major scheme are likely to commence immediately and planning studies for the second stage will be starting next year. Applications are invited for the following appointments on the staff of the Board's Architect. All salary scales are at present under review.

(a) SENIOR ASSISTANT ARCHITECTS (salary scale £1,050-£1,245 plus London weighting). Applicants must be registered architects with experience in preparing and supervising work on medium sized projects and will be expected to lead a group of architects on a section of the job.

(b) ASSISTANT ARCHITECTS (salary scale £730-£1,055 plus London weighting). Must be registered architects with initiative and ability as designers and a sound knowledge of constructions.

(c) ARCHITECTURAL ASSISTANTS (salary scale £455-£765 plus London weighting). Must have reached Intermediate R.I.B.A. or equivalent standard and be good draughtsmen.

Previous hospital experience not essential. Applications giving full particulars of qualifications and experience to W. F. Howitt, A.R.I.B.A., Architect, St. Thomas' Hospital, London, S.E.1. 7374

APPOINTMENT OF TEMPORARY ASSISTANT ARCHITECT

GRADE A.P.T. IV

An Architect (Degree, Diploma or A.R.I.B.A.) is required to join a small but enthusiastic young group in the Architect's Department, working on the new Civic Centre at Ebbw Vale. The project includes Municipal Offices with Council Chamber and a covered Swimming Pool for immediate construction, with a large Public Hall to follow. Other interesting schemes include a small Public Hall, Community Centre and an extensive Housing Programme.

The salary will be in accordance with Grade A.P.T. IV, the appointment being subject to one month's notice on either side, and the passing of a medical examination.

Ebbw Vale is in close proximity to the beautiful Usk Valley and Beacon National Park.

The Council will provide housing accommodation if required.

Forms of application may be obtained from the undersigned, and applications are to reach him not later than 16th January, 1960.

HOWARD J. WILLIAMS,

Clerk of the Council.

Ebbw Vale Urban District Council,

Council Offices,

Ebbw Vale,

Mon. 7392

SOUTHAMPTON COUNTY BOROUGH COUNCIL requires under N.J.C. conditions of service:

(a) ASSISTANT QUANTITY SURVEYOR, salary within the Special Grade, £785-£1,070. Applicants must be chartered quantity surveyors, preferably with experience in municipal housing including multi-storey flats and shopping centres.

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

(b) QUANTITY SURVEYING ASSISTANT, A.P.T. Grade I, £610-£765, with good experience in abstracting and billing.

Apply on application forms, obtainable from the Borough Engineer and Surveyor, Civic Centre, Southampton, by Monday, 11th January, 1960. 7378

BOROUGH OF BEXLEY
ARCHITECTURAL ASSISTANTS

Applications are invited for two appointments in the Borough Engineer & Surveyor's Department. The salary for each of these posts is within Grade A.P.T. II (£765-£980 per annum) plus London weighting. Preference will be given to suitably qualified candidates with experience of housing and school projects.

Form of application and conditions of appointment are obtainable from the Borough Engineer, West Lodge, Broadway, Bexleyheath, Kent, to whom completed applications must be returned by Friday, 8th January, 1960.

The Council will be prepared to assist in the provision of housing accommodation. Canvassing will disqualify.

ARTHUR GOLDFINCH,

Town Clerk.

7350

LAGOS EXECUTIVE DEVELOPMENT BOARD
ARCHITECT APPOINTMENT

Applications are invited for the undermentioned appointment and the attention of interested persons is drawn to the fact that a review of salaries is at present being considered. An interim cost of living award of 10 per cent. on basic salary has already been given to Officers in receipt of salaries within the grade mentioned in this advertisement. It is hoped that a final award will shortly be made and whilst this information and the value of the ultimate award is not available at the time of advertising, it is expected that an announcement will have been made before interviews are undertaken in London.

1 ARCHITECT (Grade VI) (including 10 per cent. interim C.O.L.A.).

Annual salary according to experience and qualifications within the grade £1,320 rising, subject to satisfactory service, by annual increments of £55 to £1,540, together with £300 per year inducement allowance for expatriate officers.

Duties: The officer will be required to undertake the design and supervision of large building projects in connection with new development schemes, including a wide variety of residential, commercial and community proposals.

Qualifications: Candidates must be A.R.I.B.A. with a minimum of two years' professional experience.

The appointment will be on contract for tours of approximately 18 months renewable by mutual agreement and the secondment of the officer by his present employer in the United Kingdom will be favourably considered. Leave will be granted at the end of each tour on the basis of one week for each completed month of residential service. The Board will provide basically furnished housing accommodation at a low rental. The officer appointed will be required to contribute 10 per cent. of his basic salary to the Board's Provident Fund and to this the Board will themselves add 15 per cent. Free first-class passages are provided for the officer together with his wife and children, and facilities exist for children to visit parents during school holidays. Special children's allowances are, in addition, payable at the rate of £75 a year whilst the children are maintained in England. Full details of conditions of service and application forms for the above appointment may be obtained from the Commissioner for Nigeria, Nigeria House, 9, Northumberland Avenue, London, W.C.2 (envelopes to be clearly marked "Attention of L.E.D.B. Representative"). Applications are to be completed in duplicate and despatched as follows:—

1 copy to the undersigned by air mail.
1 copy to Nigeria House (address as above).
The closing date for the receipt of applications is 23rd January, 1960.

J. W. HENDERSON,

Chief Executive Officer.

L.E.D.B.

Reclamation Road,

P.O. Box 907,

Lagos, Nigeria. 7386

COUNTY BOROUGH OF SOUTHAMPTON requires under N.J.C. conditions of service:

(a) ASSISTANT ARCHITECT, Special Scale £785-£1,070. Applicants must have passed Parts I and II of the R.I.B.A. Final examination and have had experience in housing design and construction and estate layout, preferably with a municipal authority.

(b) ARCHITECTURAL ASSISTANT, A.P.T. Grade II £765-£980. Applicants are required to have passed the Intermediate R.I.B.A. examination or its equivalent at one of the recognised schools of architecture, and preferably have had experience in local government housing.

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

Apply on application forms obtainable from the Borough Engineer and Surveyor, Civic Centre, Southampton, by Monday 4th January, 1960. 7343

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POST B. Maintenance of and alterations and additions to Government buildings, including preparation of drawings and estimates and the general supervision of works.

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Write to Director of Recruitment, Colonial Office, London, S.W.1, giving full names, age, qualifications and experience, quoting BCD 112/51/02/E2. 7462

ST. THOMAS' HOSPITAL

BOARD OF GOVERNORS

OFFICE DEVELOPMENT, STAGE 1
APPOINTMENT OF CLERK OF WORKS

Applications are invited for this temporary appointment from men who have had considerable general experience in the building trade and as Clerks of Works. It is expected that construction of this building to contain offices, shops and a public house will commence in February-March, 1960 and will take between 18 and 24 months to complete.

The Clerk of Works appointed may, if he proves in every way suitable, expect favourable consideration for transfer to the main hospital rebuilding project which should commence in 18 months' time. Salary of not less than £1,000 to be determined by experience and ability.

Applications to the Architect, St. Thomas' Hospital, London, S.E.1. 7373

BOROUGH OF ILFORD

BOROUGH ENGINEER'S DEPARTMENT

ARCHITECTURAL STAFF

(a) SENIOR ASSISTANT ARCHITECT, Grade A.P.T. IV (£1,055-£1,220).

(b) ASSISTANT ARCHITECT, Grade A.P.T. II/III (£765-£1,065).

(c) ARCHITECTURAL ASSISTANT, Grade A.P.T. I (£610-£765).

The commencing salaries will be fixed within the scales, according to qualifications and experience. London weighting payable in addition.

Candidates for appointment (a) must be Associate Members of the R.I.B.A. and have suitable experience in the development of Council housing, multi-storey flats, schools and other public buildings.

Candidates for appointment (b) should have passed the Intermediate Examination of the R.I.B.A. or equivalent.

Appointments permanent, superannuable, subject to National Conditions of Service and to satisfactory medical examination.

The Council is prepared to consider, if necessary, the provision of housing accommodation.

Forms of application obtainable from the Borough Engineer, Town Hall, Ilford, should be returned by 18th January, 1960. 7468

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Applications are invited for this appointment. Starting salary according to experience. Car allowance payable. Housing not offered but this question is being considered generally by the Council.

The successful applicant will control the Town Planning Section. He must hold the Final Examination of the Town Planning Institute and additional architectural or engineering qualifications will be advantageous. Applicants will be preferred who have experience in urban redevelopment with a local authority in addition to routine control of development.

Forms are obtainable from and must be returned by first post on 18th January, 1960, to the Borough Engineer and Surveyor, Municipal Offices, High Road, Woodford, E.18. 746

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Applications within 14 days, stating age and giving details of experience and qualifications to:

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National Coal Board,
East Midlands Division,
Sherwood Lodge, Arnold,
Nr. Nottingham,
quoting the appropriate S.V. No. 7455

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CITY ARCHITECT'S DEPARTMENT

Applications are invited from persons under 45 years of age for a number of appointments as ARCHITECTS in the City Architect's Department.

The salaries will be according to the following scales—£795 to £1,075 or £1,085 to £1,190 and placements in these scales will be according to experience.

Applicants must be Associate Members of the Royal Institute of British Architects and if successful, will require to pass a medical examination for entry to the Superannuation Scheme.

Applications, giving full information of training, experience and qualifications, together with the names of two professional referees and details of applicant's housing needs, if any, should be lodged with the Town Clerk, City Chambers, Dundee, not later than 9th January, 1960. 7459

SOUTH WEST METROPOLITAN REGIONAL HOSPITAL BOARD

Applications are invited for the post of (a) ASSISTANT ARCHITECT or (b) ARCHITECTURAL ASSISTANT or (c) DRAUGHTSMAN on the permanent staff of the Board generally in accordance with Whitley Council Conditions of Service.

Applicants for post (a) must be Associate members of the Royal Institute of British Architects and capable of preparing working and detailed drawings and specifications and supervising work on individual projects; experience of hospital planning and construction an advantage. The commencing salary will be fixed according to age and experience within the scale £750 x £25 (2) x £30 (2) x £35 (5) x £40 (1) - £1,055 p.a.

Applicants for post (b) must have passed the Intermediate Examination of the R.I.B.A. or equivalent examination; commencing salary within the scale £545 (at age 21) x £20 (3) x £25 (4) x £30 (2) - £765 p.a.

Applicants for post (c) must have had suitable training, including three years' technical experience in architectural drawing; salary £445 (at age 21) x £25 (5) x £30 (3) - £660 p.a.

All the scales quoted are under review and a London weighting allowance is payable in addition.

Application forms may be obtained from the undersigned at 40, Eastbourne Terrace, London, W.2, and must be completed and returned by 12th January.

E. G. BRAITHWAITE,
Secretary.
7457

COUNTY BOROUGH OF DUDLEY BOROUGH ARCHITECT'S DEPARTMENT

- (a) ASSISTANT ARCHITECT—Special Grade (£785—£1,070).
- (b) ARCHITECTURAL ASSISTANT—Grade II (£765—£880).
- (c) ARCHITECTURAL ASSISTANT—A.P.T. Grade I (£610—£765).
- (d) JUNIOR ARCHITECTURAL DRAUGHTSMAN—General Division (£210—£465).
- (e) QUANTITY SURVEYING ASSISTANT—Grade I (£610—£765).
- (f) JUNIOR QUANTITY SURVEYING ASSISTANT—General Division (£210—£465).

The above appointments will be permanent and supernumerary, subject to passing a medical examination, and terminable by one calendar month's notice on either side.

Applicants for (a) should be A.R.I.B.A. and for (b) should have passed the Intermediate R.I.B.A.

Applications, together with the names and addresses of two referees, to reach me by Friday, 8th January, 1960.

P. D. WADSWORTH,
Town Clerk.

The Council House,
Dudley.
17th December, 1959. 7458

COUNTY BOROUGH OF SOUTHAMPTON BOROUGH ARCHITECT'S DEPARTMENT

Applications are invited for the following permanent posts:—

- (a) SENIOR ASSISTANT ARCHITECT, Grade A.P.T. IV (£1,065—£1,220).
- (b) SENIOR ASSISTANT ARCHITECT, Special Grade (£785—£1,070). Experience in School major projects an advantage.
- (c) ARCHITECTURAL ASSISTANT, Grade A.P.T. I (£610—£765).
- (d) SENIOR QUANTITY SURVEYOR, Special Grade (£785—£1,070).

Applicants should possess appropriate qualifications and should state their housing needs and commencing salary required.

Application forms from the Borough Architect, Civic Centre, Southampton, returnable by 16th January, 1960. 7456

ARGYL COUNTY COUNCIL COUNTY ARCHITECT'S DEPARTMENT

Applications are invited for the following appointments:—

- (a) ASSISTANT ARCHITECT. Salary £1,040—£1,120 per annum.
- (b) ARCHITECTURAL ASSISTANT. Salary £735—£865 per annum.

For post (a) applicants must be qualified architects who have had experience in the design and construction of modern school buildings and housing.

For post (b) applicants must have had a general architectural training, be capable of surveying, levelling, preparing detailed drawings and specifications and have had experience particularly in connection with Housing and Schools.

The posts are supernumerary.

Housing accommodation will be made available if required.

Applications, stating post applied for and giving age, experience and qualifications, along with the names of two referees, should be lodged with the County Architect, County Offices, Dunoon, by 9th January, 1960.

A. D. JACKSON,
County Clerk.
7454

ARCHITECTURAL DRAUGHTSMAN required for London Office with general experience, but particularly of work of an industrial character, and ability to undertake site surveys, levelling, etc. Commencing salary £662 per annum. Applications, giving age, experience and qualifications, to Personnel Officer, British Road Services Limited, 222, Marylebone Road, London, N.W.1. 7406

COUNTY BOROUGH OF CROYDON ARCHITECTURAL ASSISTANT

Applications are invited for this pensionable appointment in the Corporation's general architectural work, which includes a variety of interesting projects. Commencing salary according to experience between £630 and £795 p.a., or with R.I.B.A. Intermediate between £785 and £910 p.a., both progressing to £1,100 p.a. with final qualification. Further particulars and application forms from the Borough Engineer, Town Hall, Croydon. Closing date 14th January, 1960. E. TABERNER, Town Clerk 7473

BOROUGH OF RUGBY ARCHITECTURAL ASSISTANT

Applications are invited for the above appointment in the Borough Surveyor's Department. Salary within the Special Grade £785—£1,070.

Commencing salary will depend on qualifications and experience. Housing accommodation will be available if required.

The appointment is subject to satisfactory medical examination, the Local Government Superannuation Acts, and determination by one month's notice. Further particulars and form of application may be obtained from the Borough Surveyor, Burford House, Rugby, to whom completed applications must be sent not later than 8th January, 1960.

T. L. DUFFY,
Town Clerk.
7410

COUNTY BOROUGH OF BIRKENHEAD BOROUGH ARCHITECT'S DEPARTMENT

Applications are invited for the following Established Posts:—

- (a) TWO CHIEF ASSISTANTS, Grade A.P.T. V (£1,220—£1,375).
- (b) FOUR PRINCIPAL ASSISTANTS, Grade A.P.T. IV (£1,065—£1,220).
- (c) ONE STRUCTURAL ENGINEER, Grade A.P.T. IV (£1,065—£1,220).

Applicants for the posts (a) must be associates of the Royal Institute of British Architects and the officer appointed will be responsible for the work in the Education Section or Housing and General Section. Applicants for the posts (b) must be qualified and have a good general experience in design and construction and capable of taking charge of large projects with the minimum of supervision. Applicants for post (c) must be qualified Civil or Structural Engineers experienced in design and detailing in steelwork and/or reinforced concrete. The posts offer interesting and responsible work in connection with the Council's extensive programme of Schools and other major building schemes. Forms of application and further particulars obtainable from Borough Architect's Department, 3, Conway Street, Birkenhead. Closing date for applications, 15th January, 1960. Relationship to members or senior officers of the Council must be disclosed. 7424

Applicants are invited from fully qualified Architects for appointment to the following posts in the County Housing Architect's Department, Hamilton:—

- (a) SENIOR ARCHITECT, to act as group leader. Salary scale £1,310—£1,425.
- (b) SENIOR ASSISTANT ARCHITECTS. Salary scale £1,145—£1,310.
- (c) ASSISTANT ARCHITECTS, J.I.C. salary scale £795—£1,075.
- (d) ARCHITECTURAL ASSISTANTS. Salary scale according to qualifications and/or experience.

Applicants for posts (a), (b) and (c) must be fully qualified A.R.I.B.A. and have experience in preparation of comprehensive layouts for areas of new development and redevelopment; design and construction of multi-storey flats and maisonettes, shops and other ancillary buildings.

Applicants for post (d) should be A.R.I.B.A. Intermediate or have had good architectural experience.

Superannuation, medical examination, no canvassing.

Applications, stating age, qualifications and experience, together with names and addresses of two referees, to County Clerk, P.O. Box 1, Glasgow, within 14 days of date of advertisement. 7437

LANARK COUNTY COUNCIL SENIOR ASSISTANT ENGINEER

required for COUNTY HOUSING ARCHITECT AND ENGINEER'S DEPARTMENT, HAMILTON. Salary scale £1,145—£1,310. Must be fully qualified and have experience in the preparation of surveys, design, and control of road construction work for new housing development and redevelopment.

Superannuation. Medical examination. No canvassing.

Applications, stating age, qualifications, and experience, together with names and addresses of two referees, to County Clerk, P.O. Box 1, Glasgow, within 14 days of date of advertisement. 7438

LONDON COUNTY COUNCIL ARCHITECTURAL ASSISTANT

required in Historic Buildings Section of Architect's Department for work on applications and notices under Section 30, Town and Country Planning Act, 1947. Knowledge of 17th-18th century architecture and experience in town and country planning desirable. Up to £895 according to experience and qualifications. Particulars and application form returnable by 16th January, 1960, from Architect (EK/120/59), County Hall, S.E.1. (2850.) 7409

CITY AND COUNTY OF LICHFIELD CITY ENGINEER & SURVEYOR'S DEPARTMENT

APPOINTMENT OF JUNIOR ARCHITECTURAL ASSISTANT—A.P.T. Grade I (£610—£765 p.a.)

Applications are invited for the above appointment in the City Engineer and Surveyor's Department. The appointment, which is permanent, offers an opportunity to participate in interesting architectural work in connection with Overspill and Town Centre Redevelopment Schemes.

Applicants should have had suitable training and experience appropriate to the appointment. The appointment will be subject to the Scheme of Conditions of Service and the provisions of the Local Government Superannuation Acts. A Day Release for study will be permitted on one day per week.

Further particulars may be obtained from Mr. D. Oglesby, M.I.Mun.E., City Engineer & Surveyor, Meredith House, 62, Wade Street, Lichfield.

Applications, stating previous appointments, qualifications and details of experience, together with the names and addresses of two referees, must be received by the undersigned in a plain sealed envelope endorsed "Architectural Assistant" not later than noon on Friday, 8th January, 1960.

HENRY J. CALLENDER,
Town Clerk.

Guildhall,
Lichfield.
16th December, 1959. 7439

WORTLEY RURAL DISTRICT COUNCIL APPOINTMENT OF SENIOR ASSISTANT ARCHITECT

Applications are invited for this appointment at a salary in the range £785 rising to £1,070 per annum.

Housing accommodation available, if required.

Forms of application may be obtained from the undersigned, to whom applications must be delivered not later than 18th January, 1960.

ADRIAN M. KELLY,
Clerk.

Council Offices,
Grenoside,
Nr. Sheffield. 7453

BRITISH RAILWAYS

Applications are invited for the post of ASSISTANT ARCHITECT in the office of the Architect, Eastern Region, British Railways, at King's Cross Station. The office is engaged on a wide range of interesting buildings, and gives responsibility for design, administration and site supervision to those of ability. Applicants should be qualified with some years' practical experience. Starting salary £835 p.a. Modern working conditions, five-day week, and substantial rail travel concessions. Apply in writing to the Chief Civil Engineer, British Railways, Eastern Region, King's Cross Station, London, N.1. 7429

Applicants are invited for the following appointments:—

- (a) SENIOR ARCHITECT (commencing salary up to £1,200). Applicants must be qualified with several years' experience.
- (b) SENIOR ARCHITECTURAL ASSISTANT (commencing salary up to £1,050). Applicants must be qualified or have held a senior post for several years.
- (c) ARCHITECTURAL ASSISTANTS (commencing salary up to £765). Applicants must be of Intermediate standard with several years' experience.
- (d) ARCHITECTURAL ASSISTANTS (commencing salary up to £610). Applicants must have had several years' experience and be competent draughtsmen.

Only those keenly interested in progressive design need apply.

Write for further particulars and form of application to The Surveyor to the University, The Malthouse, Tidmarsh Lane, Oxford. 7447

COUNTY BOROUGH OF EAST HAM HOUSING DEPARTMENT APPOINTMENT OF ARCHITECTURAL ASSISTANT

Applications are invited. Salary Grade A.P.T. I (£610 x £30 (4) x £35 (1) - £765, plus London weighting).

Applicants should have passed the Intermediate Examination of the R.I.B.A., and be experienced in preparation of working drawings and details for construction of new dwellings, conversion of existing properties and drawing office routine.

Further details and application form (returnable by 13th January 1960) from the Town Clerk, Town Hall, East Ham, E.6. 7450

ARCHITECTS BUILDING SURVEYORS LANDSCAPE ARCHITECTS QUANTITY SURVEYORS and ASSISTANTS

Required for construction and maintenance of parks and playing fields, sports buildings, restaurants, service buildings, etc. Salaries up to £1,135 for applicants with appropriate professional qualifications or £895 for Assistants (preferably Intermediate standard). Starting point according to qualifications and experience. Also opportunities for Juniors.

Apply to Chief Officer, Parks Department, London County Council, County Hall, London, S.E.1. (WATERLOO 5000, Ext. 8076.) (2727.) 7309

PADDINGTON BOROUGH COUNCIL**DRAUGHTSMAN (£640-£795)**

Starting salary according to qualifications and experience. Suitable for probationer member, R.I.B.A. Applications should state age, experience, present and past appointments, names of two referees, and should reach me by 11th January, 1960 (quoting A.44).

W. H. BENTLEY,
Town Clerk.

Town Hall,
Paddington, W.2. 7417

GOVERNMENT OF NORTHERN NIGERIA

ARCHITECTS, MINISTRY OF WORKS
To prepare sketch plans, working drawings, and detailed specifications for various types of buildings varying from £20,000 to £500,000, and carry out the work of an Architectural Office. Contract appointment. Either (a) Normal Contract Terms for one tour of 15-24 months; Salary (at present under review) £1,374-£2,094 plus gratuity, or (b) Medium Contract Terms for four tours of service, each of 15 months. Salary £1,254-£1,962 plus gratuity equal to one third of aggregate salary. Rented quarters. Children's allowances. Candidates must be A.R.I.B.A. and under 45 years of age with wide general experience. Write Director of Recruitment, Colonial Office, London, S.W.1, giving full names, age, qualifications and experience, quoting BCD 112/408/07/E2. 7414

ROYAL BURGH OF AYR

APPOINTMENT OF SENIOR ARCHITECTURAL & TOWN PLANNING ASSISTANT
Applications are invited for the post of Senior Architectural & Town Planning Assistant in the Department of the Burgh Surveyor at a salary of £795-£1,075 per annum, with placing according to qualifications and experience. The post is supernumerary.

Applicants should be A.R.I.B.A., and membership of the Town Planning Institute would be an advantage. Applications, giving age, qualifications and experience, together with two copies of recent testimonials, should be sent to the undersigned by 12 noon on Saturday, 9th January, 1960.

Housing accommodation may be made available to the successful applicant, if required.

ROBERT C. BROWN,
Town Clerk.

Town Buildings,
Ayr. 7446
15th December, 1959.

WARWICKSHIRE COUNTY COUNCIL**ARCHITECT'S DEPARTMENT**

Applications are invited for the following appointments:-

1. **SENIOR ASSISTANT ARCHITECTS**—Grade A.P.T. III-IV (£980-£1,220). Applicants must be members of the Royal Institute of British Architects and be competent designers with a good knowledge of modern methods of construction.

2. **ASSISTANT ARCHITECTS**—Special Grade (£785-£1,070). Applicants must have passed Parts I and II of the R.I.B.A. Final or Special Examinations or their equivalent at one of the recognised schools of architecture. The successful applicants will work in teams on large projects but opportunity will be given to men with enthusiasm and ability to design and carry out smaller projects under a Group Architect.

3. **ASSISTANT HEATING ENGINEERS**—Grade A.P.T. III (£880-£1,065). Applicants should have had some years in the design of heating and hot and cold water supplies.

The commencing salary can be within the grade according to ability and experience.

Application forms and other conditions applicable to the appointments can be obtained from E. Davies, A.R.I.B.A., A.M.T.P.I., Deputy County Architect, Shire Hall, Warwick.

L EDGAR STEPHENS,
Clerk of the Council.

Shire Hall,
Warwick. 7261

QUANTITY SURVEYING ASSISTANTS.

GRADE III required by AIR MINISTRY in the PROVINCES. Duties include abstracting and billing, site measurement and preparation of estimates. Commencing salary according to age, qualifications and experience. Salary ranges from £680 at age 26 rising to £850. Candidates must hold O.N.C. (Building or Builders Quantities) or equivalent and have good experience under Quantity Surveyor or Building Contractor. Knowledge W.D. Schedule an advantage. Promotion and pension prospects. Five-day week, three weeks' three days' leave a year initially. Appointments carry liability for service anywhere U.K. or overseas. Applicants normally should be natural born British subjects. Write stating age, qualifications and previous appointments, including type of work done, to Manager (P.E. 105), Professional and Executive Register, Ministry of Labour, Atlantic House, Farringdon Street, E.C.4. No original testimonials should be sent. Only applicants selected for interview will be advised. 6794

WORCESTERSHIRE COUNTY COUNCIL

Applications are invited for the post of **ARCHITECTURAL ASSISTANT** Grade A.P.T. III (£880-£1,065) or **Special Grade** (£785-£1,070) according to qualifications and experience. The County Council may be able to assist with housing accommodation.

Application forms and further particulars should be obtained from L. C. Lomas, F.R.I.B.A., County Architect, 14, Castle Street, Worcester, not later than 8th January, 1960. (U.174.) 7407

LONDON COUNTY COUNCIL

A few vacancies exist in the Housing Division for unqualified **ARCHITECTURAL ASSISTANTS** with office experience. Preference to candidates proposing to qualify by evening study. Full programme offers valuable experience and opportunities for merit promotion. Starting salaries according to age and experience. Form and particulars from Hubert Bennett, F.R.I.B.A., Architect to Council, EK/121/59, County Hall, S.E.1. (2843.) 7430

LONDON COUNTY COUNCIL

ARCHITECTS (up to £1,135) required for Housing, Schools and General Divisions. Full and varied programme of new work including schools, multi-storey flats and Town Development. Starting salaries according to qualifications and experience.

Particulars and application form from Hubert Bennett, F.R.I.B.A., Architect to Council, EK/113/59, County Hall, S.E.1. (2630.) 7133

Architectural Appointments Vacant

4 lines or under, 9s. 6d.; each additional line, 2s. 6d. Box Number, including forwarding replies, 2s. extra

ERIC FIERMIN & PARTNERS require Senior ASSISTANTS for work on industrial and commercial projects. Five-day week, Luncheon Vouchers. Salary by arrangement. Please apply 5 Holborn Circus, E.C.1. CITY 8811. 6964

RONALD WARD & PARTNERS have immediate vacancies for ASSISTANT ARCHITECTS with initiative and some experience, for interesting, commercial, industrial and civic projects. Salaries commensurate with ability. Apply, 29, Chesham Place, S.W.1. BELGRAVIA 3361. 5638

ASSISTANTS required for busy Architect's City office; Laboratory and Industrial projects. Intermediate standard or above. Apply to: Secretary, Fairclough and Morris, Temple Chambers, Temple Avenue, E.C.4. FLE. 6295. 6932

ARCHITECTURAL ASSISTANT at Final standard required by Buckinghamshire office. Interesting and varied work with scope for initiative and responsibility. State age, experience and salary required to Box 5871. 6429

ARCHITECTURAL ASSISTANTS, Senior and Junior, required by firm in High Wycombe for commercial and industrial schemes. Scope for responsibility and experience. Five-day week. Write Box 6636. 6429

TREHEARNE & NORMAN, PRESTON & PARTNERS, have vacancies for ARCHITECTS and ASSISTANTS with imagination and designing ability to assist with important new developments in the London area. Apply in confidence to 83, Kingsway, London, W.C.2. (BOL. 4071.) 6429

THREE qualified **ARCHITECTURAL ASSISTANTS** with office experience required for (a) Industrial Work, (b) School Contracts, (c) large housing scheme abroad. Assistants will be expected to take the responsibility of running and supervising these contracts. Salary according to age (limit 35) and experience. Apply to J. M. Austin-Smith & Partners, 29 Sackville Street, London, W.1. 6555

SENIOR ASSISTANTS urgently required for busy City office engaged in industrial and commercial work, 5-day week. Luncheon Vouchers. Salary up to £1,200 according to experience. Box 6554. 6776

ASSISTANTS of Intermediate or equivalent standard, required for office in South Kensington. Interesting and varied work offering scope for initiative, responsibility and opportunities for design. Commencing salary up to £800 per annum, according to qualifications. Five-day week. Apply R. Mountford Pigott & Partners, KENSINGTON 1242. 6776

ARCHITECTURAL ASSISTANTS required by Hasker & Hall, L/F.R.I.B.A., for senior and intermediate positions in their offices in London and Warwickshire. Good salary, with scope for initiative and responsibility. Write to 13 Welbeck Street, W.1, or telephone WEL. 0061 or Knowle (Birmingham) 3502. 6724

NORTH AND PARTNERS, Chartered Architects, Maidenhead, have several vacancies for Intermediate and Senior **ARCHITECTURAL ASSISTANTS**. Salary range £750 to £1,250 according to experience. Apply in writing: 40, The Broadway, Maidenhead. 7117

ATCOST (FACTORIES) LTD., Builders of Industrial Estates require

ARCHITECTURAL ASSISTANTS (Intermediate to Final R.I.B.A. Standard) AND JUNIOR ASSISTANTS

To work on varied and interesting industrial projects for their rapidly expanding Architects' Departments at Darlington and Tunbridge Wells.

Applicants should be prepared to work in teams on progressive design and construction techniques. These positions offer good opportunities to keen men. Salary according to experience and ability, but generally in the range £600-£900 for senior appointments.

Please write, in confidence, giving brief details of experience, age, etc., to:

Chief Architect, Atcost (Factories) Ltd., York House, Tunbridge Wells, Kent.

One of the ATCOST Group of Companies. 7275

MORRIS DE METZ, F.R.I.B.A., requires an experienced **ARCHITECTURAL ASSISTANT** for a large interesting office building in London; drawing office on site. Salary up to £950. Tele.: HUNTER 2581. 6936

YORKE, ROSENBERG & MARDALL require **ASSISTANTS**. Apply in writing to 2 Hyde Park Place, London, W.2. 7634

ASSISTANTS required immediately. Intermediate and Final standard. Interesting positions giving plenty of scope for responsibility and contract supervision in West End Office. Tel. MAYfair 3111 or Box 7129.

QUALIFIED ASSISTANT ARCHITECTS required, minimum three years' office experience, preferably in London. Minimum salary £1,000 according to ability and experience. Theo. H. Birks, 38, Portland Place, W.1. LAN. 7236. 7126

INTERMEDIATE standard ASSISTANT required for a contemporary practice in Bromley, Kent. Salary range £400-£600. Apply: Robert J. Wood, A.R.I.B.A., Lewes Road, Bromley. Tel. RAvenbourne 1083. 7078

ASSISTANTS of Intermediate and Final standard required immediately. Salary range between £800 and £1,000 a year. Please reply in writing to Clive H. H. Durham, 32, Putney Hill, S.W.15. 7167

INTERMEDIATE standard ASSISTANTS required, minimum two years' office experience. Minimum salary £750 according to ability. Theo. H. Birks, 38, Portland Place, W.1. LAN. 7236. 7127

ARCHITECTURAL ASSISTANTS required in West End. Should be capable of preparing 1/4" scale drawings and details from sketch plans. Box 6980. 6429

SENIOR ARCHITECTURAL ASSISTANTS, and JUNIORS up to about Intermediate standard, required for varied industrial and commercial work in West End Office. Scope for initiative and advancement. Salary from £500 to £1,000 according to age and experience. Five-day week. Write, giving full details, to Box 7220. 6429

ARCHITECTURAL ASSISTANT of about Intermediate standard required in the office of the Staff Architect of a well known London Company. Salary £500. Apply, giving particulars of age, training and experience, if any, to Box 7212. 6429

J. DOUGLASS MATHEWS & PARTNERS, Chartered Architects, 3, Ebury Street, London, S.W.1, require medium grade ASSISTANTS. Please write, giving full details of education and experience. 7318

J. M. AUSTIN-SMITH & PARTNERS require **ARCHITECTURAL ASSISTANTS** with office experience for (a) school contracts, (b) large housing scheme abroad, (c) shops and shop conversions, (d) industrial work. Assistants will be expected to take the responsibility of running and supervising these contracts. Salary according to age (limit 35) and experience. Apply to 29 Sackville Street, London, W.1. 7251

CHARLES PIKE & PARTNERS require ASSISTANTS for interesting schemes. Training Colleges, Technical Colleges, Schools, Hostels. Salary according to experience, £700 to £1,050. Write 14, Lincoln's Inn Fields, W.C.2, or phone Holborn 3532 for appointment. 7258

ARCHITECTURAL ASSISTANTS required. Starting salary £915 per annum. Glasgow Office, 5-day week. Schools, Offices, etc. State experience. D. Harvey & A. Scott, 2, Lynedoch Place, Glasgow, C.3. 7272

SURVEYING ASSISTANTS required for Architect's office. Should be proficient in chain surveying and levelling, a good draughtsman and of Intermediate R.I.C.S. standard. Good salary offered in accordance with ability. Applications to John H. D. Madin, 85, Hagley Road, Birmingham 16. 7268

ASSISTANT ARCHITECTS. Required in Birmingham Architect's office, ASSISTANTS with experience and initiative, to be associated with the development of large scale interesting industrial and commercial projects. Salaries commensurate with ability, within the salary range £750-£1,200 per annum. Apply in confidence giving details of qualifications, experience, age and salary expected to Box 7269. 6429

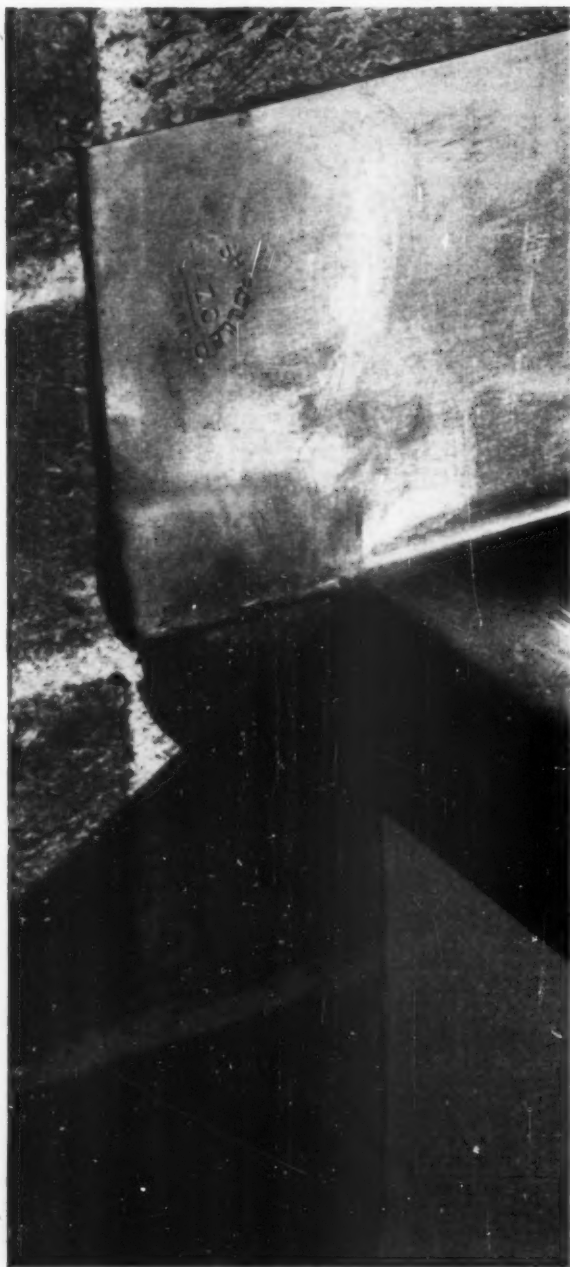
TWO ASSISTANTS required: one at Intermediate standard and one qualified with some years office experience, for small busy office. Salary according to experience. Ring LANGHAM 1732 or write to F. G. Frizzell, A.R.I.B.A., 80, Portland Place, W.1. 7278

LOUIS DE SOISSONS, PEACOCK, HODGES & ROBERTSON have immediate vacancies in their London office for Senior and Junior ASSISTANTS. Write stating age, salary and experience to the above at: 3, Park Square, Upper Harley Street, N.W.1. 7280

ARCHITECTURAL ASSISTANTS, Intermediate standard, required in London Office with varied practice. Interesting projects. Five-day week. Write giving particulars of age, experience, etc., to Box 903, c/o 7, Coptic Street, London, W.C.1. 7037

ASSISTANT ARCHITECTS AND STUDENTS are invited to apply to George A. Frew & Dunn, 50, Eastbourne Terrace, W.2. Various projects in hand include Hospital and Office development, ship interiors, schools and housing. Please write stating qualifications and salary required. 7372

FOR NEW BUILDING



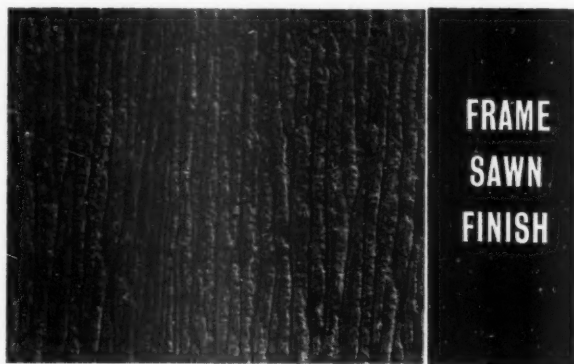
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ZINC AT YOUR SERVICE. For further information write to the Zinc Development Association, 34 Berkeley Square, London, W1

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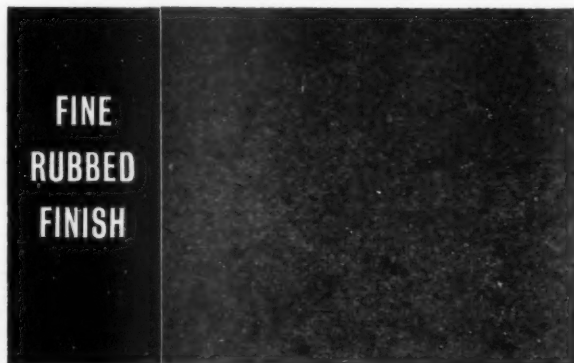


Lasting beauty



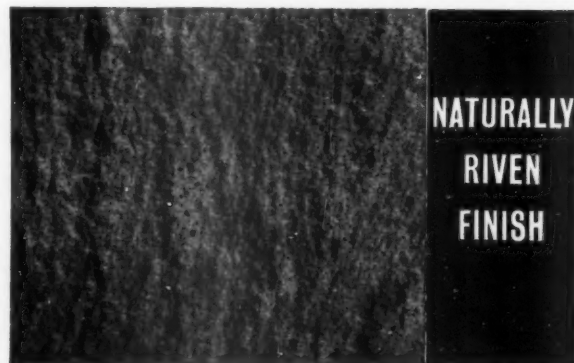
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ARCHITECTS' CO-PARTNERSHIP require qualified and nearly qualified ASSISTANTS with some experience for houses, university work, teachers' training college. Write to 44, Charlotte Street, W.1, or phone LAngham 5791. 7394

ARCHITECTURAL ASSISTANT required, with at least two years' office experience. Apply in writing to Thomas Mitchell & Partners, 20, Bedford Square, London, W.C.1. 7282

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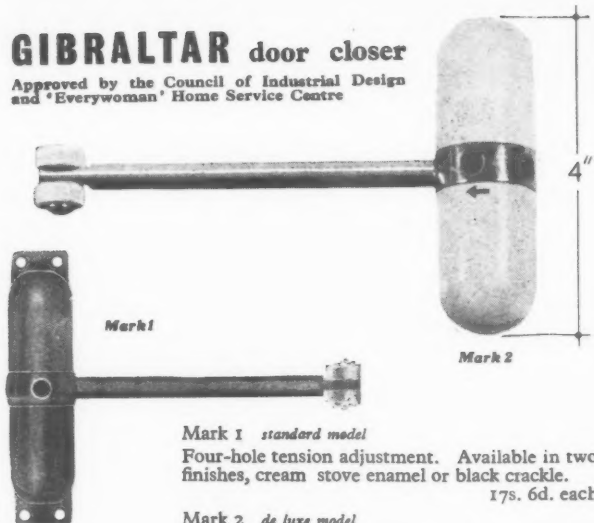
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An Announcement

of interest to Designers and Fabricators of Timber Structures

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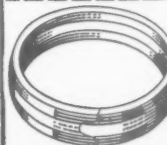
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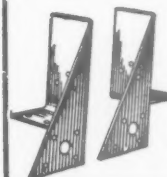
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