The Architects' JOURNAL for February 27, 1958

THE ARCHITECTS' JOURNAL

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

AA	Architectural Association, 34/6, Bedford Square, W.C.1.	Museum 0974
AAI	Association of Art Institutions. Secy.: W. L. Stevenson, College of Art, Hope Street, Liverpool 1.	Royal 1826
ABS	Architects' Benevolent Society. 66, Portland Place, W.1.	Langham 5721
ABT	Association of Building Technicians. 1, Ashley Place, S.W.1.	Victoria 0447-8
ACGB	Arts Council of Great Britain. 4, St. James' Square, S.W.1.	Whitehall 9737
ADA	Aluminium Development Association. 33, Grosvenor Street, W.1.	Mayfair 7501/8
ARCUK	Architects' Registration Council. 78, Wimpole Street, W.1.	Welbeck 2915
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, Portman 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
BEDA	British Electrical Development Association. 2, Savoy Hill, W.C.2.	Temple Bar 9434
BIA	British Ironfounders' Association. 145, Vincent Street, Glasgow, C.2.	Glasgow Central 2891
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
BRS	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
BTE	Building Trades Exhibition. 32, Millbank, S.W.1.	Tate Gallery 8134
CABAS	City and Borough Architects Society. C/o Johnson Blackett, F.R.I.B.A., Civic Centre, Newport, Mon.	Newport 65491
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
CCP	Council for Codes of Practice. Lambeth Bridge House, S.E.1.	Reliance 7611 Ext. 1284
CDA	Copper Development Association. 55, South Audley Street, W.1.	Grosvenor 8811
CIAM	Congrès Internationaux d'Architecture Moderne. Doldertal, 7, Zurich, Switzerland	
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
DGW	Directorate General of Works, Ministry of Works, Lambeth Bridge House, S.E.1.	Reliance 7611
DIA	Design and Industries Association. 13, Suffolk Street, S.W.1.	Whitehall 0540
DOT	Department of Overseas Trade. Horseguards Avenue, Whitehall, S.W.1.	Trafalgar 8855
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), 47, Princes Gate, Kensington, S.W.7.	Kensington 4577
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. 26, Great Ormond Street, Holborn, W.C.1.	Chancery 7583
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

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For Electric Cables, too– you need green fingers

Given the same soil, the same fertilizers, the same sunshine and rain; using, apparently, identical methods; two gardeners do not get identical results. One gardener grows perfect blooms in profusion but, try as he will, he can never tell you exactly how he does it. We say he has green fingers. But what really seems to have happened is that much he has learned over the years has become so completely part of himself that he does the right thing instinctively.

Something of the same kind seems to happen in engineering—with a whole works playing the gardener. It is not a question of craftsmanship in the old sense, for it occurs even on a production line. But in a works that has been making cable (for instance) for years, the right decision seems 'natural', being based on knowledge that is so much a part of past experience that it is taken for granted. This is one reason why a name with a long history can still mean so much.

Crompton

ELECTRICAL EQUIPMENT

A GOOD NAME FOR CABLE

Made to the registered specifications of the Cable Makers Association

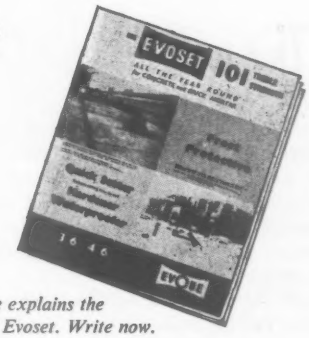
Crompton Parkinson Ltd., Crompton House, Aldwych, London, W.C.2. Cable Works: Alfreton Road, Derby. Tel.: Derby 45431

By courtesy of H. J. Heinz Co. Ltd.
Architects: J. Douglar Matthews & Partners
Partner in charge, M. Ryan, A.R.I.B.A. Dip. A.A.
Main Contractors: A. Monk & Company Limited

They took no risk of frost

Throughout the coldest weather the concrete continued to flow thanks to Evoset.
Every yard of concrete and cement Monk's of Warrington put into the great new Heinz food factory at Kitt Green was protected and improved by the addition of a small amount of Evoset. Protected because Evoset gives complete frost protection right down to a temperature as low as 6°F. Improved because Evoset accelerates setting and hardening and completely waterproofs.

Evoset has no corrosive action on properly imbedded steel reinforcement.
Evoset reduces mixing ratios and saves more than its own cost, too.



This brochure explains the economics of Evoset. Write now.

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Telephone: 2241 (5 lines).
LONDON OFFICE: 1, VICTORIA STREET, S.W.1. Telephone: ABBey 4622/3.

This well designed nursery is evenly warmed—How?

With Crane Skirting Heating. This has been installed, so that there is even, comfortable radiant heat effective all over the room. And, of course, the heating is inconspicuous, for Crane panels take the place of the normal skirting. So obviously it does not hamper your design but leaves the wall and floor space completely free.

Here are three noteworthy advantages of this latest heating medium. One, you don't have to worry about space for heating units or unsightly lateral pipework—panels complete that part of the circuit. Two, these cast iron panels have real strength—they will not buckle or yield under the most arduous duty. Three, installation is easy—ordering and fixing follows routine procedures.

There are two types of Crane Skirting Heating: Type R (Radiant) in 1′ or 2′ lengths, 6″ or 9″ high. Type RC (Radiant-Convector) in 1′ or 2′ lengths, 9″ high.

CRANE Skirting heating system

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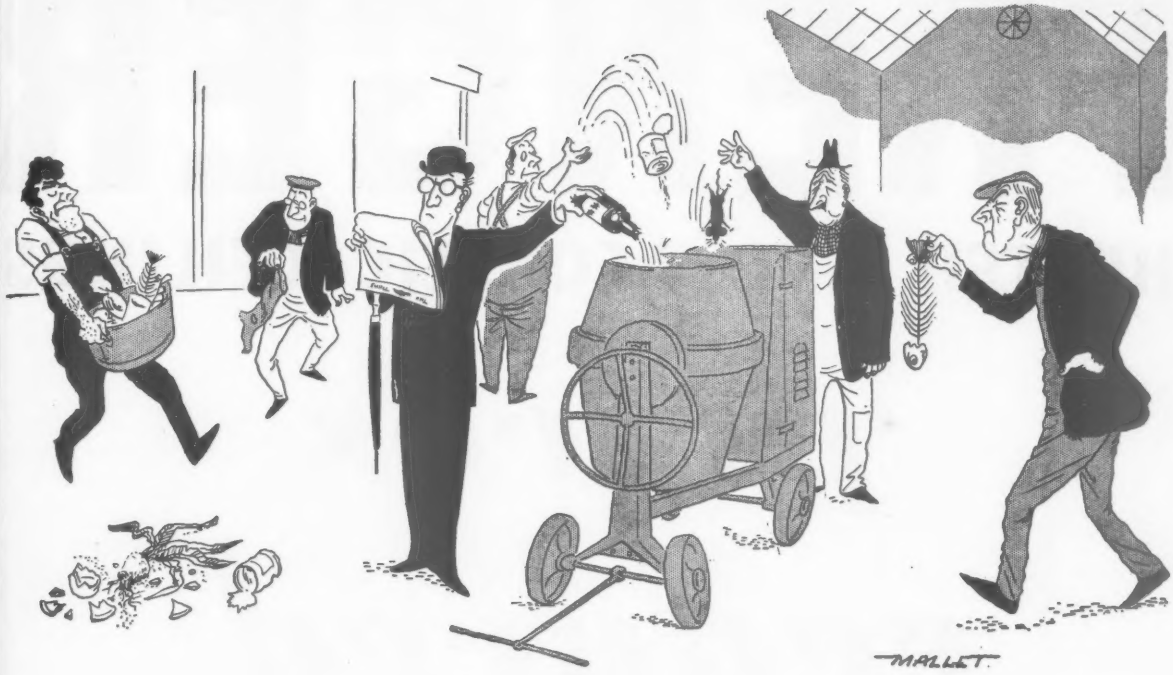


cement additives?

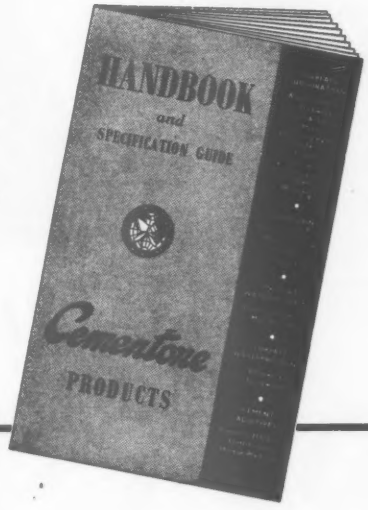
the 'Site' as seen by Dennis Mallet

The above scene is hardly our own idea of a well-ordered building site. Gone is the sense of urgency and responsibility, gone the smooth and efficient team work, the well-oiled machine—AND WHERE'S THE CEMENTONE???

But, of course, that must be the moral!

In future advertisements we shall endeavour to give comprehensive details of the various cement additives — colours, hardener, water-proofer, frost-proofer, plasticiser—and of other Cementone Products, each specially made for the job; and Mr. Mallet will again be illustrating why, in his view, they should be used in appropriate circumstances.

Meanwhile, you are invited to write for a copy of the Cementone Handbook which gives full details of all these products, and which will be sent, free on request.

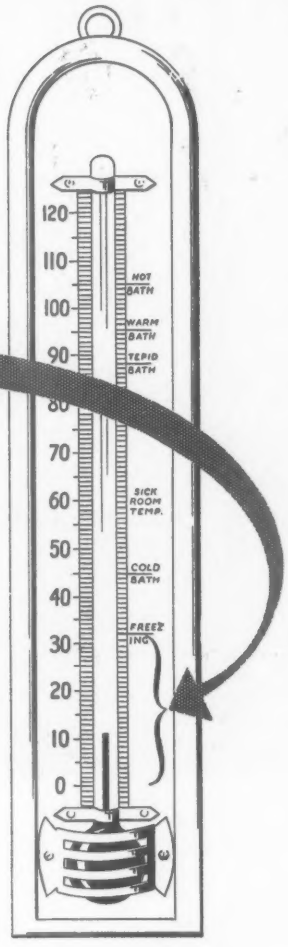


YOU CAN DEPEND ON THE **Cementone** PRODUCTS
—Specially Made For The Job

JOSEPH FREEMAN SONS & CO. LTD., CEMENTONE WORKS, WANDSWORTH, LONDON, S.W.18
Telephone: VANdyke 2432 (10 lines)

One lost week-end

Sandersons Fabrics New Factory Premises, Perivale, London. Contractors: Sims & Russell Ltd., Westminster.



The 1955-56 winter was the coldest for 10 years, and yet the erection of this factory continued throughout the winter months with only 2 DAYS LOST TIME. FEBSPEED PLUS Cement Anti-Freeze Compound was incorporated in the bricklaying mortar — allowing brickwork to be erected at temperatures down to 24°F. with the night temperature falling to 12°F.
That only the equivalent of a week-end was lost, was due to good organisation on the part of the contractor and the use of—

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THE CEMENT ANTI-FREEZE COMPOUND THAT ALSO PLASTICISES, WATERPROOFS AND RAPID HARDENS

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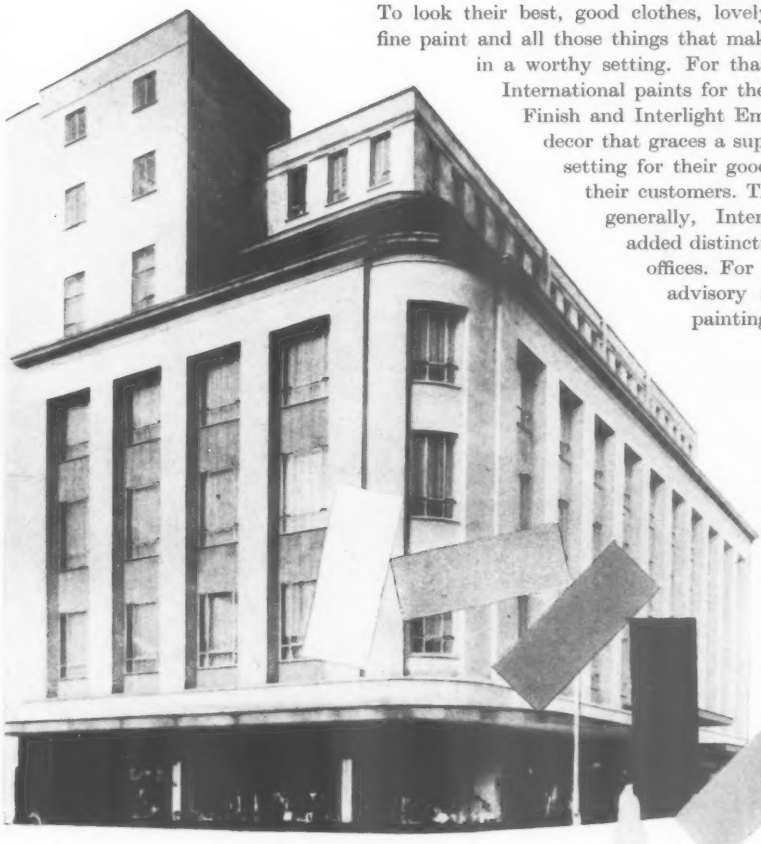
To look their best, good clothes, lovely jewellery, handsome furnishings, fine paint and all those things that make life more colourful must be seen in a worthy setting. For that reason Binns Ltd. have specified International paints for their new stores. With Interlux Gloss Finish and Interlight Emulsion Paint they have achieved a decor that graces a superb building . . . provides a perfect setting for their goods and offers a gracious welcome to their customers. Throughout commerce and industry generally, International paints are lending an added distinction to many fine stores, factories and offices. For the architect there is a first-class advisory service always ready to assist on painting problems.



Binns' new store at Middlesbrough is painted throughout with Interlux Gloss Finish and Interlight Emulsion Paint—both available in a wide range of colours.

Chartered Architect: Gordon Jeeves
Contractors: Leslie & Co. Ltd., Darlington

International Paints Ltd.

GROSVENOR GARDENS HOUSE, LONDON, S.W.1

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CANADA	VANCOUVER	ITALY	TRIESTE	U.S.A.	NEW YORK
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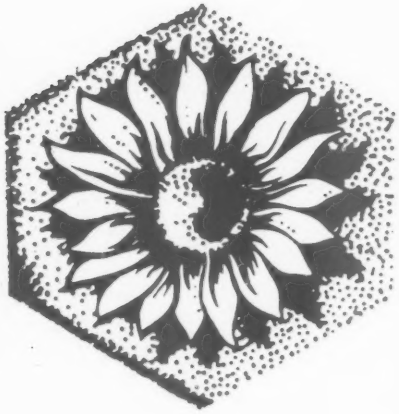
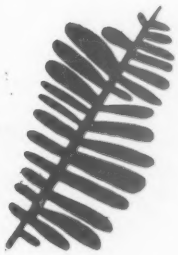
Design Leadership in action



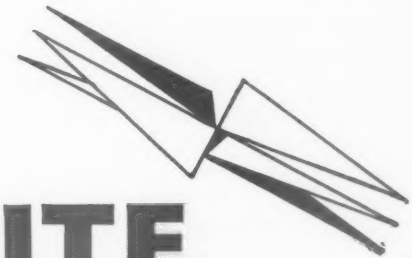


Give your interior decor a compelling theme with the new range of WARERITE Architectural Patterns. As exciting in colour and pattern as in name, Scaglio, Apia, San Marco, Exotica, Reticula, Arborea and Mezzola have opened new fields for laminated plastics. Long known for their hardwearing and easy-to-clean surfaces, WARERITE Laminated Plastics now offer exciting solutions to problems of imaginative yet practical design.

Call in your local WARERITE Specialist

WARERITE Specialists supply sheet and cut sizes of WARERITE from stock. They also supply ready-to-fix bar, shop counter, and kitchen fitment tops, etc., expertly fabricated in WARERITE Veneered Plywood. Write to Bakelite Limited for colour booklet, pattern sheets and details of the WARERITE Specialist Service.

This railway coach cocktail bar was constructed by Insulation Equipments Ltd., and designed by Robert Gutmann, F.S.I.A. The WARERITE patterns used were: Bar top—Mottle grey · Bar front—Exotica and Black · Canopy—Stardust blue · Back wall—WARERITE mural on Stardust blue · End wall—Mezzola blue · Sliding door—Stardust blue and Black · Surround—Mahogany Woodprint.



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'Simple, my boy! I've been specifying DOCKERS' PAINTS *all my professional life—and so did my father before me—and Dockers' Paints have never let us down. Remember—Dockers' Paints are reserved exclusively for professional decorators. That means that they must match up to the standards of men who* know *good paint when they meet it.*
Then look at the selection—Dockers' make a paint for every purpose. Dockers' standard range offers a magnificent choice.
Which brings me to my last point: Dockers' service. *Their fellows understand our problems and take endless trouble to help with the choice and use of the best paint for the job, and the working out of complete colour schemes. Here endeth* this *lesson. Think you've mastered it?'*

***'I think so, sir. How's this: if it's paints, specify* DOCKERS'.'**

'Excellent! We may make an architect of you yet.'

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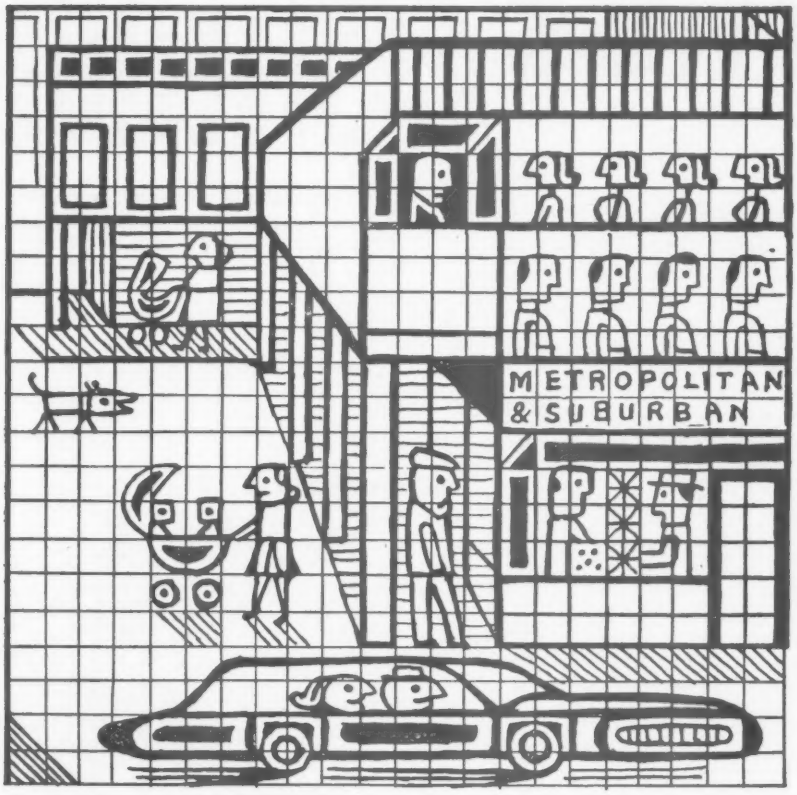


The Bankers' Dilemma

WHEN the Metropolitan & Suburban Bank decided to open a branch in Harvenage New Town, they were confronted with a grave architectural dilemma.

A normal Met. & Sub. branch office, with its Grecian pillars, rusticated stonework and brass-studded doors epitomizing security, was out of the question. And what sort of bank could be built with plain yellow bricks and armoured glass?

The result, something between an exhibition stand and a welfare centre, was surprisingly effective. The Man from Chubb, consulted at the blue-print stage about strongrooms, safes, and fire-resisting equipment, had the idea of making the strongroom door visible from the street.

"A more up-to-date symbol of strength than stone pillars," he said, "and stronger, too."

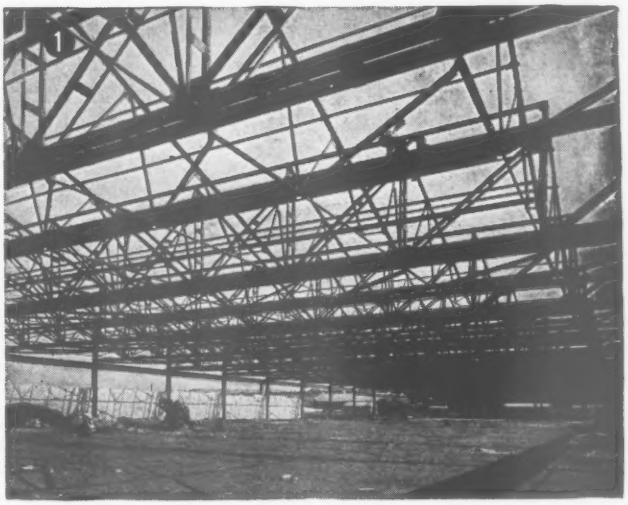
And so it was. The one professional burglar who had moved to Harvenage for easy pickings took a quick look and caught the next train for London.

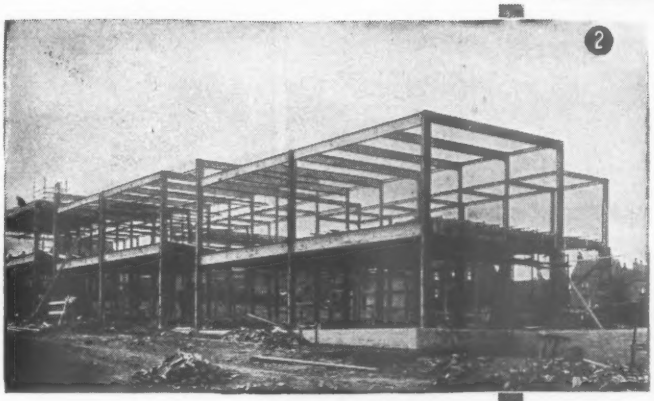
"These Chubb people are getting in everywhere," he was heard to say. "It's downright dishonest."

There are many ways in which these Chubb people can co-operate with architects, at every stage of planning. But for a start, you should certainly have the Chubb catalogue. It details the simpler, but equally burglar-daunting, equipment which you might need any day. Write or telephone for your copy to Chubb & Son's Lock and Safe Co. Ltd., 175-176 Tottenham Court Road, London, W.1. (MUSeum 5822).

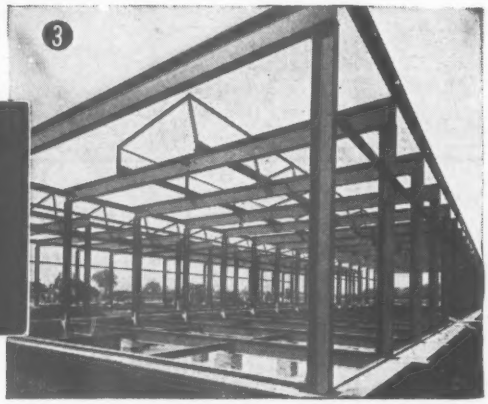
DON'T LEAVE IT TO CHANCE—LEAVE IT TO CHUBB

Design
Fabrication
Erection





1. New factory building for Messrs. William Cooke & Co. Ltd. of Rotherham. 300 ft. x 120 ft. span.
2. The County Primary School, Crosland Moor, Huddersfield.
3. College of Further Education, Grimsby, in course of erection. Stage 1.
4. The completed College. Stage 1.



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ESTABLISHED 1850

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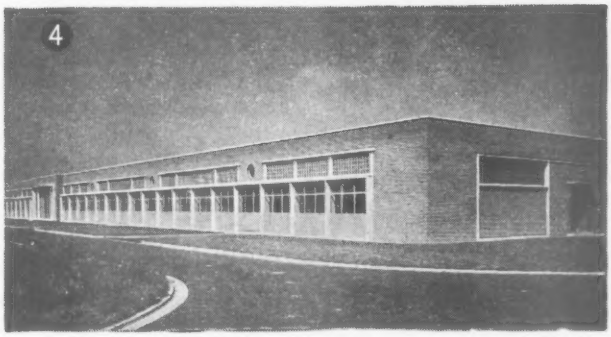

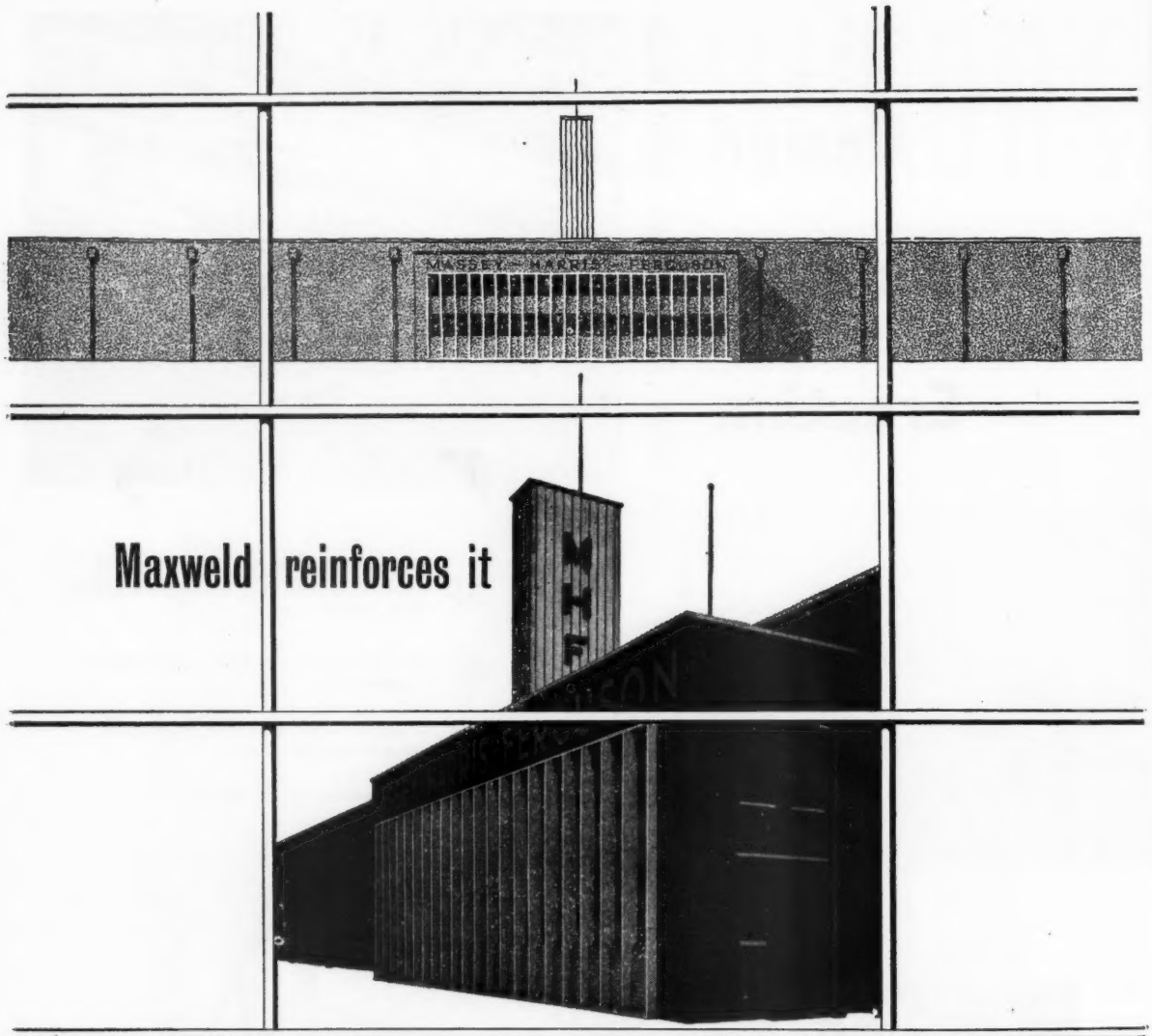

Maxweld reinforces it

The reinforcement fabric used in the Massey-Harris Ferguson factory at Stretford was supplied by Richard Hill. Do you need reinforcements? Then call up the Maxweld man! He can give you all the facts on the type and quantity of fabric you'll need plus a rough idea of the cost. And he's backed by the

Richard Hill Design Service

who can then draw up more detailed plans and estimates. You can get him at Middlesbrough (2206), London (Mayfair 3538), Birmingham (Mid. 5625), Manchester (Central 1652), Leeds (2-7540), Bristol (24977), Glasgow (Central 2179), Nottingham (Bulwell 27-8383), Bournemouth (Westbourne 63491), Cardiff (46552), Belfast (29126).

Maxweld fabric

is manufactured by RICHARD HILL LIMITED (Established 1868)

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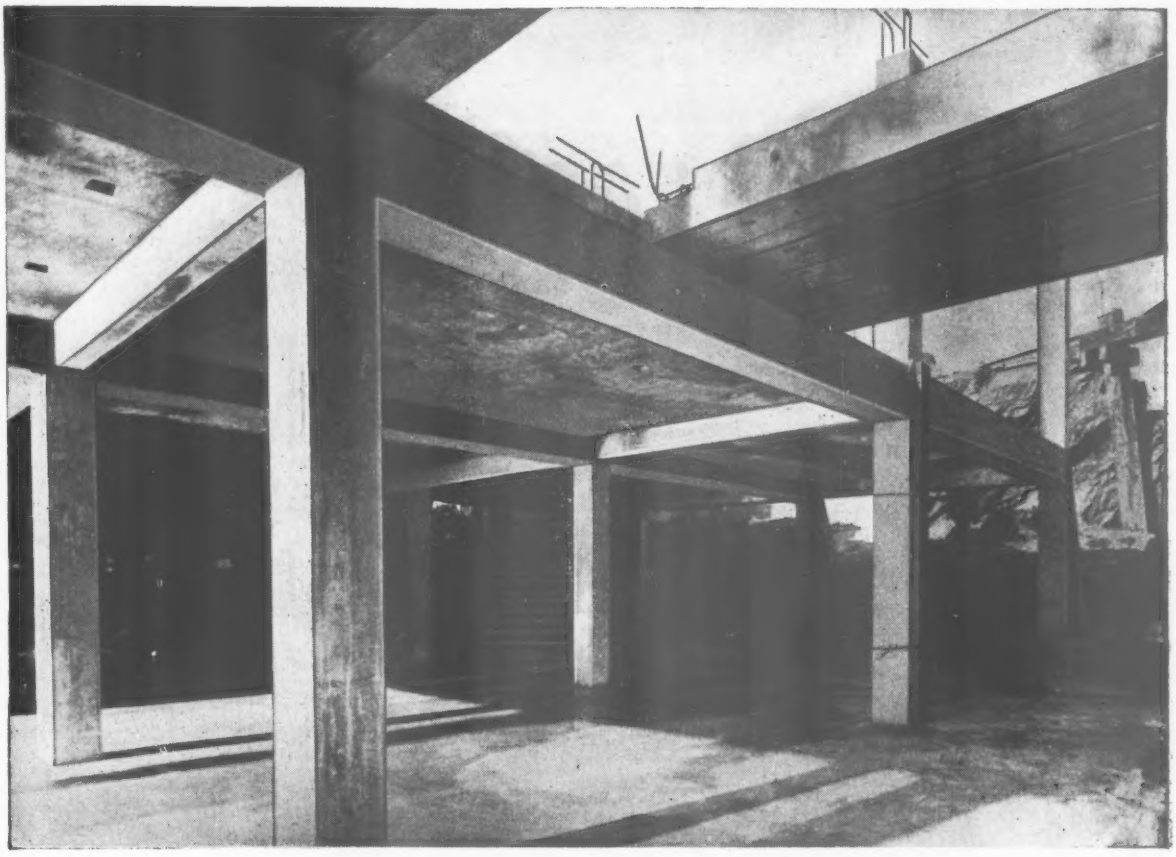

weyroc (REGD) shuttering...

offers concrete advantages

large boards — 8' x 4' for quick erection

can be used again and again; easily handled

smooth surfaces for best finish

great rigidity with minimum support

For more than ten years Weyroc has been widely used for shuttering. It needs only a simple surface dressing to fit it for repeated use.

weyroc — *one of the world's great man-made materials*

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It all adds up to Concrete—

In the Alderley Park, Cheshire, Research-Laboratories for I.C.I.'s Pharmaceuticals Division

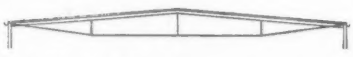
(*Architects:* Harry S. Fairhurst & Son, F.A.R.I.B.A.)

the forms of structural design were conditioned by the various functions of the buildings. For instance . . .

the Animal Houses have *cantilevered tapered plate* with hollow columns

the Wash-up unit a *prestressed monitor roof*

the Administration entrance hall *banded plate*



and the Workshop *welded trussed beams*

—**nearly** 1000 tons of reinforcement designed by

Truscon

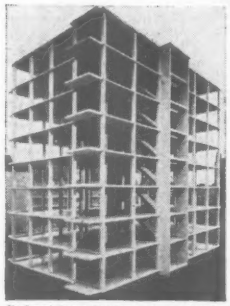
The Trussed Concrete Steel Co. Ltd., 35/41 Lower Marsh SE.1 Telephone: WATerloo 6922

ENGINEERING

PRE-CAST

The Plate System by Truscon

One of the finished blocks of Central Flats, Millpool Hall Estate, Birmingham. J. L. G. Sheppard Fuller, F.R.I.B.A., City Architects compared with the model of its Plate Structure.



When we design and construct in the Plate System we provide a concrete frame without beams. We do not do this by making them into walls, or by using heavy, deep floors, or drop panels with flare-heads to the columns; but simply by designing the beams away. The Plate System is at its best with a regular grid, yet it is often the only reasonable solution when columns are irregularly placed.

The Plate System does not compress an architect's work within the framework of a stereotyped plan nor does it attempt to do his work for him. It is more than a system of design, for combined with careful planning and the use of cranes and precast components we have made it a very rapid system of construction. It is cheap in cost but not in appearance.

The outstanding application of the Plate System is to flats and offices: and recent developments have widened its scope to industrial work.

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CONSTRUCTION

HY-RIB

Air Traffic Control Building (The Central Block), London Airport. Architect: Frederick Gibberd, F.R.I.B.A. Consulting Engineers: Sir William Halcrow and Partners.

Truscon Theorem 5

Required: Fine Floors for a fine building

The Central Block at London Airport is a fine building

.. Truscon Floors were used

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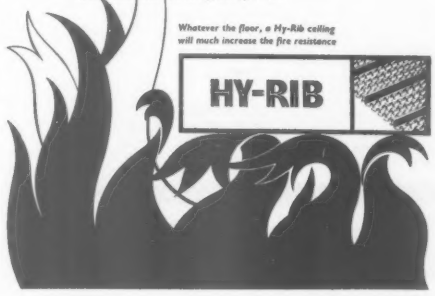
HY-RIB ceiling survives four-hour FIRE test

Plaster on a Hy-Rib base is true and sound — held fast and fortified by the steel mesh and tangs. And it is a very efficient fire shield. At the Fire Research Station recently a thin concrete floor — an uncertainty for a one hour rating — qualified with a Hy-Rib ceiling close below for four hours fire resistance. In the last stages of the test, the furnace temperature topped 1120°C. yet Hy-Rib still held the basic hemihydrate gypsum plaster intact. We will gladly advise on the fire resistance potential of any floor and Hy-Rib combination. Ask for Hy-Rib Department.

Whatever the floor, a Hy-Rib ceiling will much increase the fire resistance



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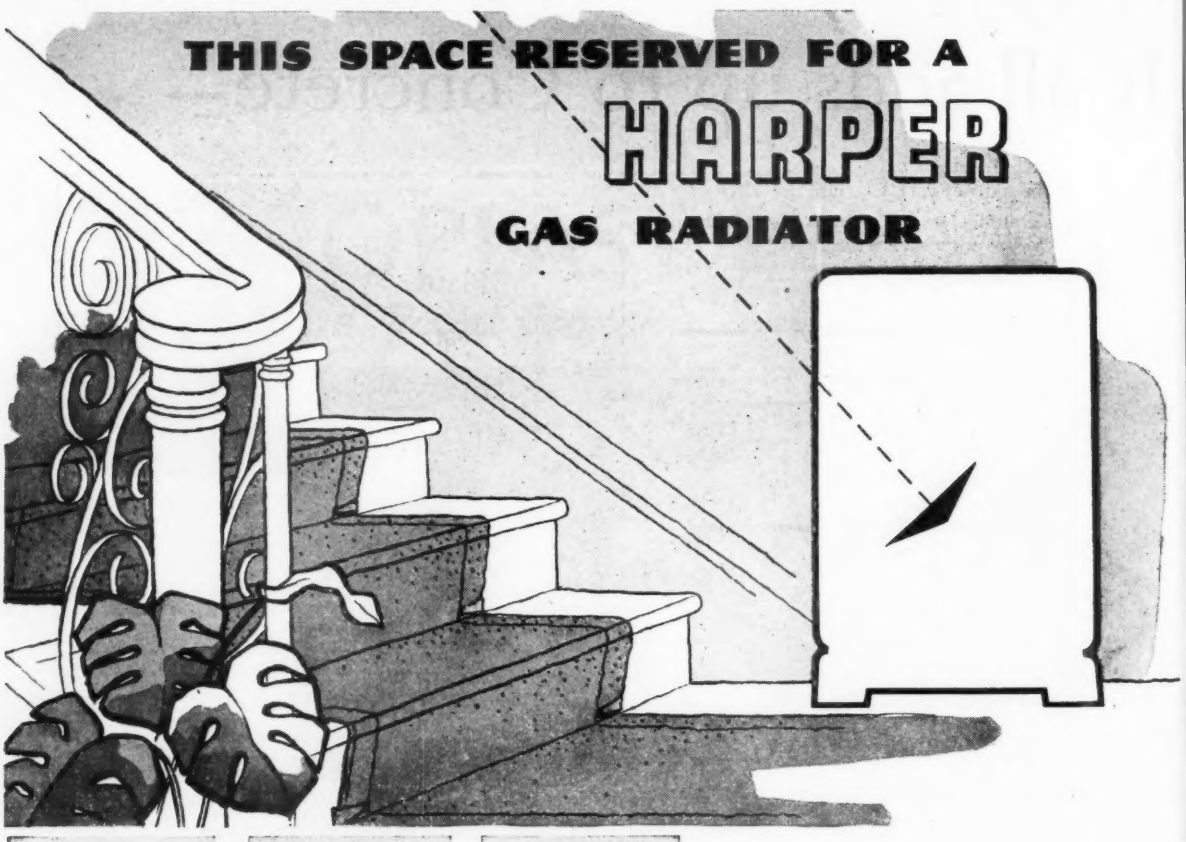
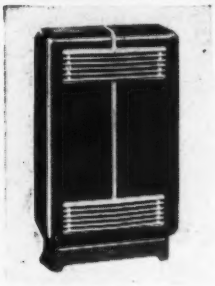
THIS SPACE RESERVED FOR A HARPER GAS RADIATOR





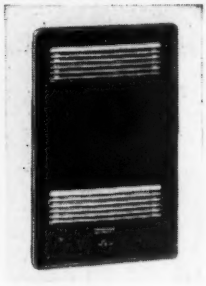
Model No. 3161

Finish—Base and body heat resisting coinage bronze paint. Baffle vitreous enamelled. Louvres cream vitreous enamelled.
Burner—Cast iron with luminous bray jets. ¼in. gas inlet, can be fitted for R.H. or L.H. feed.
Governor—Constant pressure.
Gas consumption—18 cu. ft. per hour at 2½in. W.G.
Maximum output per hour: 8,100 B.Th.U. at 500 c.v.
Dimensions: Height 29½in. Width 17⅜in. Depth 7in.
Weight 42lb.

Model No. 3160

Finish—Heat resisting coinage bronze. The top louvre and the door (which has concealed hinges) are cream vitreous enamelled. Gas consumption: 2 cu. ft. per hour.

Dimensions: Height 25in. Width 16⅛in. Depth 6½in.
Weight: 31 lb.



Model No. 300

Its graceful lines and pleasing finish blend with any surroundings.

Finish—Front panel, heat resisting coinage bronze paint. Baffle, vitreous enamelled. Louvres, vitreous enamelled.

Burner—Cast iron with luminous bray jets. ¼in. gas inlet.

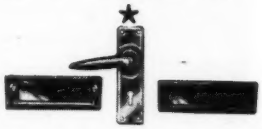
Governor—Constant pressure.

Gas consumption—18 cu. ft. per hour at 2½in. W.G.

Maximum output per hour—8,100 B.Th.U. at 500 c.v.

Dimensions—(a) Panel: Height 27⅛in.; Width 17in. (b) Overall dimensions required for recess. Height 24in.; Width 12⅛in.; Depth 3⅛in. to 4⅛in. Series of three nautilus flue blocks, type S.1.

For many years Harper gas radiators have been specified by leading architects throughout the country.
Unequalled in design, quality and finish, Harper radiators are economical, require virtually no maintenance, and will give years of efficient use.



Harper's make a comprehensive range of door furniture, cast iron and finished in bronze lustre vitreous enamel to withstand exposure to severe weather conditions. May we send you details of the full range?

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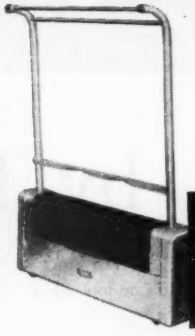

HARPER

JOHN HARPER & CO. LTD
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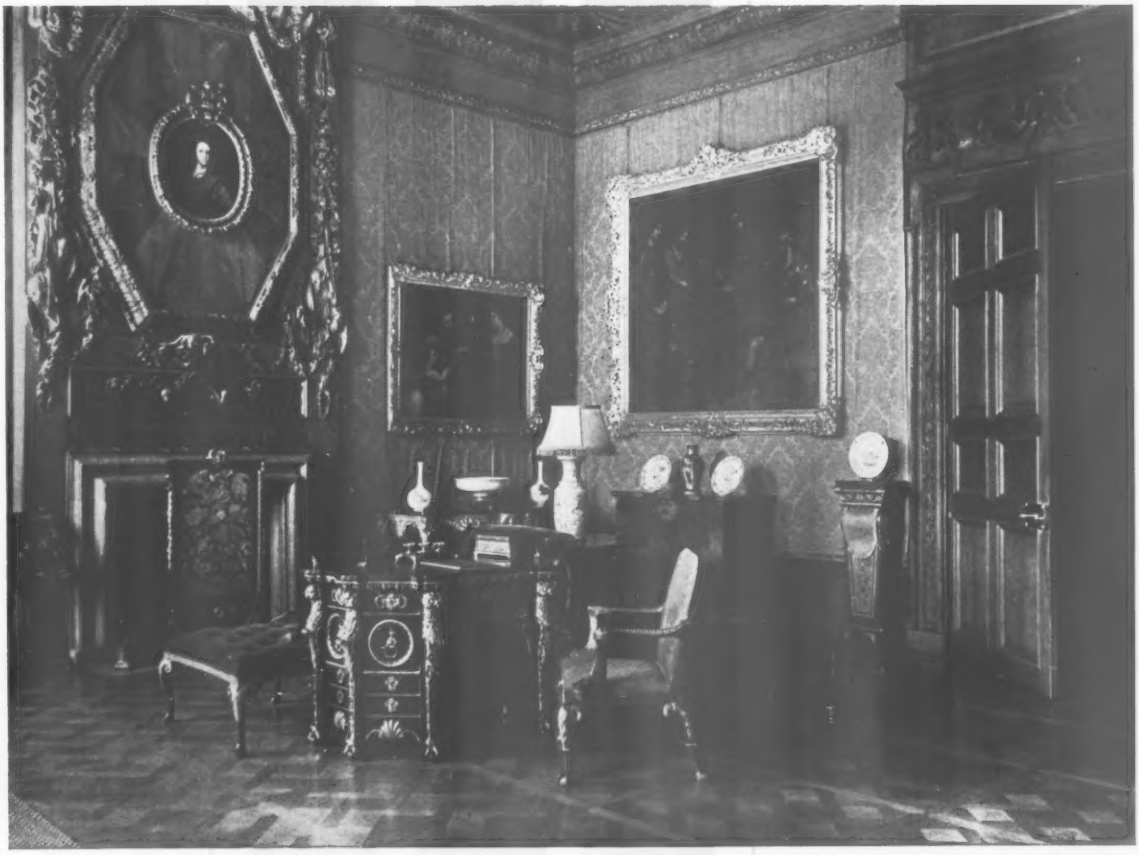
TIME *and...*



The Music Room, Chatsworth House, Derbyshire. Photograph by A. F. Kersting. Reproduced by courtesy of the Trustees of the Chatsworth Settlement.

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The Chatsworth floors are typical. Accounts show that £200 was spent on "OAKE boards for ye floor of ye upper storey" in the year 1690. The floor illustrated is the original laid. No restoration has been necessary even within living memory.

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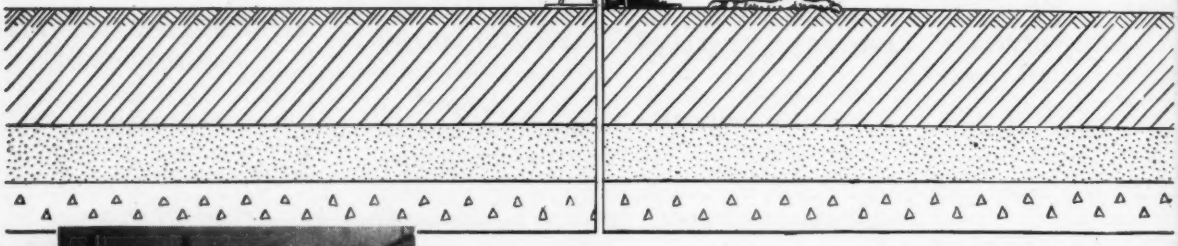
So before you build, have a word with Douglas or even ask them to interpret results already to hand—it may save you a lot of trouble later on.



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This test accurately measures the shear strength of soils under known stress conditions. On this information can depend the whole foundation design.

INDEX PROPERTIES OF SOILS

The two illustrations below show apparatus used to provide information on the state of materials in the field and to assess their probable behaviour under various conditions. Another vital factor when considering foundation engineering.

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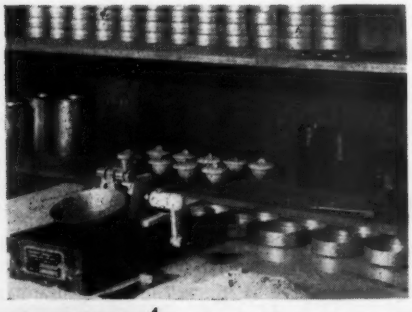

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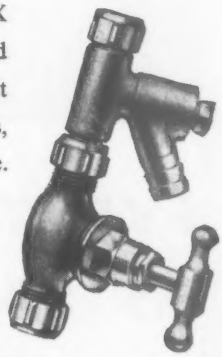

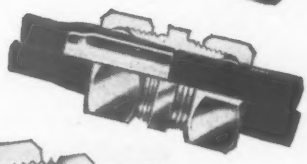

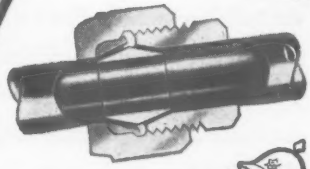

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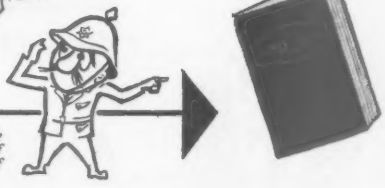

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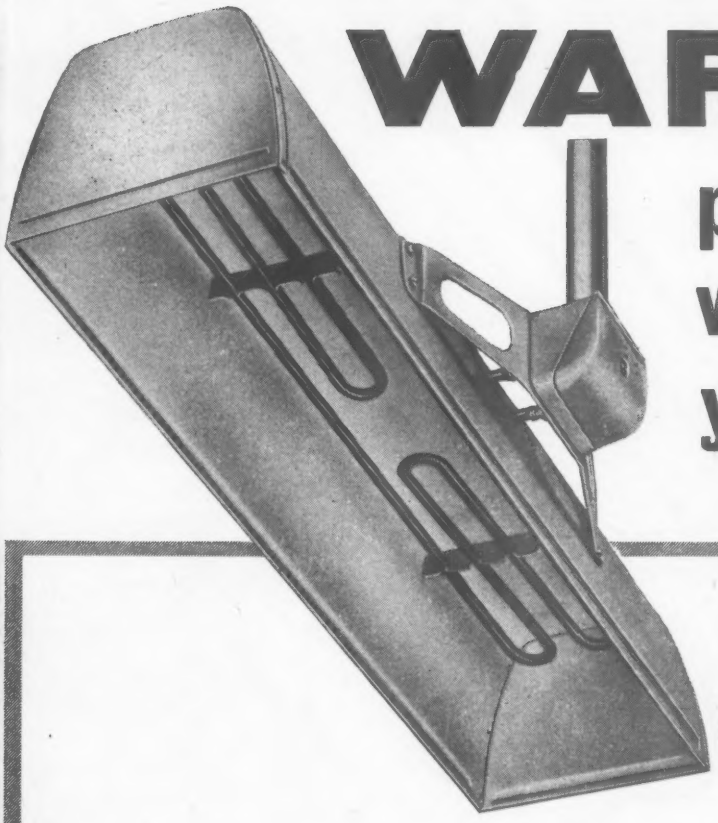
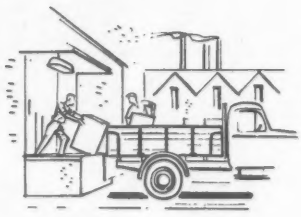
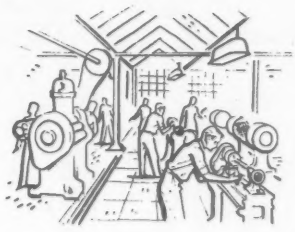


METROVICK
Radiant Space Heater





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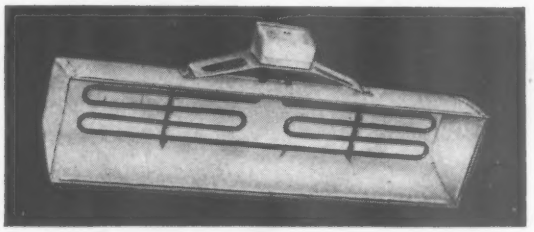

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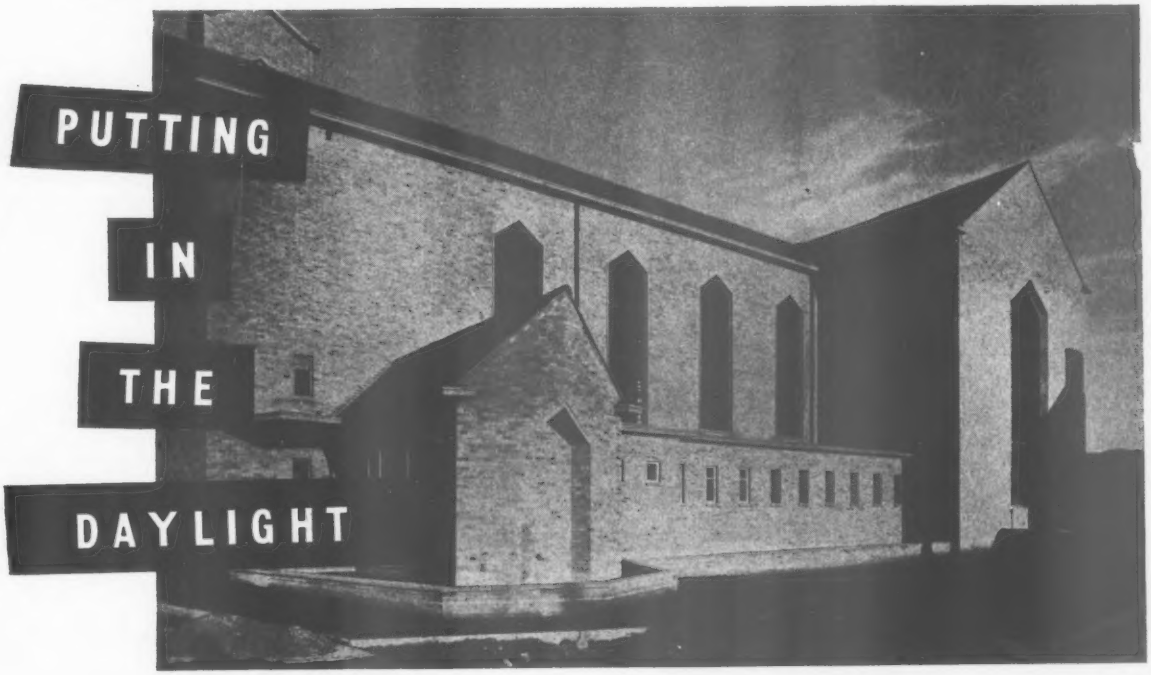

AT ST. STEPHEN'S DALMUIR

Architect:
Thomas S. Cordiner F.R.I.B.A.

This clean-cut, deceptively simple church, built in Dalmuir, is designed to a cruciform ground plan, with low aisles to emphasise the height of the lofty nave. Maclean Metal Windows, specially fabricated to the architect's design, are used for lighting both nave and transepts. The dome lights above the aisles are also supplied by the company.

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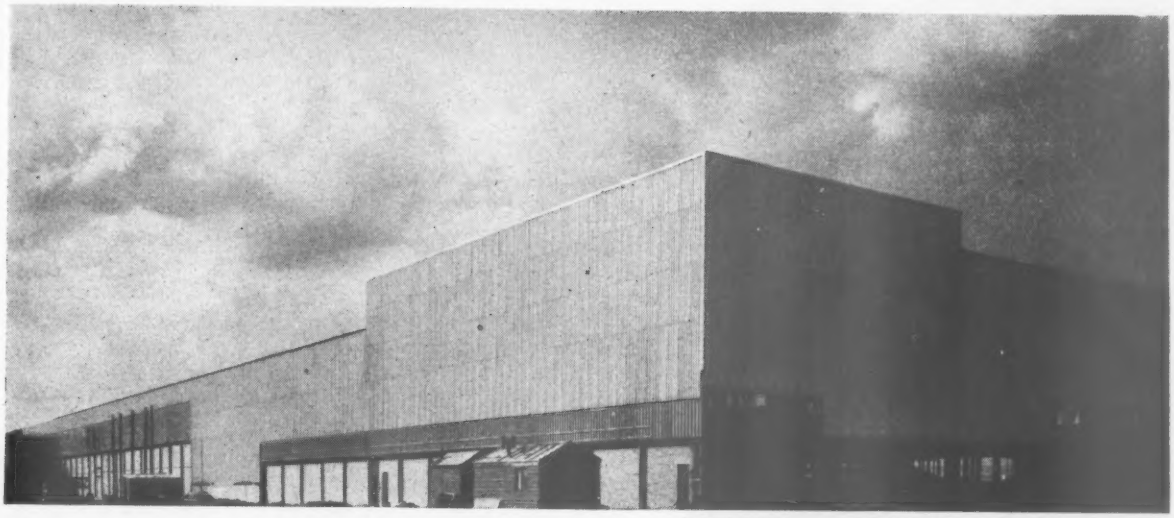

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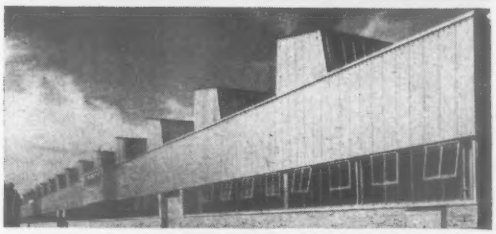

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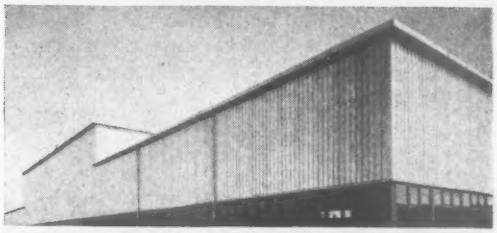

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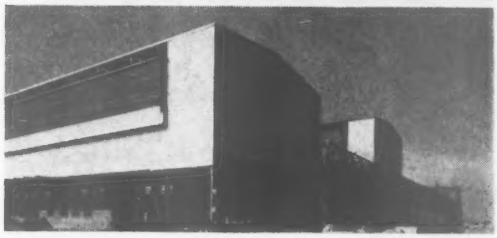

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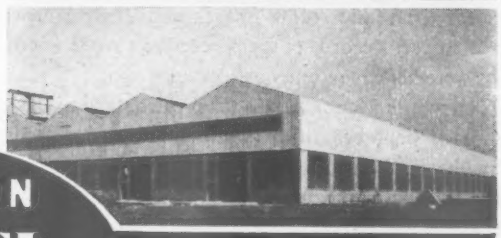

5

Illustrations :

Top : Robertson Q-Panel, Type QSG, being erected at the Caterpillar Tractor Company, Tannochside. Architects : Wilson, Hamilton and Wilson, Glasgow.

2 : Robertson Q-Panel, Type QF, at the Rover Company, Solihull. Consulting Engineer : Thomas Bedford, A.M.I.C.E. Architects : Hasker and Hall, London.

3 : Robertson Q-Panel, Type QSA, at the Chance-Pilkington Works. Consultant Architects : Ormrod and Partners, Liverpool. Main Contractors : Holland & Hannen and Cubitts, Ltd.

4 : Robertson Q-Panel, Type QF, at the British Thomson-Houston Works at Larne, Northern Ireland. Contractors : Holland & Hannen and Cubitts, Ltd.

5 : Robertson Q-Panel, Type QF, at Metropolitan-Vickers Electrical Company, Manchester. Design by Metropolitan-Vickers Architects Department.

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QP16

The Manor House, Whitkirk, Leeds, is shown in early records as being purchased by Sir Arthur Ingram in 1623. It remained in the Ingram family until it was bought by the present owners, Mr. and Councillor Mrs. Bray, in 1955. It is equipped with an oil-fired central heating plant of the hot air type, using Shell Domestic Fuel Oil.

A TUDOR HOUSE

with oil-fired central heating

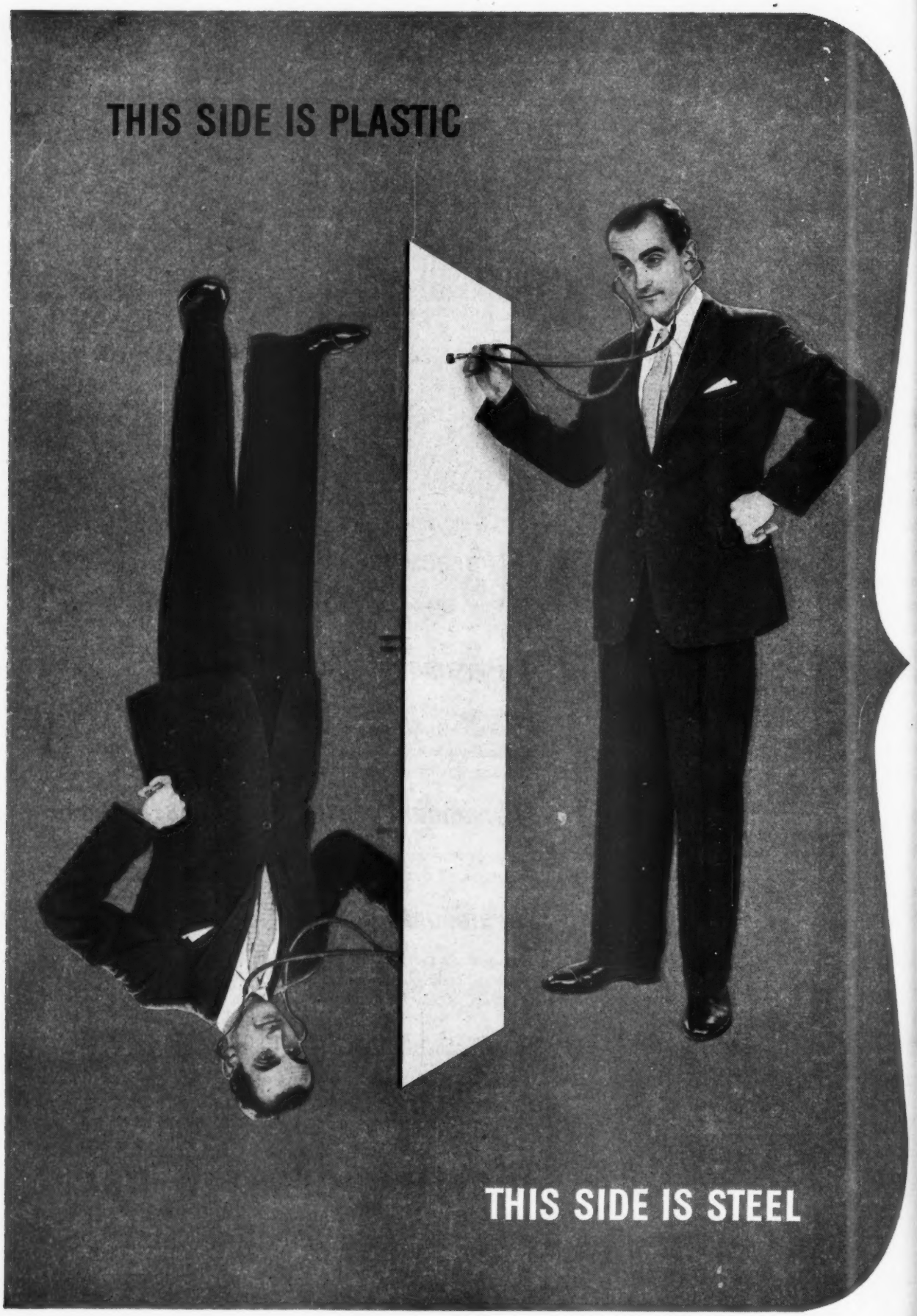
THIS HISTORIC Manor House was built about 1550. Its fabric remains unchanged to the present day. In early times court leets, which kept law and order for the Manors of Whitkirk and Temple Newsam, were held at the Manor House. Records of the proceedings are in Leeds Public Library. These courts were held as recently as 150 years ago.

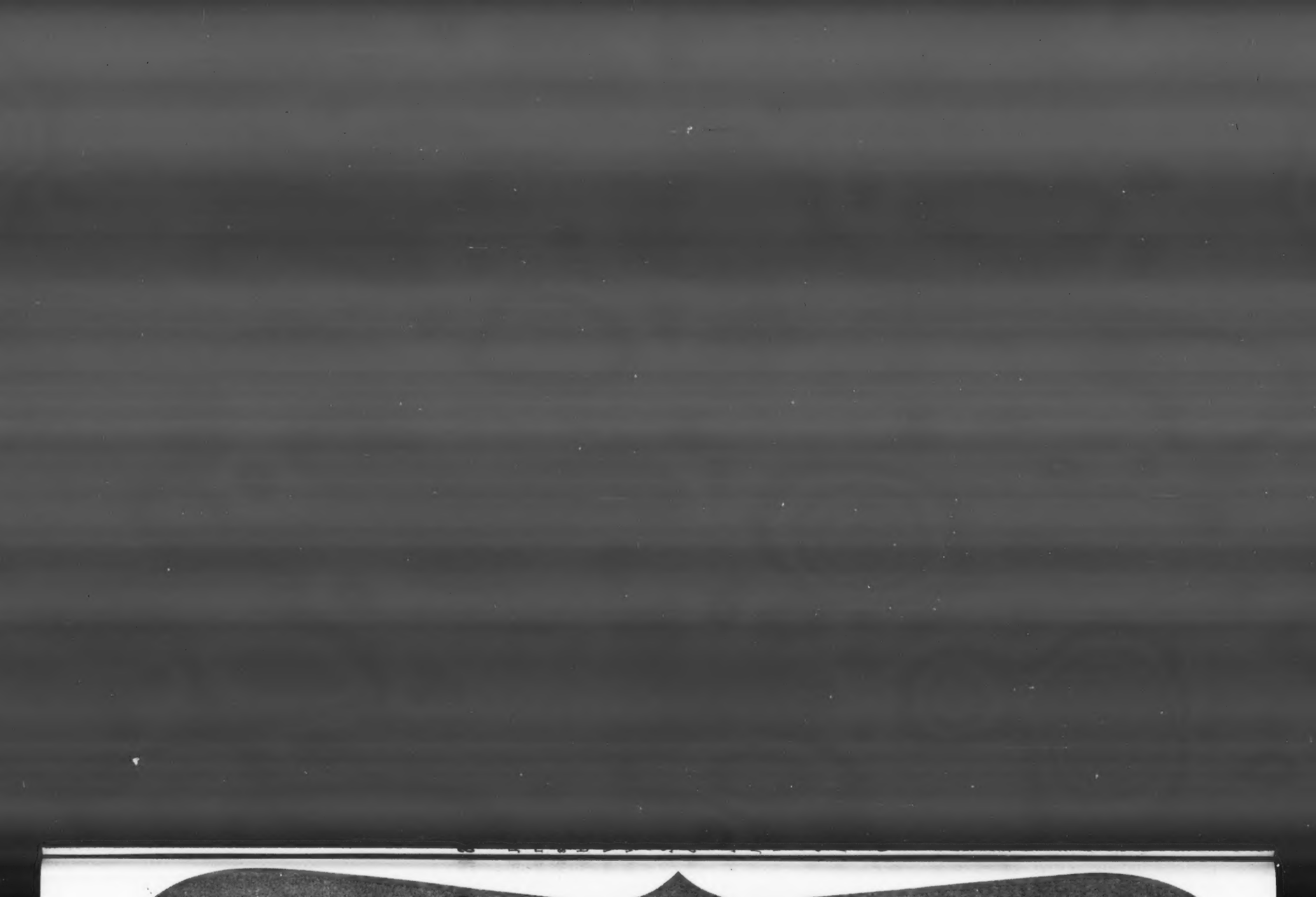
Today, the Manor House takes advantage of the most up-to-date equipment. It is kept beautifully warm and comfortable by automatic oil-fired central heating, the supremely modern heating method with no equal for convenience with economy.

Oil-fired heating is clean and labour-saving. There is no fuel to carry, no stoking to be done and no ash to clear away. It maintains a constant but adjustable temperature with the minimum need for attention. And oil fuel, bought in bulk, is surprisingly economical.

Oil-fired heating is suited to houses of any size, for every need from full central heating in the large country house to hot water supply in the smaller home. And manufacturers are now producing boiler/burner units specially designed for oil firing. Shell Domestic Fuel Oil is used for the larger installations. BP Domesticol has been specially developed for the smaller boilers with vaporising burners.

If you are interested in the construction, design or modification of any house or public building and would like to know more about the costs and practical application of fuel oil, please write for a copy of 'Oil Fuel at Home' to Shell-Mex and B.P. Ltd., Fuel Oil Dept. D3L, Shell-Mex House, Strand, London, W.C.2.


THIS SIDE IS PLASTIC
THIS SIDE IS STEEL



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John Summers & Sons Limited are now making what is undoubtedly one of the most remarkable materials ever produced by the steel industry—STELVETITE—a sheet of steel *permanently* covered on one side with a sheet of specially formulated Velbex P.V.C. made by BX Plastics Limited. The plastic is a thick coating, not a film, available in an enormous variety of finishes and colours, and its qualities include durability, resistance to acids, grease, water, hard wear, kicks, scuffs and chipping. *But this is only the beginning.*

Stelvetite can be bent and shaped! *Its bending qualities are remarkable—even through 180 degrees. Stelvetite can also be sheared, perforated and cut.*

Stelvetite can be deep drawn! *It is suitable for deep drawing and even extra deep drawing for special applications, with the plastic surface inside or out, and it may be seamed or crimped without disturbing the plastic surface.*

Stelvetite can be joined! *There are many ways of joining Stelvetite—even a special welding process which does not affect the plastic.*

As you will see, even from this, the industrial possibilities inherent in Stelvetite are enormous. In fact, wherever steel goes, there can go Stelvetite—the steel with the built-in finish.

John Summers & Sons Limited and their products are known the world over. Stelvetite will be no exception. It is a revolutionary material produced by a free enterprise company whose policy is one of continuous venture. Write to: John Summers & Sons Limited, Dept. MRD. 7, Shotton, Chester, for further details of Stelvetite.

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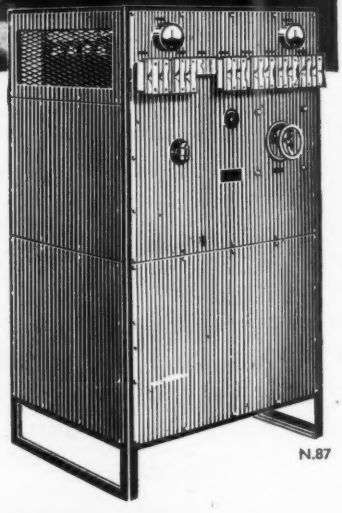
John Summers & Sons Ltd

IN CO-OPERATION WITH BX PLASTICS LIMITED

They never let you down

THE ROYAL NATIONAL LIFEBOAT INSTITUTION

Perhaps the greatest of British charities, this famous institution was founded in 1824, and by the time its second report was published had already contributed to the saving of 342 lives. By 1924—centenary year—it had given awards for the saving of nearly 60,000 lives and today that figure stands at over 78,000. At this very moment, all along our coastline, 154 lifeboat crews are ready for the emergency call which means that someone is in peril on the sea. They never let them down.



YOU CAN BE CERTAIN TOO that Nife-Neverfayle Emergency Lighting Equipment will never let you down. *Whenever* needed, these reliable units will instantly, automatically spring into action. That is the special advantage of the Nife Steel Alkaline Battery—it never deteriorates, even after long periods of inactivity.

Nife-Neverfayle units occupy only one-third of the space required by conventional equipment and, as they can be installed adjacent to other equipment, a separate battery room is not needed—a point worth remembering when planning new buildings. Maintenance costs are negligible—after years of trouble-free service you will realise just how economical your Nife-Neverfayle equipment has been.

NIFE-NEVERFAYLE

THE EMERGENCY LIGHTING EQUIPMENT WITH THE **STEEL** ALKALINE BATTERY

NIFE BATTERIES · REDDITCH · WORCESTERSHIRE

PYROK

in churches

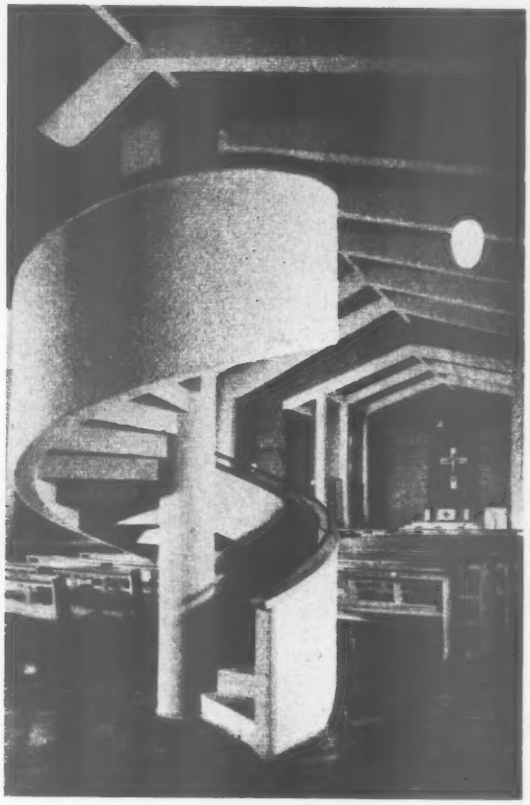
St. Winefrid's Church, Merton Road, Liverpool.

Pyrok was used for acoustic and decorative treatment to concrete surfaces.

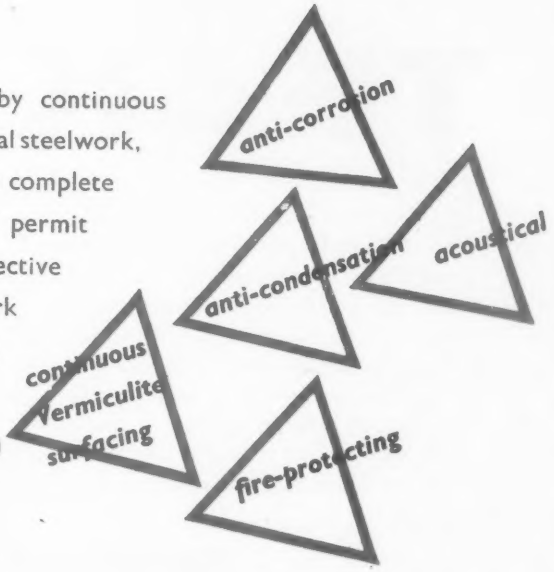
Architects: F. G. Montgomery, Dip.Arch., A.R.I.B.A., 30, Exchange Street East, Liverpool 2.

General Contractors: Wm. Tomkinson & Sons Ltd. Great Newton Street, Liverpool 3.

Pyrok has special properties of fire protection which comply with the high standards required by the Model Bye-Laws.



Pyrok is a Vermiculite-cement surfacing applied by continuous spray, setting rapidly and adhering strongly to structural steelwork, concrete, stone, brick and fibre-board. Pyrok gives complete protection to structural steelwork and does not permit oxidization beneath its surface. Particularly effective against sulphurous fumes, Pyrok protects steelwork against fire and has, in addition, remarkable acoustic, insulating and anti-condensation properties.



The Pyrok surfacing on St. Winefrid's Church was carried out by Decorators (Liverpool) Ltd., who announce the opening of their new offices and showrooms at 33–41, Maguire Street, Liverpool 3. Tel. North 2051/2.

PYROK LIMITED 401-404 Montrose Avenue Trading Estate, Slough, Bucks. *Tel: Slough 24061-5 'Grams: Pyrokad Slough*

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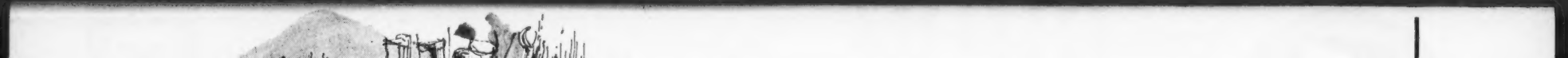
AP 290-55

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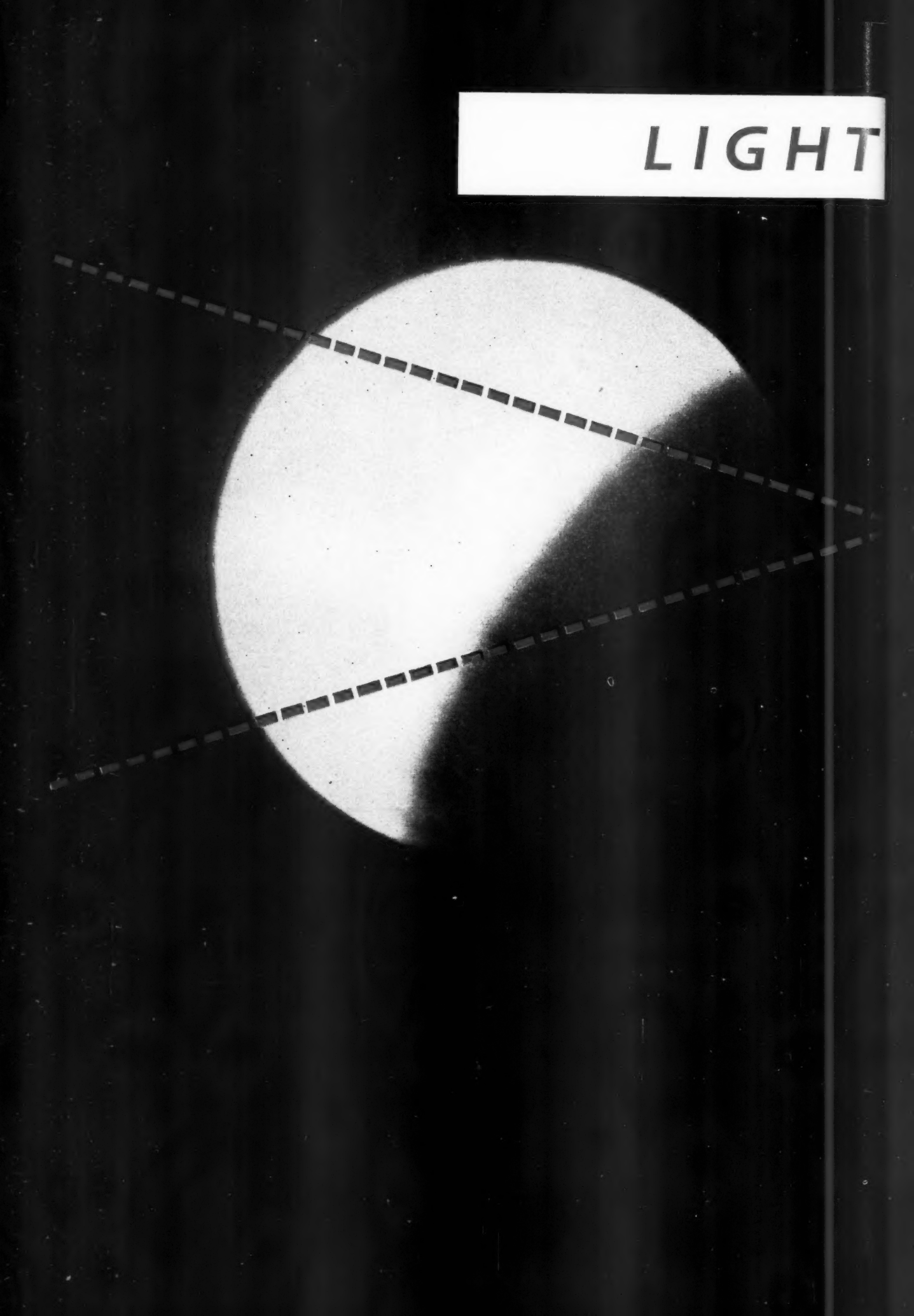
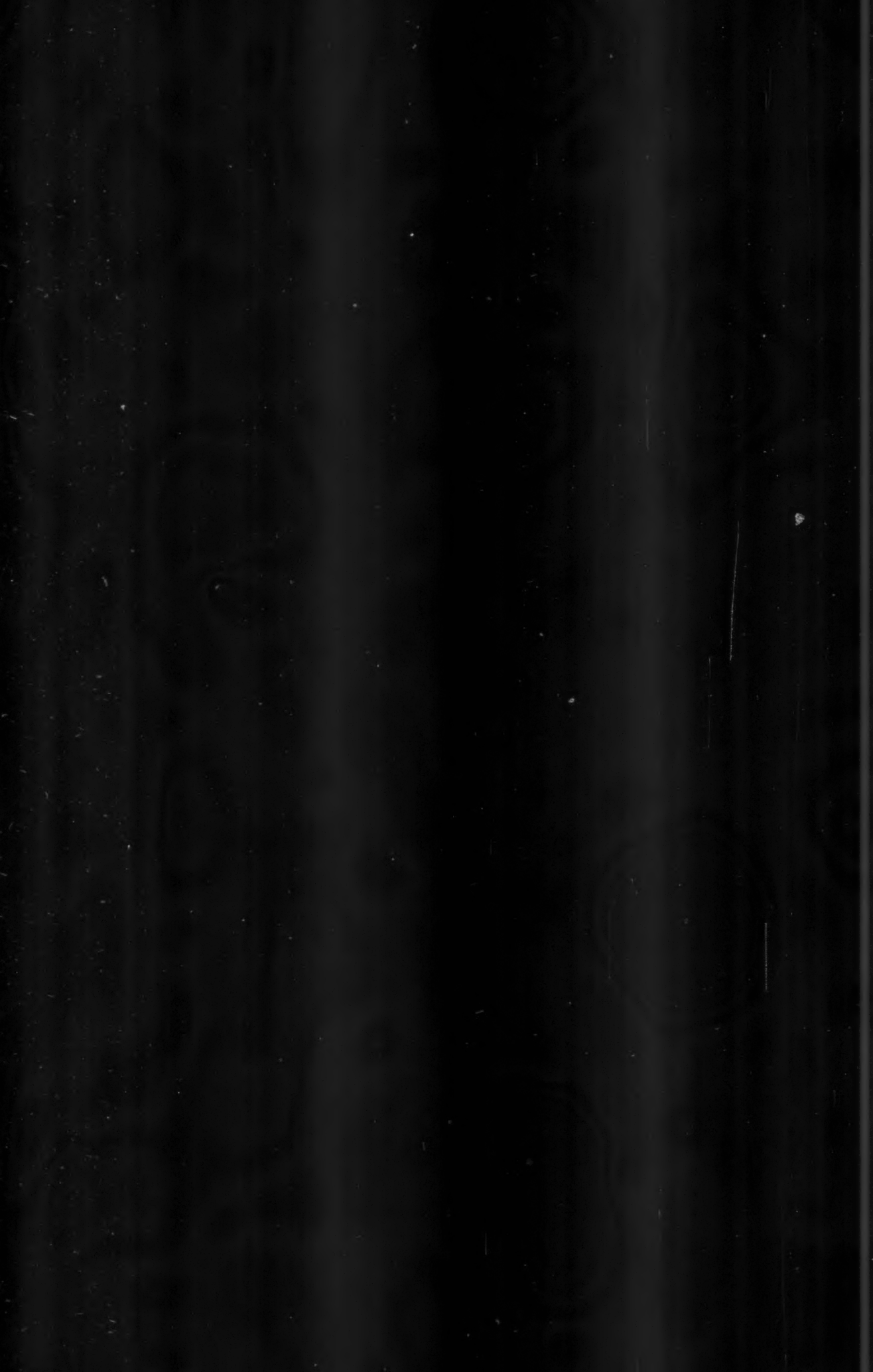
LIGHT





where it's wanted

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One side of the picture—
the light we cannot alter: the light of a solar system

And the other side of the picture—
Electric light . . . beamed, diffused, controlled in a hundred different ways by Simplex lighting fittings: all competitively priced — sensible, modern and attractive in design. Simplex lighting specialists, with their background of 60 years' leadership, offer their help with all your lighting problems . . . from recommending the best methods and fittings, to preparing — without obligation — complete lighting layouts and estimates

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Two striking new ranges of screwglass fittings here — simple and modern design. *Weatherproof, corrosion resistant,* Simplex screwglass fittings are ideal indoors or out. The two types: vitreous enamelled (acid-resistant) cast iron or cast aluminium alloy. Reflectors in pressed aluminium (optional) to suit all types. 60w complete with B.C. lampholders in bakelite — porcelain optional extra. 100w with porcelain lampholders as standard

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for 60/100w GLS lamps

lighting fittings by

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ECLIPSE OF THE MOON
Scientists of more than 50 nations will be observing such phenomena throughout the International Geophysical Year
Photograph by courtesy of THE TIMES

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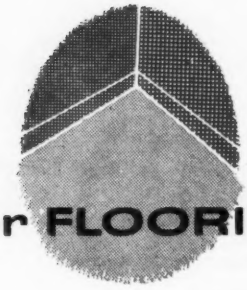
A COMPANY

B·B·E

specialist building materials For FLOORING



VENTROT

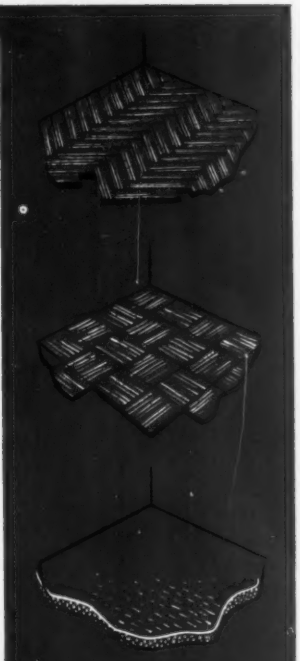
for effective Damp-proofing

VENTROT is a proprietary blend of residual bitumens specially designed for hot application to solid sub-floors, providing a continuous membrane impervious to rising damp, whether in the form of liquid or vapour. Ventrot meets the requirements laid down by the B.R.S. in Building Research Digest No. 1—The Design of Timber Floors to *Prevent Dry Rot*, and Digest No. 86—Damp-proof Treatment for Solid Floors.

VENTROT will indefinitely protect timber flooring laid in direct contact with concrete against the ingress of moisture, which unless prevented permits the growth of fungi.

VENTROT is recommended whenever linoleum, rubber sheeting, P.V.C. sheeting, magnesite composition or thermoplastic tiles are to be laid on concrete in conditions where rising damp is suspected.

VENTROT has been specified on many schools, public and large industrial buildings in many parts of the country.



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B.B.E. specialises in Adhesives, Levelling Compounds and Seals.

WEARBOND — For exterior use in making up worn and uneven surfaces.
WEARPROOF — An emulsion mixed with aggregates for patching or complete overlays on existing concrete or timber floors.
ISOVAR — Transparent coating for protecting wood and cork.
ISOSEAL—Deep-seal semi-gloss coating acting as a protective surface for wood.
PLYCOL Asphalt Tile Adhesive—quick drying solution adhesive for fixing all kinds of thermoplastic tiles.
PLYCOL Cork and Lino Adhesive—a resinous type adhesive for fixing cork and linoleum to concrete floors. A special aqueous grade available for suspended concrete, and also wooden floors.
BITUFLOR Latex Screeding Compound for levelling uneven floors prior to laying tiles, etc.
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(a) 648 — dipping grade for normal wood block laying.
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This panel not only acts as a proving ground for the products, but also investigates customers' problems and advises on the best method to adopt for any particular requirement. You are invited to make full use of this service, entirely without obligation.

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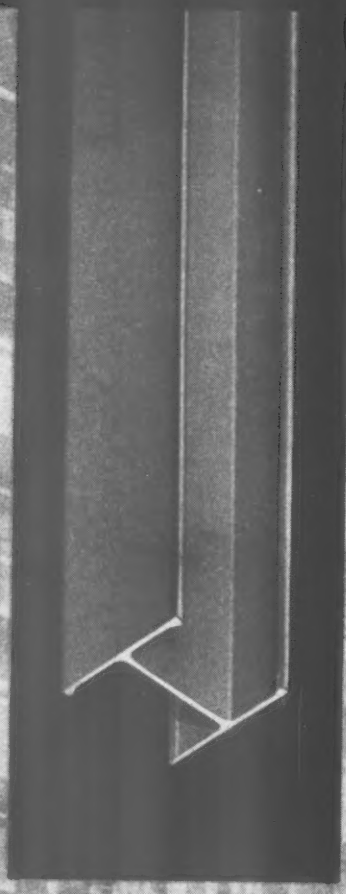
Descriptive booklets, folders, leaflets together with information and specification sheets are available from any one of our offices, dealing with individual products or those grouped under the heading of Roofing, Flooring, and Special Building Materials, including Mortar and Concrete Additives and will be sent to you immediately on request.



For Architectural Features

In the construction of this
storied block of flats – part of the
Picton Street Development Scheme
Hiduminium
was chosen for extrusions,
sheet, and rainwater goods.

Hiduminium

makes the most of

Aluminium

HIGH DUTY ALLOYS LIMITED · SLOUGH · BUCKS

Garage canopy in British Aluminium

Architects: J. Douglass Mathews & Partners
Consulting Engineer: R. A. Sefton Jenkins, B.Sc., A.C.G.I., M.I.C.E., A.M.I.Struct.E.
Main Contractors for Aluminium Roofing: MacKey Bowley & Co. Ltd.

This garage canopy at Richmond is clad entirely with Rigidal corrugated aluminium sheet, Industrial Trough T being used for the upper surface, and embossed and Alocrom-treated Mansard for the lower.

The lightness of the aluminium made possible some reduction in the sizes of the canopy structural members and a choice of design that permits unrestricted access to the pumps. Aluminium is durable and will require little or no maintenance; its cost compares favourably with other roofing materials of comparable life.

The BRITISH ALUMINIUM Co Ltd

NORFOLK HOUSE ST JAMES'S SQUARE LONDON SW1

AP13

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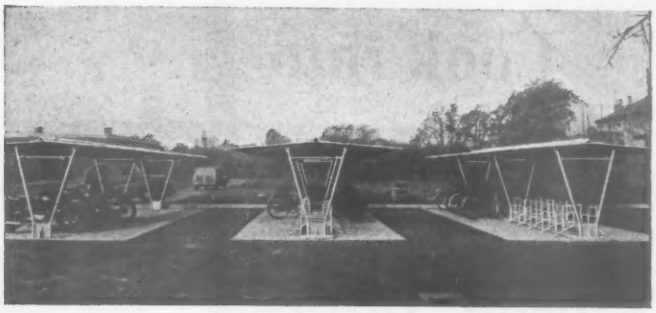

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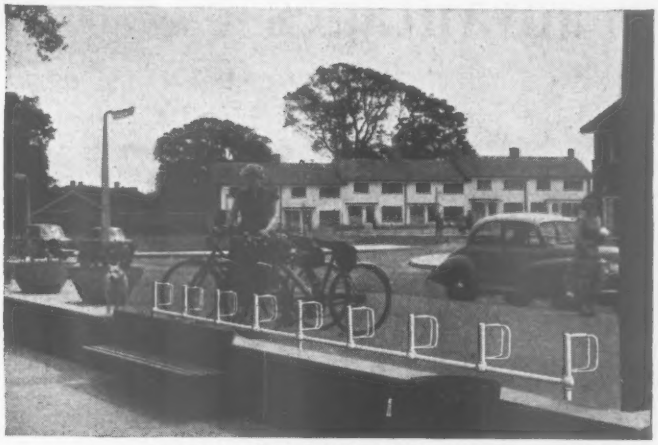

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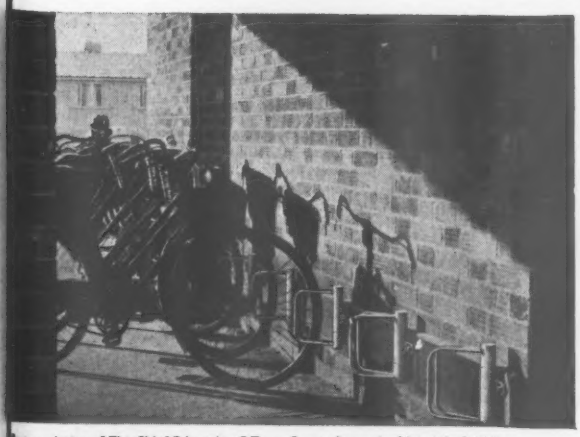

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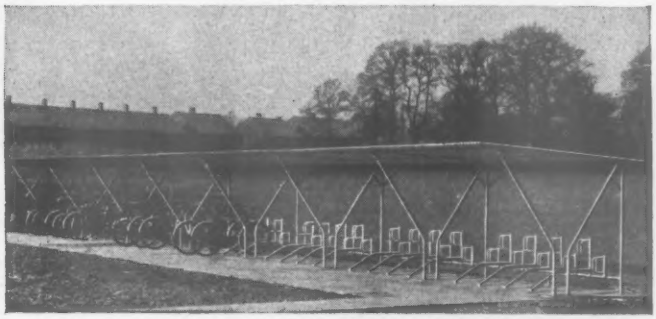

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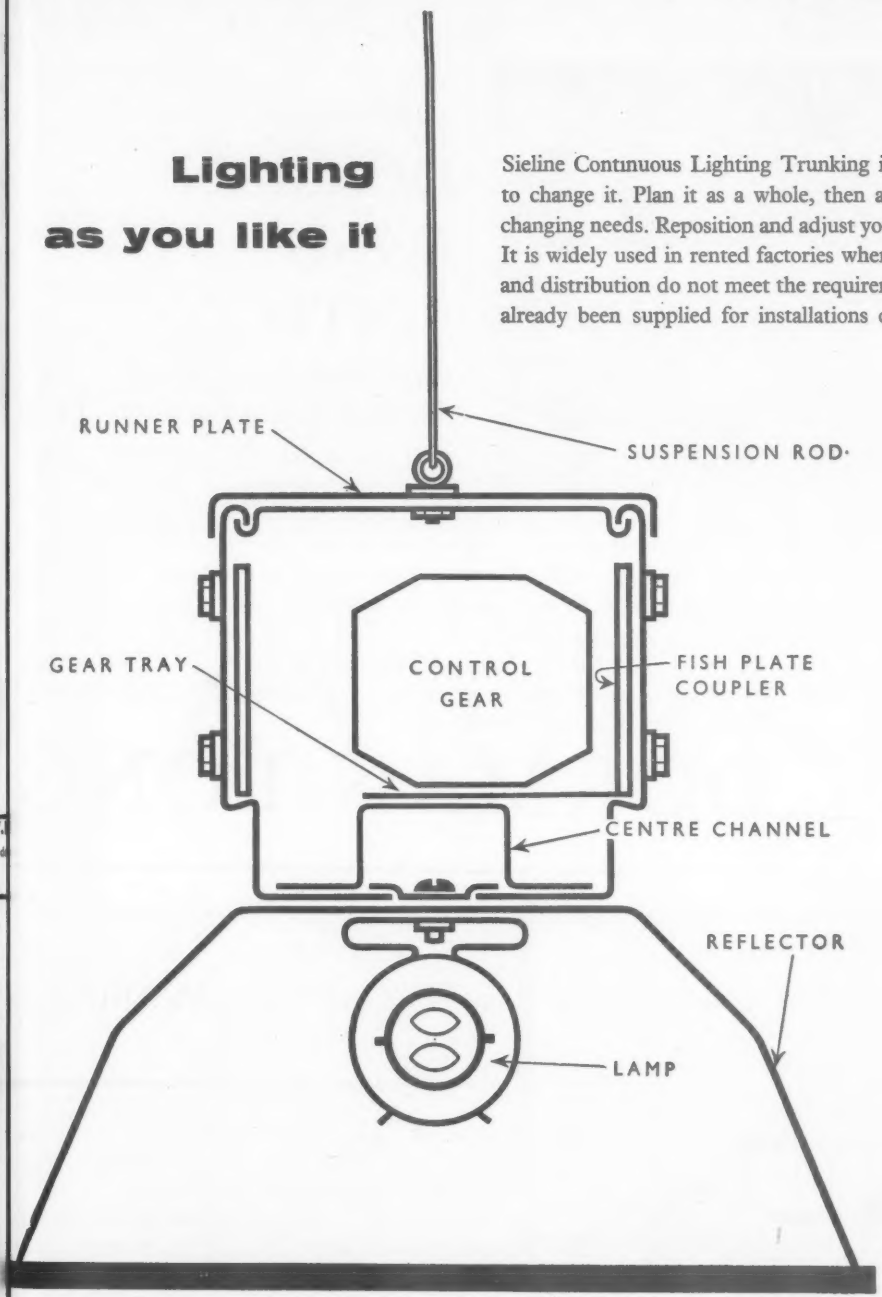
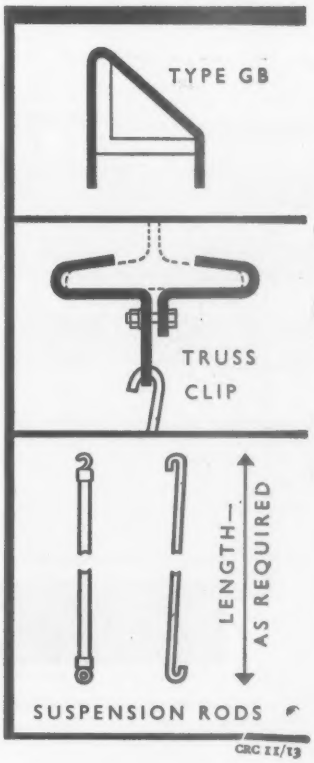
Lighting as you like it

Sieline Continuous Lighting Trunking is permanent—until you want to change it. Plan it as a whole, then alter it piecemeal to suit your changing needs. Reposition and adjust your lighting as often as you like. It is widely used in rented factories where the standard lighting power and distribution do not meet the requirements of the tenant, and it has already been supplied for installations costing from £20 to £20,000.



The trunking is delivered in an advanced state of assembly for easy erection. Control gear and lighting units can be spaced at any intervals. A complete range of suspensions (specimens illustrated) provides for erection under any type of roof. If you would like complete information about Sieline Continuous Lighting Trunking, write for leaflet F.22 or get in touch with your local Siemens Ediswan lighting engineer for advice—no obligation.



SIELINE continuous lighting trunking

SIEMENS EDISWAN

SIEMENS EDISON SWAN LIMITED *An A.E.I. Company*
Lamps & Lighting Division: 38/39 Upper Thames Street, London, E.C.4
Telephone: CENtral 2332. Telegrams: Sieswan Westcent London

Architect: S. C. Clark, F.R.I.B.A.

UTILE—the U-word for the U-wood

The panelling in the recently completed bar of Charrington's "Red Lion", Watling Street, E.C., is in solid Utile, a West African hardwood. (The counter, seen through our empty glass—thanks, we don't mind if we do—is Utile and Sycamore).

Utile is a close relation of the more familiar Sapele. If you're a Lifeman, you may like to know that its botanical name is *Entandrophragma utile;* if you want to be up-to-date on your finishes you really *need* to know about this and the other West African hardwoods.

vital facts on Utile

Colour: Varies from a lightish to a dark brown.
Strength: Equivalent to Mahogany but harder.
Weight: About 40 lb./cu. ft.
Resistance to decay: Good.
Texture: Fairly close.
Workability: Good. Takes a high polish.
Principal uses: Interior decoration. Panelling. Shopfitting. Furniture-making. Flooring. Boat-building.

Other West African hardwoods include:

DAHOMA	MAHOGANY
DANTA	MANSONIA
EDINAM	MAKORE
GUAREA	OBECHE
IDIGBO	SAPELE

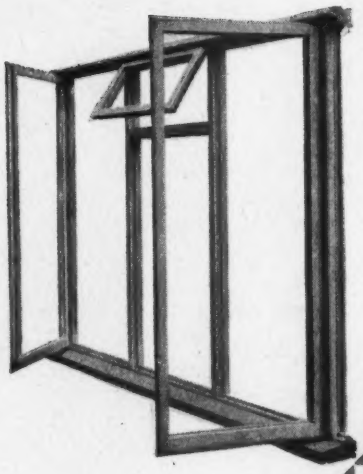
UTILE

Gliksten

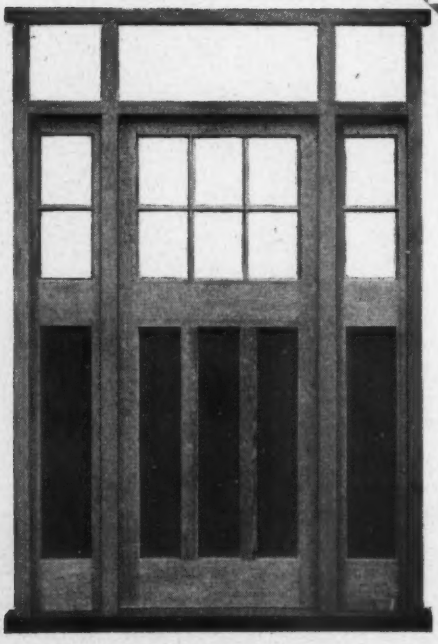
THE FOREMOST NAME IN TIMBER

For information on West African and other hardwoods consult **J. GLIKSTEN & SON LIMITED**

CARPENTERS ROAD, LONDON, E.15. *Telephone:* AMHerst 3300
Liverpool Office: 87 Lord Street, Liverpool, 2. *Telephone:* Central 7576
and Victoria Dock, Citadel St., Hull. *Telephone:* Hull 31144



BOULTON AND PAUL



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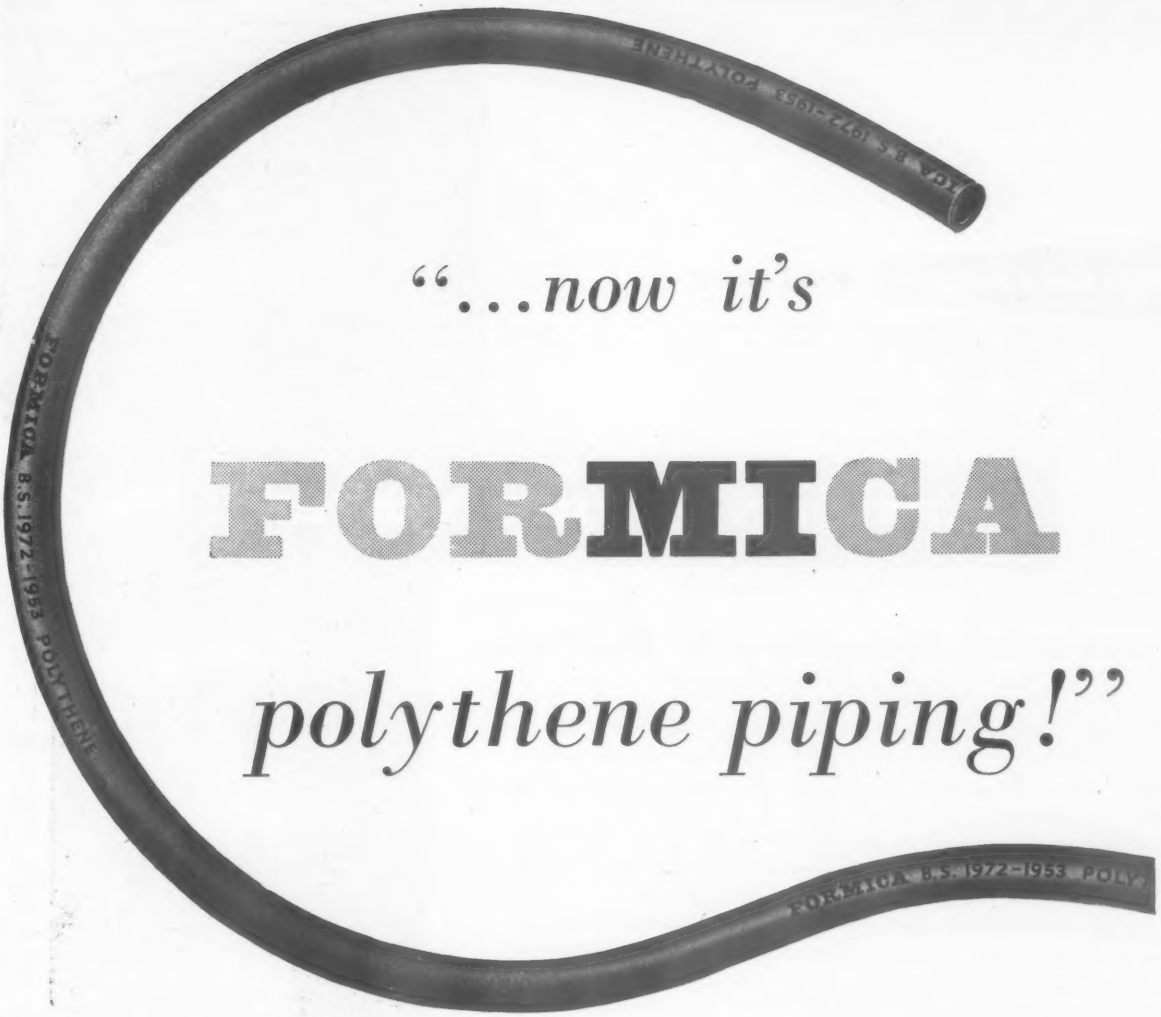


"...now it's

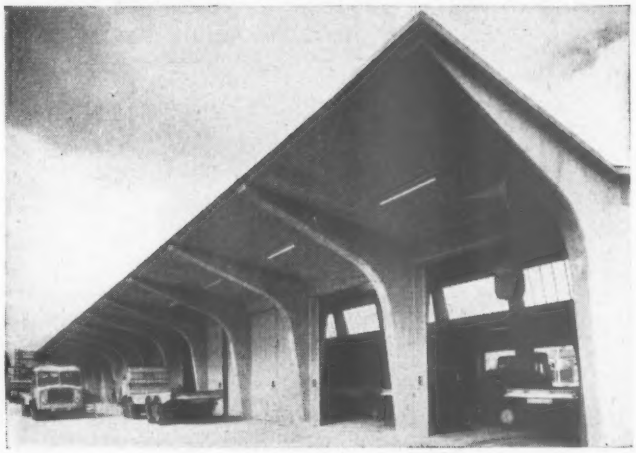
FORMICA

polythene piping!"

From the 1st January this year all De La Rue plastics products take the family name of FORMICA. In the case of the famous flexible, no-corrosion, never-burst polythene piping, this change of name accompanies developments in the product itself. The new FORMICA polythene piping is, from every aspect, polythene piping of the highest quality in the world—the most dependable, the most convenient, the most scrupulously manufactured. How can you be sure your piping is FORMICA polythene? By the coloured protective wrapping which distinguishes the two grades. By its high degree of internal and external polish . . . By this clear marking down the length of the pipe: FORMICA BS 1972/1953 POLYTHENE.

Plastics piping of **FORMICA*** *quality!*

FORMICA LTD, DEPT. P212, DE LA RUE HOUSE, REGENT STREET, LONDON W.1 *FORMICA is a *registered trademark*



Transport Centre: Bowaters Services and Transport Limited.
Architects: Farmer and Dark, F/F.R.I.B.A.
Quantity Surveyors: E. C. Harris & Partners
Contractors: Higgs & Hill Ltd.

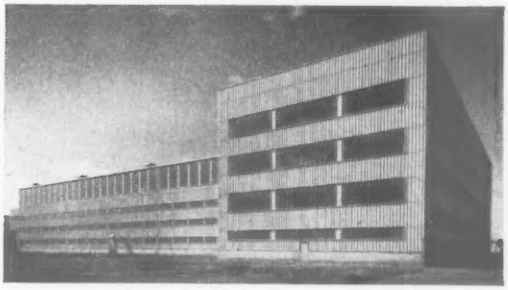
3 Typical applications of 'Aluminex'

WALLSPAN
saves on a small building

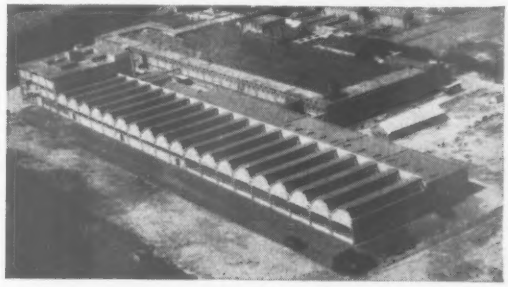
'Wallspan' was specified for the cladding of the Romford printing works of Wilson & Whitworth Ltd. only after careful costing by the Architect. He calculated that 'Wallspan', because it would enable roof and floor construction to be carried on uninterrupted by the erection of external masonry walls, would be an economy even on a building as small as this. After a detailed post-mortem, so it proved to be: 'Wallspan' effected a saving in time and cost when compared with good quality traditional construction.

Another noteworthy feature of this contract is the unusual infilling panels of artificial stone.

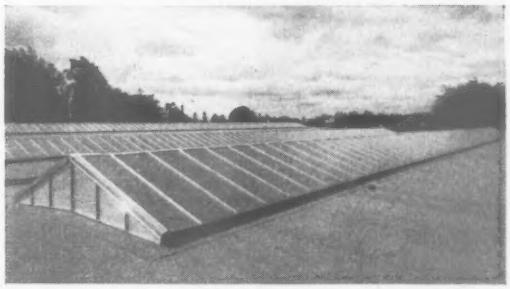
New Office and Works for Wilson & Whitworth Ltd., Romford, Essex.
Architect: Messrs. J. W. Hammond, L/L.R.I.B.A.



1 Sidewall glazing at the new plant of Ferranti Ltd., Toronto.
Consulting Engineers: Byan, Mackay & MacFarlane



2 North light glazing at Scribbans-Kemp Bakeries Ltd., Grimbsy.
Architects: William Saunders & Partners.
Partner-in-charge: B. G. Gibson, L.R.I.B.A.



3 Purpose-made decklights at the Darlington College of Further Education.
Architect: E. A. Tornbohm, A.R.I.B.A., A.M.T.P.I., Darlington Borough Architect.

WILLIAMS & WILLIAMS

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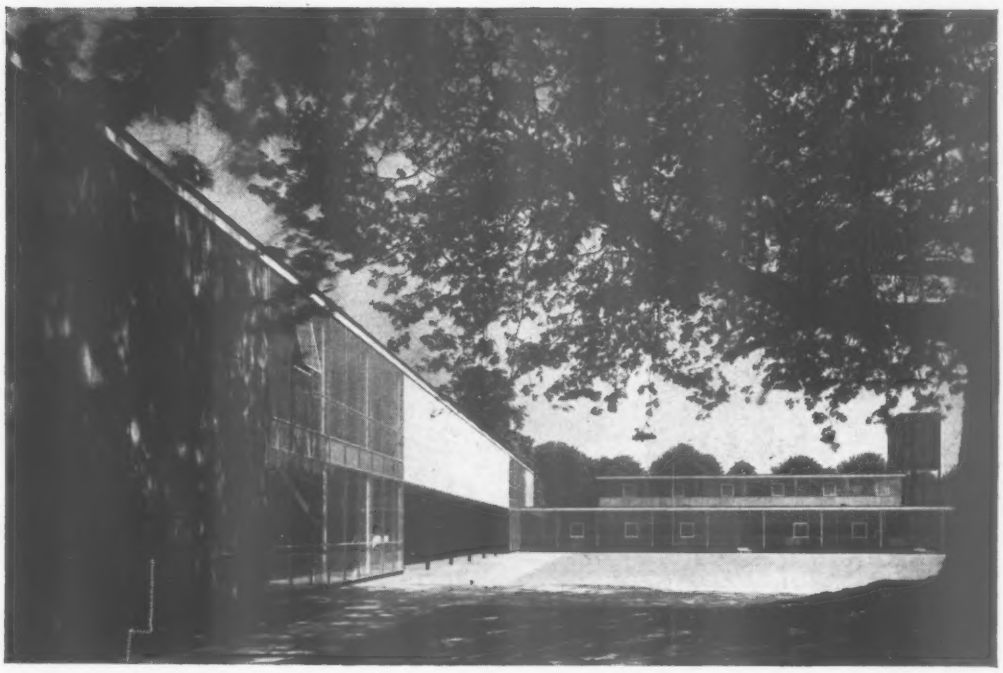
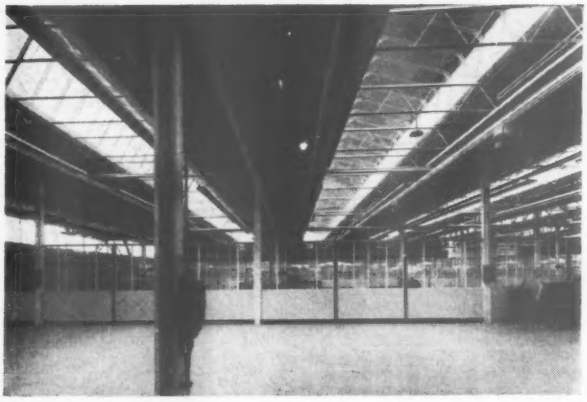
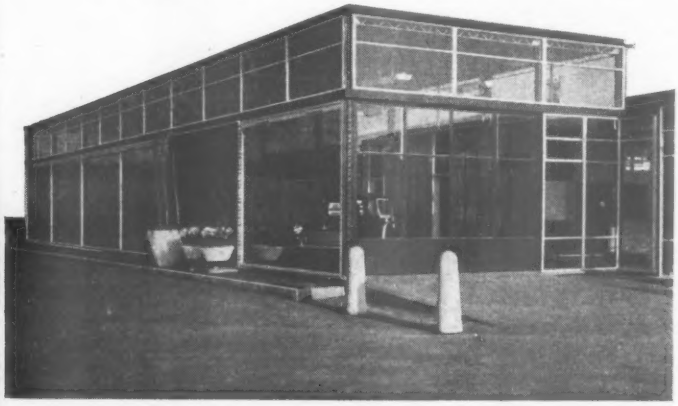


RIGHT: L.C.C. Spencer Park Secondary School.
Professor Sir Leslie Martin, former Architect to the London County Council.
Architect in Charge: J. M. Kidall, A.R.I.B.A.

BELOW: New Transistor Factory for Mullard Limited, Southampton.
Architects: Wallis Gilbert & Partners.



BELOW: Kennings Ltd. New Service Station Harlow
Architects: Maxwell Gregory, A.R.I.B.A., in association with Ramsey, Murray, White & Ward, F|F.R.I.B.A. Consulting Architect: D. A. Birchett, A.R.I.B.A.



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Architect: *Frank Scarlett, B.A.*

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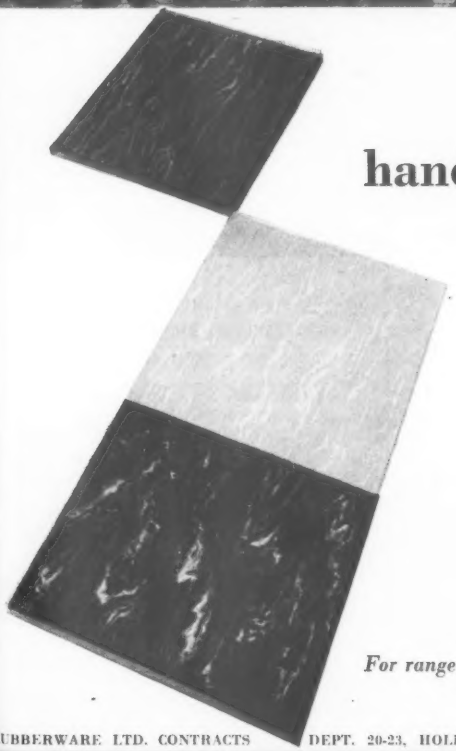

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AJ

THE ARCHITECTS' JOURNAL

No. 3287 Vol. 127 February 27, 1958

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NOT QUITE ARCHITECTURE

BUILDING A 14-ft. DINGHY

One morning the parts of a 14-ft. dinghy which I had rashly undertaken to build with the aid of my two sons, appeared on the doorstep. They arrived in a wooden packing case, some 12 ft. by 8 ft., 18 inches deep, and two long thin parcels, one of which clearly contained a mast. The remaining ingredients, thoughtfully provided by the designer and the manufacturer, were a set of detailed drawings, a clear specification of work, and a list of parts, numbered in the order in which they were to be used in construction, a most desirable refinement as it turned out.

*

To go back for a moment to the pre-planning stage, the basic requirements of anyone undertaking this sort of thing, are, I quote "The minimum of tools—the minimum of space—a fairly level floor and an opening big enough to get the boat out when she is finished." To this I think I would add a patient wife.

*

With materials, instructions and labour all on the site the first task was to unpack, and check against the inventory all the 72 parts, some bearing such mysterious names as sheet lead pads, shroud plates (polished brass).

*

Taking stock of the strange collection of rough ply sheets, mahogany battens, brass fittings and glues it seemed improbable, to say the least, that they would ever assemble into something that would float, and support the combined weight of the three builders, and patient wife. There was, however, no looking back now. Among the parts of the boat were five formers, or templates, cut to the cross-sectional shape of the hull at various points in its length, and these were set out on a spine grid. After being checked to see that they were vertical and properly spaced they were screwed firmly to the floor (in this case wood blocks—but of this, more hereafter!)

*

In the initial setting out of the hull—two

Milestone of Progress?

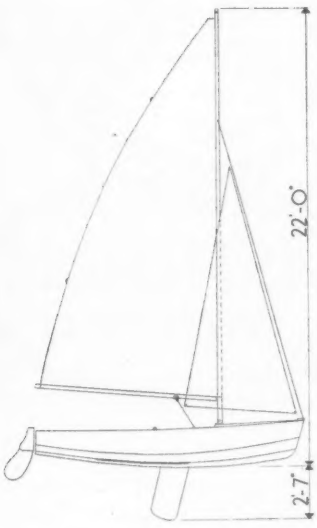
The building illustrated above, believe it or not, might almost be described as the home of Zeta. It is the new head office in Grosvenor Place, overlooking Buckingham Palace gardens, of Associated Electrical Industries, the firm which advertises its part in the production of Zeta as "A Milestone in Thermo-nuclear Research." Like Hawker-Siddeley and English Electric, which have revealed a similarly split personality, AEI pride themselves on advanced industrial technique, yet cling to the illusion that neo-classical or neo-Georgian is appropriate for their offices. The architects are Wimperis, Simpson and Fyffe, and the consultant architect is Sir Albert Richardson.

The new offices for Tube Investments Ltd. at Edgbaston, Birmingham, by Cotton, Ballard and Blow, have aroused controversy in the Midlands. The clients, the architects, the Calthorpe Estate and Sir Herbert Manzoni, Birmingham's City Engineer and Planning Officer, agreed on a design that would, in their view, be an appropriate "gateway to Edgbaston." A partner in Cotton, Ballard and Blow says in reply to criticism: "It's a lot of nonsense to say it isn't an attractive building. You can see the same sort of building going up in Grosvenor Square now. Certainly it isn't contemporary, nor is it out of date. I would prefer to call some of the contemporary stuff out of date. It fits into the background of houses in the Georgian style. I think anything contemporary on this site would be out of place."

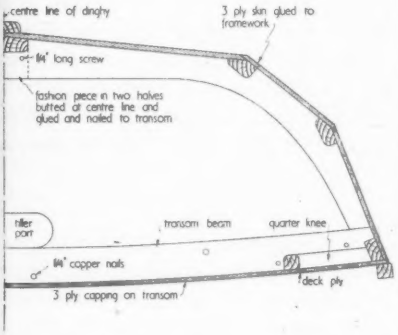
members—the stem and the stern (transom) were placed in position and received the keel and chines, which give the boat its shape when screwed into position.

*

At this point disaster overtook us in a somewhat unexpected form. The formers screwed to the wood blocks—being under the considerable strain from keel and



Above, the Enterprise sailing dinghy, designed by Jack Holt for the News Chronicle, *and below a section through the hull. The drawings, praised by architect John Lacey for their clarity, are reproduced by permission of the* News Chronicle.



chines—had a strong tendency to pull up the blocks to which they were fixed, and did succeed in dislocating some of these from the mastic bed in which they had happily lain for some years. The boat was thus twisted out of shape early in its career, and drastic cross battening and brute force were needed to bring it back to shape. A final check at this stage before beginning to put on the irrevocable stressed skin, revealed vital dimensions that were as near accurate as seemed possible. So far the problem was not one of reading drawings, which were indeed abundantly clear (and supplemented by photographs) but of dragooning materials to correspond to them.

JOHN LACEY

(to be concluded next week)

The Editors

THE LEADERS OF THE RIBA

WHO runs the RIBA? This question must be exercising the minds of all those members who are perturbed by the Royal Institute's present financial crisis. Obviously the Council itself acts as little more than a debating chamber and a rubber-stamp; with over seventy members it would be hard for it to act in any other way. The Executive Committee could claim to be the policy-maker of the RIBA, but with fifteen members it is still an unwieldy size to provide the leadership the profession needs. Leadership can best be provided by a committee where the members have complete confidence in each other, are agreed on their aims, and are largely agreed on the methods of achieving them. With this in mind, the membership of the Executive merits examination. Nearly half of the Committee are the Honorary Officers of the Council (with the exception of the Past Presidents); the remaining eight, of the total of fifteen, consist of the Chairman of the Board of Architectural Education and of the RIBA Registration Committee, and six Fellows and Associates who have either been elected to Council or, more rarely, represent an allied society. It can be seen from this that the Honorary Officers are liable largely to dominate this Committee. The significant thing is that, of the Honorary Officers, all must be Fellows of the Royal Institute and only two of the four vice-presidents need be *elected* members of the RIBA Council.

The effect of this can be judged by a study of the list of all Honorary Officers of the Council for the last nine years. This list is given on pages 312-13. The top nine lines show the continuity of office which a relatively small number of architects has maintained: twenty-nine architects have filled a possible total of eighty-one "annual offices." Such continuity need not, of course, be a bad thing. But what is significant, we suggest, is the number of officers who hold a position despite the fact that when they last stood for election by the membership they were *not elected.*

Democracy can, perhaps, be carried too far, but the dangers of even partial autocracy are greater. The present financial trouble is, almost certainly, partly the result of the Honorary Officers being out of touch with the membership, and therefore being unaware of the exacting requirements of a professional body in these complex post-war years. For too long the RIBA has been run as a society for professional gentlemen, depending largely for its direction on the loyal but necessarily spare-time advice of those few whose private practices are so large that the constant presence of the principal is no longer necessary, or of those who are in partial retirement. The administration of the headquarters has been carried out by a secretariat which has been hardworking and faithful, but untrained in certain essentials. It has been, in fact, an amateur show, which was no doubt quite satisfactory for pre-war conditions, but which is cruelly handicapped when it attempts to deal with the more exacting conditions of today.

The RIBA now needs professional administration: actuarial and statistical advice on membership, a qualified accountant, and the advice of a financier on investments. With an annual expenditure of over £150,000 it must not rely so much on part-time or only partly-qualified help. It is significant that, although over forty per cent. of the RIBA's annual expenditure is on salaries, the economies introduced as a result of the crisis (in publishing costs, and public relations) have been on matters which amount to only a very small proportion of the total. The role and status of the Royal Institute have reached a critical position. The speed with which it will master its troubles depends, for the next two years, on who is next elected President and on the type of honorary officers he appoints.

A DIRTY WORD?

We would not be inclined to take very seriously an after-dinner speech given by Lord Mancroft to the London Appreciation Society, were it not for two facts: he is a member of the government, as Minister without Portfolio, and extracts from his speech were circulated by the Ministry of Housing and Local Government. If it is an expression of policy it is unfortunate that Lord Mancroft made his criticism of the æsthetic control of architecture the vehicle for some other remarks which betrayed confusion, prejudice and irresponsibility. Lord Mancroft spoke about the lamentable condition of "some of our architecture today," attributing it to the excesses of the preservationists. Later he blamed *planning* for what he called "the glutinous mass" of buildings arising around us, and said that planning would soon become a dirty word if we did not *have less of it.*

Lord Mancroft's diagnosis is hopelessly wrong. If every preservation society were to be abolished tomorrow the effect on contemporary building would be negligible. If æsthetic control were to be abolished, we do not believe that this would give us, as he says it would, either many more horrors, many more excellent buildings, or much less mediocrity. The application of æsthetic control is a major irritant to some architects in some areas, but it has had little or no effect on the mass of mediocre designs submitted to it. Lord Mancroft is deceiving himself if he anticipates sweeping results from his proposal to free architects from æsthetic control, except in special areas and subject to restriction on the mass of a building. One reason for severely limiting æsthetic control would be to compel both the government itself, and the planning authorities, to concentrate on achieving positive solutions of the problems that are being neglected at the present time—overspill, the redevelopment of central areas and the rebuilding of the industrial towns, the growth of motor traffic and the spoliation of the countryside. Britain needs more planning, not less, and much of the "glutinous mass" that Lord Mancroft decries stems directly from measures taken by successive governments to whittle planning down, and to set some very dubious characters free. While looking at the mote in the planners' eye, Lord Mancroft would do well to examine the beam in his own.

KEEPS IN KEEPING

The most interesting thing about the exhibition of "Castles in Spain" at the RIBA is the body that organized it. This is called, suitably quixotically, the *Associacion de Amigos de los Castillos.* The five-year-old Amigos are very different from Britain's Friends of this and that. While our Friendly groups are often little more than fan clubs for museum directors and broken-down aristocrats, the Amigos are always busy restoring old castles, finding new uses for them or—most quixotic of all—persuading the owners to live in them.

*

The photographic exhibits at the RIBA are just what one would hope for—fantastic towers, grim keeps and crazy turrets. And many of the castles are balanced on top of improbable rock pinnacles, backed by El Greco landscapes. As ASTRAGAL contemplated this stuff that dreams are made on, digging his heels into the magnificent Spanish carpeting (sorry, it was removed after the opening), he pondered on the state of many of our own architectural treasures and brooded bitterly about our negligent guardians of culture.

ARMS AND THE MANUAL

A few days later ASTRAGAL realized that his brooding had been a little unjust. A UNESCO manual, pub-

lished by the Stationery Office, reminded him that when governments hear the word "revolver" they reach for their culture—and put it in a safe place. This manual tries to explain its contents in the snappy title, *Protection of Cultural Property in the Event of Armed Conflict*. Armed Conflict forsooth! This is more than a book on how to protect your oil paintings from the barbs of arrows. It is, in fact, a revision of a work that first appeared four years ago, and it tells you—among other things—how to put protective structures round buildings that might get in the way of a thermonuclear war. You are also recommended to pack sculptures and pictures into atom-bomb-proof depositories. And you are reminded that a 20-megaton bomb detonated near Abbeville would break half the windows in London, Paris and Brussels. Only a pessimist would point out that elaborate precautions don't seem practical when you consider that instant retaliation would be the order of the day. And only a pessimist would ask if the Government is likely to fork out the money for such precautions. In these matters ASTRAGAL *is* a pessimist.

SMITH'S CRISP REPORT

Full marks to *Architecture and Building* for sending John Smith on a five-week marathon round all the 74 schools which offer training in architecture—three a day if you stop for petrol and spares on Saturdays and Sundays. The survey published in the February issue is equally breathless and is going to make some people hopping mad, but reading between the lines (or bang along them here and there) and looking at the pictures of students' work, ASTRAGAL guesses it catches the essential atmosphere of each school pretty fairly.

*

Appalled by the revelations of his ghastly journey, Smith gives a Draconian verdict: sweep away the Board of Architectural Education because it has proved itself incompetent; set up a new body of "progressive" architects and intellectuals to disestablish the existing schools and reform the pattern of education; abolish the external examination system; flush out the old teachers and professors and replace them with men "dedicated not to teaching but to architecture"—and lots more for 2s. 6d. Too easy to say? Yes, but a real wallop won't do any of us any harm, and it's nicely timed, too, for the London Conference on Architectural Education in April. Smith, as Outsider No. 1, certainly ought to be in on it.

*

On the credit side one thing stands head and shoulders above everything else in significance: the Birmingham School's Live Projects. In the past seven years the school has designed, put out to contract and built several blocks of flats, houses, old people's bungalows, two clubs and a pathology laboratory. The pages describing this should be compulsory reading for everyone in any way responsible for the education of the architect.

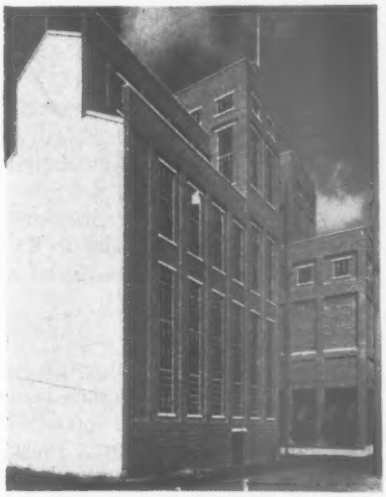
TAKE YOUR CHOICE

You don't have to be a student to know about the illogical salary structure in local government. Anyone could have learned about this by reading two advertisements which appeared last week in the same column of *The Times*. One asked for an assistant architect in the LCC's General Division. The successful candidate will be deputy to a man who is responsible for a staff of over 150 architects and designers. The other advertisement asked for an area planning officer at Chelmsford. The salary range for the first job, which will involve the controlling of work on industrial and office buildings, fire stations, old people's homes, expanded town development and extensions to the Crystal Palace and the Festival Hall, is £1,500 to £1,800. The area planning officer will get £1,405 to £1,625. You will see as quickly as John Gordon what this means. The deputy chief of the LCC's General Division may be getting less money than Chelmsford's area planning officer.

BRITAIN'S LIGHT HEART

What sort of a show will we put up in Brussels? Things do not sound too good. The Government, for misguided reasons of economy, handed the industrial pavilion site to the FBI. And the Federation is recovering the cost of building by letting space at £10 per sq. ft. to anyone who will buy it. Many of the stands to be built around the 8 ft. (!) aisles will be 20 ft. high, the idea being to cram as much in as possible. And as it has proved almost impossible for stand design to be brought under control (though there is some control over lettering) it seems unlikely that our industrial displays will have any visual coherence.

The Scottish Gas Board has proudly published these pictures of its buildings, labelling the top one (at Dumbarton) "modern" and the bottom one (at Dumfries) "contemporary".



*

Many things ASTRAGAL hears about Britain's contributions to the Brussels Fair makes him despondent. But here is a cheering news item. Last week the President of the Board of Trade agreed with an advisory committee that in future the Board should fill national pavilions in trade fairs with representative exhibits, and that it should bear any loss. Let us hope this means the end of our save-penny policy.

*

Incidentally, if you are going to Brussels you might as well get your blushes over in good time. The official description of the City of London section refers to a "giant coat of arms

in metal sculpture superimposed over an illuminated glass heart, the whole surrounded by a giant world map, with hundreds of lights pinpointing centres of world commerce. As the heart lights up in heartbeat pulsations so do clusters of light appear on the map. The theme for this display is 'The City of London, the Heart of World Commerce.'"

SPEC AND SPAN

Eric Lyons, the architect to the Span group's excellent spec flats and houses, spoke at the AA last week on "Working for a Spec Builder." Mr. Lyons has a refreshingly outspoken disrespect for both the RIBA and the Town Planning fraternity (he believes that planners, like economists, always know the answer to the last crisis). Those who did not know of his achievements both as an architect and as an opponent of the deadhead planning boys, will have been fascinated by his modestly-told success story. Those of us who did know all about him were delighted to listen again to his wit and to be reminded of his triumphant battles with obstructive committees.

*

Eric Lyons believes that the spec housing field is in a bad state because architects have not been interested in it, and he blames the RIBA for making a scale of fees which precludes both interest and experiment. He compares himself with the industrial designer who develops a manufacturer's product for an uncertain market, and soon begins to know a great deal about that market. He believes passionately that designing of the kind he is doing is the only way the architect can regain his lost prestige for domestic architecture.

*

From a talk that was packed with quotable sayings of the week, here are two:

"There is no solution to the collections of individual small houses from a town planning point of view."

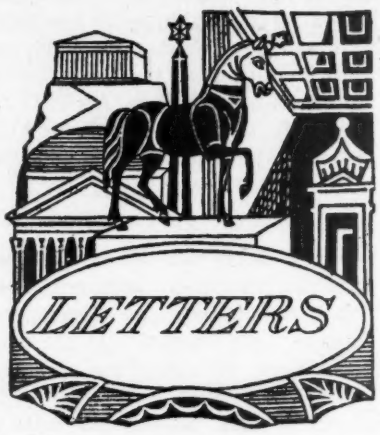
And

"There is no possibility of cost control with quantity surveyors."

WHY NOT ABOLISH HUNTING . . .

. . . through old copies of the JOURNAL? ASTRAGAL has been asked to remind you that it is still not too late to get copies of the Technical Section Index for 1957.

ASTRAGAL



Ronald H. Morgan, A.R.I.B.A.

Jeremy B. Lowe, Joseph N. Longville, W. Ramsay, K. Swales, A/A/A/A.R.I.B.A.

Charles Toner, T. A. B. Dempster, Robert A. Taylor, J. Campbell Hutchison, H. Connell, A/A/A/A.R.I.B.A., John Thomson, Peter G. Robb, Students RIBA

D. T. Doxat-Pratt, A.R.I.B.A.

Ian Nairn

Peatfield and Bodgener, A/A.R.I.B.A.

H. Owen Luder, A.R.I.B.A.

John Amor, A.R.I.B.A.

Davis, Belfield and Everest, F/F.R.I.C.S.

Andrew Carden, A.R.I.B.A.

Short Sighted Policy

SIR,—The RIBA's decision to raise, yet again, the annual subscriptions of its members is clear evidence of its inability to manage its financial affairs effectively. One may well ask why the need for two increases within so short a period? Was the RIBA not able to foresee the trend of their financial position a year ago, when membership subscriptions were last increased?

The report in your JOURNAL last week makes particularly depressing reading to the younger Associates of the profession. One has merely to glance down the columns of "Architectural Appointments Vacant" each week to see how poor salaries are. Principal architects seeking assistants lack the courage to state the salaries they are prepared to offer. No doubt they do not wish to dishearten would-be employees by being frank and open about the all important £ s. d. factor.

I would refer to the Hon. Treasurer's answers to questions put to him at the RIBA press conference. He informs us that more and more architects are seeking employment abroad and that the number of new entrants to the profession is decreasing. Can we expect anything else, when entrance examination fees and subscriptions are increasing so much and salaries offered to qualified assistants after years of training are so poor? How can the young architect live up to the status of a "Professional Man?" What, one may ask, is the prospect of any improvement when such a short-sighted policy is adopted by the RIBA? Would it not have been a wiser policy to give an incentive to prospective architects instead of shutting all the doors to those who have the interests of our profession at heart and sincerely desire to become enthusiastic architects.

RONALD H. MORGAN.

Dorking.

SIR,—We, members of the RIBA employed by a Local Authority are as much dismayed by your attitude to the RIBA's increased subs as by the increases themselves.

You suggest in your editorial that we should pay a higher subscription than our equivalents in private offices because of our increased security. You seem to forget two facts.

1. None of our security is due to the RIBA, it is derived solely from our superannuation scheme and from the work of NALGO and other unions, to which we pay a large contribution annually. The RIBA has in fact (for good reasons; we admit) refused to concern itself with this question.

2. At present *all* our subscriptions are paid from taxed income (see AJ, February 13, 1958, page 243). If you compare our total present contributions with those of the assistant in private practice you will find that the following deductions are made from our respective gross salaries:

Local Government Architect earning less than £1000 p.a.	*Sum received by Institute etc. from member*	*Equivalent Deduction from members' gross salary*
	£ s. d.	£ s. d.
RIBA	6 6 0	10 19 0
ARCUK	1 0 0	1 14 9
NALGO	2 14 0	4 14 0
TOTAL	10 0 0	17 7 9
Private Architect		
RIBA	6 6 0	6 6 0
ARCUK	1 0 0	1 0 0
TOTAL	7 6 0	7 6 0

In the future these figures will probably become

Local Government Architect		
RIBA	7 17 6	13 14 0
ARCUK	1 0 0	1 14 9
NALGO	2 14 0	4 14 0
Local Govt. Archts. Soc.	10 0	17 3
TOTAL	12 1 6	21 0 0
Private Architect		
RIBA	7 17 6	7 17 6
ARCUK	1 0 0	1 0 0
TOTAL	8 17 6	8 17 6

If you will bear in mind that though it is impractical for us to evade these subscriptions, we can only expect direct benefit from NALGO and our new society, you will surely agree that we are bearing more than our fair share of the burden imposed by the RIBA.

Surely it would be in the interest of all the profession for subscriptions to be raised as much as possible from the untaxed income of members.

JEREMY B. LOWE,
JOSEPH N. LONGVILLE,
W. RAMSAY,
K. SWALES.

Durham.

SIR,—After reading the current issue of the *RIBA Journal* we are shocked at the amazing proposal to increase again the annual subscription in 1959.

Salaried associates who form the bulk of the membership must, we feel, now consider if they are able to afford membership of a body which despite its other merits, certainly has little or no effect on negotiations for salaries and service conditions. Most young associates do, in fact, subscribe to the RIBA simply in order to retain the distinction of A.R.I.B.A., which has become the nominal symbol of qualification. We must

certainly state that we have received little else for our subscriptions during our years of membership.

Now, however, we in local government are faced with expenditure which we feel goes too far. The all-important registration fee is £1; the proposed RIBA fee—£7 17s. 6d.; RIAS and allied Society—£1 1s. 0d., and in order to safeguard our most vital interests we have to be members of NALGO at a fee of £3 per annum—a grand annual total of £12 18s. 6d. If the *ad hoc* Committee's proposals for a Local Government Architects' Society are accepted, we are no doubt faced with an additional fee. Is it to be wondered that we are perturbed, especially as others of comparable status in our department have not the crushing burden of RIBA fees, whilst enjoying the same salary and conditions. To increase this burden as now proposed could result in a decrease in membership which in itself would defeat the purpose of the increase, and do nothing to mitigate the apathy towards the RIBA which already exists among salaried assistants particularly in Scotland.

We note that a major financial problem is the amount required for RIBA headquarters, building and staff. We would respectfully point out that most northern architects can hardly afford to visit Portland Place, far less make use of its facilities. Is it fair that these architects be required to subsidize, to this extent, those in London and the Home Counties who are the only ones able to take advantage of the Institute Building?

No doubt, a pamphlet would be required to cover all the points at issue. However, we would conclude by urging the RIBA Council to reconsider this proposal, or failing this, to revise the charter of the Institute so that salaried associates can rely on it for real protection in their daily work, and thus reduce the commitments to other bodies who at present are carrying out the work which should be the duty of the RIBA.

We have, of course, protested to the RIBA in like terms but we are writing to the JOURNAL in the hope that there may be other members who, thinking as we do, will add their protests too.

CHARLES TONER
T. A. B. DEMPSTER
ROBERT A. TAYLOR
J. CAMPBELL HUTCHISON
H. CONNELL
JOHN THOMSON
PETER G. ROBB.

Ayr.

SIR,—The manner in which the financial statement by the RIBA, published in your recent issue, was set down is quite extraordinary. As an interim statement of accounts, it would have been inadequate, but as an explanation accompanying such a grave move as the raising of subscriptions it was inexcusable. Each member of the profession should be given a complete picture of the state of finance, not a mere summary.

What, for instance, does the substantial proportion of the liabilities shown as 8.9 per cent and labelled miscellaneous really represent? I calculate that this figure would be between ten and twelve thousand pounds—a large sum of money.

On this subject, may I suggest that the RIBA present a copy of the last balance sheet to every newly elected member of the Institute. This surely should be standard practice.

D. T. DOXAT-PRATT.

Worcester Park.

How Can Architects Fail To Cure Subtopia?

SIR,—Re last week's third letter; thank God somebody's said it.

IAN NAIRN.

London.

Thermal Insulation

SIR,—Houses and factories obviously ought to be properly insulated: it is not so obvious that the matter should be controlled by law. The fact that it may very often be in the owner's financial interest to insulate a building is a good point for an advisory pamphlet, but not for an Act of Parliament.

Your editorial comment of February 6 brings out the difficulty of setting a standard of thermal insulation. Every regulation which prescribes a minimum immediately sets a standard; and if to guard against this the minimum is raised, the standard must be too high for some cases, and the result is legally-enforced waste. A standard of thermal insulation sufficient for a house on Flamborough Head would be unnecessary in Bournemouth, and the requirements of the main body of a house may be higher than those of an attached draught-lobby, fuel store, tool-shed or conservatory. If a low average standard is set, it gives the cachet of official approval to inadequate insulation in exposed positions, and thus where insulation is most important a regulation may do more harm than good.

Secondly, and more important, it is beyond the skill and imagination of any man to draft regulations sufficiently flexible to bear upon things as diverse as buildings without arbitrary restriction of the architect's invention. Architects today have to use considerable ingenuity in wriggling through the loopholes to put up anything better than the conventional builder's semi-detached villas and Jaggard-and-Drury type "Buildings of the Warehouse Class" which the regulations are drafted to contemplate.

The cross-wall construction used by Eric Lyons in some of his flats is an excellent example of the ingenious exploitation of such a loophole to put up something cheaper and better than the by-law house, and his glass-walled dwellings are much in demand in a market hitherto limited by cost to the spec-builder's pet formula. Has it been realized that Mr. Nabarro's Bill will kill cross-wall construction, because the necessity for a large area of double- or triple-glazing will destroy its economic basis?

Glass-and-steel houses, such as those designed recently by James Cubitt & Partners, would also come under the ban. In fact, any house with a flat roof would present very great difficulties, if a very low "U" value were prescribed. Only the conventional by-law brick box could be adapted to comply with the new rules at no great cost—and it is precisely that which any architect worth his salt does his best to avoid!

Again, a Bill which seizes on one aspect only of comfort, the "house U value," will stimulate the indiscriminate use of thin, highly-efficient insulating materials, which if wrongly applied in our cold, damp climate will by interstitial condensation cause discomfort and serious structural damage.

If it is felt that official control is needed, a panel of professional experts should be convened to draft a code of practice for the thermal insulation of dwellings. The Model By-laws could be amended to enforce adherence to the code, which could prescribe methods of construction and establish variable standards of thermal insulation according to the degree of exposure and class of use. Such a code could be revised more easily than an Act of Parliament, and would be therefore less of an obstacle to the evolution of building technique.

However, on the whole we think that the present system of leaving the matter to the skill and judgment of the architect is best. He alone is trained to see the problem of building as a whole, and does not think of separate functions, such as thermal insulation, in water-tight compartments. Fundamentally, the only way to get good buildings is to employ good architects and good builders.

PEATFIELD AND BODGENER.

London.

"Remarkably Cheap"

SIR,—I detect a definite note of laughable cynicism in Mr. Handisyde's letter and your own postscript (AJ February 13), at the mere thought of a factory being built for £1 10s. per sq. ft. super. Any client who even thinks of any figure less than £2 per ft. is of course quite mad!

Let me, however, recount a recent experience. I was required by clients to design 25,000 sq. ft. of open factory space and 5,000 sq. ft. of open office space on a sloping site near London. The clear height in the factory area was to be 15ft. 6 in. and the standard of finishes, while to be of the minimum cost, had to meet the requirements of "permanent building." No frills were required, either architectural or otherwise, nor could they be afforded, for the main requirements by the clients was that the cost had to be kept down to £1 12s. 6d. per sq. ft. Being faced by this, I consulted three of my quantity surveyor friends—the first said nothing could be built for less than £2 per sq. ft. The second cautiously came down to 37s. 6d. The third surveyor—who it must be admitted, has factual experience in real low cost building, felt that 30s. per ft. was a possibility.

In fact detail drawings and a bill of quantities were prepared and priced—the result—a building costing less than 30s. per sq. ft. super, inclusive.

The great danger these days is that, in all fields of low cost building, architects are getting the reputation of being an expensive luxury. Let's face it—few architects appear to be able to produce a really cheap but well-designed building, which is the essential problem to be solved in so many of our buildings these days.

H. OWEN LUDER.

London.

Funny Storey

SIR,—It is always a comfort to know that one can count on the support of one's colleagues in all matters affecting one's architectural activities, though one never quite knows the form which that support will take.

ASTRAGAL, for instance, has just been so kind as to point out in "This week's funny storey" (AJ, February 13) that I have forgotten to provide a stair in the first stage of my house, thinking, of course, that as I am building it myself I should, but for his keen perceptive comment, find myself trapped upstairs unable to descend.

Well meant as this no doubt is, I have the feeling that it was phrased in such a way as might make people think that architects are just a wee bit stupid. I hope that he will not feel hurt when I say that even without his help I had realized that some sort of stair—perhaps even a temporary one—would be needed in order to reach the upper floor, and had actually provided for a portion of building wherein it would stand.

But as I said, it is reassuring to know that someone of ASTRAGAL'S calibre has our interests at heart in case one day one of us forgets his walls and windows.

JOHN AMOR.

Ongar.

Spons Price Book

SIR,—Your review of *Spon's Architects' and Builders' Price Book* (AJ, February 6) asks what size of job is assumed in the Comparative Prices section and whether the prices include overheads and profit, discount, etc. As is stated in the Directions for the section on page 468 of the book the prices are based on those for Measured Work; they

HONORARY OFFICERS AND U.K. REPRESENTATIVES OF ALLIED

	1949–50	1950–1	1951–2	1952–3	1953–4
President	**Waterhouse**, Michael T.	**Henderson**, Graham	**Henderson**, Graham	**Robertson**, Sir Howard	**Robertson**, Sir Howard
Past President	**Goodhart-Rendel**, H. S.	**Keay**, Sir Launcelot	**Goodhart-Rendel**, H.S.	**Goodhart-Rendel**, H. S.	**Henderson**, Graham
" "	**Keay**, Sir Launcelot	**Waterhouse**, Michael T.	**Waterhouse**, Michael T.	**Waterhouse**, Michael T.	**Thomas**, Sir Percy
Vice-presidents	**Aslin**, C. H.	**Denman**, J. L.	**Denman**, J. L. Defeated 1951	**Aslin**, C. H.	**Aslin**, C. H.
" "	**Henderson**, Graham Chairman, Allied Soc. Conference	**Gibberd**, F.	**Enthoven**, R. E.	**Enthoven**, R. E.	**Fairhurst**, P. G. Chairman, Allied Soc. Conference
" "	**Kenyon**, A. W.	**Pexton**, F. W. Chairman, Allied Soc. Conference	**Holford**, Prof. Sir William	**Briggs**, Martin S.	**Mathews**, E. D. Jefferiss Defeated 1952–53
" "	**Knapp Fisher**, A. B.	**Grey Wornum**, G. (deceased)	**Pexton**, F. W. Chairman, Allied Soc. Conference	**Fairhurst**, P. G. Chairman, Allied Soc. Conference	**Rowland Pierce**, S.
Honorary Secretary	**Roberts**, A. L. Since 1946	**Briggs**, Martin S. Defeated 1950	**Briggs**, Martin S.	**Cross**, Kenneth M. B. Defeated 1952	**Cross**, Kenneth M. B.
Honorary Treasurer	**Denman**, John Since 1945	**Roberts**, A. L.	**Roberts**, A. L.	**Scott**, T. E. Defeated 1951	**Scott**, T. E.
Representative in UK of RAI of Canada	**Sullivan**, Sylvester	**Sullivan**, Sylvester	**Sullivan**, Sylvester	**Sullivan**, Sylvester	**Sullivan**, Sylvester
Representative in UK of R. Australian IA	**Worthington**, Sir Hubert	**Howitt**, T. C.	**Howitt**, T. C.	**Henderson**, Graham	**Henderson**, Graham
Representative in UK of New Zealand IA	**Murray Easton**, John	Vacant	**Uren**, R. H.	**Uren**, R. H.	**Uren**, R. H.
Representative in UK of South African A	**Waterhouse**, Michael T.	**Waterhouse**, Michael	**Waterhouse**, Michael T.	**Waterhouse**, Michael T.	**Waterhouse**, Michael T.
Representative in UK of Indian IA	Vacant	**Medd**, H. A. N.	**Bentley**, Stuart	**Bentley**, Stuart	**Bentley**, Stuart

Above, and opposite page, are listed the Honorary Officers of the RIBA for the years 1949-50 to 1957-8. The list includes, where relevant, the date, or dates when an officer stood for election to the Council as an ordinary member and was defeated. It also shows how relatively few are architects who might be described as belonging to the " modern movement " and therefore in sympathy with the aims and ideals of the post-war architectural world. These Honorary Officers, and, of course, particularly the President, the Honorary Secretary and the Honorary Treasurer, are the prime creators of RIBA policy, yet only two of all the Officers have to be elected members of the RIBA Council. These key positions were not affected when the revisions to the membership of the Council were

assume a job in outer London costing about £60,000, and they include for overhead charges and profit, etc., but not, of course, for job " Preliminaries." We agree that it would be helpful if this information is repeated in the preamble at the top of the Comparative Prices and this will be done in future editions.

As for abandoning the foot cube prices of different types of building in favour of foot super prices, it may be possible to give both when sufficient information accumulates. At present, there is insufficient background knowledge of foot super rates for many types of building and in any case the foot super method also conceals " statistical fallacies," the most obvious of which is that it makes no allowance for differences in storey heights.

DAVIS, BELFIELD & EVEREST.

London.

" A Real Maniac "

SIR,—No wonder Sir Hugh Casson found it nice to listen to " a real maniac " at the AA on January 29 in the year 1958.

After we have heard all the certified sane and safe lamenting, as Sir Hugh did recently over the threatening American scene, and asking what can we do to be saved, a " maniac " who suggests that our problems are not just matters of æsthetics or " getting people to see things in the right way " is a godsend!

Of course he went and spoilt it all by mentioning that Money might have something to do with our problems. Too bad!

ANDREW CARDEN.

London.

THE UNIVERSITIES

£60 Million Programme

A correspondent writes: £60,000,000 worth of new building is to be put in hand during the four-year period beginning in 1960 to help the universities accommodate the 124,000 undergraduates who will be following full-time courses by the middle of the decade. This sum will be scarcely sufficient to provide all that is needed to meet the essentials of basic vocational training. Wisdom of a high order and the utmost professional skill will be needed to deploy it so that the universities can fulfil their true function—the culture of whole men.

Are we, as a profession, adequately equipped to play our part in this formidable operation? The two numbers which we recently devoted to the universities and the October issue of the *Review* revealed the cumulative effect of failure to understand the nature of the problems both of strategic planning and of detailed design of individual buildings. The mistakes of the past were for the most part paid for by the universities themselves or their private benefactors. Today the nation foots the major part of the bill.

Alone among the bodies dependent on public funds, the universities do not answer directly to the exchequer for their expenditure. Between them and the Government of the day stands the University Grants Committee, shouldering collective responsibility for both the capital and day-to-day cost of university education. By this typically British device individual universities remain free; free to teach what they think fit; free to fashion their own environment; free to choose their own architects. Their share of the " ration " of public funds is the only limitation imposed upon them, and even this they are free to supplement from other sources if they can.

But to fulfil its duty to the public and to the universities as a whole, the Grants Committee must satisfy itself and the Treasury that public money buys good value in university building. It is showing itself sharply aware of the problems inherent in this urgent responsibility. In the last year, its machinery for grant applications has been overhauled. Forward planning has been advanced from two to three years, thus allowing much more time to be devoted to investigation of requirements. It now recommends universities to seek architectural advice from the very earliest stage of each project and offers the co-operation of its own recently acquired architectural staff which is rapidly equipping itself to give guidance and help on space requirements, on planning and on costs.

There are signs too that the universities, so well informed on every other intellectual, artistic and scientific pursuit of human kind, are at last discovering that architecture is not only that which the more fortunate inherit from the past. Copyist compromises are being deplored. Demand is growing for honest solutions to practical problems, touched with that indefinable quality which distinguishes architecture from ingenuity.

This is the challenge. During the sixties will be fashioned the mirror which will reveal us to the professors and students of the twenty-first century. How will we look?

SOCIETIES OVERSEAS ON THE RIBA COUNCIL FROM 1949-1957

1954–5	1955–6	1956–7	1957–8	
Aslin, C. H.	Aslin, C. H.	Cross, Kenneth M. B.	Cross, Kenneth M. B.	*President*
Robertson, Sir Howard	Robertson, Sir Howard	Aslin, C. H.	Aslin, C. H.	*Past President*
Thomas, Sir Percy	Thomas, Sir Percy	Robertson, Sir Howard	Henderson, Graham	" "
Spence, Basil	Cross, Kenneth M. B.	Martin, Sir Leslie	Forshaw, J. H. Defeated 1955, 6, 7	*Vice-president*
Saxon, Charles Chairman, Allied Soc. Conference	Martin, Sir Leslie	Howitt, L. C.	Howitt, L. C.	" "
Mathews, E. D. Jefferiss	Saxon, Charles Chairman, Allied Soc. Conference	Scott, T. E.	Scott, T. E.	" "
Rowland Pierce, S.	Spence, Basil	Connolly, Harold Chairman, Allied Soc. Conference	Connolly, Harold Chairman, Allied Soc. Conference	" "
Cross, Kenneth, M. B.	Mathews, E. D. Jefferiss	Spence, Basil	Spence, Basil	*Honorary Secretary*
Scott, T. E.	Scott, T. E.	Mathews, E. D. Jefferiss	Mathews, E. D. Jefferiss	*Honorary Treasurer*
Scott, T. E.	Scott, T. E.	Scott, T. E.	Scott, T. E.	*Representative in UK of RAI of Canada*
Henderson, Graham	Henderson, Graham	Henderson, Graham	Henderson, Graham	*Representative in UK of R. Australian IA*
Uren, R. H.	Uren, R. H.	Uren, R. H.	Uren, R. H.	*Representative in UK of New Zealand IA*
Waterhouse, Michael T.	Waterhouse, Michael T.	Waterhouse, Michael T.	Waterhouse, Michael T.	*Representative in UK of South African A*
Bentley, Stuart	Bentley, Stuart	Bentley, Stuart	Bentley, Stuart	*Representative in UK of Indian IA*

introduced last year. Indeed the Council Committee charged in 1954 with reporting on the constitution of the Council and on the representation of the various classes of membership on it, found the present procedure for the appointment of officers "right and proper." The same committee ignored the problem of the representation of allied societies overseas on the Council. The U.K. representatives for the same period are also shown above. It is interesting to note how often a U.K. representative is also an officer or an ex-officer, thereby keeping new blood from joining the Council or old blood from leaving it.

TDA

Timber Furniture Competition

The Timber Development Association has organized a competition for the design of office furniture made mainly, but not necessarily exclusively, of wood and/or plywood. The competition is open to bona fide designers working in collaboration with manufacturers. There is a prize of £500 for the best design for suites or unitary systems of office furniture (appropriate to the needs of typists, junior and senior staff), and five prizes of £100 for individual items of furniture. These items are desks for typists, for junior grades, or for senior grades, a chair for general office use, and filing units.

The requirement that there should be collaboration between designers and manufacturers is intended to ensure that the designs produced are practicable, and lend themselves to production by a manufacturer at competitive prices, and also to enable the TDA to call for the submission not only of designs on paper but of full-size prototype furniture also. This will subsequently be put on exhibition, and will enable the public to appreciate more fully the results of the competition.

Both manufacturers and individual designers are invited to enter, and those firms which do not have their own design staff, and those designers who have no standing arrangements with a manufacturer, will be introduced to each other so that they will have the opportunity of collaborating. No prizes are offered to manufacturers, as their reward is intended to take the form of orders for furniture.

The competition will be judged by the assessors in two stages. Intending competitors must enter by April 30, 1958, and the closing date for the submission of sketch designs sufficient to indicate their intentions and reports not exceeding two foolscap sheets will be August 29, 1958. This stage is in the nature of a preliminary round, during which collaboration between designers and manufacturers, although desirable, is not essential, and submissions from an unattached designer will be accepted.

In the light of the assessors' judgment of the sketch designs and reports competitors will decide whether or not to proceed to the second stage; designs submitted by unattached designers which have been commended by the assessors will be brought to the attention of manufacturers, in a further effort to secure the collaboration required. In the second stage, for which the closing date is February 27, 1959, entries will consist of working drawings, specifications, prototype furniture, and a short report to be submitted jointly by the designer and the manufacturer, with approximate retail prices.

The assessors are: Professor Robert H. Matthew, Professor R. Y. Godden (Royal College of Art), O. G. Pickard (Office Management Association), B. McGeoghan (Council of Industrial Design), D. A. C. A. Boyne (executive editor, THE ARCHITECTS' JOURNAL), E. Levin (TDA). Copies of the rules and notes for the guidance of competitors can be obtained from the Secretary, TDA, 21, College Hill, London, E.C.4.

PLANNING

"Let Architects Loose"

Lord Mancroft, Minister without Portfolio, speaking at the Jubilee Dinner of the London Appreciation Society, said: Some

people have become preservation mad. Hence the lamentable condition of some of our architecture today. The fright we have taken at the idea of high buildings has ended in a dreadful compromise. Why can't we turn our architects loose? I have myself little faith in control of design.

I think we should draw a protective ring round a few special places: elsewhere we should let the architects experiment, subject, of course, to the total amount of building to be allowed in relation to the site. Of course, we shall get some horrors, but we shall also get some excellent building and nothing like so much mediocrity. If we don't have a bit less planning, planning may become a dirty word. What happens is we are all in favour of less planning until we find something we personally dislike. Then we all demand more planning and the result is the glutinous mass we see rising around us today.

BIRMINGHAM

"Services Can Be Fun"

The Birmingham School of Architecture has completed another week's course at Attingham Park, near Shrewsbury, to which it takes its students every year as an antidote to Birmingham. The subject this year was heating, beginning with a lecture by Mr. Chrenko, of the Medical Research Council, on the physiological approach to heating, and culminating in a lecture by W. White, of Grenfell Baines and Hargreaves, on the effect of heating service on the design of a large building. A correspondent writes that the school discovered the real heart of the problem to be this: since we can't all become service engineers, the engineers ought to learn that architecture is fun (as many structural engineers have done) and that their work becomes more interesting when it fits in with the thinking of the rest of the building team. This, he adds, is not asking very much because many architects have already decided that services can be fun.

IUA

Congress News

Some additional information about travel arrangements for the Moscow IUA conference (already reported on January 23) has now been issued by the RIBA. The return fare by night flight to Helsinki and thence by train to Moscow is £68, but the inclusive cost is expected to be £110, the figure quoted earlier of £90 not having included overnight stay and meals in Helsinki, nor the cost of meals en route. The cheapest route, for the extremely hardy, is second class train and boat, for which the return fare is £55: but this does not include a sleeper (£23 extra) or the cost of meals on the four-day journey each way. The travel agencies in touch with Intourist are Thomas Cook and Son Ltd., 45, Berkeley Street, Piccadilly, W.1, Co-operative Travel Service, 4, Regency Street, London, S.W.1, L. W. Morland & Co. Ltd., 5, Whittington Avenue, London, E.C.3, Progressive Tours Ltd., 100a, Rochester Row, London, S.W.1, and Workers' Travel Association Ltd., Eccleston Court, Gillingham Street, London, S.W.1. The Bank of England has authorized additional currency for those attending the Congress, and those wishing to take advantage of this facility should write to the Secretary, UK Committee, IUA, at the RIBA.

At the Congress, of which the theme is Construction and Reconstruction of Towns, 1945-1957, the discussions will be divided into two main headings, "the plan" and "the realization of the plan." Simultaneous translation will be provided into and from English.

The seven Working Commissions of the Congress have been reorganized. One national section of the IUA will be responsible for the secretarial work of each of the Commissions, and a delegate has been appointed in each Commission to be in charge of its work. The "Commission de l'Architecte" has been re-established as two separate commissions, one on professional practice, on which the British delegate is J. M. Austin-Smith, and one on architectural education, on which the British delegate is professor R. J. Gardner-Medwin. Professor Gardner-Medwin is the commission's rapporteur, and the RIBA is responsible for the secretarial work of this commission.

International meetings in 1958 include the General Assembly of the International Standardization Organization (Harrogate, June 9-21), Congress of the International Federation of Housing and Town Planning (Liége, August 31), and Congress of the International Federation of Landscape Architects (Washington, August).

RIBA SYMPOSIUM

Private House Design

A one-day Symposium has been arranged by the Town and Country Planning and Housing Committee of the RIBA to take place on May 2, 1958. The purpose of the meeting is to stimulate action to improve the appearance of town and countryside through the better design of private housing. The Committee are sure that this is not only socially desirable, but is a business-like and worthwhile object. It is hoped that this joint meeting of architects, builders, representatives of building societies and clients will do much to promote the understanding which is thought to be necessary before better design can be commissioned.

The meeting will be opened by Henry Brooke, the Minister of Housing and Local Government, and it will be held under the Chairmanship of Sir Hugh Casson, who will speak on "The situation." Other speakers are C. Douglas Calverley, a house builder; Hubert Newton, the general manager of a building society; Miss May Abbott, the news editor of a national newspaper for women; Clifford Culpin; Tom Mellor; Peter Dunham; G. Grenfell Baines; Eric Lyons, Norman Wates and Roger Raymond (builders); Paul Reilly, Deputy Director, Council of Industrial Design, and P. G. Laws.

Tickets for the Symposium, costing £1 each, and including a copy of the printed report of the proceedings, are obtainable from the Secretary, RIBA, 66, Portland Place, London, W.1.

Visit to Brussels Exhibition

The Essex, Cambridge & Hertfordshire Society of Architects has arranged a four-day visit to the Brussels Exhibition, May 9-12. Members and their friends will fly to Ostend where hotel accommodation has been booked and thence journey by coach on two successive days to Brussels. Over 80 people are participating. Approximate cost, return air fare, hotel and coaches, £15. There are a few vacancies left and anyone interested is invited to write to the Hon. Secretary, R. Owen Vine, Tudor Chambers, Station Road, Wood Green, London, N.22.

YORK INSTITUTE

1958 Courses

The York Institute of Architectural Study includes the following courses in its programme for 1958: Protection and repair of historic buildings, March 20-29; The care of churches, March 29-April 3; Landscape reclamation, April 17-22; Architectural design, July 26-August 23; Landscape design, July 26-August 16; Modern techniques in timber construction, September 11-15; Mining subsidence, September 15-19; Architectural project management, September 19-23. There will also be four schools: for architectural students, from July 26-August 9; on the history of English architecture, from August 9-16; on the English country house, from August 16-23; and on the history of railway architecture, from August 23-30. Further information is obtainable from the York Institute of Architectural Study, Mickelgate, York.

HAMPSTEAD

Anti-Subtopia Society

The New Hampstead Society, a unique organization formed originally by a small group of architects and others to press for a Civic Centre of modern design, is to be kept in being as a permanent organization with broader aims. Professor Pevsner is to be the speaker at an inaugural meeting on March 6. A statement issued by Christopher Gotch, the secretary, says:

There already exist organizations devoted to the preservation of what is good in old Hampstead; but while we support their efforts, we feel that something more is required. The New Hampstead Society will make war on ugliness in all its forms; it will be the sworn enemy of Subtopia or unnecessary tree felling, the erection of ugly lamp posts, and the proliferation of badly designed street "furniture." It will continue to interest itself in the development of the Civic Centre, and it will try to promote a high standard of architecture particularly by the Borough Council, to which it looks to set an example.

It deplores the fact that Hampstead has no Borough Architect. Hampstead, it believes, should appoint a Borough Architect and make him responsible not only for the Council's housing and other building, but also for Town Planning when certain town planning controls are delegated to the Borough Council by the LCC. In all these matters it will try to act as a link between architects and others who value the good appearance of Hampstead.

DIARY

Spanish Castles. Exhibition of photographs at the RIBA, 66, Portland Place, W.1. Monday to Friday 10 a.m.—7 p.m.; Saturday 10 a.m.—5 p.m. Admission free.
UNTIL FEBRUARY 28

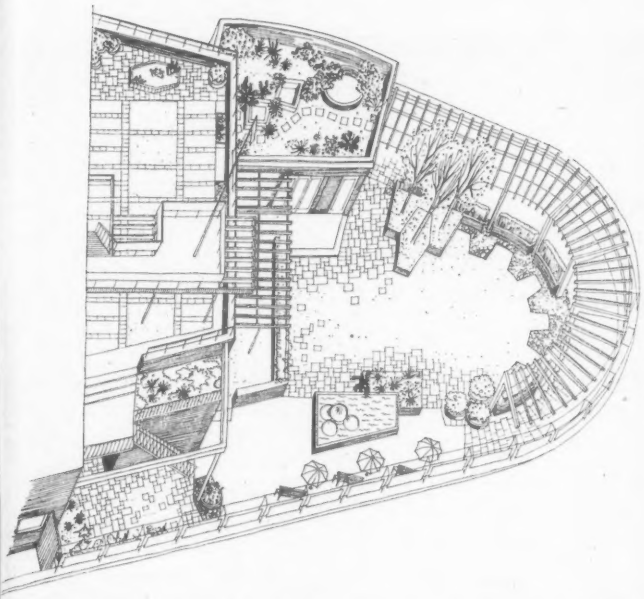
100 Years of American Architecture. Exhibition at the RIBA, 66, Portland Place, W.1. Monday to Friday, 10 a.m.—7 p.m.; Saturday 10 a.m.—5 p.m. Admission free.
UNTIL MARCH 22

The Architect's Rôle in Society. Talk by Sir John Wolfenden. At the RIBA, 66, Portland Place, W.1. 6 p.m.
MARCH 4

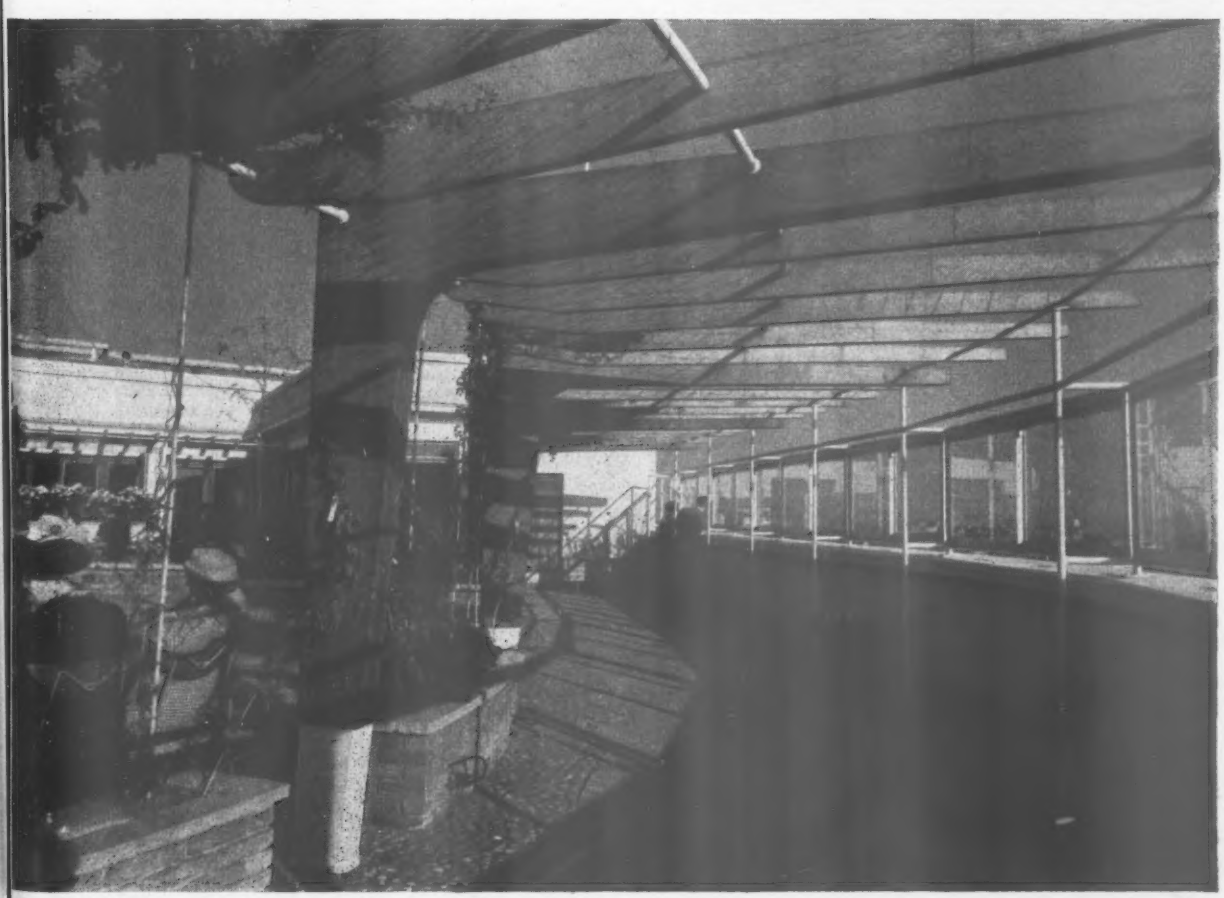
William and John Talman. Talk by John Harris at a Library Group meeting. At the RIBA, 66, Portland Place, W.1. 6 p.m.
MARCH 10

The Dispersal of Offices in Relation to Office Workers' Homes. Conference at the HC, 13, Suffolk Street, S.W.1. Speakers: R. Edmonds (chairman, LCC Town Planning Committee); I. J. O'Hea (Managing Director, Colt Ventilation Ltd.); Miss H. C. Hart, General Secretary, the National Association of Women Civil Servants. Fee: non-subscribers to the HC, one guinea; subscribing members, 10s. 6d. Tickets on application. 10.30 a.m.—5 p.m. MARCH 11

ROOF GARDEN AT LEWIS'S STORE, HAYMARKET, BRISTOL



The roof garden, above and below, and the restaurant, right, at Lewis's new store in Bristol (architects, Sir Percy Thomas & Son), were designed by Sudell and Waters. The pergola consists of laminated timber members and there is a glass screen around the entire perimeter. From the high-level platform, 150 ft. above ground level, there is a fine view of the city. Roof garden contractors, J. Burley & Sons Ltd.



Architects: Messrs. Joseph *Consulting Engineers:* Bylander & Waddell *Quantity Surveyors:* Bond, Foster & Partners
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CON 94

technical section

THE INDUSTRY

This week Brian Grant describes a new range of decking tiles, vinyl flooring, a fireproof wood preservative, a new refrigerator, plastic surfacing and a switch.

Asbestos-cement decking tiles

Asbestos-cement decking tiles are now being produced as a permanent finish for use over asphalt and built-up felt roof coverings. The tiles are 12-in. sq. and $\frac{5}{16}$-in. thick, and have a slightly domed centre and chamfered edges. They provide a hard-wearing surface for flat roofs or balconies and give protection to roof finishes which would otherwise be liable to damage from foot traffic. Fire resistance and insulation are improved, and the light grey surface of the tiles also helps to reflect solar radiation. The tiles cost 1s. 7d. each and there is a range of standard accessories for abutments, verges and eaves, with half tiles, drips and coves: special purpose tiles can also be produced without undue difficulty. (*The Universal Asbestos Manufacturing Co. Ltd., Tolpits, Watford, Herts.*)

New vinyl flooring

A new flexible and silent sheet flooring made from vinyl plastic reinforced with asbestos fibre has recently been added to the Marley range. It is known as Marleyflor No. 1 and is available retail in rolls 48 in. wide at a price of about 21s. a sq. yd.: it has a marbled finish and is made in ground colours of red, blue, cream, yellow, green, black and dark and light grey. It can be fixed permanently with Marley No. 12 adhesive, or, as it lies quite flat, it can be laid loose like linoleum. It is suitable for laying on smooth solid sub floors such as concrete or cement screed, which should be level and dry. With timber floors any gaps between boards should be filled, and nails punched down. The flooring is not suitable for use below ground level, or for laying on wood block. A water emulsion polish such as Marley waterwax is recommended for cleaning. (*The Marley Group Ltd., Sevenoaks, Kent.*)

Fireproofing timber

For some considerable time Messrs. Celcure have been producing wood preservatives to give protection against attack by fungus and insects, and they have just introduced a new Grade F, which gives, additionally, a very high degree of flameproofing. The compound is applied by vacuum and pressure impregnation to give a retention of about 2·5 lb. of solids per cu. ft. of timber. The chemicals used consist of ammonium salts and borates, and other compounds not disclosed, but fire tests at Boreham Wood show that samples of softwood treated with the compound have surfaces of Low Flame Spread (Class 1). After treatment the timber has a pale green colour and is quite odourless when dry: it will take paint, stains or varnish as easily as untreated wood, and is not corrosive to metals. The most suitable timber to use where flameproofing is required is European redwood, because of its permeability, but some of the softer hardwoods such as beech and birch are easily treatable. Whitewood and spruce can also be treated, but not so easily, while Columbian pine is not really suitable as it is almost always 100 per cent. heartwood. The cost of the treatment is 3s. 10½d. per cu. ft. in quantities of one standard or more, and the process can be carried out at the company's various plants as required. (*Celcure Ltd., Aldwych House, Aldwych, London, W.C.2.*)

Small refrigerators

The illustration on the right shows the new 2 cu. ft. Lec refrigerator, which now has an extra second shelf, giving a total area of 3·6 sq. ft. The compressor unit and motor are guaranteed for five years, and the refrigerator costs £45 19s. 3d. including purchase tax. (*Lec Refrigeration Ltd., Shripney Road, Bognor Regis, Sussex.*)

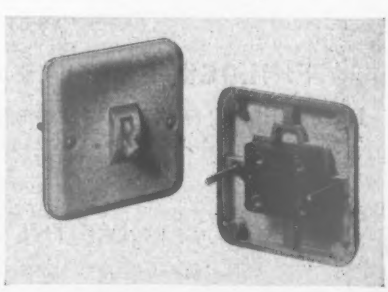
Bespoke plastic surfacing

Architects and designers can now have their own patterns incorporated in wear resistant melamine surface finishes, even when the quantities involved are comparatively small. The scheme has been worked out by the Airscrew Company & Jicwood in conjunction with Sandersons wallpapers, and the melamine surface is applied to Hardec board. A wide range of suitable papers is offered by Sandersons, who are prepared to adapt any colours to suit individual requirements. From the standard range of papers a minimum quantity of 200 8-ft. × 4-ft. sheets can be supplied, but if a special colour is needed then the minimum quantity is increased to 2,000 boards. Alternatively, architects' own designs can be used even if the quantity needed is comparatively small. (*The Airscrew Company & Jicwood Ltd., Weybridge, Surrey.*)

Intermediate switches

Crabtrees have just added a 5-amp intermediate switch to their Lincoln range of flush type a.c. switches. The new type is in every way uniform with the one and two way units with which it will be used, and it is shallow enough to be used with plaster depth boxes. The mechanism, which moves on nylon pivots, is sealed, and only the wiring terminals are accessible. A connection diagram has been moulded in the base. (*J. A. Crabtree Ltd., Lincoln Works, Walsall, Staffs.*)

Above, the Lec 2-cu. ft. refrigerator, now fitted with an extra shelf giving a total area of 3·6 sq. ft. Below, the Crabtree 5-amp intermediate switch.



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technical section

26 SERVICES AND EQUIPMENT

small electrical installations, 6 screwed conduit (continued)

In the issue of February 13, Peter Jay and Clive Wooster considered the advantages (and disadvantages) of screwed conduit and described the components which it requires*; this week they continue by discussing the layout of screwed conduit installations.

In the previous article we described the proper use of boxes, the limits of conduit bends, etc. It now remains to explain how these principles are applied in actual installations.

For easy reference we shall here repeat the table giving the capacity of the smaller sizes of conduit for 250-volt. grade VIR cables of the sizes most commonly used in private house wiring.

CAPACITY OF HEAVY GAUGE CONDUIT

Size of Cable	*Size of Conduit*		
	⅜ in.	½ in.	1 in.
3/·029	4	6	13
7/·029	3	4	9

In practice it is most unwise ever to use ⅜-in. conduit. Even when no need for more than four 3/.029 cables in one conduit can be envisaged at the start, cases in which an increase to five or six are required are so frequent that as a general rule it is very much better to stick to ¾-in. throughout. ⅜-in. conduit costs only about 12s. per 100 ft. less than ¾-in. conduit, which small saving is offset by the need to use reducing adaptors whenever it is required to branch in ⅜-in. conduit from a box with spouts for ¾ in..

This is a matter in which it is possible to construct special cases, and in such cases ⅜-in. conduit might be quite acceptable. However, although no reasons can be given to show that it should *never* be used, a very little experience convinces most people that it is wise to avoid it.

Switchdrops in a flush installation form a very difficult case. It is rarely necessary to take more than three cables down to a single switch from the ceiling above, and whereas ⅜-in. conduit can sometimes be accommodated behind plaster without a chase into the brickwork, a chase will always be necessary with ¾-in. conduit. We will examine this point again when describing a private house installation in conduit.

The layout of installations

It is scarcely possible to give any general principles governing conduit layouts, and we can only show examples of some well-designed installations, and describe certain methods applicable to particular circumstances. Conduit work is like joinery, in that the difference between good and bad work can be recognized immediately by eye, although it is very hard to describe in words.

Fig. 1 shows a very simple surface installation in an office, in which two lights are controlled by one switch.

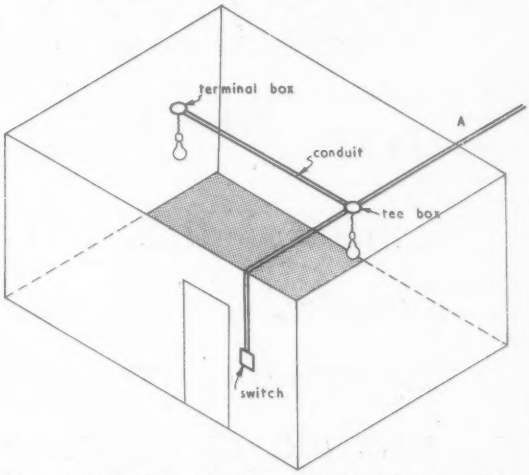
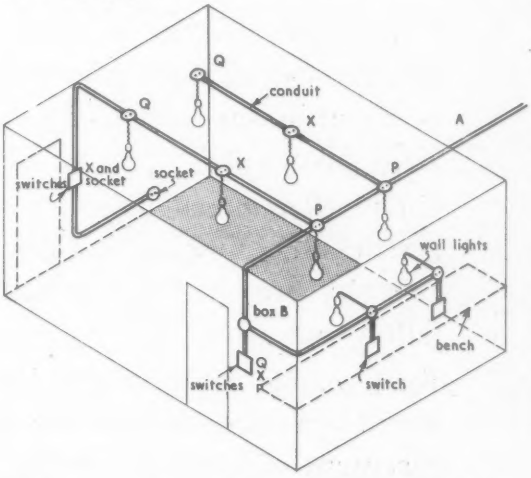


Fig. 1 (above), isometric diagram showing simple conduit installation on the surface. Fig. 2 (below), isometric diagram showing a more elaborate conduit installation on the surface. The wiring diagrams of both installations are shown on page 321.



The feed comes through from the next room at the point A. Fig. 2 is an elaboration of this installation, in which we have a larger office with six lights, controlled in pairs, the centre pair, marked X-X being two-way switched. There is also a bench along one wall with two lighting brackets above it, each controlled by a local switch, and on another wall there is a 2-amp. socket controlled by a switch at one of the doors as shown.

Separation of circuits: Lighting and power circuits should be run in separate conduits. The socket in Fig. 2 shares the lighting conduit only because it is a 2-amp. socket and is therefore fed from the lighting fuseway. Power (that is, 15 and 13 amp.) sockets should be fed from a separate conduit system.

On paper it may sometimes appear to be more

* Previous articles in this series were published on July 25, August 8, August 15 and August 22, 1957.

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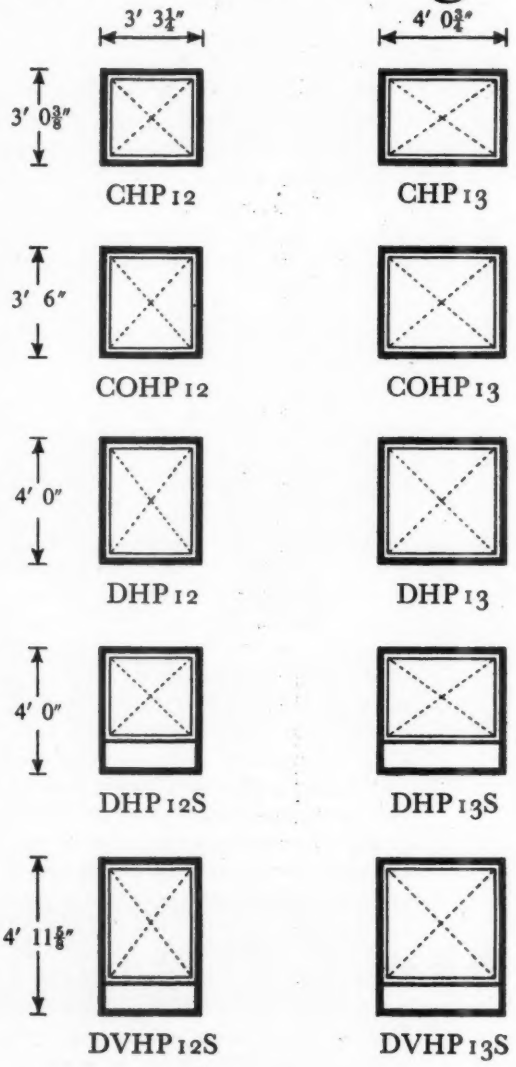

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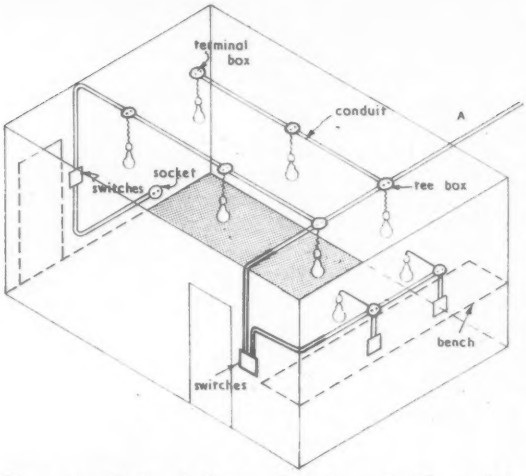


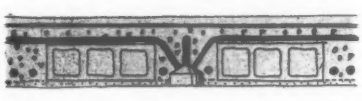
Fig. 3, installation similar to that shown in Fig. 2, but flush.

economical to allow lighting and power to share the same conduit in an interfloor space, although it very rarely turns out to be so in practice. Sharing conduits in this way makes the installation confusing to wire and to service later, and can sometimes lead to accidents, since an electrician will normally suppose that a conduit carrying primarily lighting wiring will be rendered quite safe by withdrawing the lighting fuses. There is, however, no objection to running the wiring from two different fuseways through one conduit, provided that both fuseways serve a similar kind of load.

Flush installations: Both the installations shown in Figs. 1 and 2 are on the surface. If the installations had to be flush, the box B in Fig. 2 would either be buried completely beneath the plaster, or its lid would be visible on the finished surface. Neither of these solutions is satisfactory, and we would adopt a rather different layout, shown in Fig. 3.

This illustrates a very important point. In surface work boxes are used wherever they may be required, although for reasons of neatness and economy, a good workman will arrange that he does not need too many. On the other hand, in flush work the conduit should be so arranged that boxes are used only at outlets, an outlet being a switch, socket or ceiling rose.

Fig. 4 (below, left), diagram showing layout of conduit to ceiling points where conduit is buried. Fig. 5 (below, right), two types of "loop-in" conduit boxes: a, *domed top;* b, *flat top.*



a

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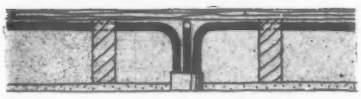

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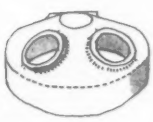


a

In other words, the principles of conduit layout are rather similar to those governing cable connections in TRS installations.

There is one solution sometimes resorted to when long runs are necessary behind plastered walls, and this is to sink the box lid under the plaster, but to mark its position by means of long brass screws, left projecting until the plastering is completed, and then cut off flush with the finished surface. We will not say that this method is never necessary, but we have never seen a case in which it could not have been avoided by more careful planning.

Ceiling points in flush installations: A box with a spout will cause trouble in a flush ceiling, so that a round box without spouts must be used, from which the conduit can rise to near the surface of the floor above, to avoid interfering unduly with the structure, as shown in Fig. 4. This method is applicable to nearly all types of ceiling, including suspended, hollow-tile and solid concrete construction. The type of box used is called a "loop-in box," and we have described it before, when considering the use of metal lighting fittings with installations in TRS. Such boxes are obtainable with both domed and flat tops (Fig. 5). Whereas the domed top has considerable advantages for use with TRS, the flat top is generally adequate for conduit work.

Conduit to socket outlets: Under suspended floors the layout of conduit presents no special problem, and if the sockets are close enough together, conduit can be run directly from one to the other.

Where the outlets are more widely spaced, or the building construction is such that many bends have to be made between each point, intermediate boxes have to be used, and a short board or a trap must be left above each. The number of these boxes and traps should be as small as possible, although it is important that the rules already given should still be observed, that boxes, or outlets should be spaced not more than 15 ft. apart measured along the run, and that no more than two right-angle bends should be used between successive boxes or outlets.

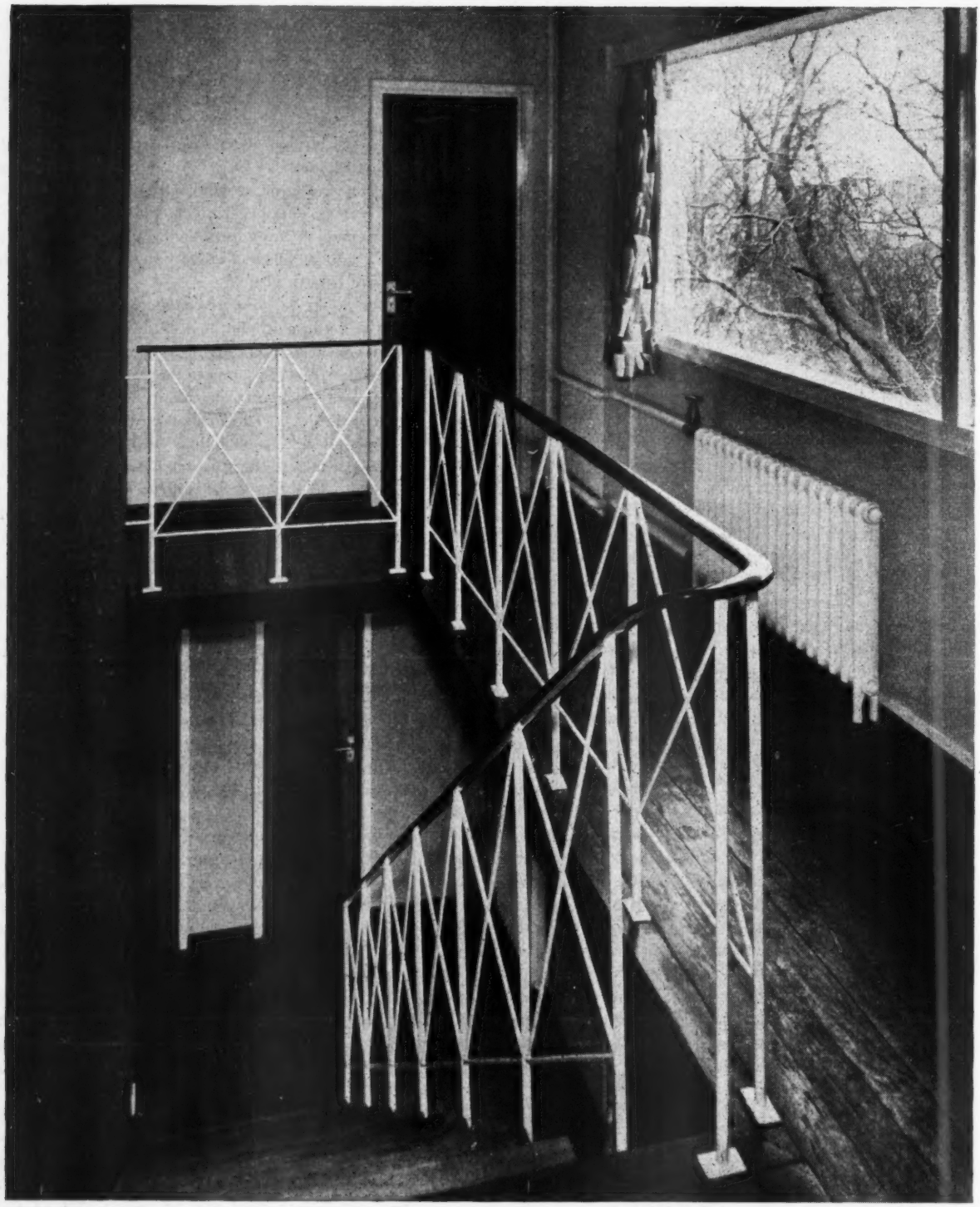
In buildings with solid floors it is often very difficult to avoid the use of intermediate boxes set in the screed. In such cases access to the boxes is obtained by inserting a trap in the floor finish, which may be lifted by means of a key or hookplate.

Routing of conduits under suspended floors: Where conduit has to cross joists it should do so at right-angles, and it must be dropped into notches. Notches must not, of course, be cut in the middle third of the span, and it is a good idea to specify that all such notches must be cut under the second board out from the skirting.

Conduit should be secured by means of crampets in such a way as to hold it reasonably rigid, and where it runs for some distance between two joists it should be secured either to the side of one of them, or to a batten specially fixed between them.

The protection of conduit

Conduit in concrete: Galvanized conduit must always



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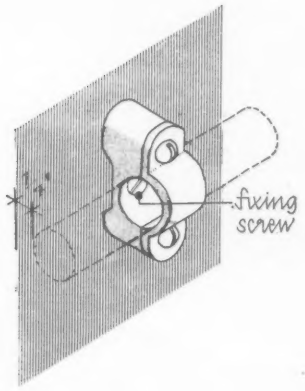


Fig. 6, drawing illustrating hospital saddle.

be used for runs through structural and site concrete. The rate at which the conduit will be attacked will depend upon the nature of the concrete, but it has sometimes happened that electricians seeking to re-wire an installation only a few years after it has been installed have found that the conduit set in the concrete has simply vanished.

Conduit behind plaster: The black enamel with which conduit is normally finished provides adequate protection against corrosion in plaster, but where this enamel has been stripped off, the conduit should be painted with red lead paint. Unless the site is under constant supervision it is very difficult to keep a check on things of this kind, and it is as well to specify red lead painting throughout.

No method appears to be known of preventing an unsightly rim of rust round the edge of a flush switch-box, unless it be by setting the box back a little way from the finished surface. This is an untidy way of coping with the situation, and the use of galvanized switchboxes is recommended. This does not imply that galvanized conduit need be used as well.

Where socket outlets are set in plaster, their boxes should also be galvanized.

Conduit and other services: Conduits should be kept well away from all water pipes, and should never be run in a duct provided for water pipes. Cold pipes give rise to condensation, while heat is bad for the insulation of the cables.

When crossing a hot water pipe, conduit should do so at right angles and pass beneath it. Where space is restricted, as under a suspended floor, insulating material, such as a piece of building board, should be placed between the two, to extend at least eighteen inches on either side of the pipe.

Conduit should also be kept well away from gas pipes. If it should prove impossible to do this, the conduit and gas pipe must be bonded together, that is firmly connected by means of an earth wire and clamps, to avoid any possibility of one becoming live relative to the other, and a spark passing between them. Permission should be obtained from the Gas Board before bonding the pipes.

Bonding of conduit to water pipes is necessary whenever an appliance containing exposed metalwork is placed in a room containing a water tap. It is especially important in bathrooms, where the bonding wire should be at least a 7/·036, and should not be neglected in the kitchen.

A detailed description of bonding procedure was given in the third article in this series, as applied to TRS installations. With conduit installations the same precautions are necessary, except that the bond can be made between the pipes and the nearest run of conduit, and not necessarily to the appliance itself.

Protection against mechanical damage: No special protection is required against mechanical damage, although a certain amount of common sense should be used in running the conduits, as constant knocks will at least strip the paint off and so lead to rusting. Conduits should not be placed in such a position that ladders or other objects are likely to be leaned against them, nor where they are likely to be used as tie rails for clothes lines, etc.

Protection against corrosion: In earlier sections of this article we stressed the importance of avoiding rust on conduit. For ordinary surface installations in fairly dry conditions regular painting is the best protection. Water-bound distemper is not adequate for this purpose, and where surface conduit has been installed on walls or ceilings which will be distempered, the conduit should be painted separately with oil-bound paint. When redecoration becomes necessary, the conduit should be cleaned off and repainted, as although distemper, when thick enough, will hide rust, it does little to prevent rusting.

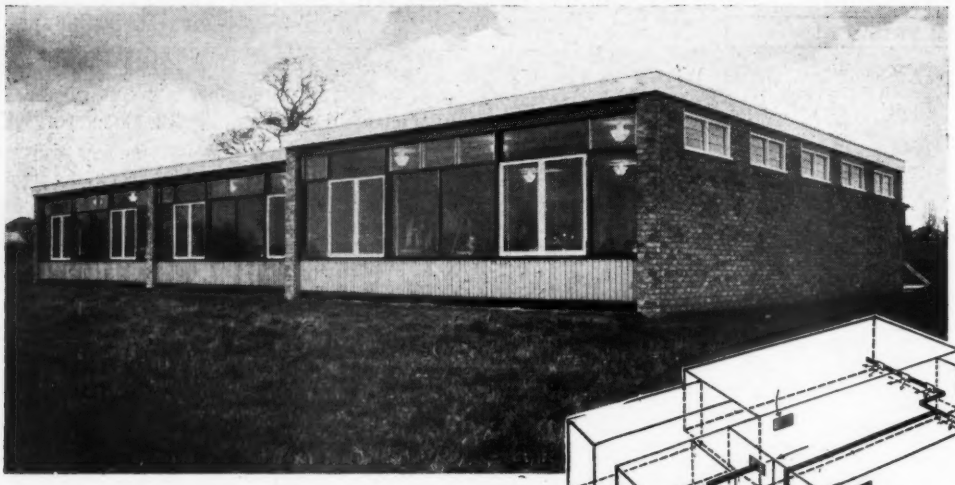
In factories and workshops the conduit is often painted with aluminium paint, and this is an excellent preservative for normal atmospheres, but is not adequate for really corrosive situations.

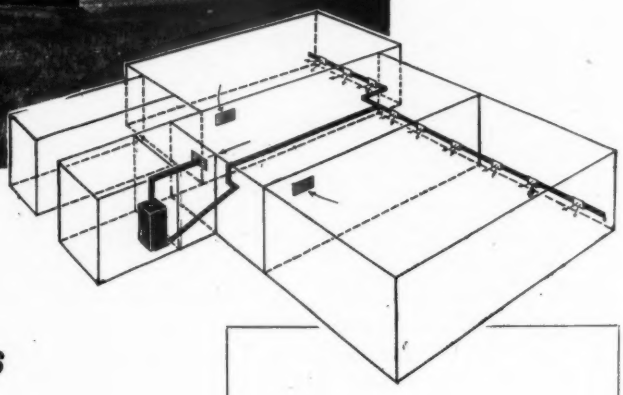
In exposed situations: Galvanized conduit should always be used out of doors or in exposed situations, and should be mounted on hospital saddles, shown in Fig. 6. Watertight switches, shown in Fig. 7, should also be used. These are ordinary switches, mounted in watertight boxes, and the dolly is operated by a lever connected to a knob on the exterior by a rod passing through a gland.

Watertight lighting fittings, such as bulkheads or well-glasses should always be used, and these are illustrated in Figs. 8 and 9.

If socket outlets have to be mounted in the open air (and their use out of doors should be avoided where possible) the watertight pattern, with a screw cover, shown in Fig. 10 should always be employed.

It is very difficult to make conduit watertight, but it is important to allow any water which has leaked in, or condensed inside, to run away. Work out of doors, or where severe condensation may be expected, should therefore be planned with this in mind, and a number of drain points be provided wherever condensed water may be expected to collect. These may be boxes with an open spout pointing downwards, or with holes drilled in the bottom. Long horizontal runs should, in





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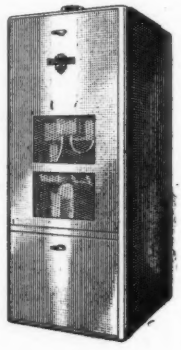

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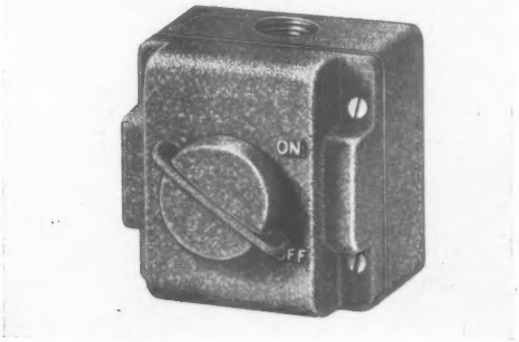


Fig. 7, watertight switch.

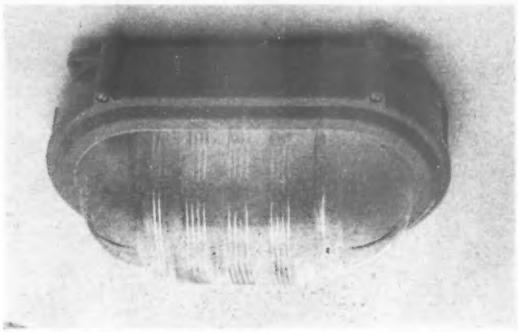


Fig. 8, bulkhead lighting fitting.

Fig. 9 (above), wellglass lighting fitting. Fig. 10 (below), watertight socket outlet with cover and plug.

these situations, be given a slight fall towards one end or the other.

The painting of conduits out of doors: Even galvanized conduits will not withstand the effects of wind and weather indefinitely. The caution already given against cutting too many threads so leaving some, from which the protective covering has been stripped, exposed, is especially important with galvanized conduit. Such conduit should always be painted first with an undercoat of red lead paint, and then be finished off in oil-bound paint as required.

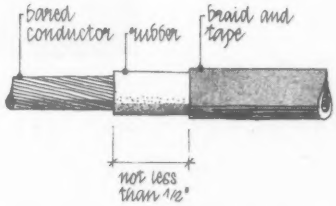
Conduit in laundries, hotel kitchens, etc.: In steamy atmospheres the precautions described above, for out-of-doors, should be observed, except that the use of watertight switches is not necessary, and watertight lighting fittings are optional. The lighting fittings selected should either be "vapour proof" so that no moisture can get inside, or should be open bottomed so that condensed water cannot collect in the base.

Conduit in corrosive situations: The only corrosive situation likely to be met with, outside industry, is in boiler houses. Here the risk is from heat, condensation, and the products of combustion. The precautions noted for the open air should be observed, except that painting should be with black bitumastic paint, and watertight switches are not necessary. The use of bulkheads and wellglasses for lighting points is necessary. VIR cables are not ideally suited to wiring in boiler houses, and plastic-covered cables are probably better for lighting wiring.

Where there are automatic controls, as in a large oil-fired boiler house, neither plastic-covered nor VIR cables are ideally suitable, and the wiring becomes a complicated matter. This will be discussed in a later article. Coal cellars should be treated as boiler houses, except that VIR cables may be used.

Choice of cable route: The principles governing the routing of cables through conduit are quite straightforward, and should be readily understood by those who have read the previous articles dealing with TRS installations. There are two points worth noting before giving examples: firstly, connectors should never be used in conduit, but cables should be looped from switches, sockets or ceiling roses, as described for TRS. Secondly, in making connections, the tape and braid should be stripped back at least half-an-inch further than the rubber, as shown in Fig. 11, to avoid all risk of leakage if the fabric should become damp. Single-core cables are used in conduit, so that certain

Fig. 11, cable end prepared for connection.



technical section

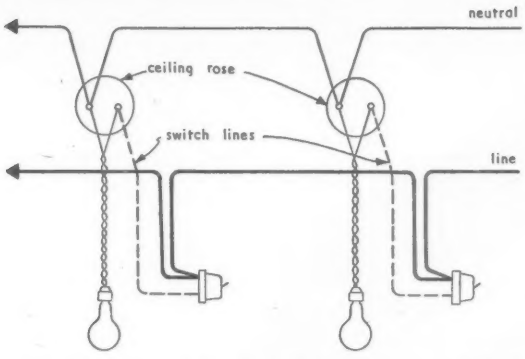
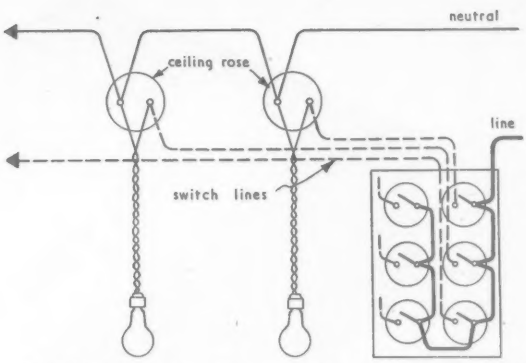


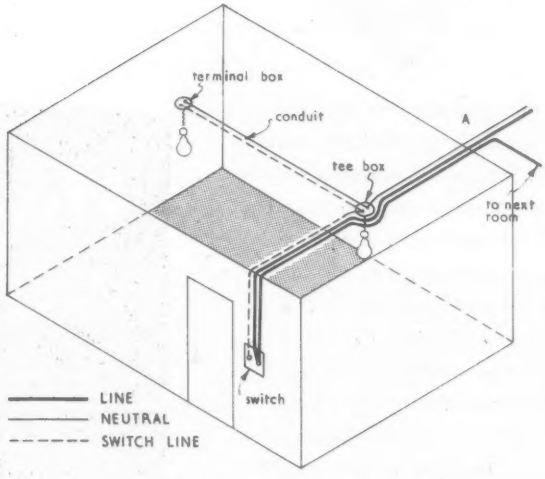
Fig. 12 (*above left*), *method of wiring in which line cable is "looped" from switch to switch* (*cf. article* 2, *August* 8, *Fig.* 10). *Fig.* 13 (*above right*), *application of method shown in Fig.* 12 *to a multi-gang switchbox.*



limitations on looping, which are necessary with TRS because two- or three-core cables have to be used, do not apply. In particular, the live cable can be looped from switch to switch, if so desired, instead of from ceiling rose to ceiling rose, so that three-plate ceiling roses need not be used. This method is shown in Fig. 12. It is particularly useful in a multi-gang switchbox, and only one red feed need be brought to such a box, and can be looped to the live side of all the switches, as shown in Fig. 13.

Figs. 14 and 15 show suggested cable routes that might be used for the installations given in Figs. 1 and 2.

Fig. 16 is an expansion of the circuit for two-way switching used in Fig. 15. A method very similar to this was discussed and condemned for TRS. The circuit, which has to be used for TRS, shown here in Fig. 17, may be used for conduit as well, but is rarely convenient, except when converting a circuit formerly one-way switched to two-way switching.



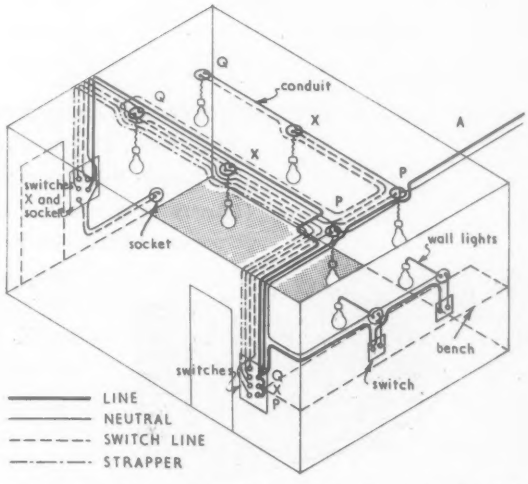
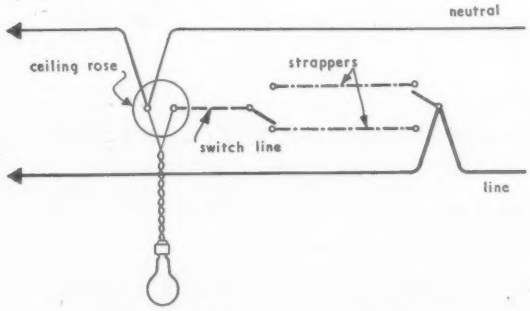


Fig. 14 (*above left*), *cable route for installation shown in Fig.* 1. *Fig.* 15 (*above right*), *cable route for installation shown in Fig.* 2. *Note: "strapper" is the technical term given to cables used to link switches in a circuit of the kind shown in Fig.* 16.



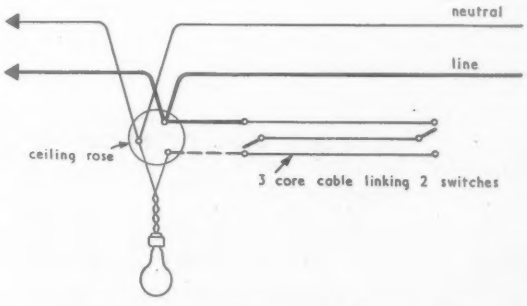
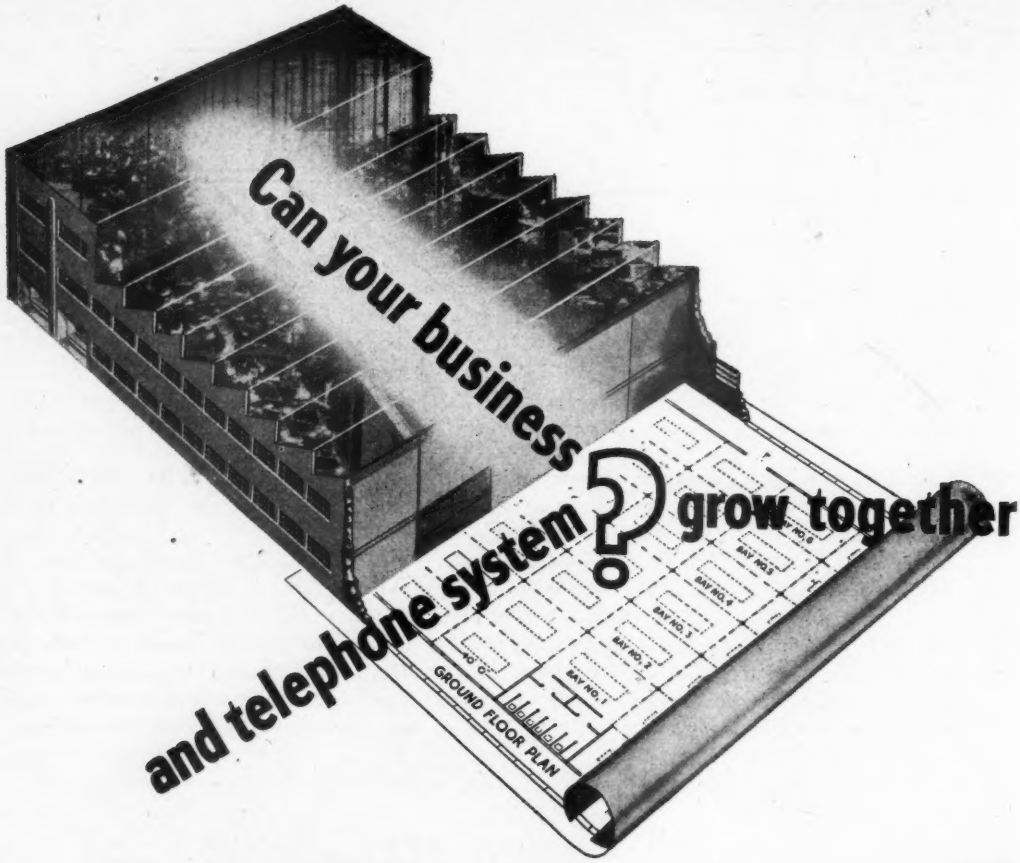


Fig. 16 (*above left*), *circuit for two-way switching applicable to wiring in conduit only. Fig.* 17 (*above right*), *wiring for two-way switching applicable to TRS cables. It may also be used for conduit.*



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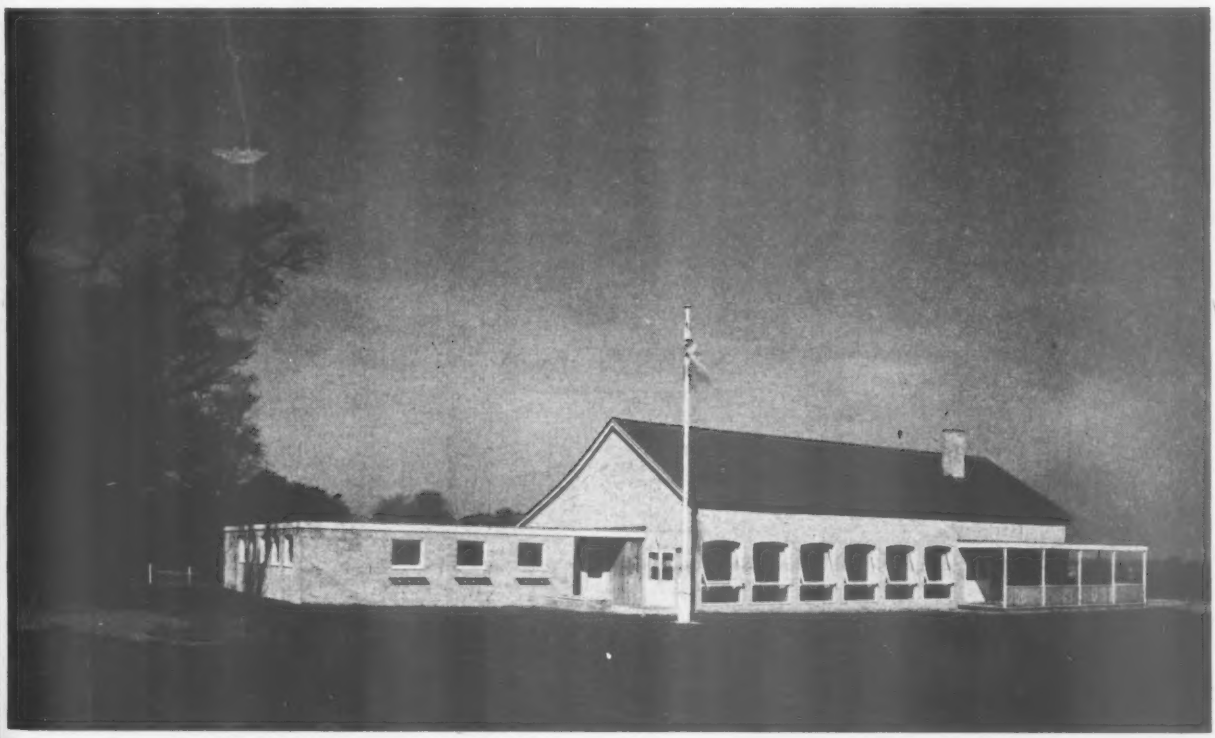
building illustrated

SPORTS PAVILION

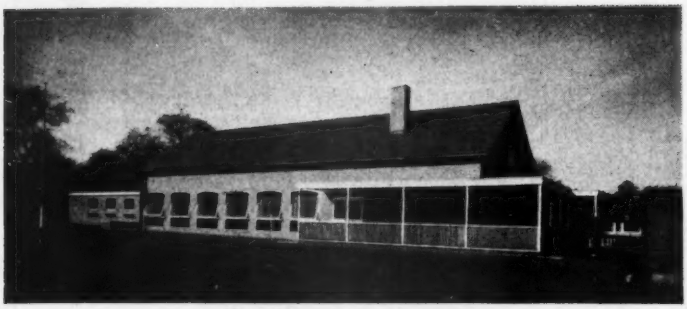
at BARNET WOOD ROAD, HAYES, KENT, for the Catford Bridge RFC and Hayes (Kent) Cricket and Tennis Club
designed by PITE, SON and FAIRWEATHER; assistant architects PETER BOSTON and ALAN BLANC
quantity surveyors ARTHUR J. WILLIS and THOMPSON

Sports pavilions—three of them—are the subject of cost analysis this week; they are the first buildings of their kind to be analysed in the JOURNAL. The first, at Hayes, in Kent, was built to replace two existing pavilions and greatly extend the amenities they had to offer, for the new building is also a social club with a clubroom which can be used both for social and for indoor sports. As a result the building is in constant use in all seasons, providing an unusually comfortable and attractive environment for a wide range of activities.

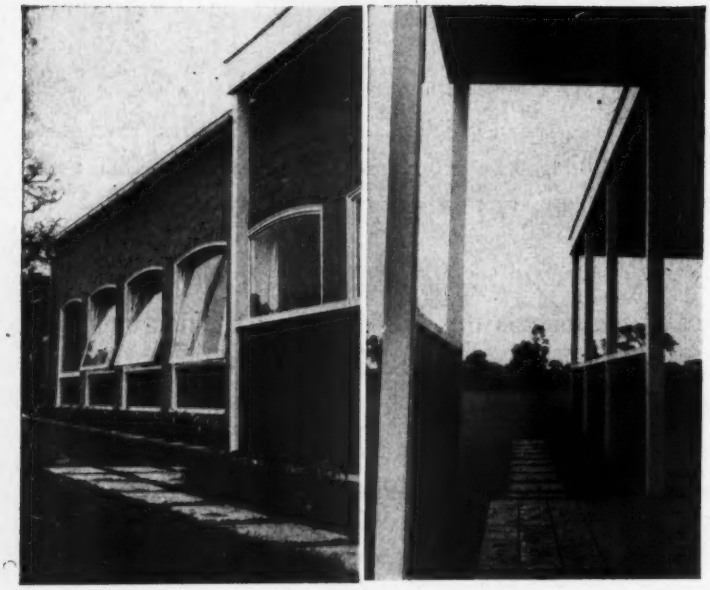
Viewpoint 1: from the south-east.



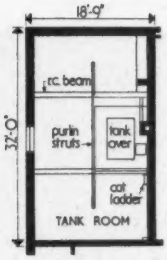
building illustrated



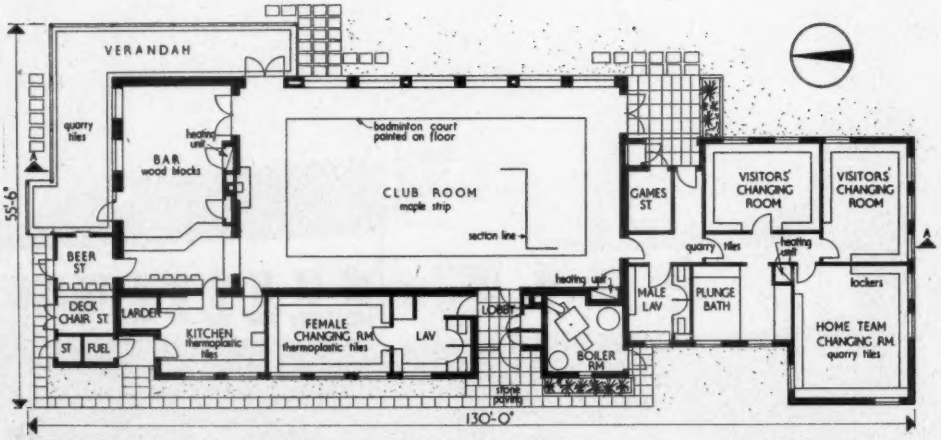
Viewpoint 2 (left): the main clubroom faces east and the large windows frame a pleasant view as well as providing efficient internal space for spectators to observe the games. The verandah provides covered space for spectators and is continuous around the north side where it overlooks the tennis courts. The double doors beneath the verandah provide access direct to the clubroom. On the left is the entrance to the changing rooms and sanitary accommodation. Clay facing bricks are very light brown from a local kiln, and the pitched roof is covered with dark brown concrete interlocking tiles. Proportions and choice of materials give a quality of calmness to this elevation.



Viewpoint 3 (far left): the windows to the main clubroom. Frames and opening lights are in softwood, painted white gloss oil and glazed with ¼-in. polished plate. The panel below the opening light is glazed with ¼-in. Georgian wired cast glass taped to ⅛-in. double rolled green tinted glass. This construction was used to increase thermal insulation and to attempt to link the internal space with the grass outside. The windows have a deep reveal internally and the horizontal opening lights can be opened wide enough to provide efficient ventilation without fouling the curtains. Rainwater gutter and downpipe are flush socketed stove enamelled pressed steel, the rainwater being drained to soakaways. Viewpoint 4 (left): looking east along the verandah on the north side of the building; the tennis courts are on the left. The verandah is constructedof 4-in. × 3-in. softwood posts carrying a roof of 6-in. × 2-in. joists, woodwool and roofing felt with a ceiling of moulded Swedish plywood. The infill panel below the leaning rail is out of 4-in. × 1-in. moulded cedar boarding finished with clear varnish. The floor is finished with quarry tiles having a ⅜-in. wide joint. It is laid to a fall so that driving rain or snow will drain to the small channel formed in the grano margin which can be seen below the nearest infill panel.

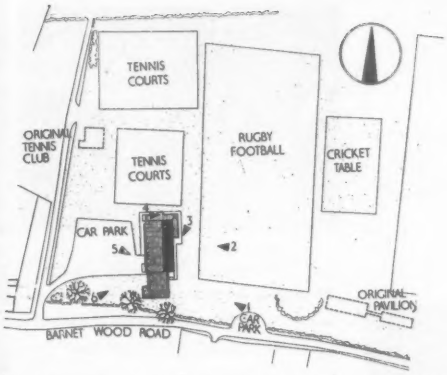


First floor plan



Ground floor plan [Scale: $\frac{1}{16}$" = 1' 0"]

analysis



Site plan with photographic viewpoints

Viewpoint 5: the main entrance. The external opening has an artificial stone surround the top of which is used as permanent shuttering to the r.c. lintel behind the brick arch. Door and frame are all of hardwood, ex. 2½-in. × 4½-in. frame, twice oiled and clear varnished with a softwood architrave which is planted on and painted white. Door stiles and head are 4½ in. × 2 in. with 8-in. × 2-in. middle and bottom rails. Glazing is ¼-in. Georgian wired polished plate with painted hardwood beads. The moulded cedar boarding on the right of the door is a facing to the 4½-in. brick wall behind. Paving is 1½-in. thick artificial stone to match the surround.

Viewpoint 6: the building from the south-west with the men's changing rooms on the right, women's changing room, kitchen and main entrance, centre, and kitchen entrance, beer and games store, extreme left. The stack is the boiler flue, access to the boiler house being through the louvred door at the junction of the flat and pitched roofs. Oil storage tanks are placed in the open on the west side of the car park which was laid by club members, its cost not being included in the cost analysis.

CLIENTS' BRIEF

A building was required to replace two existing sports pavilions. It was to be a social centre as well as providing for the other more usual functions. A large club room was to be suitable for badminton and table tennis and as a meeting place with ancillary bar and kitchens. One large and two small changing rooms were required for men, a changing room for women and a verandah overlooking the main grounds and the tennis courts.

SITE

The site for the new pavilion is on one edge of the existing sports field. It is in open country on the outskirts of Bromley and in fairly rural surroundings with many mature trees. There are views to the north and east. The building site has a fall of about 4 ft. from north to south and is accessible from a private road off the Barnet Wood Road.

PLAN

The accommodation falls fairly easily into two groups (*a*) the communal areas for social needs and (*b*) changing and sanitary accommodation. The largest single unit is the club room around which is grouped on one side the changing rooms and on the other, bar, kitchens and ancillaries. Separate access is provided for both the main groups from the car park and the playing fields.
The bar communicates with the kitchen and also serves the main club room and the verandah. The lavatory accommodation is planned so that it is accessible to the club room and also to spectators when the changing rooms are locked.

MAIN CONSTRUCTION

The club room is the only space which needs a relatively large span and height. It has a frame structure of three welded steel Portal frames carrying a pitched roof. The rest of the accommodation is of smaller units and load-bearing brickwork is used to carry felt roofs of timber construction.

cost per sq. ft. (figures based on final cost)	s	d
preliminaries and insurances	2	5½
contingencies	—	

Work below ground floor level — 7 10½

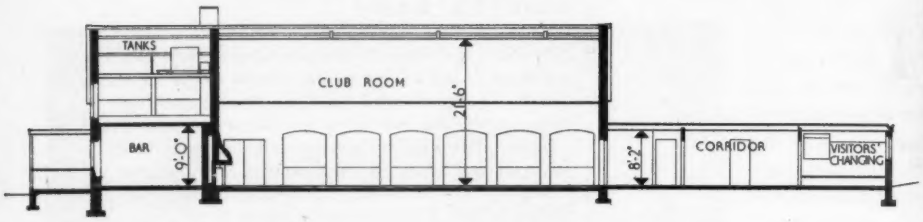
Main club room: Shallow r.c. ring beam mainly 18-in. wide × 2-ft. 3-in. deep inverted T section continuous on four sides. This is used to span shallow pockets of made-up ground and to distribute point loads of Portal frames. Elsewhere: concrete strip foundations average depth 2 ft. 9 in.
Strips 9 in. × 2 ft. wide under 11-in. walls, 2 ft. 9 in. wide under 13½-in. walls.
Floors are 6-in. concrete with integral water-proofers except below wood block floor where a bituminous membrane is brushed on.

STRUCTURAL ELEMENTS

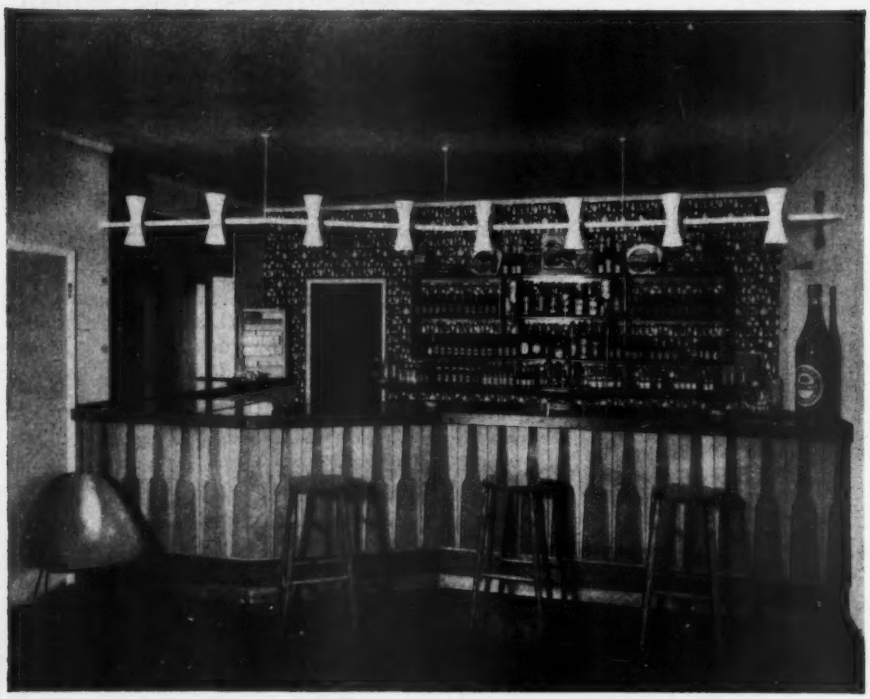
Frame — 2 10

Main club room: Three welded steel Portal frames out of 8-in. × 6-in. r.s.j. sections spanning 29 ft. 9 in. at 15 ft. 9 in. c/c with 6-in. × 3-in. r.s.c.'s as purlins and 4-in. × 2½-in. r.s.l.'s as wind bracing.

building illustrated



Section A-A [Scale: $\frac{1}{24}$" = 1' 0"]



Left: the main clubroom looking towards the double doors leading to the bar. The room provides space for badminton and is spanned by three steel portal frames at 15 ft. 9 in. c/c. These are contained within the brick piers between the windows and the 13½-in. solid brick wall on the left. Above: the south wall of the clubroom with the doors from the main entrance lobby on the right and access to the men's changing rooms through the door on the right-hand side of the gable wall. To the left-hand side of this wall is a built-in heater cabinet. Floor finish is maple strip on 2-in. × 2-in. battens. The dark wall is plaster finished with wood float and emulsion paint (BS 9.098, dark blue). The main light fittings were manufactured to the architect's design to give an even light without shadows when the room is used for badminton.

Left: view of the bar with, on the left, the serving hatch to the clubroom and in the rear wall the stable-type door to the kitchen. The bar is softwood-framed with a blockboard top finished with a plastic material. The bar front is built up with alternate gaboon and beech veneered plywood. Above: showers serving the men's changing rooms. Walls are finished with 6-in. × 6-in. cushion-edged white glazed tiles which continue through the plunge bath and act as a shower tray. Dark portion of the floor is 6-in. × 6-in. quarry tiles. The ceiling is plastered and finished with dark-blue plastic cloth which is stuck on. It has been used for its durability and to control condensation.

analysis

	s	d
External walls and facings	10	7½

Perimeter walls to main clubroom and bar of 13½-in. solid brickwork. Piers on east elevation formed either of 9-in. and 4½-in. skins with 7-in. cavity or 4½-in. brick skin surrounding concrete cased steelwork. To changing rooms and kitchen 11-in. load-bearing cavity brickwork with clay facing bricks used externally and white sand-lime bricks used fair-face internally, in changing rooms. External walls to beer store, deck chair store, etc., are in 4½-in. brickwork faced externally with ex. 4-in. × 1-in. cedar boarding on building paper and ex. 2-in. × 1½-in. grounds.

Ratio: $\frac{\text{solid wall}}{\text{floor area}} = \frac{0{\cdot}60}{1}$

Windows	2	8½

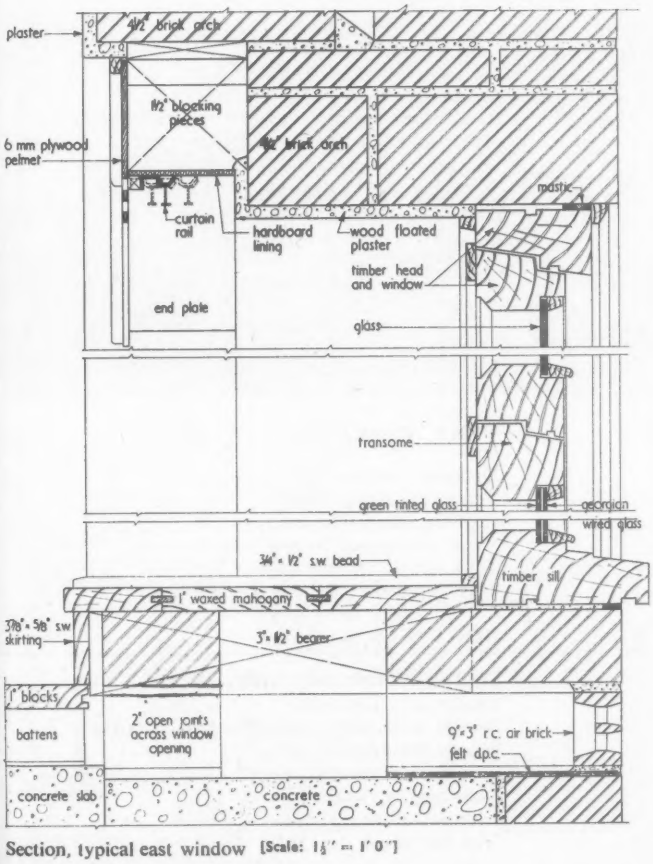
All window frames are in softwood with hardwood sills and drips. Opening lights are in softwood, usually horizontally pivot hung. Window sizes vary; 3-ft. 9-in. square brick opening for changing rooms and lavatories, 6-ft. 4-in. × 7-ft. 9-in. brick opening for clubroom and 4-ft. × 4-ft. 6-in. for the bar. These latter windows include a timber window seat built into the thickness of the wall below them. All windows and frames are finished with white gloss oil paint.

Ratio: $\frac{\text{window area}}{\text{floor area}} = \frac{0{\cdot}138}{1}$

External doors	1	2

Main entrance: hardwood glazed doors, 4½-in. × 2-in. stiles and heads, 8-in. × 2-in. middle and bottom rails, contained in hardwood frame, 4½-in. × 2½-in. All finished two coats clear varnish. Doors from clubroom to veranda, and bar to verandah: softwood framed with 8-in. × 2-in. middle and bottom rails, 5-in. × 2-in. stiles and top rail, finished white gloss oil paint and glazed. Doors from beer store and deck chair store, framed, ledged and braced and faced with 4-in. × 1-in. moulded cedar boarding to match external facing. External doors elsewhere are flush, faced with external quality plywood and finished with gloss oil paint.

Ratio: $\frac{\text{external door area}}{\text{floor area}} = \frac{0{\cdot}067}{1}$



Section, typical east window [Scale: 1½" = 1'0"]

Upper floor construction	1	0

Floor of tank room over bar in 4-in. r.c. with two r.c. upstand beams 18-in. × 9-in. carrying timber supports to purlins and having waterproof rendering to form an overflow tray below water storage cisterns.

Roof construction	3	2½

Club room, bar, women's changing room; 4-in. × 1½-in. timber rafters at 18 in. c/c covered with sarking felt and 1½-in. × 1-in. battens at 14 in. c/c carrying concrete interlocking tiles. Men's changing rooms 7-in. × 2-in., or 9-in. × 2-in., timber joists at 15 in. c/c with 1-in. woodwool slabs, screed laid to falls and three layers roofing felt. Verandah similar but with 6-in × 2-in. joists. Approximately 39 squares of pitched roof at 32°.

Approximately 230 yd. super of flat roof.	3	2

Glazing	0	8½

Main windows to club room and bar where undistorted vision of playing fields is required; ¼-in. polished plate glass, elsewhere $\frac{7}{16}$-in. roughcast In lower panels of club room windows ⅛-in. double rolled green tinted glass is taped before glazing to ¼-in. Georgian wired rough cast. Elsewhere: 32-oz. selected quality or $\frac{7}{16}$-in. roughcast.

Total of structural elements	25	5

PARTITIONING AND FITTINGS

Internal partitions	1	8

Changing rooms: 4½-in sand lime bricks finished with emulsion paint. Elsewhere: 4½-in or 9-in brickwork plastered and painted or papered.

W.c. partitions		3½
Internal doors	1	5½

W.c. doors are by specialists and out of aluminium sheet finished with gloss oil paint.
Internal doors are generally plywood faced skeleton cored flush type veneered and wax polished or painted gloss oil. Double doors between bar and club room are flush type glazed with ¼-in. Georgian wired polished plate. Doors to telephone kiosk and meter cupboard in main entrance lobby are faced with ex. 4-in. × 1-in. moulded cedar boarding.

Ironmongery		7½

Satin chrome lever handles with mortice latches or deadlocks. No. of single doors: 26. No. of double doors: 4.

analysis

FITTINGS — 3 4¾

Bar counter and shelving: softwood framing with ¼-in. gaboon and beech veneered plywood facings. ¾-in. blockboard top, veneered with ⅛-in. plastic resembling wood.
Shelving of ¾-in. softwood, lino veneered and carried on 1-in. × 1-in. × ⅛-in. m.s. tee pieces, built in.
Benches in changing rooms: softwood framing carrying 1-in. softwood seat, 15 in. wide.
Kitchen equipment: 1½-in. teak twice oiled.
Cupboards of softwood framing, plywood facings.

Total of partitioning and fittings — 7 4¾

FINISHINGS

Floor finishes — 4 6¾
Club room: 185 sq. yd. maple strip on 2-in. × 2-in. battens. 34s. 8d. per sq. yd.
Bar: 37 sq. yd. woodblock. 45s. 3d. per sq. yd.
Women's changing room and kitchen: 42 sq. yd. of thermoplastic tile. 32s. per sq. yd.
Men's changing rooms: 130 sq. yd. of ⅜-in. quarry tiles. 20s. 3d. per sq. yd.
Verandah: 51 sq. yd. of quarry tiles. 30s. per sq. yd.

Wall finishes — 2 9¼
Clubroom and bar: Gypsum plaster. Showers: 6-in. × 6-in. cushion edge eggshell finish wall tiles. Entrance lobby: ex. 4-in. × 1-in. moulded cedar boarding on battens.

Ceiling finishes — 2 9½
Clubroom: 1½-in. × 2-in. bearers hung at 2 ft. c/c from purlins carrying moulded matchboarding painted matt oil paint. Men's changing rooms similar but with matchboarding fixed direct to roof joists. Showers and lavatories: plaster board fixed direct to roof joists with a skim. Women's changing room, bar, kitchen plastered. Verandah and entrance lobbies, moulded Swedish plywood clear varnished.

Decorations — 2 6½
All colours selected from BS2660/1955.
Woodwork throughout, white oil paint. Ancillary rooms, stores, painted with white emulsion paint.
Men's changing rooms: walls, emulsion paint.
Clubroom: ceiling white matt oil paint. West wall, dark blue emulsion paint. South wall papers, east wall, white emulsion, north wall, fair-face brickwork.
Bar: ceiling white emulsion, west wall papered, east wall dark blue emulsion, north and south walls, white emulsion paint.

Total of finishings — 12s 8d

SERVICES

Plumbing, external — 9½
All flashing of 4-lb. lead. Rainwater disposal from pitched roof, stove enamelled pressed steel box gutter with flush socketed stove enamelled pressed steel r.w.p.s. From flat roofs, cast iron internal r.w.p.s with rainwater sumps formed in woodwool.

Plumbing, internal — 2 0½
600-gallon galvanized steel cold water storage tank in tank room over bar. Hot and cold water services through copper pipes with chromium-plated shower fittings. Trapped wastes all out of copper pipe.

Sanitary fittings — 1 1½
Kitchen: double sink unit in stainless steel. Four w.c. and five lavatory basins in vitreous china. 7-ft. long urinal stall in glazed fireclay.

Heating and hot water installation — 7 7
Thermostatically controlled blown warm air system, fed by pumped hot water from oil-fired boilers to heater cabinets. Criteria temp. 65° for 30° externally. Heater cabinets situated in clubroom, kitchen, changing rooms in built-in recesses with pressed metal louvred grilles contained in flush doors. Hot water is stored in two galvanised steel cylinders in boiler house. Boilers are c.i. sectional with fully automatic oil burner which is also suitable for gas or diesel oil.
Reasons: heating system chosen because of its flexibility for planning and its ease of control. Rapid warming up period required for building of heavy but intermittent use.

Gas installation — 0 3
Supply to kitchen cookers only.

Electric installation — 4 6¼
Main supply 240 volts single phase carried by p.v.c. cables in conduit. Switches are BMA flush type in plastered walls, surface pattern where brickwork is fair face. Socket outlets 13 amp. from ring mains.
Light fittings: wall bracket types in flushed opal glass. Saucer domes in changing rooms, waterproof bulkhead fittings showers and lavatories. Special spun metal fittings in clubroom designed by architects to produce shadow free evenly distributed light for badminton.

Total of services — 16s. 4½d

Drainage — 4 3½
Soil and waste water in separate systems to main sewers in public highway. Surface water to soakaways. All pipes in s.g.s.w.
Note: cost includes £550 for extension of main sewer.

Paved areas — 0 6½
2-in. pre-cast concrete flags to BS laid direct on ground.
Cost includes £25 for flagpole and base.

Total cost per sq. ft. of floor area: $\frac{£17,642}{4,580 \text{ sq. ft.}}$ = **77 0½**

TIME SCHEDULE

Drawings: March 1955.
Tender date: July 1955.
Contract signed: October 1955.
Work commenced: August 1955.
Work completed: July 1956.
Type of contract: RIBA with quantities.

COST SUMMARY

Total ground floor area: 4,580 sq. ft.
Tender date: July 1955.
Price of work above ground floor level: £15,723.
Price of foundations: £1,798.
Price of external works: £121.
Gross total: £17,642.
Price per sq. ft.: 77s. 0½d.
Price per cube ft.: 4s. 1¼d.

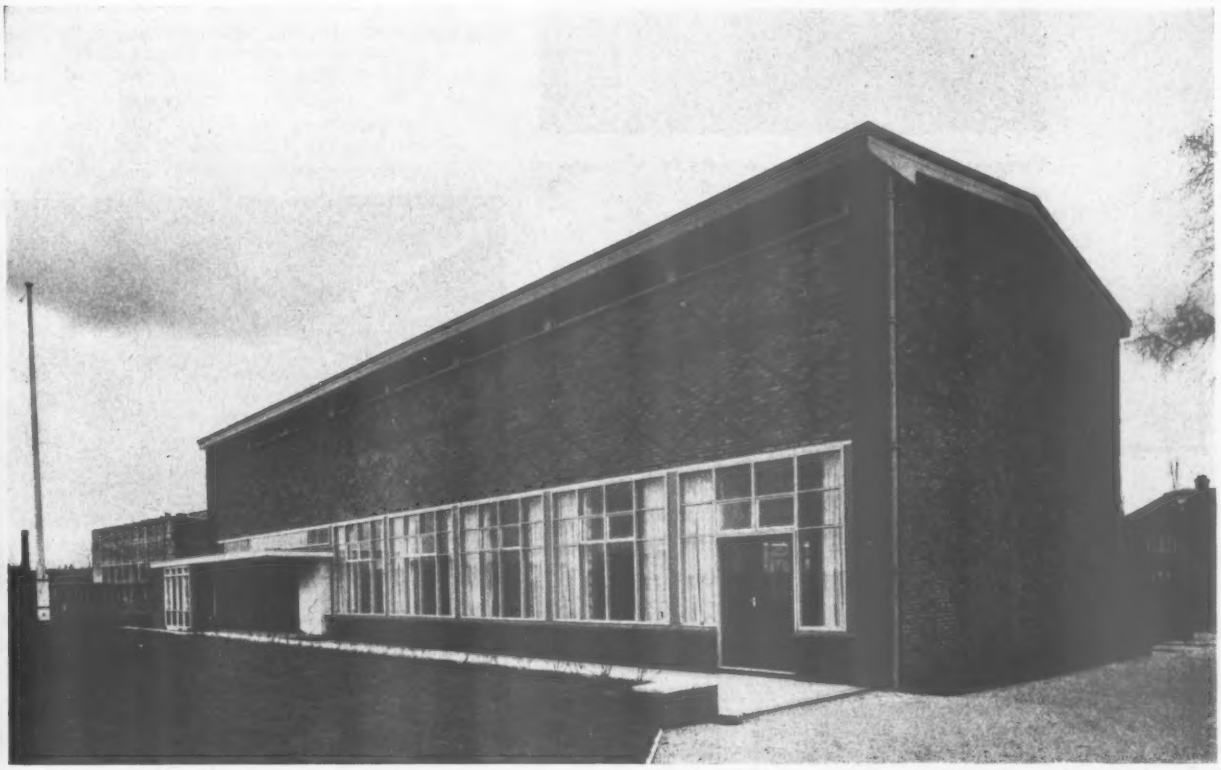
building illustrated

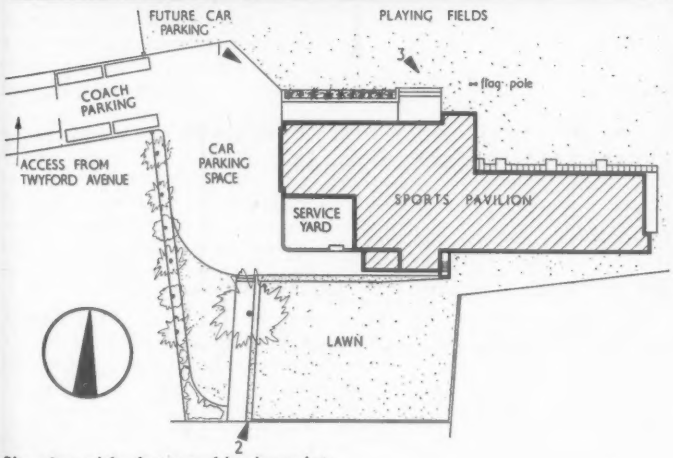
SPORTS PAVILION

in TWYFORD AVENUE, ACTON, LONDON, W.3, designed by HENING and CHITTY
architects-in-charge ANTHONY M. CHITTY and MICHAEL G. MURRAY; quantity surveyors LANGDON and EVERY

This pavilion was built for the Sports Committee of the North Thames Gas Board, who own 60 acres of land in Acton. For nearly 20 years the Board intended to replace wooden army huts erected in the first world war, but the present building has only recently been completed. The large hall has a floor-to-ceiling height of 27 ft. for use as a badminton court and is also suitable for dancing, drama and social gatherings. Mesh screens divide the changing room area, and non-return gates ensure that once a team leaves a compartment it is locked until the members return, as a safeguard for personal property.

Viewpoint 1: the main hall from the north-west.

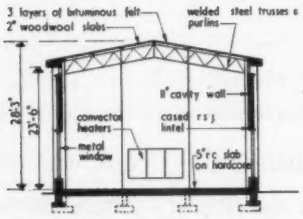




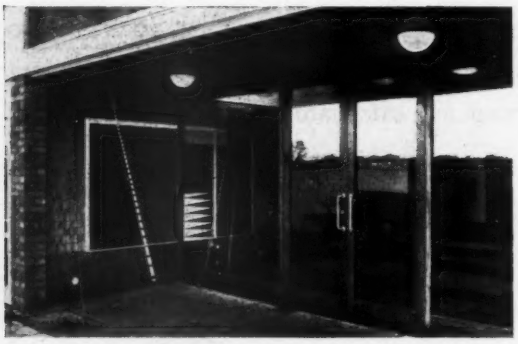
Site plan with photographic viewpoints

Viewpoint 2: from the south-west. In the foreground is an old bowling green which is now used for outdoor receptions and tea-parties, and is directly accessible from the hall and kitchen. On the first floor of the two-storey wing on the right is the club steward's flat.

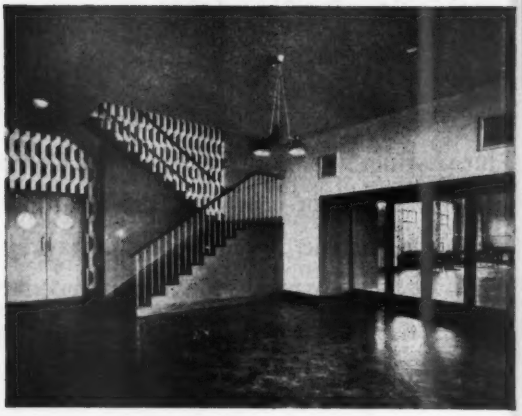
building illustrated



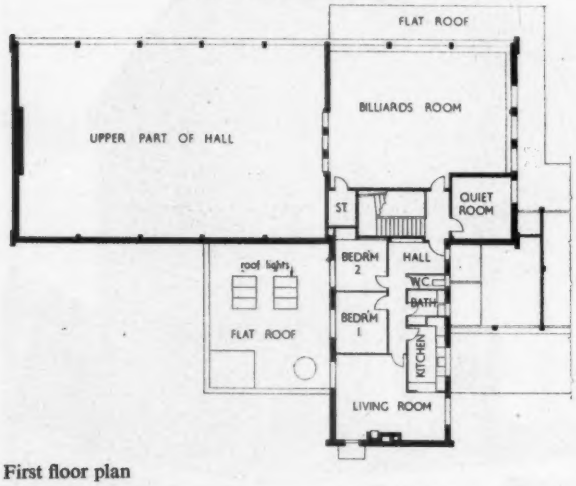
Section A-A [Scale: $\frac{1}{16}$" = 1' 0"]



Viewpoint 3: the main entrance on the north side. The mural on the left is by Kenneth Rowntree.

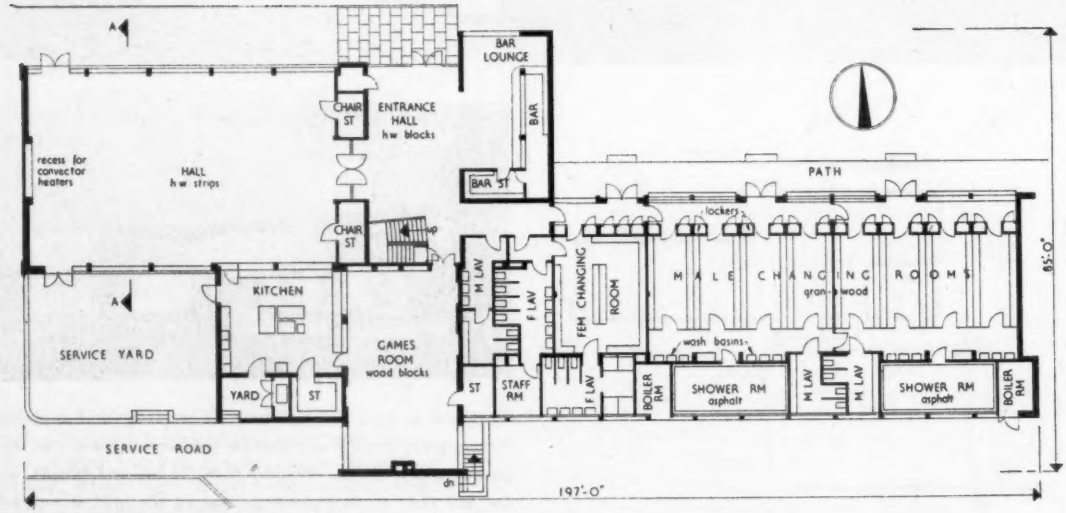


The entrance hall looking towards the main hall. The staircase leads to the first floor billiards room and steward's flat. The doors, extreme left, lead to the single storey changing room wing.



First floor plan

The main hall, which is marked out for badminton. Behind the three high level windows in the far wall is the billiards room. These windows are used for umpiring games of badminton.



Ground floor plan [Scale: $\frac{1}{16}$" = 1' 0"]

analysis

CLIENT'S REQUIREMENTS

This building was designed for the Sports Committee of a public body owning a 60-acre sports ground in West London, which for nearly 20 years had been planning to replace wooden army huts from World War I with a more worthy building, but had been frustrated by crises, war and financial squeezes. The building serves both indoor and outdoor games and social requirements, including a large club hall for dancing, acting, badminton and social occasions, with a cafeteria; a games room for darts, table tennis, etc., a lounge and bar; a kitchen serving the games room, hall and terrace on the south side; changing rooms to serve 18 teams at one time (200 men and 50 women), and upstairs a billiard room, committee room, and self-contained flat for the club steward.

PLANNING AIMS

The building lies on the south of the playing fields, protected from the south-east by a grove of elms. To the south is an old bowling green, which has been retained for teas, etc. The main block contains the club hall (27 ft. high for badminton, with polished maple floor for dancing). Adjacent are a games room, entrance lounge, club bar and kitchen, with service direct to hall, games room and terrace. Stairs lead to billiards room and quiet room and steward's flat above. To the east in a single-storey wing are changing rooms, lavatories and locker accommodation.

SPECIAL FEATURES

A mural painting by Kenneth Rowntree adorns the entrance. The changing room block is designed to ensure easy supervision and protection of players' personal property. Ten full teams can change at once, and mesh screens divide the area, with non-return gates, so that once a team leaves a compartment it is locked until its return. Special attention has been paid to lighting fittings for billiards, darts and badminton, the club hall having a second, low level, system of lights for social occasions. The billiard tables are fitted with electric pay-meters. An umpires' gallery is provided by means of high level windows in the billiard room which give on to the hall. The kitchen is fitted and equipped to serve several hundred guests at a time.

cost per sq. ft.	s	d
preliminaries and insurances	5	5
contingencies		8

Work below ground floor level — 5 4½

Design bearing pressure of soil 3 t./sq. ft. 1:8 mass conc. column bases to framed structure. Normal strip concrete foundation to load-bearing walls. Basement boilerhouse has 9-in. brick retaining walls, with asphalt tanking and 4½-in. brick protective skin.

STRUCTURAL ELEMENTS

Frame or load-bearing element — 6 11

Pavilion, steel frame, with brick infilling panels. Welded trusses for the hall.
Cloakroom block and steward's flat, load-bearing cavity walls. Butterfly trusses for cloakroom wing.

External walls — 5 0¾

11-in. brick cavity walls, fair faced externally, functioning as load-bearing or infilling panel walls. Changing wing, 11-in. cavity load-bearing walls.

ratio: $\frac{\text{solid wall}}{\text{floor area}} = \frac{0{\cdot}57}{1}$

	s	d
Windows	3	5

Timber.

ratio: $\frac{\text{windows}}{\text{floor area}} = \frac{0{\cdot}17}{1}$

External doors — 1 2½

Hardwood glazed entrance doors. Elsewhere, flush ply-faced in timber or pressed steel frames.

ratio: $\frac{\text{doors}}{\text{floor area}} = \frac{0{\cdot}035}{1}$

Upper floors (cost includes suspended ground floor) — 1 10

In-situ r.c. solid slabs:

Thickness in inches	4	6	9
Area in sq. yd.	95	73	138
Superload in lb. per sq. ft.	40	100	100

Staircases and steps — 5

No. of staircases: 2 sets of concrete steps. One timber staircase in hardwood.

Widths:	3 ft.	3 ft.
Total rise:	4 ft. each	11 ft.

Roof construction — 1 2½

Pavilion: pitched lattice trusses at 12-ft. centres, fabricated from standard steel sections and with steel purlins. 2-in. woodwool and 3 layers bituminous felt finish. Area, 654 sq. yd.
Cloakroom wing: Butterfly trusses at 9 ft. centres, fabricated from standard steel sections and with 2-in. woodwool and 3 layers bituminous felt finish. Area, 481 sq. yd.
Steward's flat: 3 layer bituminous felt on patent deck.
Area, 90 sq. yd.

Roof lights — 1¾

No. of lights, 2. Standard steel hipped lantern lights and 1 domelight.
Total area, 48 sq. ft.

Glazing — 8

Windows, opening lights, 24- and 32-oz. clear sheet.
¼-in. drawn to larger areas.
Obscured glazing in cloakroom blocks.

Total of structural elements — 20 10½

PARTITIONS

Internal partitions — 1 7

Type of partition	Area in sq. yd.
2-in. clinker block	96
Metal-faced ply	50
Flettons laid on edge	19
3-in. pressed brick	96
4½-in. brick, plastered	50

Screens — 1 7½

Steel tube frames with infill panels of mesh. Hardwood seats and aluminium alloy hooks.

Internal doors — 1 9¾

Ply faced flush doors, painted.
64 single, 7 double.

analysis

	s	d
Ironmongery		8¾
Satin chrome, brass and S.A.A.		
Fittings	2	11½
Removable decorative bar grill, counter, display shelves, etc.		
Kitchen cupboards, shelves, shutters.		
Special dartboard fittings and spotlights.		
Total of partitions and fittings	8	8½

FINISHINGS

Floor finishes 5 0¾

Polished hardwood block floors, maple strip floor to large hall and composition block flooring to changing rooms, chosen for hard wear and easy maintenance. Red asphalt floors in shower and washrooms.

Type of finish	Area in sq. ft.	Price per sq. yd.
Cement and sand screed	474	9s. (av.)
Granolithic	1000	11s. 4d. (av.)
Tile	884	53s. 6d. (av.)
Asphalt	1053	22s. 0d. (av.)
Thermoplastic tile	810	15s. 6d.
Composition block	2178	38s. 6d.
Timber strip	3322	90s. 0d. (av.)

Wall finishes (exclusive of decorations) 1 9¾

Cloakroom block: tiled dados with plaster above.
Pavilion and steward's flat, plaster.
Boiler room: fair-faced brickwork.

Ceiling finishes 1 9

(exclusive of decoration)
Cloakroom block: woodwool set with plaster in showers and lavatories.
Pavilion: woodwool and suspended ceilings.
Steward's flat: expanded metal lath and plaster suspended ceiling.
Boiler room: fair-faced concrete.

Roof finishes 4 4½

3-layer bituminous felt with granite chip finish.
Area: 3,675 sq. ft.

Decorations 3 4

Cloakroom block: walls and ceiling, anti-condensation paint.
Pavilion: walls, wallpaper and emulsion paint; ceilings, distemper.
Steward's flat: emulsion paint and distemper.
Boiler room: distemper.

Total of finishes 16 3½

SERVICES

External plumbing (exclusive of decoration) 4¼

Rain water disposal by concealed cast-iron eaves, gutters and rainwater pipes, all gloss painted.

Hot and cold water installation 2 3¾

(cost includes builders' work in connection)
Galvanized iron pipework; 250-gallon storage cistern.

Sanitary fittings 2 2¾

Type of fitting:

W.c.	Urinals	L.b.	Bath	Footbath	Shower sprays	Sinks
Number of each type:						
14	3	25	1	4	38	3

Heating and hot water installation (cost includes builders' work in connection) 7 10

Central heating is by coke-fired boiler serving convectors and heating coils. In the main hall there are fan convectors and unit heaters. Hot water is by gas circulators and 60-gallon storage cylinders. These are in quadruplicate, serving three sections of the changing room block and the lavatories, so that varying loads can be met economically.
Internal temperatures: hall, 60 deg.; changing rooms, 70 deg.
Air change: hall 3, changing rooms 1½.
" U " of walls: 0·29.
" U " of roof: 0·23.

Gas installation 5

15 points for all-gas kitchens, water heaters in bar and steward's flat, and gas incinerator.

Electrical installation 3 0½

Type of point:

Lighting	Power	Unit heaters	Meters
No. of each			
232	18	5	3

Also special billiards lights and floodlights for badminton.

Mechanical services

Automatic sump pump included in cost of heating.
Extract fan in bar, cost included in Electrical Installation.

Total of services 16 1½

Drainage 3 2

Combined drainage system. Drain runs in salt-glazed stoneware pipes except under building, where runs are in cast iron.

Total cost per sq. ft. of floor area : £45,474 19s. 1d. / 11,867 sq. ft. = 76 7¼

Works on site and external works 4 10¼

Sprayed bitumen paving in driveway and car park.
Terrace and walkway paved with 2-in. precast concrete slabs, elsewhere gravel paving to falls.
General landscaping and turfing.

SUMMARY

Ground floor area: 9,331 sq. ft.
Total floor area: 11,867 sq. ft.
Type of contract: RIBA, with quantities.
Tender date: July 5, 1955.
Work began: October 17, 1955.
Work finished: November 30, 1956.
Tender price of foundations, superstructure, installations and finishes: £45,474 19s. 1d.
Final contract price: £45,372 0s. 8d.
Tender price of external works and ancillary buildings: £2,876 2s. 6d.
Final contract price: as contract.
Total: £48,351 1s. 7d.

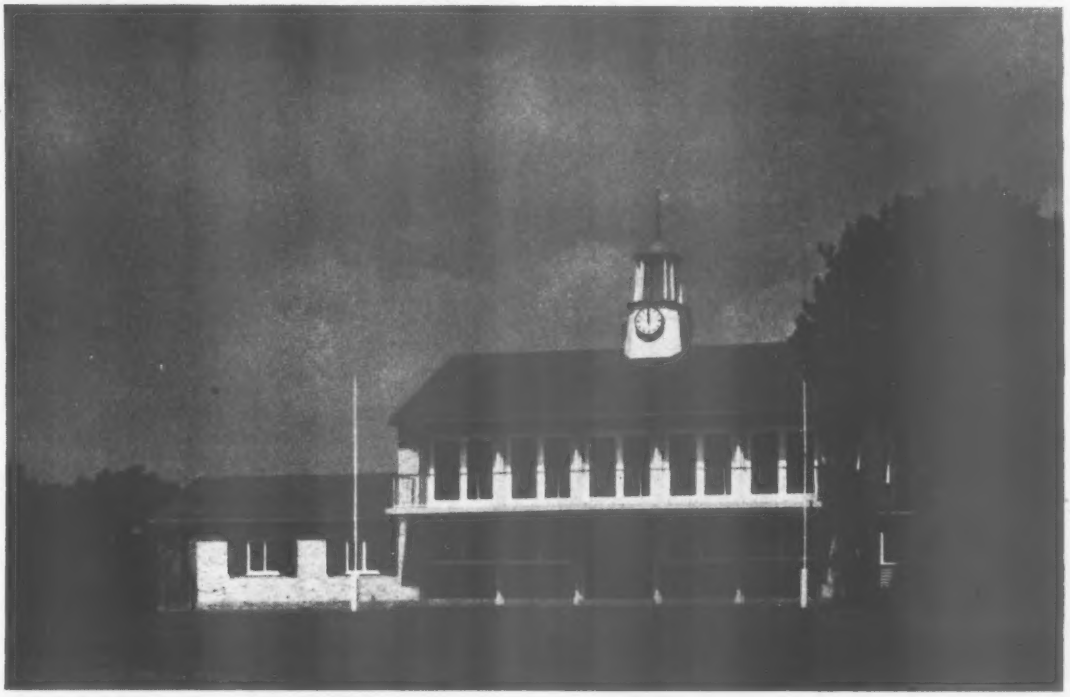
building illustrated

CRICKET PAVILION

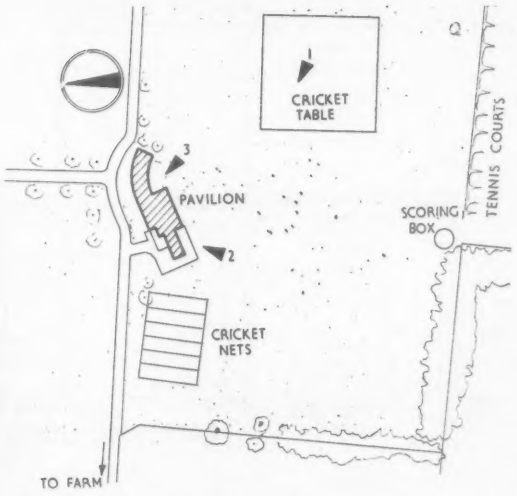
at OUNDLE SCHOOL, NORTHANTS; designed by PETER BICKNELL of H. C. HUGHES and PETER BICKNELL; assistant-in-charge F. W. O. HASLOP; consulting engineer (reinforced concrete) J. H. A. CROCKETT, quantity surveyors DAVIES, BELFIELD and EVEREST

This cricket pavilion at Oundle was built for the school by the Old Oundelian Club, which presented it as a war memorial. The pavilion, which is for use in the cricket season only, contains a large room on the first floor to seat four teams for lunch or tea. Meals are prepared in a servery, with a service lift connection to the ground floor. On the west side is a tuck shop and the changing rooms are in a single storey, curved wing to the east of the main building.

Viewpoint 1: the pavilion from the south-east.



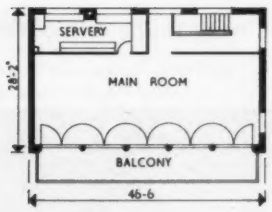
Viewpoint 2: from the south. The single-storey wing on the left contains the tuck shop and store. The pavilion is constructed of load-bearing brick walls, except for the front elevation of the two-storey block, which is r.c. framed.



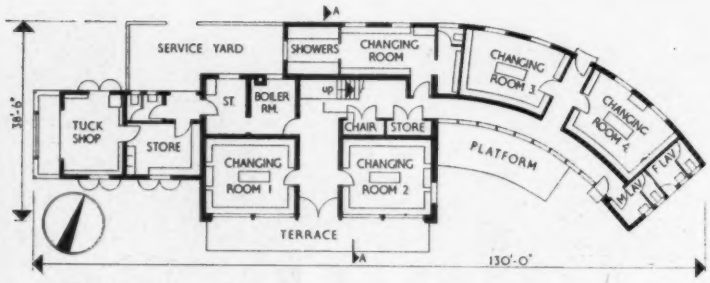
Site plan showing photographic viewpoints

building illustrated

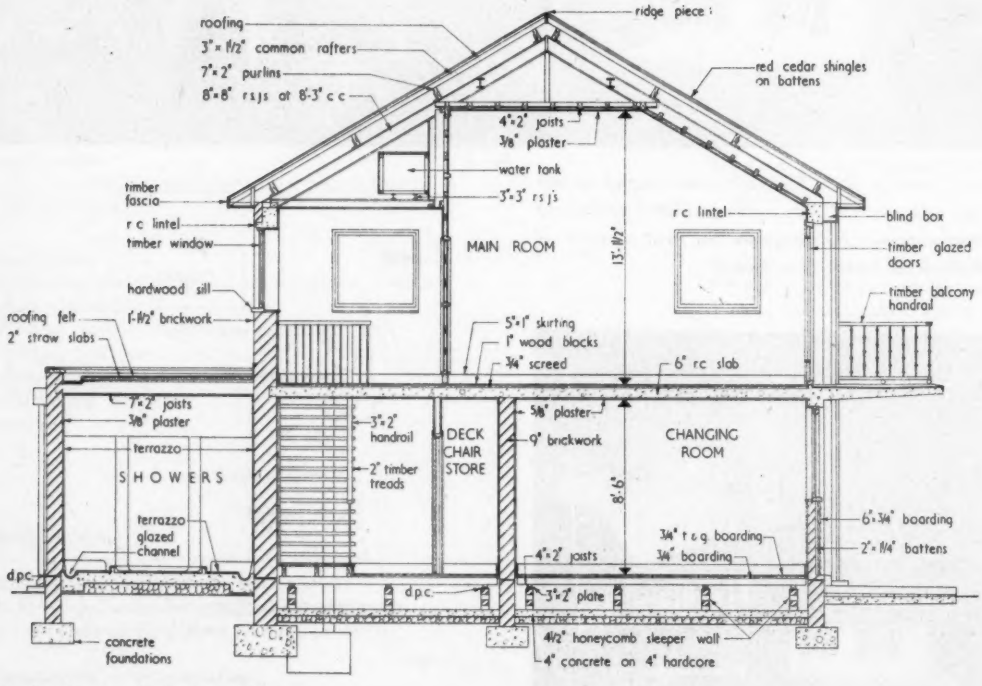
Viewpoint 3: the single-storey changing room wing, which is faced, on this elevation, with 6-in. × ¾-in. horizontal weatherboarding on timber studs at 2-ft. centres.



First floor plan



Ground floor plan [Scale: $\frac{1}{8}$" = 1' 0"]



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

The staircase and first floor landing. 2-in. hardwood treads are carried by a r.c. stringer beam and there are no risers. The handrail is 2-in. × 3-in. hardwood.

The main room on the first floor. Doors on the left lead to the large balcony. Behind the glazed screen on the right are the servery and landing.

analysis

CLIENT'S BRIEF

A cricket pavilion in the school playing fields, to celebrate the 400th anniversary of the foundation of the school. The building was paid for by subscription and many Old Boys gave materials for the building.

PLANNING AIMS

A Sports Pavilion to face the field on which 1st games are played (known to the school as the square), with two changing rooms for the 1st game with an adequate view of the square, and two changing rooms for the 2nd game, with an adequate view of the 2nd pitch.
The pavilion to have a dining room on first floor with a balcony giving a good view of the square. Kitchen entrance to serve lift to pantry and tuck shop.
Space to be provided for visitors to watch matches on the square protected from north east winds.
An existing clump of trees to be retained.
An important feature of the pavilion is the clock tower for a clock with four dials, which was designed and made in the school workshop.
A screen on the first floor was designed to take 1st XI team boards, but it looked so attractive that it was decided to put these boards elsewhere.

The following are details and cost analysis of the original design and tender although variations appear in the final structure and finishes. These variations, being largely due to gifts of materials by Old Boys, render unrealistic any analysis of final cost.

	cost per sq. ft.	s	d
preliminaries and insurances			8
contingencies		1	6¾
Work below ground floor level		7	6½

STRUCTURAL ELEMENTS

Frame or load-bearing element (cost includes external walls) — 11 9¾
Mainly load-bearing walls, with timber encased steel stanchions to front wall.

External walls
9-in. and 13½-in. brick, except front, which is r.c. frame.

$$\text{Ratio: } \frac{\text{solid wall}}{\text{floor area}} = \frac{0{\cdot}8162}{1}$$

Windows — 2 0¾
Purpose made, softwood casements.

$$\text{Ratio: } \frac{\text{windows}}{\text{floor area}} = \frac{0{\cdot}1848}{1}$$

External doors — 1 9¾
Framed, ledged and braced and casement. Mostly softwood, some West African mahogany.

$$\text{Ratio: } \frac{\text{doors}}{\text{floor area}} = \frac{0{\cdot}1282}{1}$$

Upper floors — 3 3¾
6-in. r.c. slab, and balcony.

Staircases (cost includes finishings and balustrade) — 9¾
R.c. beam carrying hardwood treads, with ferodo nosings.
No. of staircases: 1.
Width: 3 ft. 9 in.
Total rise: 9 ft. 1 in.

analysis

	s	d
Roof construction	6	4
Pitched roof, timber, with steel trusses to main roof, and shingles.		
Flat roof (originally reinforced concrete). Timber joists, compressed straw slabs and felt.		
Area of pitched roof, 240 sq. yd.		
Area of flat roof, 201 sq. yd.		
Glazing		6¾
¼-in. polished plate to casement doors. 26-oz. clear sheet elsewhere.		
Total of structural elements	26	8½

PARTITIONS

Internal partitions	1	1
Ground floor: half brick; w.c. partitions, terrazzo.		
Area, 950 sq. ft.		
Screens		5
First floor: softwood, with hardboard panels.		
Internal doors	1	9
No. of single doors, 14.		
No. of double doors: 2.		
Mainly West African mahogany framed, ledged and braced. Others softwood and plyfaced flush.		
Ironmongery	1	4
Mainly A.A. (lever handle door furniture).		
Fittings	3	2½
Sunblinds, display shelves, work benches and sink cupboard.		
Total of partitions and fittings	7	9½

FINISHES

Floor finishes	5	4¾

Type of finish:	P.v.c. or other tiles	Quarry tiles	Terrazzo
Area in sq. ft.:	2,400	760	460
Price per sq. yd.:	29s. (average)	37s. 6d.	50s.

Wall finishes	2	7½
Two-coat plaster, mainly, some Terrazzo and fair face brickwork		
Ceiling finishes	1	4¾
Plaster lath and setting coat under pitched roofs.		
Two coat plaster on concrete.		
Roof finishes	4	0

Type of finish:	Westmorland green slating to pitched roofs.	Vermiculite screed and asphalt on flat roof.
Area in sq. ft.:	2,400	1,810

Decorations	2	9½
Ceilings: whitened.		
Walls, emulsion paint, prime and 3 coats oil paint metal and woodwork, prime and 3 coats oil paint.		
Hardwood, wax polish.		
Total of finishes	16	1½

SERVICES

	s	d
External plumbing	1	1½
Lead ridge, flashings, etc. Cast-iron gutters and rainwater pipes.		
Cast-iron waste and vent stacks.		
Hot and cold water installation	1	10¾
Hot and cold to all fittings, hot from gas boiler (see gas installation), galvanised steel tubing.		
Sanitary fittings (including branch wastes)	2	1
Type of fitting, as shown on plan. Steel sinks, others white glazed fireclay.		
Heating and ventilation		
None—used in summer only, except one small gas radiator in hall (see gas installation).		
Gas installation	2	2½
1 small radiator.		
2 boiling rings.		
2 water heaters.		
1 boiler.		
Electrical installation		
None.		
Lifts or other mechanical services		11½
One hand-operated service lift.		
Total of services	8	2¾
Net cost excl. 'other elements' and drainage beyond last collecting m.h. : floor area — £13,585 : 3,819 sq. ft. =	71	1½
Drainage	2	6
Stoneware drains and brick manholes, immediately adjacent to building.		
Stoneware drains and manholes to main sewer, including connection.	6	0¾
Other elements		
Works on site		4¾
Fleche	1	3¾
Scoring box	1	3¾
Connections to gas and water mains	3	5
Roads, paths, external pavings, screen walls, etc.	3	5¾

SUMMARY

Ground floor area: 2,700 sq. ft.
Total floor area; 3,819 sq. ft.
Type of contract; RIBA (competitive tender)
Tender date; July 1954
Work began; February 1955
Work finished; May 1956
Contract price of foundations, superstructure, installations and finishes; £13,585
Contract price of external works and ancillary buildings; £3,027. Total: £16,612

analysis

COST COMMENTS

The cost analyses for Hayes and Acton are more comparable with each other than either with the analysis for Oundle. The former pavilions differ in size but are both designed to combine social and recreational activities. In addition, the tender date for both contracts was July, 1955. Oundle is required solely as a cricket pavilion for summer use, and the differing requirements are noticeable throughout the cost analysis. The tender date for Oundle was a year earlier, i.e. July, 1954.

A closer examination of each element or group of elements is quite interesting:

Element	HAYES Ratio	HAYES Cost per sq. ft. s d	HAYES Sub total s d	ACTON Ratio	ACTON Cost per sq. ft. s d	ACTON Sub total s d	OUNDLE Ratio	OUNDLE Cost per sq. ft. s d	OUNDLE Sub total s d	Remarks
Preliminaries			2 5¾		5 5			8		Hayes analysis is based on fina costs and therefore excludes contingencies. At Oundle the bulk of the preliminaries appears to have been priced elsewhere
Contingencies					8	6 1		1 6¾	2 2¾	
Foundations			7 10½			5 4½			7 6½	Hayes is built on partially made up ground; Acton has a basement boiler-house. No details are given for Oundle
External walls	0·6	10 7¼		0·57	5 0¾		0·8	Inc.		Note Oundle's high perimeter to floor area ratio. The limited use of a frame at Hayes has resulted in a unit cost of solid ext. walls at approx. £8 sq. yd. $\left(\frac{10s.\ 7\frac{1}{4}d.\ sq.\ ft.}{0{\cdot}6}\right)$ Whereas at Acton the cost is approx. £4 sq. yd. $\left(\frac{5s.\ 0\frac{3}{4}d.\ sq.\ ft.}{0{\cdot}57}\right)$
Frame		2 10			6 11			11 9¾		
Stairs and steps					5			9¾		Oundle's staircase cost 9¾d. × 3819 = £155, or a little over £17 per ft. rise
Upper floors		1 0			1 10			3 3¾		Ratios not available
Roof		6 4½			5 7			10 4		Oundle appears to have made a feature of its roof
Rooflights					1¾					
Windows	0·138	2 8½		0·17	3 5		0·18	2 0¾		
External doors	0·067	1 2		0·035	1 2½		0·13	1 9¾		
Glazing		8¾	25 5		8	25 3		6¾	30 8½	Note the similarity between the amount per sq. ft. spent on structural elements at Hayes and Acton
Internal partitions		1 11½			1 7			1 1		Oundle's costs include some self-finished terrazzo
Screens					1 7½			5		
Internal doors		1 5¼			1 9¾			1 9		
Ironmongery		7¼	4 0		8¾	5 9		1 4	4 7	
Fittings			3 4¾			2 11½			3 2½	
Floor finishes		4 6¾			5 0¼			5 4¼		
Wall finishes		2 9¼			1 9¾			2 7½		
Ceiling finishes		2 9½			1 9			1 4½		
Decorations		2 6½	12 8		3 4	11 11		2 9½	12 1½	All schemes have achieved a high standard of finish
External plumbing		9½			4¼			1 1½		
Internal plumbing		2 0½			2 3¾			1 10¾		
Sanitary fittings		1 1¾			2 2½			2 1		

analysis

Element	HAYES Ratio	HAYES Cost per sq. ft. s d	HAYES Sub total s d	ACTON Ratio	ACTON Cost per sq. ft. s d	ACTON Sub total s d	OUNDLE Ratio	OUNDLE Cost per sq. ft. s d	OUNDLE Sub total s d	Remarks
Heating and ventilation		7 7			7 10					Hayes and Acton have spent some 16 per cent. of their net building costs on heating and electrical installation; elements which are not required at Oundle.
Gas		3			5			2 2½		
Lifts								11¼		
Electrical installation		4 6½	16 4½		3 0½	16 1½			8 2½	
Net building cost (drainage excl.)			72 2½			73 5½			68 7½	
Drainage		4 3¾			3 2			8 6½		The cost of Oundle's main drainage run (£1,146) gives an idea of what it would have cost to lay an underground electric cable for lighting the building. No doubt this high cost made it hardly worthwhile for the short periods when light would be needed.
Paved areas and external works		6½	4 10½		4 10¾	8 0½		9 10	18 4½	
Gross total cost per sq. ft. of floor area			77 0½			81 6			86 11½	

CONTRACTORS

HAYES

General contractors: W. L. Cook & Co. Ltd. *Sub-contractors: Reinforced concrete:* Johnson's Reinforced Concrete Engineering Co. Ltd. (reinforcement only). *Bricks:* W. T. Lamb & Sons Ltd. *Roofing felt:* F. J. Prater Asphalte Co. Ltd. *Tiles:* E. F. Williams Ltd. *Glass:* James Hetley & Co. Ltd. *Wood-block flooring:* Stevens & Adams Ltd. *Artificial stone:* Girlingstone. *Structural steel:* Dawnays Ltd. (Portal Frames). *Patent flooring:* Marley Tile Co. Ltd. *W.c. partitions:* Venesta Ltd. *Central heating:* Weatherfoil Heating Systems Ltd. *Stoves:* Broad & Co. Ltd. *Electric wiring and fixtures:* Tylor & Freeman Ltd. *Electric light fixtures:* Hume Atkins & Co. Ltd. *Door furniture:* Alfred G. Roberts Ltd.; Stafford Furniture Ltd. *Casements:* Tomo Trading Co. Ltd. *Window furniture:* Tomo Trading Co. Ltd.; Nettlefold & Moser Ltd. *Roller shutters:* G. Brady & Co. Ltd. *Sanitary fittings:* John Bolding & Sons Ltd. *Tiling:* The Surrey Tile Co. Ltd. *Wallpaper:* Primavera. *Mats:* Tyre Products Ltd. *Signs:* Drakard & Humble Ltd. *Paints:* Hadfields (Merton) Ltd. *Slate hearth:* Bingley, Son & Follit Ltd. *Bronze plaque:* The Lettering Centre.

ACTON

General contractors: Allen Fairhead and Sons Ltd. *Sub-contractors: Steelwork:* Boulton & Paul Ltd. *Reinforcement:* Spencer Wire Co. Ltd. *Heating and hot water:* G. N. Haden & Sons Ltd. *Electrical installation:* Berkeley Electrical Co. Ltd. *Asphalt:* Permanite Ltd. *Sanitary fittings:* General Light Castings Ltd. *Roof lights:* Aygee Ltd. and T. W. Ide Ltd. *Flush doors and kitchen fittings:* Jayanbee Joinery Ltd. *Curtain track:* Silent Gliss Ltd. *Kitchen shutters:* Shutter Contractors Ltd. *Ironmongery:* Walker & Wood Ltd. *w.c. cubicles:* Flexo Plywood Industries Ltd. *Roofing:* D. Anderson & Co. Ltd. *Suspended Ceilings:* Anderson Construction Co.; Steel Bracketing & Lathing Ltd. *Cloakroom fittings:* Mountford Brothers Ltd. *Flooring:* Granwood Flooring Co. Ltd.; Vigers Brothers Ltd. *Plastic wall finish:* Plastic Surfaces Ltd. *Gas installation:* North Thames Gas Board. *Bar fittings:* Ballard & Co. Ltd. *Carved slate tablet:* Fenning & Co. Ltd.

OUNDLE

General contractors: Frank Hickman and Co. Ltd. *Sub-contractors: Facing bricks:* Williamson, Cliff Ltd. *Reinforcement:* Twisteel Reinforcement Ltd. *Steel roof trusses:* Humphries Hollom Ltd. *Flat roof decking:* Stramit Boards Ltd. *Lift:* Evans Lifts Ltd. *Terrazzo:* The Mosaic & Terrazzo Precast Co. *Balustrading for staircase, balcony and tuckshop:* Bayliss, Jones & Bayliss Ltd. *Flat roof covering, asphalt and screed to balcony:* Engert & Rolfe Ltd. *Sun blinds:* Adam Ltd. *Gas boiler and main, etc.:* East Midlands Gas Board. *Excavating and refilling trench:* Grocock & Day Ltd. (Grocock and Day were near the site with a mechanical digger carrying out public works and it was considered more economical to ask them to excavate than for some other firm to bring another digger.) *Stair treads:* Ferodo Ltd. *Ironmongery:* Alfred G. Roberts Ltd. *Opepe block flooring:* Horsley Smith & Co. Ltd. *Sanitary fittings:* Johnson Fireclay Co. Ltd. *Cedar shingles:* J. J. Etridge Jr. Ltd. *Wall tiles:* Carter & Co. (London) Ltd. *Sisal matting:* Robert Sayle & Co. *Main windows and doors on front elevation:* Wm. Henshall & Sons Ltd. (All other windows and doors by general contractor.) *C.i. rainwater goods:* Cameron & Robertson Ltd. *Scoring box and clock tower:* E. Taylor & Co. Ltd. *Reconstructed stone:* Tarmac Ltd. *"Ercolion" tables and chairs:* Furniture Industries Ltd. *Benches in changing rooms:* School Workshops.

working detail

STAIRCASE: OFFICES IN LONDON, W.C.1

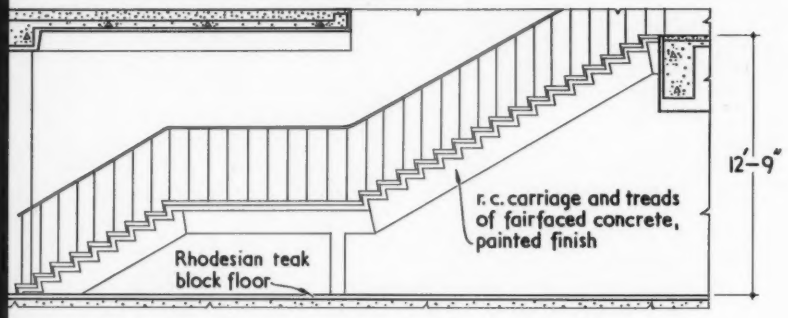
David du R. Aberdeen and Partners, architects

Precast concrete members comprising both treads and risers are cast into and cantilevered from a central in-situ concrete carriage. In order to enhance the "stepped" effect, the plane of the stair edge is tilted, both downwards and in the direction of the stair head. The treads, risers and floor of the intermediate landing, which are of Burma teak, are laid on felt to provide "give" in the stair and to deaden the sound of footfalls.

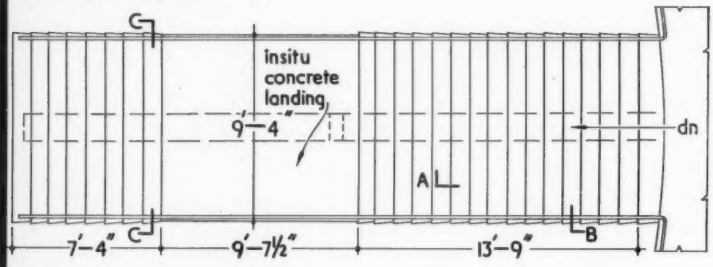
working detail

STAIRCASE: OFFICES IN LONDON, W.C.1

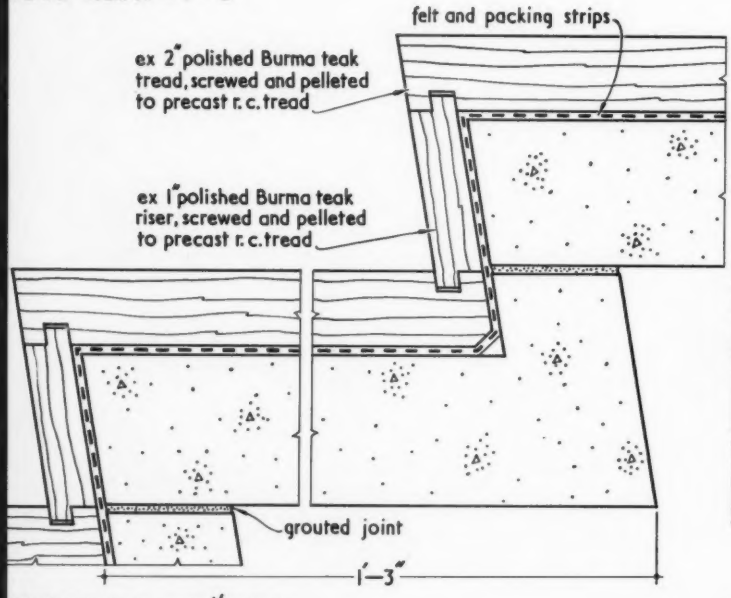
David du R. Aberdeen and Partners, architects



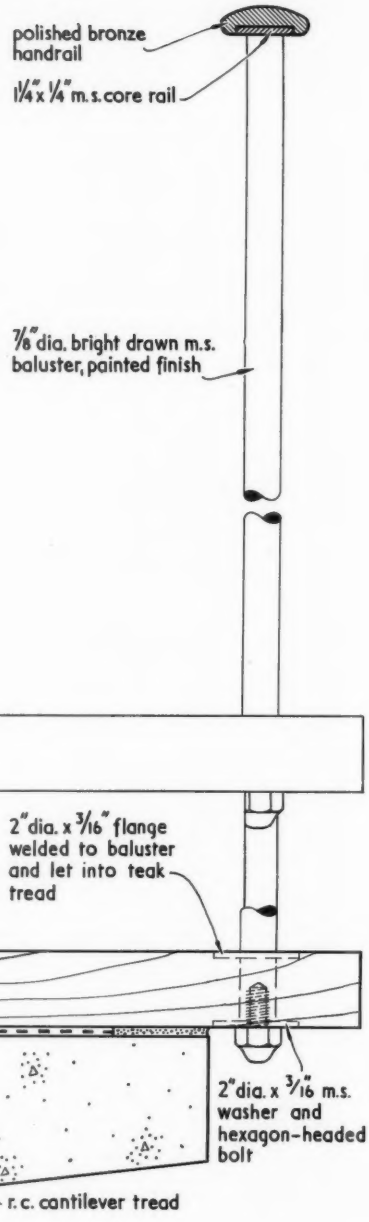
ELEVATION. scale 1/8" = 1'–0"



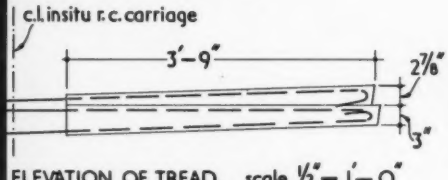
PLAN. scale 1/8" = 1'–0"



SECTION AT A. scale ¼ full size

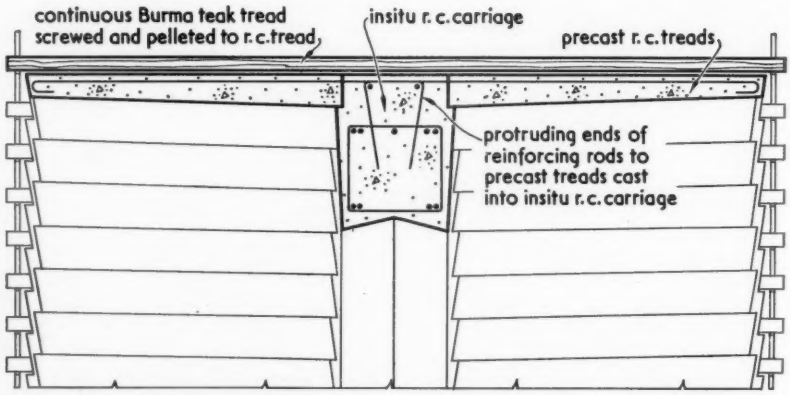


SECTION AT B. scale ¼ full size



ELEVATION OF TREAD. scale ½" = 1'–0"

PLAN OF TREAD. scale ½" = 1'–0"



SECTION C–C. scale ½" = 1'–0"

working detail

LIGHTING: 12

CONCEALED LIGHTING: OFFICES IN LONDON, W.C.1

David du R. Aberdeen and Partners, architects

The combs which serve as a screen for this ceiling lighting are made in lengths of 3 *ft.* 10½ *in. so that their joints fall on the module lines of the windows. Access to the lights is gained through unhooking each comb and lowering it on the hinge: a screw adjustment on each hook enables each comb to be exactly aligned with its neighbour.*

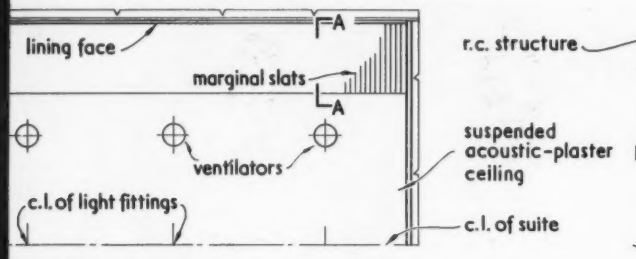
Architects' Journal 27.2.58

working detail

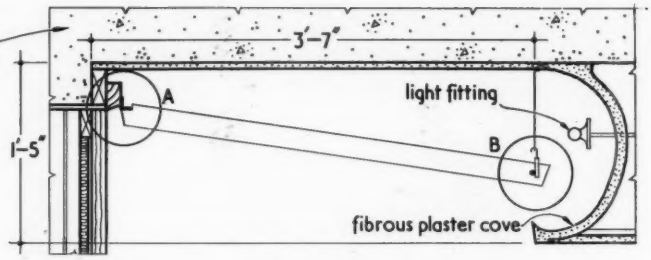
LIGHTING: 12

CONCEALED LIGHTING: OFFICES IN LONDON, W.C.1

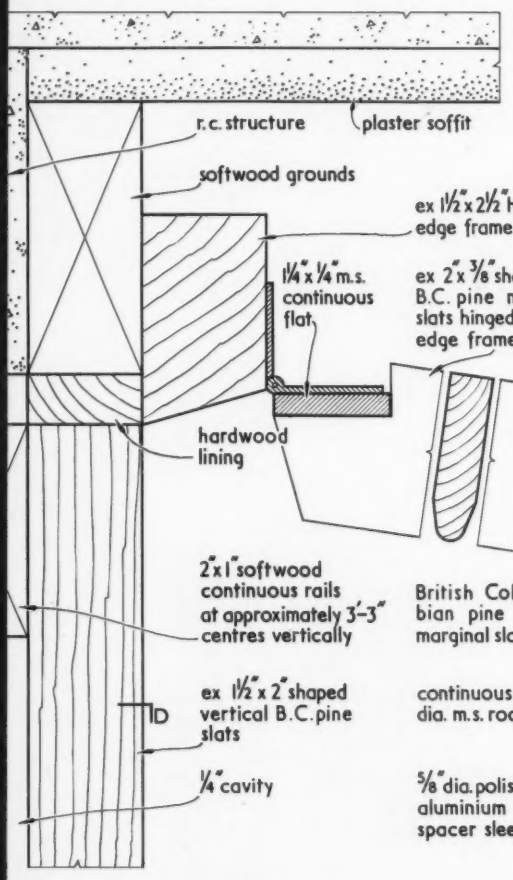
David du R. Aberdeen and Partners, architects



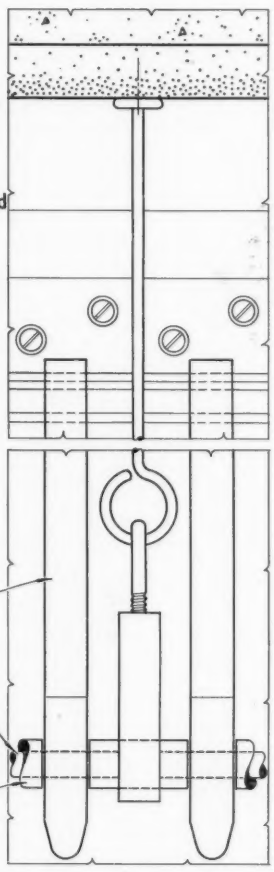
REFLECTED PLAN OF CEILING. scale 1/8" = 1'-0"



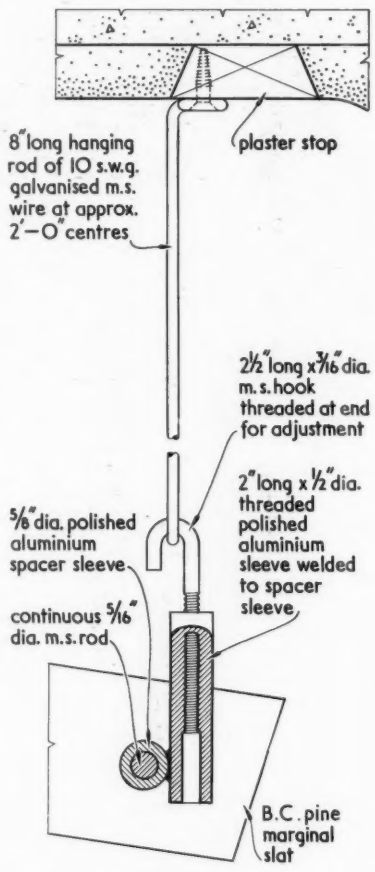
SECTION A-A. scale 3/4" = 1'-0"



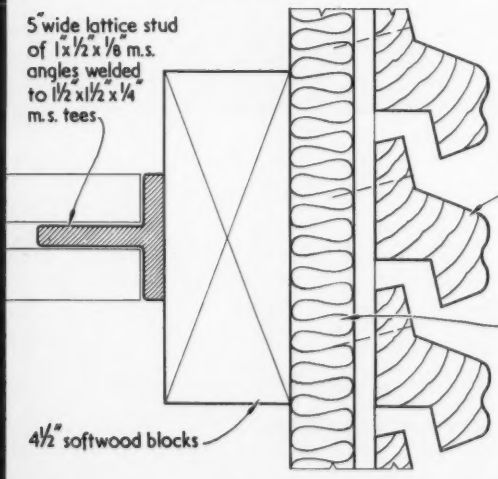
DETAIL AT A. scale ½ full size



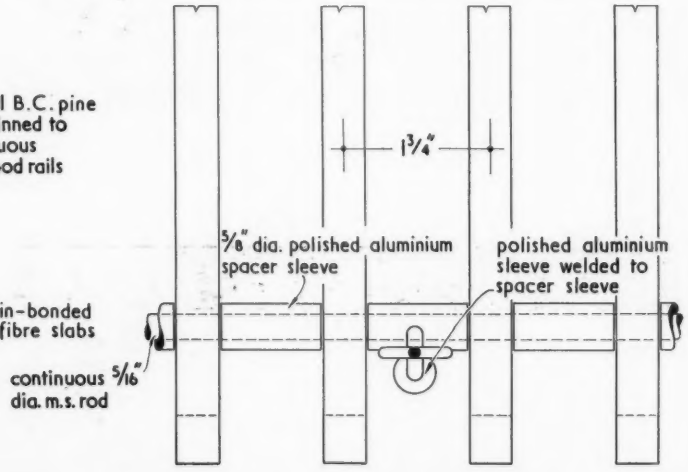
ELEVATION OF MARGINAL SLATS.



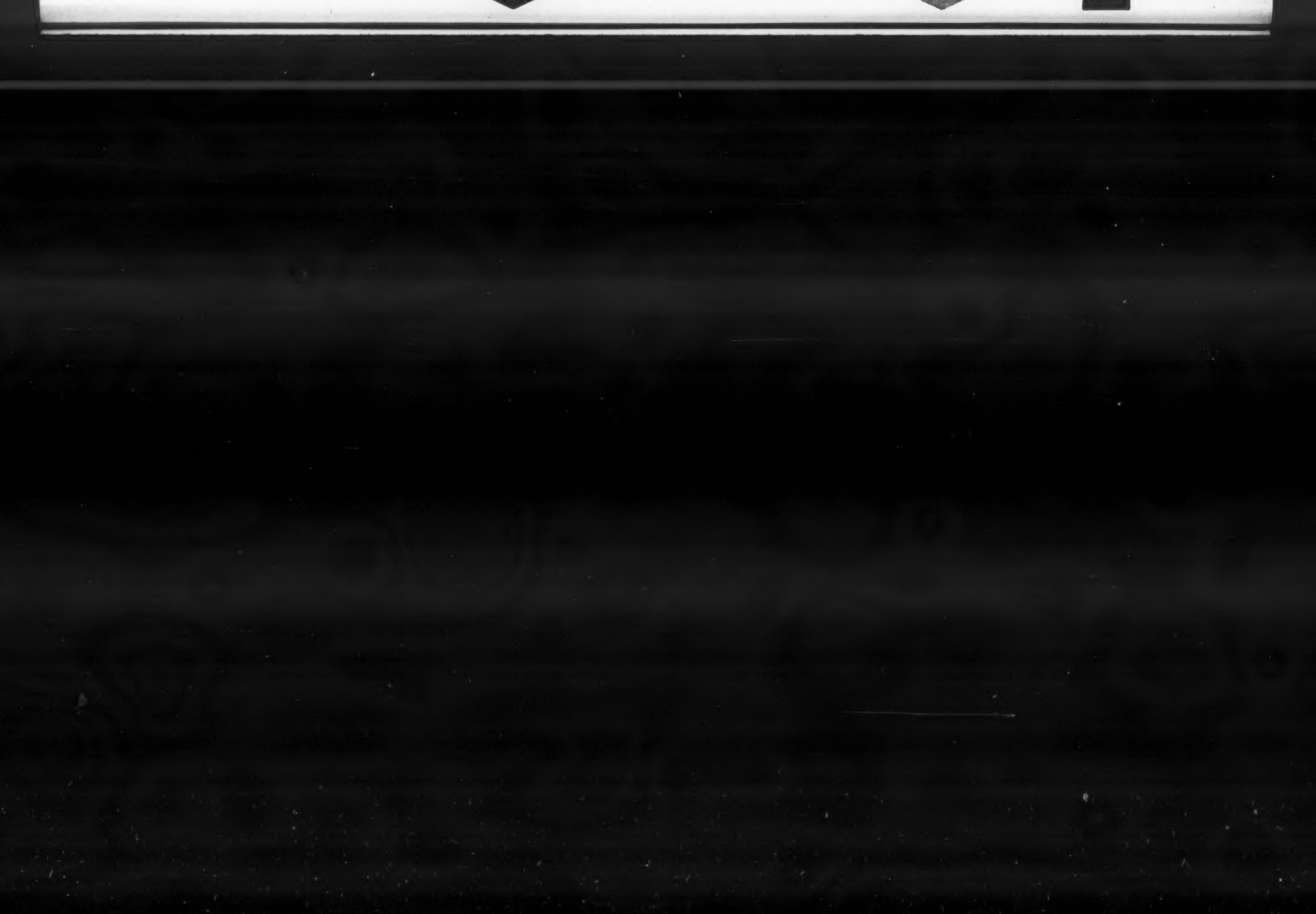
DETAIL AT B. scale ½ full size.



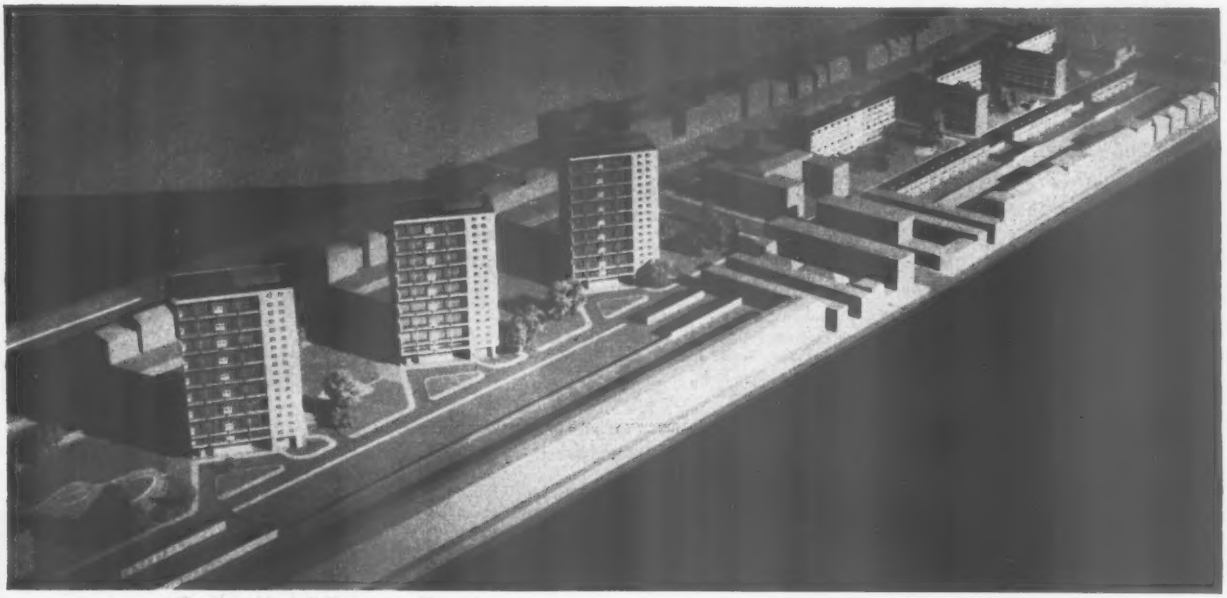
PLAN AT D. scale ½ full size



PLAN OF MARGINAL SLATS. scale ½ full size



LCC DEVELOPMENT SCHEME FOR MAIDA VALE, LONDON, W.9



A development scheme for the west side of Maida Vale, which has presented a vista of large houses in decay since before the war, was approved at the last meeting of the LCC's Housing Committee. On the north of the narrow, 12-acre site three 18-storey blocks of flats are planned, surrounded by large old trees. To the south will be three 6-storey blocks of maisonettes and behind them three terraces of small houses, with their own gardens and garages, and sharing three communal playspaces for young children. A tenants' clubhouse, doctor's house and surgery, and garages for flat-dwellers are part of the scheme, shown in the model above from the north west, looking across to Maida Vale. Architect: H. J. Whitfield Lewis, principal housing architect to the LCC. Architect-in-charge, J. E. Reid.

INFORMATION CENTRE INDEX FOR 1957

An alphabetical index covering Information Centre items and special articles published in the Technical Section during the twelve months ended December 31, 1957, *is being prepared. Readers who wish to have a copy—it is free of charge—should complete the form below and post it to the Technical Editor,* THE ARCHITECTS' JOURNAL, *not later than March* 3, 1958. *This form will not be acknowledged.*

Please send me the Information Centre Index for 1957 *:*

Name .....
(Block letters)

.....

Address.....
(Block letters)

.....

.....

AJ 27.2.58

Announcements

PROFESSIONAL

Kenneth S. Burns, A.R.I.C.S., has been joined in partnership by Brian E. Field, A.R.I.C.S. They will practice under the style of Burns & Field, Chartered Surveyors, at 33, Elmfield Road, Bromley, Kent (telephone Ravensbourne 4108).

Clarence E. Smart & Partners, quantity surveyors, of 42, Theobalds Road, London, W.C.1, and Market Place Chambers, Peterborough, have taken into partnership John Boon, A.I.Q.S. The partnership now comprises C. E. Smart, F.I.Q.S. (London), P. Crawley, A.R.I.C.S., A.I.Q.S., and J. Boon, A.I.Q.S. (Peterborough).

Miller & Tritton, A./A.R.I.B.A., have moved to 39, Sydney Street, London, S.W.3. Their telephone number remains the same (Flaxman 4314).

TRADE

Marryats East Africa Ltd. is a new company which has commenced operations in Nairobi. The company is one of the Marryat & Scott Holdings Ltd. Group, and has been formed to carry out the installation and service of the lifts manufactured by Marryat & Scott Ltd. and the electrical installation work of Marryat & Place Ltd. in East Africa; they have a resident staff of European engineers and supervisors.

The Northern Aluminium Co. Ltd. announce that J. H. Mayes, their General Sales Manager, has been appointed to the Board of Directors.

The Midland Electric Manufacturing Co. Ltd. are moving to larger offices at 238, Waterloo Road, S.E.1 (telephone Waterloo 7441/2/3, telegraphic address "Kantark," Souphone, London).

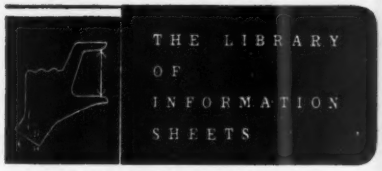
Rhodes Chains Ltd., whose Head Office is at Carlisle House, Southampton Row, W.C.1, have, owing to the necessity for increasing their Sales Department and accommodation for stock, opened a branch office at Beacon Works, Brookside Avenue, Rustington, Littlehampton, Sussex (telephone Rustington 1303/4).

Semtex Ltd. announce that Frank Smith, director and general manager of the Dunlop Sports Company, will take up his duties as director and general manager of Semtex Ltd. on March 1.

Semtex Ltd. have also opened a new depot at 4a, St. Stephens Road, Canterbury, Kent (telephone Canterbury 5938) under the management of L. F. Scott.

Cellactite and British Uralite Ltd. have appointed another representative, R. H. Westcott, of 25a, Scotts Lane, Shortlands, Bromley, Kent, for South-East and East London.

Graeme Parish & Partners Ltd. have changed their address to 26, Portland Place, W.1 (telephone Langham 2788).



33.C11. *CANCELLATION*

Readers are asked to note that Sheet 33.C11 *published* 22.12.49 *is cancelled and should be removed from the Library: it is replaced by Sheet* 33.C11, *to be published in the issue of March* 6.

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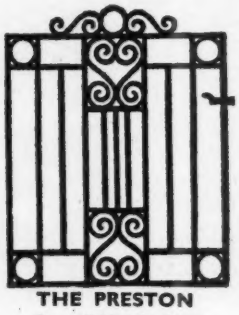

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ar

Churches
Adam & Berkeley
Lettering

February Architectural Review

The variety and scope of the buildings illustrated, and subjects discussed, in the February issue will be catholic, even for the Review. *Three Churches* around Coventry by Basil Spence will show what the imaginative use of a modicum of rationalisation can do even for a church building programme; the spectacular *Teatro de los Insurgentes*, designed by Alejandre Prieto exhibits Latin-American design at its most exuberant and effective; while Erno Goldfinger's precise *Office block in Albemarle Street* is the kind of building our cities sorely need. Historical studies will re-examine aspects of eighteenth-century architecture: *Bishop Berkeley's* contributons to architectural theory will be the subject of an article by Marcus Whiffen, while a sheaf of papers on *Robert Adam* by various hands will include some unknown Clérisseau drawings from Russia. Gordon Cullen will complete his set of townscape studies for Bristol University with an analysis of *Trowbridge*, and Jacqueline Tyrrwhitt will examine the planning of *Fatehpur Sikri*, the ideal city of Akbar the Great, somewhat in the manner of Sir Hugh Casson's memorable studies of Peking. In *Skill*, John Sharp will complete his survey of methods and materials in *Architectural Lettering*.

Church at Bell Green, Coventry, by Basil Spence & Partners.

Offices Albemarle Street, W.1 by Erno Goldfinger.

Milford Haven
Lamp-Standards
Achthamar

March Architectural Review

The impending ruination—or transfiguration — of Pembrokeshire, by the proposed industrialisation of the Milford Haven area, will be the subject of an important *Counter-Attack* article by Ian Nairn in the March issue of the Review, while another *Outrage* problem of a more wide-spread (though no less acute) interest, will be surveyed by Peter Witworth —the design of street-lighting standards—in a special article in *Skill*. Among buildings of interest to be described and illustrated, the most outstanding will be two industrial groups; further additions to the distinguished work already done for the *Technicolor Laboratories* by Gooday and Noble, and a complete set of *Pithead Buildings in Fifeshire* by Egon Riss, who has captured something of that sense of technological drama that has been missing from so much recent English industrial building. In complete contrast will be a *Week-end House* on the seashore at West Wittering by Wells Coates and Michael Lyell. A travelogue by three recent voyagers in Turkey will document and illustrate the extraordinary sculptured church at *Achthamar*, and two historical articles will explore the frontier between architecture and technology in the early nineteenth century, W. J. Sparrow writing on the ingenious and adventurous *Count Rumford*, inventor, man of action, and landscape architect, and Mary Eldridge examining the impact of plate glass in ever-larger sheets upon the design of urban *Shop-Fronts*.

Rothes Colliery, by Egon Riss.

Carvings at Achthamar.

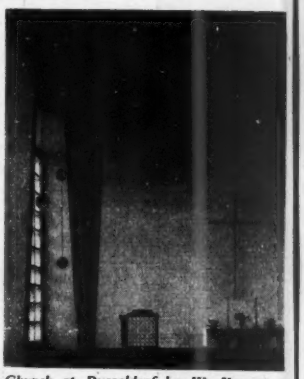
Costs
European Churches
Office Blocks

April, Architectural Review

Correction

In this column last week the house at Cowes should have been attributed to James Stirling and James Cowan.

Two contrasting and controversial subjects will be tackled in important articles in the April *Review:* John Carter will discuss *Cost Analysis*, and its implications for architectural education and the management of design; and Peter Hammond will suggest a drastic overhaul of current attitudes to *Church Architecture*, and especially the need for a rational analysis of liturgical functions. New office blocks at Newport Pagnell, by Gordon and Ursula Bowyer, and Birmingham, by J. A. Madin, will be described and illustrated. Other buildings to be illustrated include a remarkable small house on the Isle of Wight, designed by James Stirling, and James Cowan. The reputation of a pioneer Edwardian modernist, *Lamond of Dundee*, will be rescued from undeserved obscurity by M. D. Walker, and in *Tridon, or the shipwright* Reyner Banham will discuss an unexpected anticipation of mid-century architecture in an academic text of the Twenties. Regular departments such as *Exhibitions*, the *Counter-Attack Bureau* and reviews of important *Books* will continue, and an important new monthly feature will appear for the first time—an *Interior Design* supplement, covering recent and forthcoming developments in the field of "inside architecture".



Church at Dusseldorf by W. Xongeter.

House near Cowes, by James Stirling and Jame Cowan

CLASSIFIED ADVERTISEMENTS

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

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

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The appointment will be subject to the provisions of the Local Government Superannuation Acts, the passing of a Medical Examination and the National Joint Council's Scheme of Conditions of Service.

The Council are unable to offer housing accommodation.

Forms of application may be obtained from me to whom they should be returned not later than Saturday, 8th March 1958.

DAVID PRITCHARD,
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Town Clerk's Department,
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CANADA

Central Mortgage and Housing Corporation (the Crown Corporation which administers the National Housing Act of Canada) requires experienced Town Planners in the Architectural and Planning Division, at Head Office in Ottawa for work in connection with housing activities across the country.

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UNIVERSITY OF NOTTINGHAM

Applications are invited from suitably qualified and experienced persons for the appointment of SENIOR ASSISTANT IN THE DRAWING OFFICE OF THE UNIVERSITY SURVEYOR. Commencing salary within the range £800—£1,000, according to qualifications and experience. Superannuation benefits under F.S.S.U. and children's allowances. Applications should be sent as soon as possible, but not later than 18th March, 1958, to the Registrar, from whom further particulars and forms of application may be obtained. 8834

AIR MINISTRY require WORKERS-UP in Quantities Division, London. Must be fully experienced and competent to Work-up entire Bills of Quantities. Preference holders C. & G. (Quantities), O.N.C. or equivalent technical qualification. Salary range £695 at age 25 to £1,030; starting pay dependent on age, qualifications and experience. Opportunities may occur for competing for pensionable posts; promotion prospects. 5-day week. Over 3 weeks' leave a year. Applicants normally should be natural born British subjects. Write, stating age, qualifications and previous appointments, including type of work done, to P.E. 104, Manager, Professional and Executive Register, Ministry of Labour and National Service, Atlantic House, Farringdon Street, E.C.4. No original testimonials should be sent. Only candidates selected for interview will be advised. 8471

GOVERNMENT OF NORTHERN IRELAND

Applications invited from ARCHITECTURAL ASSISTANTS with recognised training and fair experience for unestablished posts in the Chief Architect's Branch, Ministry of Finance. Salary scale £537—£830; starting pay for candidates who have passed R.I.B.A. Intermediate examination will be £672. Preference will be given to ex-Servicemen. Application forms obtainable from the Director of Establishments, Ministry of Finance, Stormont, Belfast. 8663

BOROUGH OF BARKING
BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT

Applications are invited for the undermentioned appointment.

ONE TOWN PLANNING ASSISTANT, Grade A.P.T. I/Special (£575—£1,030).

Plus appropriate London weighting.

Application form returnable by the 15th March, 1958, obtainable with full particulars from the Borough Engineer and Surveyor, Town Hall, Barking.

E. R. FARR,
Town Clerk.

Town Hall, Barking. 8852

THE NATIONAL COAL BOARD, South Western Division, invite applications for the post of ARCHITECTURAL ASSISTANT, Grade I, in the Divisional Production Department, Architect's Branch, Cambrian Buildings, Mount Stuart Square, Cardiff.

The work involves general drawing office duties in preparation of sketch plans, and working drawings.

The qualification required is the Intermediate Examination of the R.I.B.A., but consideration will be given to candidates who have not passed the Intermediate Examination but have had considerable practical experience.

Salary scale: (male), £715×£25—£850 per annum; (female), £610×£21—£720 per annum.

In exceptional circumstances these scales can be increased to:

Males: £1,000 per annum.
Females: £870 per annum (subject to equal pay).

Please quote Staff Vacancy No. 44/40.

Full particulars of age, qualifications, experience and positions held, together with details of present post and salary, should be sent to the Divisional Chief Staff Officer, National Coal Board, Cambrian Buildings, Mount Stuart Square, Cardiff, by 6th March, 1958. 8848

NORTH GLOUCESTERSHIRE TECHNICAL COLLEGE, CHELTENHAM

LECTURER required for Building Construction and Quantity Surveying in Diploma and National Certificate Courses.

Candidates should have had good professional experience and hold R.I.B.A. or R.I.C.S. qualifications.

Salary scale: £1,200 by £50 to £1,350.

Forms of application may be obtained by forwarding a stamped addressed envelope to the Clerk to the Governors, North Gloucestershire Technical College, The Park, Cheltenham, to whom completed applications should be returned by 14th March, 1958. 8847

IMPROVEMENT TRUST—SINGAPORE

The Singapore Improvement Trust requires a PLANNER in the Planning Department on initial contract for 3 years for duties in connection with development control on Singapore Island.

Applicants must be Associate Members of the Town Planning Institute, and either A.R.I.B.A., A.M.I.C.E., A.M.I. Mun.E. or A.R.I.C.S., or equivalent qualification. Applicants should have had experience in development control in a public authority.

Commencing inclusive salary between $1,390 and $1,940 per month (equivalent to £1,946 and £2,716 per annum), according to qualifications and experience. ($1 Malayan = 2s. 4d. approx.) Increments payable after each completed year of service. No other allowances payable except duty transport. Strict medical examination. Air passages provided.

Officer appointed will be required to join the Singapore Government's Central Provident Fund. Quarters with heavy furniture provided, if available, at moderate fixed rental. 12 weeks full pay leave on completion of contract. 10 days local leave annually.

Applications in duplicate, stating date and place of birth, with details of education, qualifications, training and experience, accompanied by copies of testimonials, to Messrs. Allen & Williams, 1, Victoria Street, London, S.W.1, by Thursday, 13th March, 1958. 8851

BERKSHIRE COUNTY COUNCIL

ASSISTANT ARCHITECT, A.P.T. Grade IV (£1,025—£1,175).

A man capable of taking charge of drawings under a section head from preliminary scheme stage to completion is required. Applicants should be Associates of the R.I.B.A.

ASSISTANT ARCHITECT, Special Grade (£750—£1,030).

Candidates should have had good architectural training and be experienced in planning, design and construction. Preference will be given to Associates of the R.I.B.A.

ARCHITECTURAL ASSISTANT, Grade A.P.T. II (£725—£845).

Candidates should have had office experience and have reached R.I.B.A. Intermediate standard or have recently completed the recognised architectural course.

In all these posts, opportunity will be given to obtain a varied experience in local government work.

Application forms and further particulars can be obtained from J. T. Castle, Esq., A.R.I.B.A., A.M.T.P.I., County Architect, Dept. AAJ (1), Wilton House, Parkside Road, Reading, to whom they should be returned not later than Wednesday, 5th March, 1958. 8865

GHANA PUBLIC SERVICE COMMISSION
RURAL WATER DEVELOPMENT

CIVIL ENGINEERS for waterworks construction, operation and maintenance. Candidates must be A.M.I.C.E., or have passed Parts I and II of the Finals of the I.C.E. examination plus two years' experience preferably on water supply work. Appointment on contract for three tours each of 18-24 months duration in salary range £1,180—£2,080 per annum. Entry point determined by age and experience.

CHIEF DRAUGHTSMAN to take charge of engineering drawing office take-off quantities and prepare estimates and the training of drawing office staff. Candidates must be civil engineering draughtsmen with good knowledge of reinforced concrete detailing, as applied to waterworks structure. Preference will be given to holders of Higher National Certificate. Appointment on contract for one tour of 18-24 months duration in salary range £1,770—£1,970 per annum. Entry point determined by age and experience.

Other terms of service for both posts: Gratuity at rate of £12 10s. for each completed month of satisfactory service. Outfit allowance £30—£60 on first appointment and Education Allowance for children when not resident in Ghana of £100 a child for up to three children under 18 years. Free first-class passages for officer, wife and up to three children under 18. Quarters at low rental. Generous home leave. Low income tax.

For further particulars and application form write, stating age, qualifications and experience to The Director of Recruitment, Ghana High Commissioner's Office, 13, Belgrave Square, London, S.W.1. 8854

AUSTRALIA—UNIVERSITY OF QUEENSLAND

Applications are invited for the position of LECTURER IN ARCHITECTURE.

Salary: £A1,300—£A1,750 per annum.

Applicants should have a Degree or Diploma of a recognised School of Architecture and Associate Membership of the Royal Australian Institute of Architects or the Royal Institute of British Architects. Practical and/or teaching experience is most desirable.

Further particulars and information as to the method of application are obtainable from the Secretary, Association of Universities of the British Commonwealth, 36, Gordon Square, London, W.C.1.

Applications close in Australia and London on 19th April, 1958. 8850

HEMEL HEMPSTEAD DEVELOPMENT CORPORATION

Applications are invited for the following appointment in the Planning Section of the Chief Architect's Department.

ONE SENIOR PLANNER. Salary range: £902—£1,107. Applicants must be Corporate Members of the Town Planning Institute, and should have had experience in the Development Plan Section of a Local Planning Authority, preferably on large scale redevelopment schemes for housing and industry.

Conditions of service similar to those in Local Government. Housing accommodation may be provided.

Applications, stating age, qualifications, experience, and names of two referees, and endorsed Vacancy No. 101, to reach the General Manager, Westbrook Hay, Hemel Hempstead, Herts., by 7th March. 8849

LONDON TRANSPORT require the following staff for the Architect's Office:—

(*a*) ARCHITECTURAL ASSISTANTS, Class 2. Candidates must be qualified to R.I.B.A. Intermediate standard and have previous office experience.

Salary range: £790—£880 p.a.

(*b*) ARCHITECTURAL DRAUGHTSMEN. Candidates must show ability in Architectural drawing and be studying for the Examinations of the R.I.B.A. Some office experience an advantage.

Salary range: £360 p.a. at age 18 to £745 p.a., plus additional payments for certain recognised qualifications.

Medical examination; free travel.

Please apply within 7 days to Staff and Welfare Officer (F/EV 669 (*a*) or (*b*)), London Transport, 55, Broadway, S.W.1. 8835

BOROUGH OF WEMBLEY
APPOINTMENT OF ASSISTANT ARCHITECT
Applications are invited for the above established appointment within the Architect's Special Salary Scale of £750—£1,030 per annum, plus London "weighting" allowance, to work on a full and varied programme.
Application forms, to be returned by 12th March, 1958, are obtainable from the Borough Engineer and Surveyor, Town Hall, Wembley. 8837

CITY OF CHESTER
DEPARTMENT OF CITY ENGINEER
Applications are invited for the post of SENIOR ARCHITECTURAL ASSISTANT. Salary £1,030 per annum, i.e., top of Special Grade for Architectural Assistants. Candidates should have passed the R.I.B.A. Final Examination, and be experienced in flat construction and high density re-development. Housing accommodation will be available for successful applicant if required. Applications with two testimonials should reach City Engineer, 49, Northgate Street, Chester, by Wednesday, 12th March, 1958. 8836

BOROUGH OF DARTFORD
Applications are invited for the appointment of PLANNING ASSISTANT. Salary Grade A.P.T. II (£725—£845), commencing at a point within the scale according to experience. A plusage rate of £20 or £30 per annum, according to age, is also paid.
Applicants should have passed the Intermediate Examination of the Town Planning Institute.
Housing accommodation available.
Applications, giving age, qualifications and experience, together with the names of three referees, should be forwarded to the Borough Engineer and Surveyor, The Bridge House, Dartford, as early as possible. 8833

COUNTY BOROUGH OF SOUTHPORT
TEMPORARY CLERK OF WORKS
Applications are invited for the temporary appointment of a Clerk of Works for an approximate period of 12-15 months, to supervise the erection of a Crematorium at Scarisbrick.
The wage is £14 14s. per week. Candidates must have a sound knowledge of all trades, setting out and levelling.
Application Forms may be obtained from the Borough Architect, 99/105, Lord Street, Southport. Forms to be returned not later than Saturday, 15th March, 1958.
R. EDGAR PERRINS,
Town Clerk.
8827

LONDON COUNTY COUNCIL
ARCHITECT'S DEPARTMENT
Applications are invited for the position of THE ASSISTANT ARCHITECT, GENERAL DIVISION. Salary scale £1,500—£1,800. The officer appointed will be Deputy to the Senior Architect in charge of a Division, controlling a staff of over 150, and responsible for a programme of work which includes Industrial and Office Buildings, Fire Stations, Homes for Aged, Health Buildings, Children's Homes, Town Development Housing Schemes, Crystal Palace, and Royal Festival Hall extension.
Further particulars and Application Form, returnable by 10th March, 1958, from Architect (AR/EK/8/58), The County Hall, S.E.1. 8826

CITY ARCHITECT'S OFFICE, MANCHESTER
Applications are invited for the following appointments on the permanent staff.
(1) ASSISTANT ARCHITECT/ARCHITECTURAL ASSISTANT. Salary Special Grade £750 to £1,030 per annum.
(2) ASSISTANT STRUCTURAL ENGINEER. Must be experienced in the design of reinforced concrete structures. Salary Special Grade £750 to £1,030.
(3) ASSISTANT ELECTRICAL ENGINEER. Salary Special Grade £750 to £1,030 per annum.
(4) BUILDERS ESTIMATING SURVEYOR in the Works Department. Must be experienced in the preparation of estimates for the new building work, alterations and additions, etc., arranging sub-contracts for specialist work, measurement of work on sites and checking of accounts for interim payments. Salary APT Grade III £845 to £1,025 per annum.
(5) ASSISTANT QUANTITY SURVEYOR. Salary Special Grade £750 to £1,030 per annum.
(6) QUANTITY SURVEYING ASSISTANT. Salary APT Grade I £575 to £725 per annum.
Forms of application from City Architect, Town Hall. Returnable by 14th March, 1958.
Housing accommodation for a limited period may be provided to successful candidates for certain of the senior appointments. 8860

AIR MINISTRY WORKS Design Branch require in London and Provinces ARCHITECTURAL ASSISTANTS, experienced in planning/preparation of working drawings and details for permanent and semi-permanent buildings. Salaries in London up to £1,015 per annum for men and £952 per annum for women. Somewhat lower in provinces. Starting pay dependent on age, qualifications and experience. Long term possibilities with pensionable and promotion prospects. 5-day week, 3 weeks 3 days leave a year. Liability for overseas service. Normally natural born British subjects. Write, stating age, qualifications, employment details, including type of work done, to any Employment Exchange, quoting Order No. Borough 100. 8582

BOROUGH OF TOTTENHAM
ARCHITECTURAL ASSISTANTS (Estab.), A.P.T. I—£575 to £725 p.a. plus London Weighting of £20 or £30 p.a. according to age. Applicants must have passed R.I.B.A. Intermediate examination or equivalent. Commencing salary according to ability and experience. Application form and Conditions of Appointment from Borough Engineer (AJ), Town Hall, Tottenham, N.15. Applications to be delivered by Monday, 10th March, 1958. 8853

COUNTY BOROUGH OF GREAT YARMOUTH
SCHOOLS ARCHITECT'S DEPARTMENT
Applications are invited to fill the vacancy for a temporary JUNIOR ASSISTANT A.P.T. Grade II (£725 to £845).
Candidates should have had experience in school construction.
Forms of application may be obtained from F. Jackson, A.R.I.B.A., Schools Architect, 22, Euston Road, Great Yarmouth, and completed forms must be returned by 13th March, 1958.
D. G. FARROW,
Chief Education Officer
22, Euston Road,
Great Yarmouth. 8876

Architectural Appointments Vacant

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

CO-OPERATIVE WHOLESALE SOCIETY LTD. ARCHITECT'S DEPARTMENT, MANCHESTER
APPLICATIONS are invited for the appointment of ASSISTANT ARCHITECTS with experience of work on commercial and industrial projects, capable of preparing working drawings from preliminary details. Five-day week in operation. Applications stating age, experience, qualifications and salary required to G. S. Hay, A.R.I.B.A., Chief Architect, Manchester 4. 8276

ARCHITECTURAL ASSISTANT (A.R.I.B.A.) required on the Architect's Staff of a large Industrial Group near Birmingham. Good prospects of long-term employment for experienced and capable man. Reply stating age, qualifications, experience and approximate salary to Box 8749.

OPPORTUNITY for advancement occurs for Single Young Man of Intermediate or Better Standard as SECOND ASSISTANT in Country Practice. Reply to Box 8694.

W. H. WATKINS, GRAY & PARTNERS require ASSISTANTS for interesting hospital work, pension scheme in operation. Write or phone, 57, Catherine Place, S.W.1. Victoria 7761. 8709

ARCHITECTURAL ASSISTANT. Capable of preparing working and detail drawings, take responsibility. Age, qualifications, salary expected, when available. Maidstone.—Box 8784.

ARCHITECTURAL ASSISTANT required, age about 28 years, with some 5 years' office experience. Good detailer. Inter or Final standard. 5-day week.—Write Box 8792.

ARCHITECTURAL ASSISTANT required, of good all-round experience. Must be capable draughtsman. Salary £750 per annum, according to experience.—Walter P. P. Grant, 565, London Road, North Cheam, Surrey. Telephone No. Derwent 0512. 8797

ARCHITECTURAL ASSISTANT required in Architect's Department of Bank in Manchester. Varied work, contemporary outlook: opportunity for interior and furniture design in high quality materials. Please state full particulars and salary required.—Box 8823.

SWANSEA, SOUTH WALES.—ARCHITECTURAL ASSISTANT required for small private office. Opportunity for School-trained Architect or Student with interest and ability in Design. Office experience not essential. Salary range £400 to £850.—Apply M. V. H. Watkins, A.R.I.B.A., 28, Walter Road, Swansea. 8774

ARCHITECTS with varied practice in Scotland and Midlands require ASSISTANT of final or intermediate standard. Apply stating age, experience and salary required. A. Bracewell & Son, Architects, Tillicoultry. Tel. 301. 8861

PRE-FINAL ASSISTANT (Male) required. Opportunity to gain all round experience taking charge of jobs in office and on site. Salary £650 p.a., 5-day week. Geoffrey Shires, 75, Victoria Street, S.W.1. Tel. ABBey 4909. 8865

ARCHITECT'S DEPARTMENT of BOOTS PURE DRUG CO. LTD., NOTTINGHAM, need:
(a) ASSISTANT ARCHITECTS.
(b) ARCHITECTURAL ASSISTANTS.
Qualifications are of less importance than ability. The work involved is of an interesting character ranging from large new shops to the extension and alteration of existing ones in all parts of the British Isles. Generous initial salaries and prospects of advancement for competent and experienced people. The posts are permanent and there is an attractive contributory pension scheme. Five-day week, sports, welfare and canteen facilities.
All applicants should write to the Chief Architect, Boots Pure Drug Co. Ltd., Station Street, Nottingham, giving full particulars which should include—and in this order—name, address, age, whether married or single, present appointment, training, details of experience and salary required. 8856

LANCHESTER & LODGE urgently require ASSISTANT, around Inter. standard.—Write full particulars, 10, Woburn Square, London, W.C.1. 8832

ASSISTANT required with office experience West End Office. Shaw & Lloyd, 74 Gt. Russell St., W.C.1. Museum 9693. 8864

POWELL AND MOYA require ASSISTANTS to work on a large new General Hospital. Applicants should possess sound knowledge of current building practice and should have experience of the preparation of working drawings. Vacancies also exist for experienced ARCHITECTURAL DRAUGHTSMEN who are able to produce accurate, clear and competent working drawings. Salaries by arrangement within a range of £500 to £900 p.a. Apply by letter to 36, Great Smith Street, London, S.W.1. 8857

RONALD WARD AND PARTNERS require ARCHITECTURAL ASSISTANTS with contemporary outlook, and willing to use own initiative. Salary range £600 to £1,000. Congenial working conditions, five-day week. Apply 29, Chesham Place, Belgrave Square, S.W.1. Telephone Belgravia 3561. 8859

CLERK OF WORKS is required for the building of a new Roman Catholic Infants' School for 280 pupils at Whitehaven, Cumberland, due to start in May. This forms part of a School Programme which will possibly extend over the next five to six years. Salary will be 16 gns. a week, this is inclusive of 2 gns. for subsistence. Applications, together with copies of three recent testimonials, should be forwarded to: N. M. Phillips, A.R.I.B.A., Architect, 43, Oxford Street, Workington, Cumberland, not later than the 8th April, 1958. 8829

GOLLINS, MELVIN, WARD & PARTNERS have vacancies for Junior Staff. Five-day week, quarterly bonuses, pension scheme. Telephone Welbeck 9991. 8840

ARCHITECTURAL ASSISTANT required immediately for a busy varied practice with excellent opportunities for advancement. Salary £500 to £700 per annum according to experience. Apply in writing stating age and experience to A. J. Bloomfield, A.R.I.B.A., 12a, High Street, Billericay, Essex. 8839

JUNIOR ASSISTANT required for general Architectural practice in S.W. London. Maximum commencing salary £7 per week. Reply with full particulars to Box 8838.

ARCHITECTURAL ASSISTANT required in Westminster office for university Science Laboratories. Good draughtsman with knowledge of building construction. At least five years' office experience. Reply stating salary desired. Box 8831.

VERNER REES, LAURENCE & MITCHELL have vacancies for ARCHITECTURAL ASSISTANTS with at least three years' office experience. Write 51, Queen Caroline Street, W.6. 8830

ARCHITECT'S Department in City requires two ASSISTANTS of about Intermediate R.I.B.A. standard with some office experience. Salary range £600—£800 and work of an interesting and varied nature. Secure future for suitable applicants. Write giving particulars of age, experience and salary required. Box 8828.

ARCHITECT'S ASSISTANT, Intermediate standard, general practice and interesting work, salary and conditions to be arranged. Apply, details, etc., to Roy M. Jones, A.R.I.B.A., 6, Market Place, Rugby. 8845

ARCHITECT'S ASSISTANT required, Intermediate standard, for general private practice in South West England. Full particulars to Box 8844.

ARCHITECT'S ASSISTANT (man or woman) with some office experience required in small modern office. Please write, giving full particulars and salary required, to Watson & Coates, 6, Gray's Inn Square, W.C.1. 8846

ARCHITECT'S ASSISTANT required for the London Office of a firm of Architects with interests throughout the country, must be of Intermediate R.I.B.A. or R.I.C.S. standard. Superannuation scheme. Apply to: Cotton, Ballard & Blow, 5, Baker Street, London, W.1. 8872

ASSISTANT ARCHITECT for long-established practice on schools, licensed premises, houses, etc. Must have good standard of presentation, be able to work on own initiative and take charge of small team. The position offers excellent opportunities. Salary £850 × £50—£1,000 per annum. Apply giving full particulars to Dyson, Cawthorne & Coles, Architects, 25, Regent Street, Barnsley, Yorks. 8871

ARCHITECTURAL ASSISTANT required for interesting work in Manchester Design Contractor's Office. Salary £650—£850 p.a., dependent upon qualifications and experience. Apply Box 8870.

ARCHITECTURAL ASSISTANTS approaching Final standard required in busy Birmingham Office. Excellent prospects and salaries for men with initiative. Box 8859.

SENIOR ARCHITECT'S ASSISTANT required by a small, busy Office in S.W. London. Ability to take responsibility. Write giving age, salary required, and experience to Box 8868.

CAPABLE ARCHITECTURAL ASSISTANT required, must be good draughtsman, salary £700. Scott and Westmoreland, F./F.R.I.B.A., 47 Bedford Row, W.C.1. CHAncery 7790. 8867

YOUNG ASSISTANT required who is prepared to help in newly formed practice at all stages of project development. Tel: Hugh C. Duncan, A.R.I.B.A., GRO 5712. 8866

Architectural Appointments Wanted

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

CHIEF DESIGNER (28), married, keen, with initiative and imagination, will consider anything (in Scotland)—administrative, technical, commercial, professional, or sales—offering responsibility and maximum opportunity. All enquiries welcomed and answered. Educated to R.I.B.A. Inter., now preparing R.I.B.A. Exams. Comprehensive experience at Architect's practice. Experience and ability all aspects contemporary shop, store, interior, exhibition, and allied design. Min. £1,200 p.a.—Box 8795.

SENIOR ASSISTANT, age 36 years, R.I.B.A. Final Standard, over 12 years' varied office experience comprising Domestic, Industrial and Church Works, Offices, Shops and alteration work generally. Seeks responsible position in private practice (or company). Keen to take interest in output of work. Salary £900. Box 8843.

ASSOCIATE, 32, seven years' qualified experience of schools, housing, general work, seeks partnership or position leading thereto in progressive office. Box 8842.

SENIOR ASSISTANT (37), comprehensively experienced, accustomed to complete administrative responsibility for large and small contracts, seeks post with future. Small varied practice needing honest hard work preferred. Will consider low starting salary providing effort and capability receive eventual rewards compatible with results. Box 8873.

A.R.I.B.A., wide experience, seeks responsible position. Car-owner. Salary £1,200 p.a. Box 8862.

Other Appointments Vacant

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SHOP FITTINGS. Applications requested for position (in Scotland) of SHOP FITTINGS SUPERVISOR, conversant all aspects of Shop Fitting Work including details, Costing, and with outstanding ability in Contemporary Design, Lay-out and Presentation. Box 8354.

IMPERIAL CHEMICAL INDUSTRIES LIMITED requires a REPRESENTATIVE to advise clients on colour treatment of factories and other large buildings. Applicants must have had Art and/or Architectural training and possess outstandingly good colour sense with ability to convey ideas clearly and enthusiastically to others. Good presence and speech are essential. Age 25-35. Salary according to age and experience. Pensionable post. Apply giving full particulars of experience to the Staff Officer, Imperial Chemical Industries Limited, Paints Division, Wexham Road, Slough, Bucks. 8841

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WANTED urgently—back number of Architectural Review dated February 1956. Willink & Dod, F./A.R.I.B.A., Cunard Building, Liverpool, 3. 8858

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