THE ARCHITECTS' JOURNAL

standard contents

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

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THE ARCHITECTURAL PRESS

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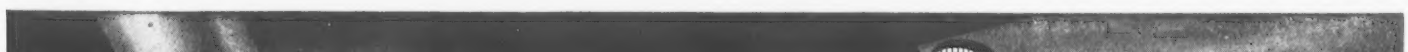
★ A glossary of abbreviations of Government Departments and Societies and Committees of all kinds, together with their full address and telephone numbers. The glossary is published in two parts—A to Ie one week, Ig to Z the next. In all cases where the town is not mentioned the word LONDON is implicit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

AA	Architectural Association, 34/6, Bedford Square, W.C.1.	Museum 0974
AAI	Association of Art Institutions. Secy.: W. Marlborough Whitehead, " Dyneley," Castle Hill Avenue, Berkhampstead Herts.	
ABS	Architects' Benevolent Society. 66, Portland Place W.1.	Langham 5721
ABT	Association of Building Technicians. 5, Ashley Place, S.W.1.	Victoria 0447-8
ACGB	Arts Council of Great Britain. 4, St. James' Square, S.W.1.	Whitehall 9737
ADA	Aluminium Development Association. 33. Grosvenor Street, W.1.	Mayfair 7501/8
ArchSA	Architectural Students' Association. 34/36, Bedford Square, W.C.1.	
ARCUK	Architects' Registration Council. 68, Portland Place, W.1.	Langham 8738
BAE	Board of Architectural Education. 66, Portland Place, W.1.	Langham 5721
BATC	Building Apprenticeship and Training Council. Lambeth Bridge House, S.E.1.	Reliance 7611, Ext. 1706
BC	Building Centre. 26, Store Street, 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
BRDB	British Rubber Development Board. Market Buildings, Mark Lane, E.C.3.	Mansion House 9383
BRS	Building Research Station. Bucknalls Lane, Watford.	Garston 2246
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. 4, Vernon Place, W.C.1.	Holborn 8146/7
CABAS	City and Borough Architects Society. C/o Johnson Blackett, F.R.I.B.A., Civic Centre, Newport, Mon.	Newport 5491
CAS	County Architects' Society. C/o F. R. Steele, F.R.I.B.A., County Hall, Chichester.	Chichester 3001
CCA	Cement and Concrete Association. 52, Grosvenor Gardens, S.W.1.	Sloane 5255
CCP	Council for Codes of Practice. Lambeth Bridge House, S.E.1.	Reliance 7611
CDA	Copper Development Association. Kendals Hall, Radlett, Herts.	Radlett 5616
CIAM	Congrès Internationaux d'Architecture Moderne. Doldertal, 7, Zurich, Switzerland.	
COID	Council of Industrial Design. Tilbury House, Petty France, S.W.1.	Abbey 7080
CPRE	Council for the Preservation of Rural England. 4, Hobart Place, S.W.	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
DPT	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. (Temporary address) 96, Madrid Road, S.W.13.	Riverside 6437
FASS	Federation of Association of Specialists and Sub-Contractors, Artillery House, Artillery Row, S.W.1.	Abbey 7232
FBBDO	Fibre Building Board Development Organisation, Ltd., Melbourne House, Aldwych, W.C.2.	Temple Bar 4561
FBI	Federation of British Industries. 21, Tothill Street, S.W.1.	Whitehall 6711
FC	Forestry Commission. 25, Savile Row, W.1.	
FCMI	Federation of Coated Macadam Industries. 37, Chester Square, S.W.1.	Sloane 1002
FDMA	The Flush Door Manufacturers Association Ltd. Trowell, Nottingham.	Ilkeston 623
FLD	Friends of the Lake District. Pennington House, nr. Ulverston, Lancs.	Ulverston 201
FMB	Federation of Master Builders. 26, Great Ormond Street, Holborn, W.C.	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 4041
GBPA	Gypsum Building Products Association, 11, Ironmonger Lane, E.C.2.	Monarch 8888
GC	Gas Council. 1, Grosvenor Place, S.W.1.	Sloane 4554
GG	Georgian Group. 27, Grosvenor Place, S.W.1.	Sloane 2844
HC	Housing Centre. 13, Suffolk Street, Pall Mall, S.W.1.	Whitehall 2881
IAAS	Incorporated Association of Architects and Surveyors. 75, Eaton Place, S.W.1.	Sloane 5615
ICA	Institute of Contemporary Arts. 17-18, Dover Street, Piccadilly, W.1.	Grosvenor 6186
ICE	Institution of Civil Engineers. Great George Street, S.W.1.	Whitehall 4577
IEE	Institution of Electrical Engineers. Savoy Place, W.C.2.	Temple Bar 7676
IES	Illuminating Engineering Society. 32, Victoria Street, S.W.1.	Abbey 5215



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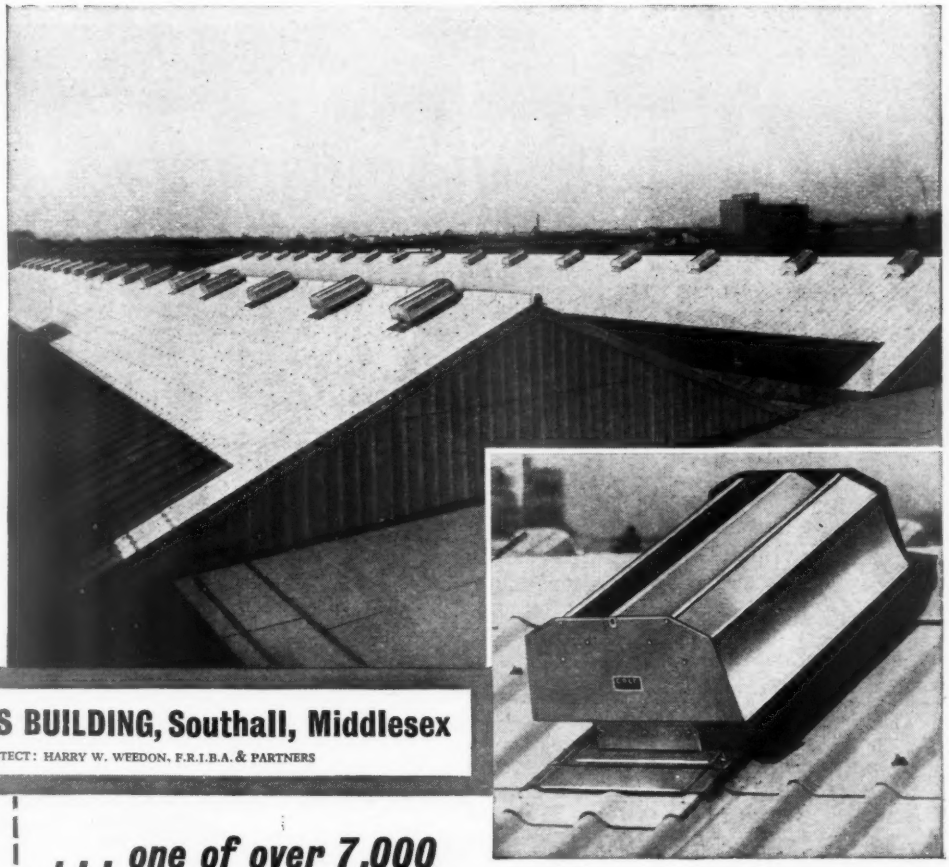

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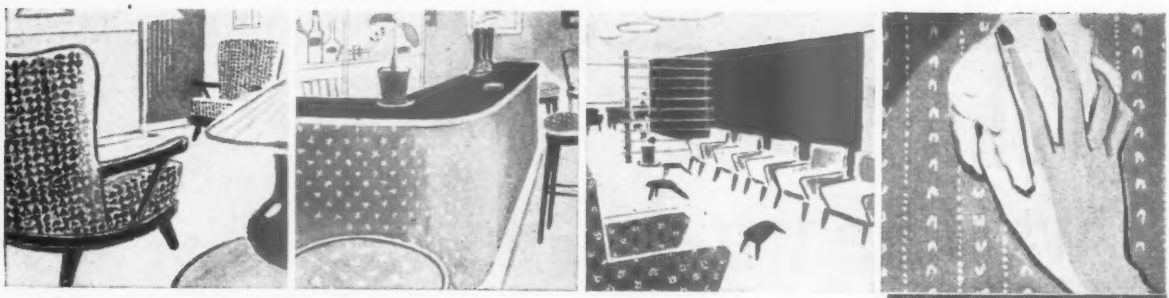

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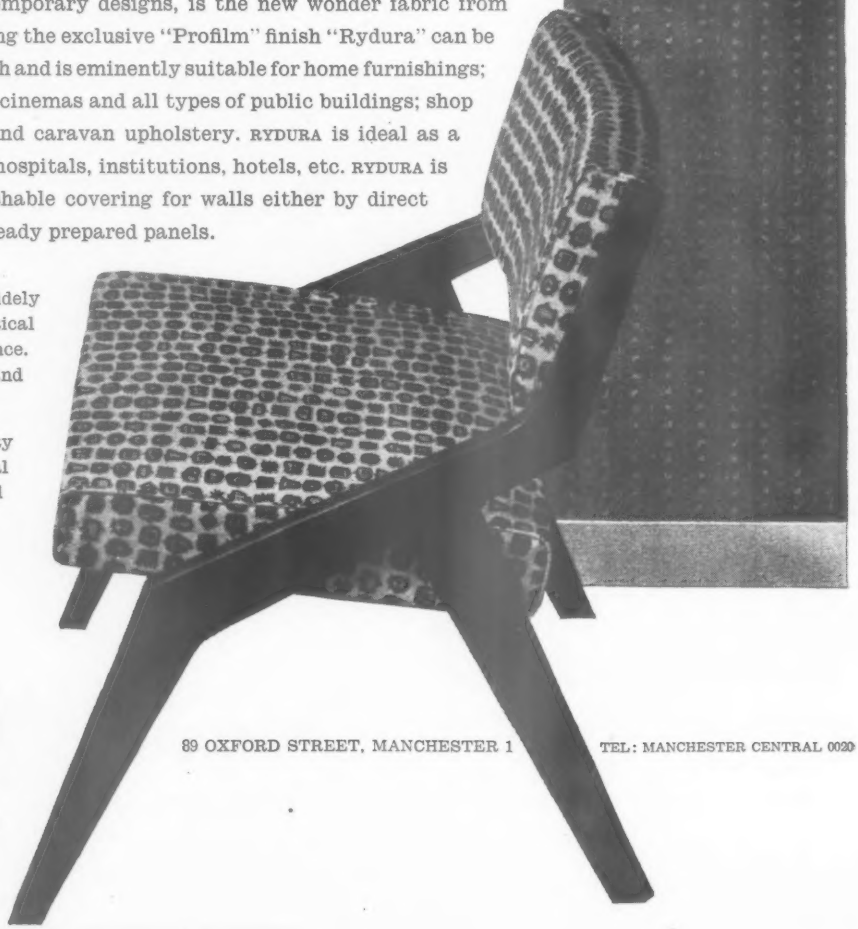

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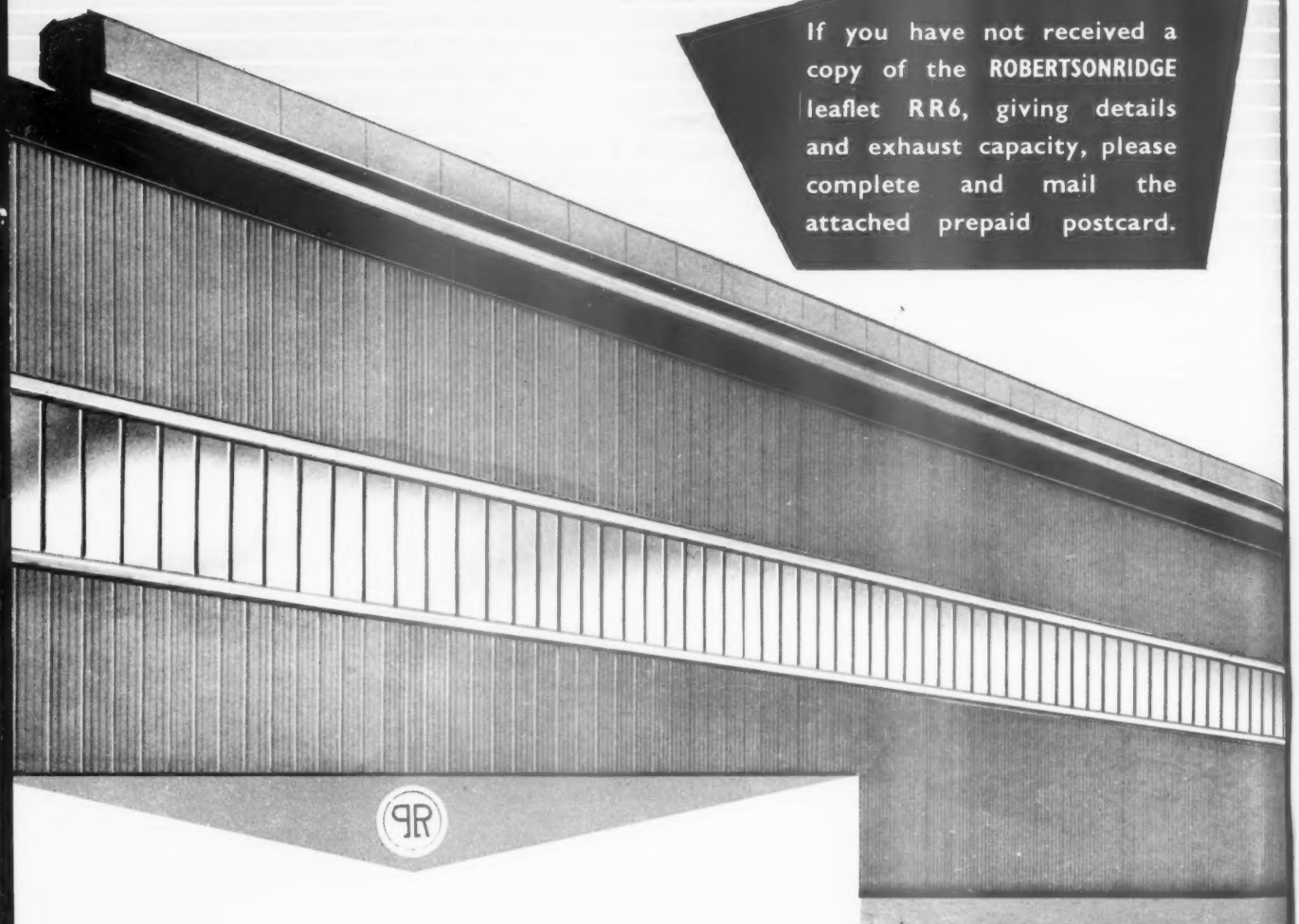

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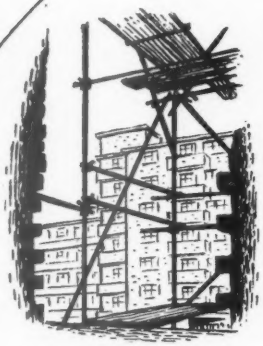

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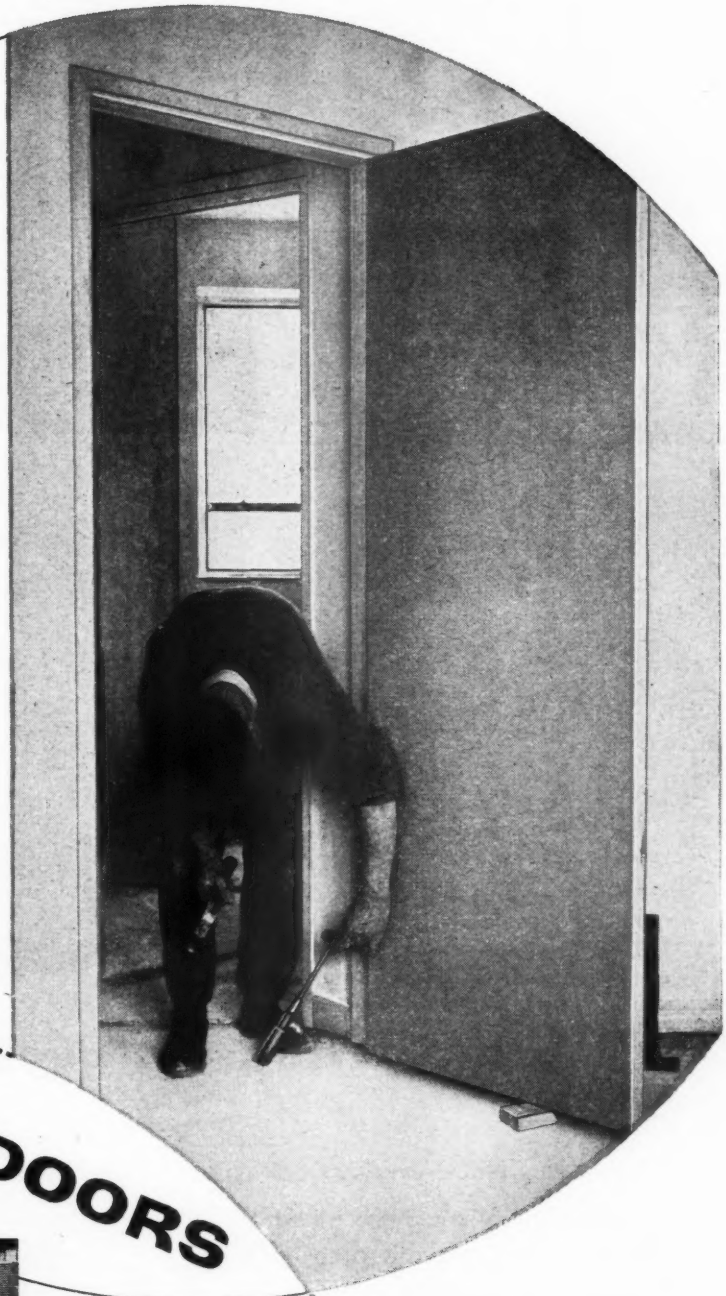

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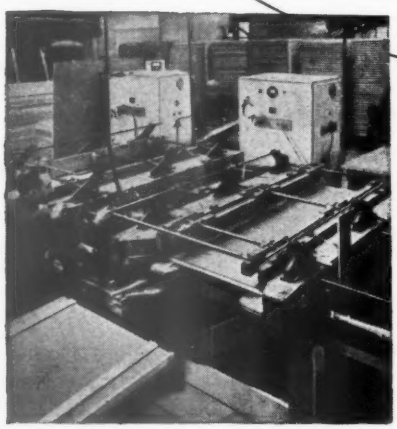

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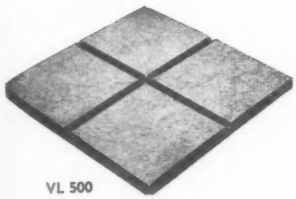

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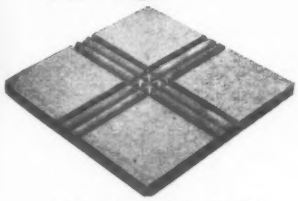

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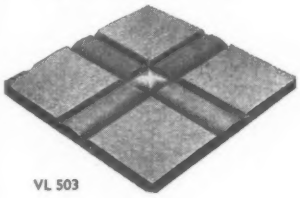
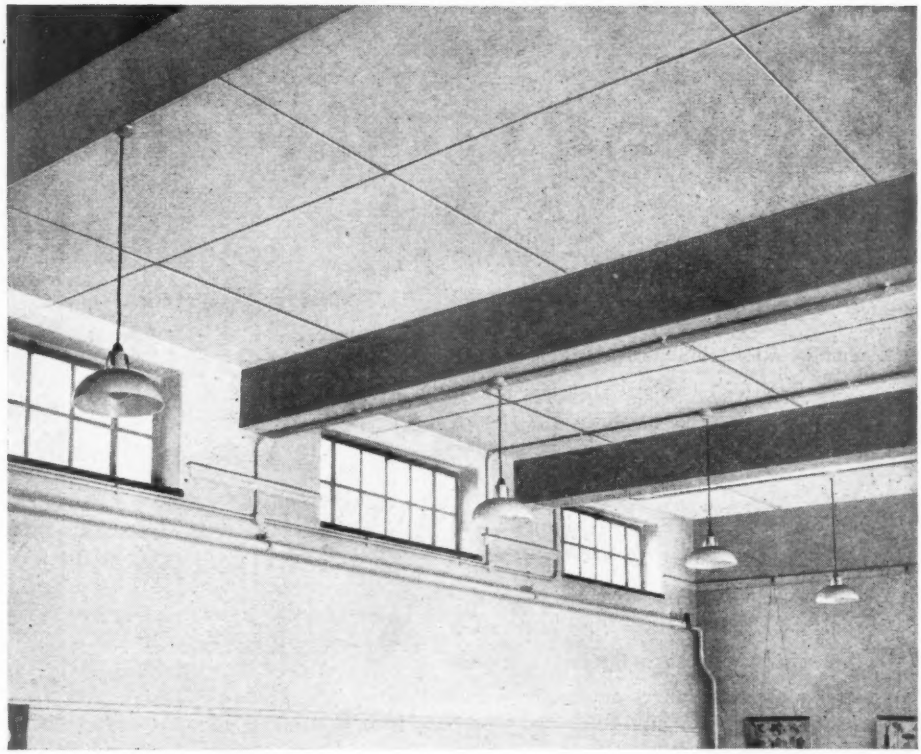


VL 503



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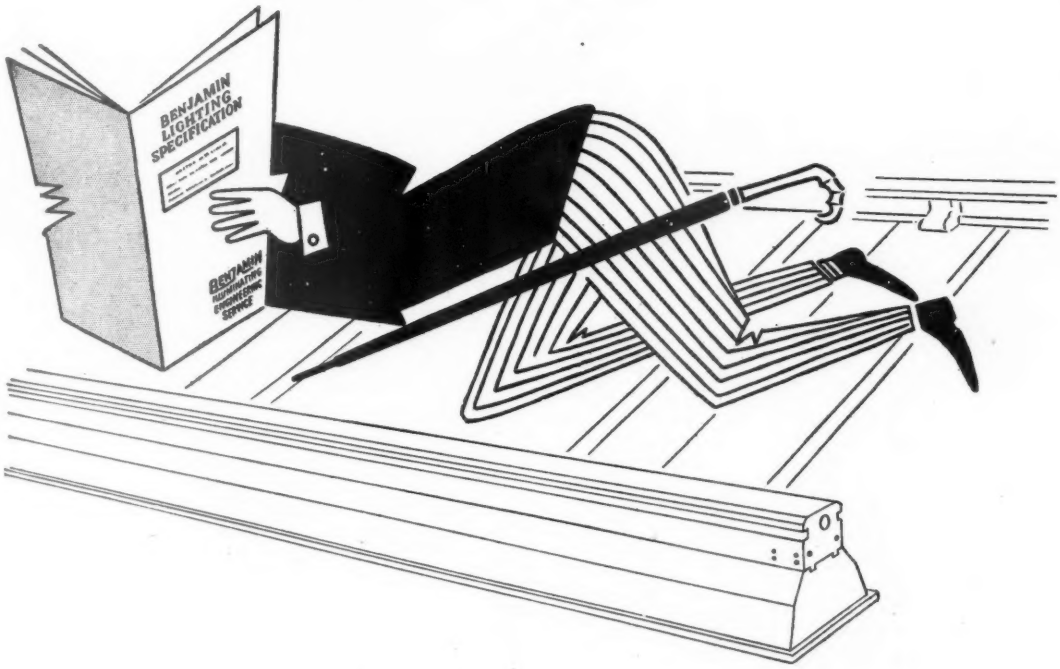

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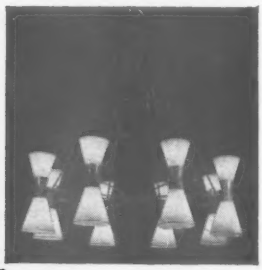
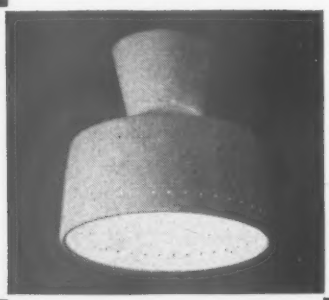
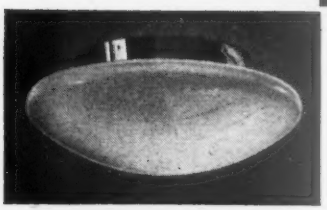
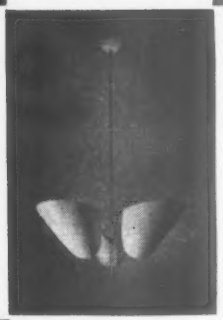
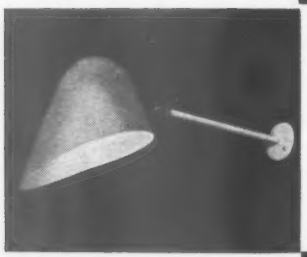


Lighting Fittings









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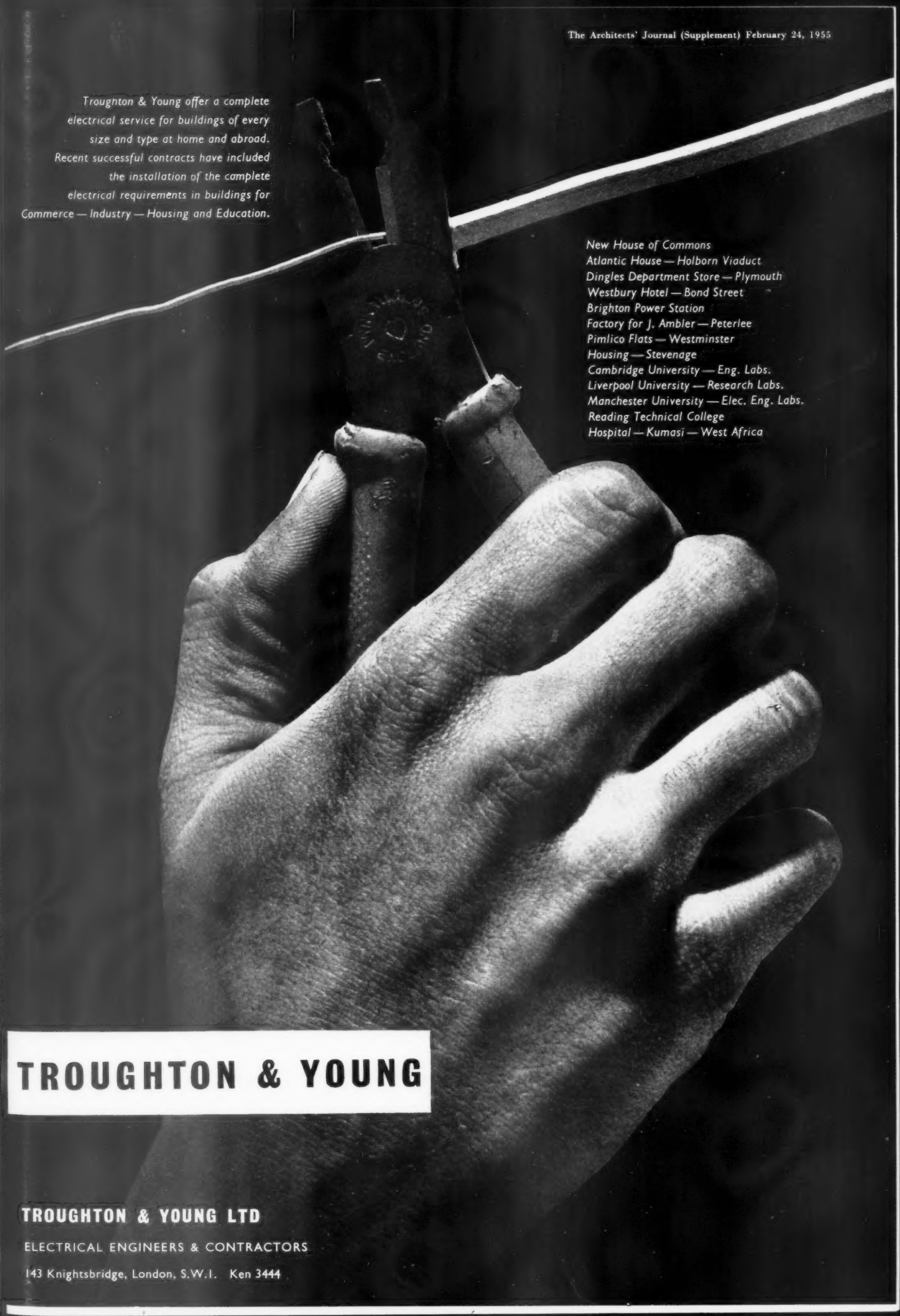

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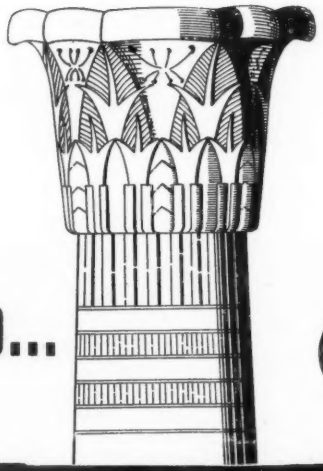
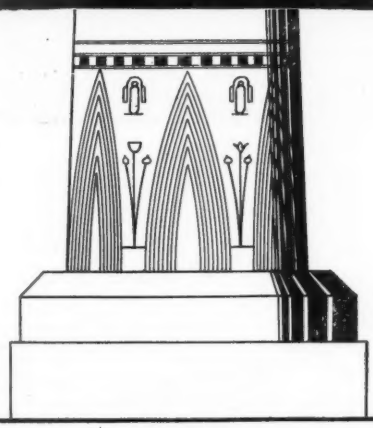


EGYPTIAN to... *Elegance*

Illustration : Circular Laylights by Luxfer installed in Maple's London Showroom.



and every era of design where trueness of line is essential Luxfer devote themselves to the manufacture of all constructions through which daylight is admitted into a building.

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PATENT GLAZING

Interior View of Factory

This is a modern factory for wool spinning and the process calls for fairly high humidity together with controlled temperature.

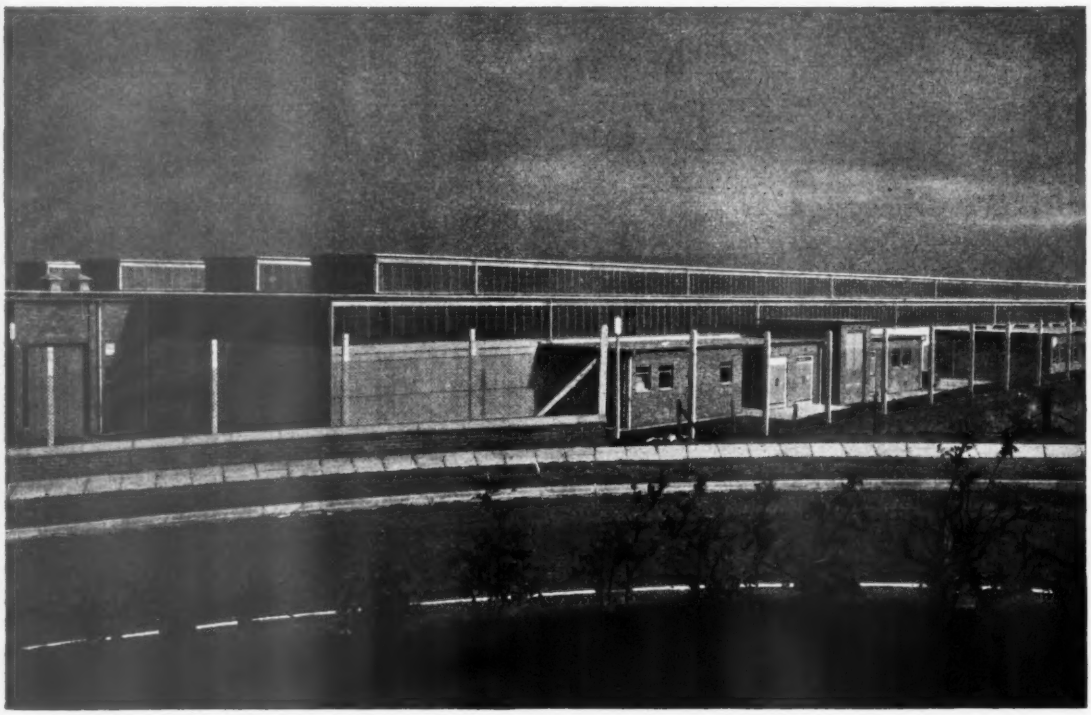
DOUBLE PATENT GLAZING was used to minimize the possibility of fluctuation in temperature through heat losses and also to avoid the excessive condensation which would otherwise occur under such conditions.

The thermal insulating and other special properties of double patent glazing enabled the Architects to air-condition the factory and thus achieve the most advantageous working conditions both for the process and the operatives.

Architects: William Holford & Partners, Liverpool & London

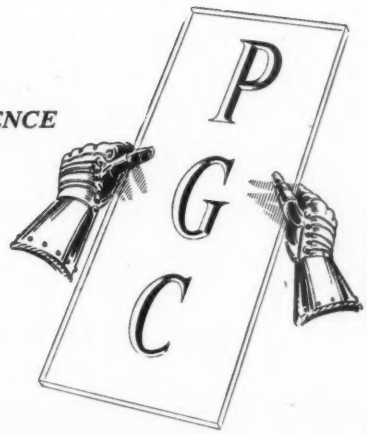
SPECIFICATIONS

DOUBLE PATENT GLAZING IN THE NEW JEREMIAH AMBLER FACTORY AT PETERLEE FOR THE NORTH EASTERN TRADING ESTATES LTD.



External View of the Factory

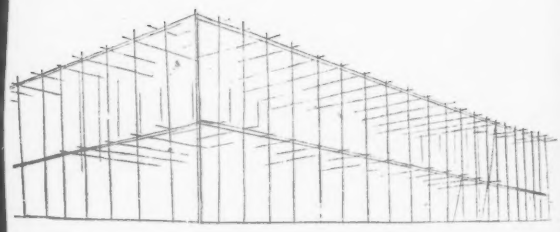
ISSUED BY
THE PATENT GLAZING CONFERENCE
BURWOOD HOUSE
CAXTON STREET
LONDON, S.W.1



Contractor: Bovis Limited, London, W.1

—THERE'S MR. PHILLIMORE OUR CHIEF DESIGNER . . .

in that briefcase there's a notion to give that new factory 24-hours-a-day efficiency



What's inside? Phillimore's plan (yours—if you design or re-fit factories) to prevent that new factory he's working on from running into timing troubles. Full details, in fact, of Smiths Master Clocks. Important? Yes, indeed—for in every factory time means efficiency, and that means money saved. And for perfect timing you could install no better master clock than Smiths. For they are utterly reliable—their accuracy does not depend on the mains. That is vital—for every time contrivance in the building is linked to the master clock. Factory hooter. Wall clocks. Time recorders. Each one is a slave to that one clock. Only a pendulum clock is capable of the perpetual accuracy needed for such a vital job. And Smiths make just such *invariably* efficient master clock pendulum movements. For Smiths are known the world over for perfection in time. Already many large concerns rely on them alone. Can Smiths help *you?* Details will gladly be sent to you on request.

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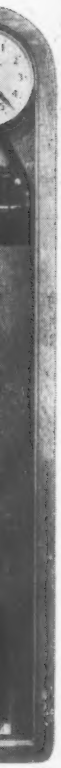


AJ2

The Glass Age Development Committee

A committee of architects and engineers, convened by Pilkington Brothers Limited, is making proposals for the development of the Soho Area, which are being published in these advertisements.

This Glass Age Development Committee consists of:
G. A. Jellicoe, F.R.I.B.A., Edward D. Mills, F.R.I.B.A., Ove Arup & Partners.

THE SOHO PROJECT—4

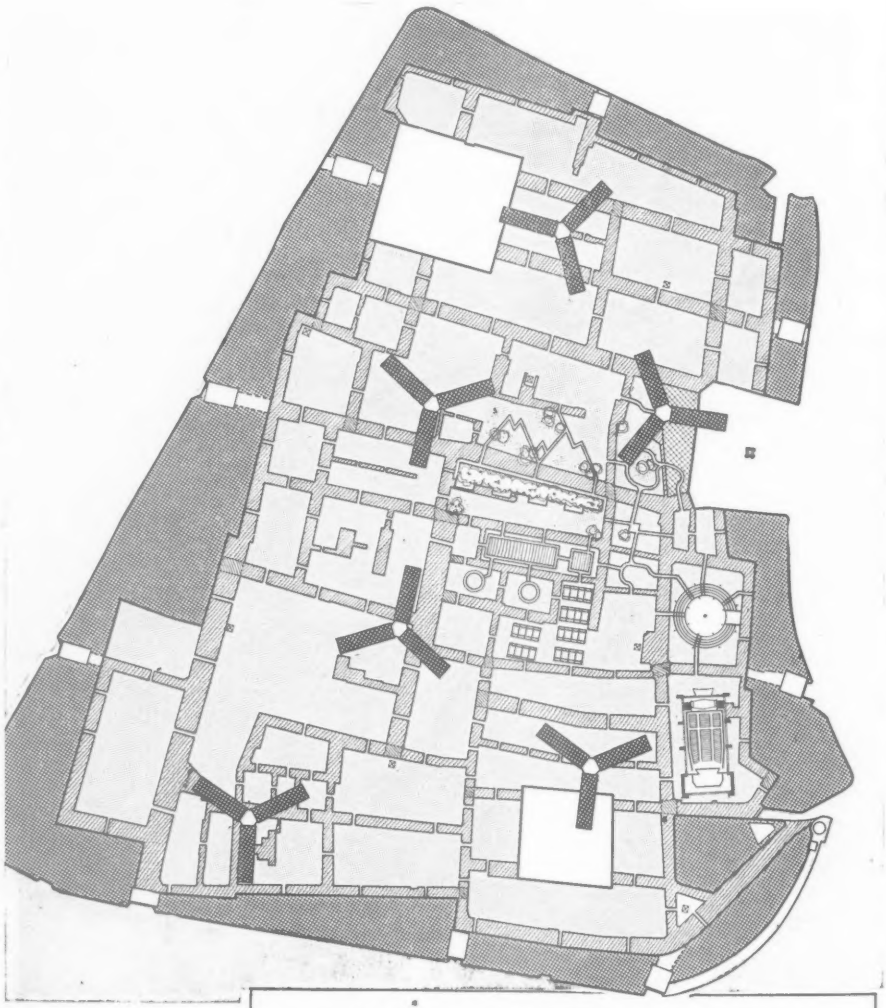
The three main development proposals are:

i To create a great weather-protected and air conditioned shopping and office precinct, free of traffic but accessible for goods, private cars, helicopters, and existing public communications.

ii To create six 24-storey blocks of good-class residential flats.

iii To create a spacious open-air entertainment centre, as a supplement to the existing indoor entertainment.

All the proposals made for this project are practical possibilities. The techniques and materials to execute them exist now. A preliminary survey of the project and details of the Sub-Basement and the Ground Floor or Street Level have already appeared. Final details are given on these two pages.



KEY TO GARDEN LEVEL PLAN

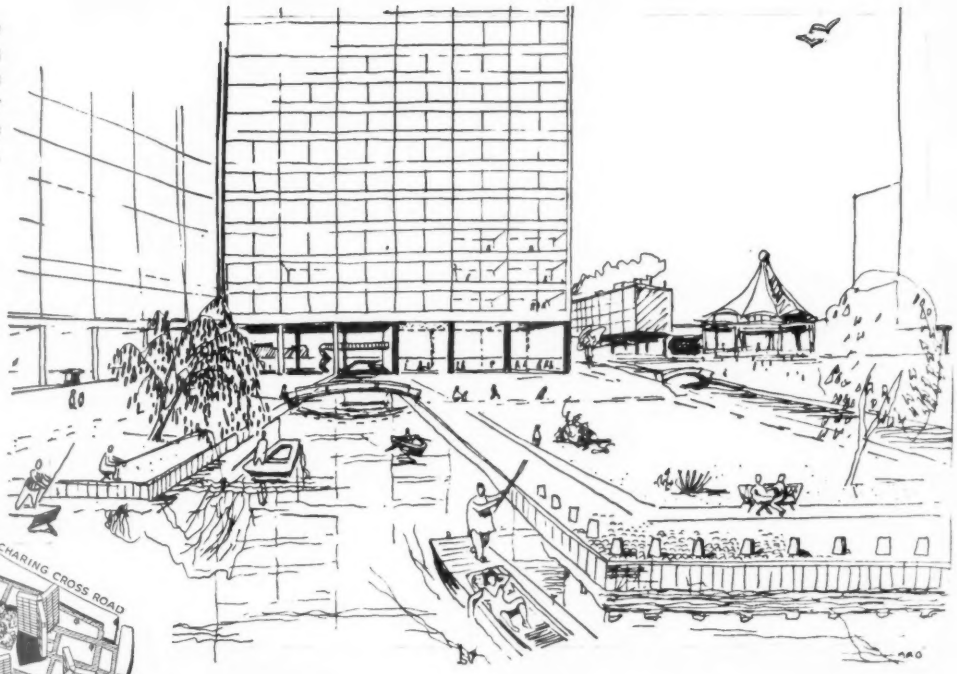
Towers. Gardens.

Helicopter Landing Stages. Lifts from Lower Basement.

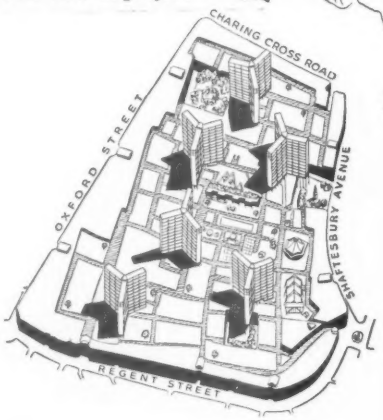
GARDEN LEVEL

This shows the residential flats rising from the Soho water gardens. The design of the flats is based on a combination of maisonettes and flats, which, by reducing the number of stops, reduces the number of lifts required. This makes the height of the tower economical in relation to the central core. The private helicopter garages are seen at the top of the building. Helicopters will drive straight into their own garages without the necessity of running on the flat roof. This flat roof covers a general purpose helicopter park.

The view across the Soho gardens looking towards the private garden of the flats. Note the trees, for which soil pockets have been designed in the roof.



General view of project



Another view of the Soho gardens looking across the bathing pool, with its artificial waves. (Below this glass-bottomed pool is the central market, shown in the previous report.)

STAIRWAY TO THE STARS

This staircase at the Empire Theatre, Liverpool, is pounded by heavy traffic twice nightly, six nights every week—not counting matinees!

That's why Ferodo Stairtreads have been fitted. They do a double job . . . speeding the feet of hurrying theatregoers by providing a firm, reassuring grip under foot, and also protecting the carpeting by saving wear and tear on the stair edges.

Ferodo Stairtreads are practically unaffected by hard and continual use. One set fitted at the University Union, Manchester, and only recently renewed, had been down for 33 years! Cleaning is speedy and simple; a quick wash or brush down soon restores all their good looks.

Specify Ferodo Stairtreads for your next interior design. There's a wide range of colours to choose from, and you are sure to find one that will merge into, or even enhance your colour scheme. All the information you need . . . prices, colours, types and method of ordering . . . is in the Ferodo Stairtread Catalogue No. 888.

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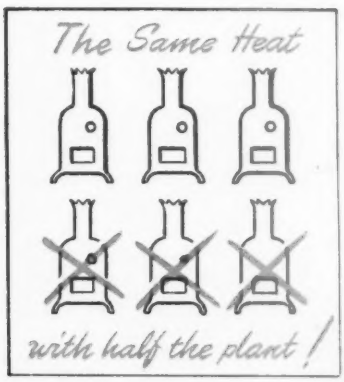

Before deciding to install this lining of ¼" "Asbestolux" board, backed by inorganic mat, it had been planned to use six boilers for heating at Germiston Works, Glasgow. *With* "Asbestolux", three boilers only suffice. Average saving on coke for three boilers during the 26 winter weeks is £3,520. Write for details of the heat-insulating and structural advantages of "Asbestolux" for every type of industrial and domestic application.

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PROVISIONALLY PATENTED

self closing
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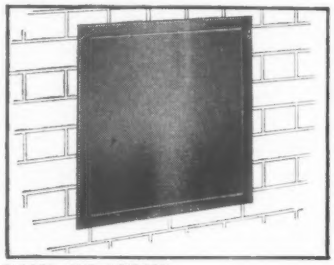
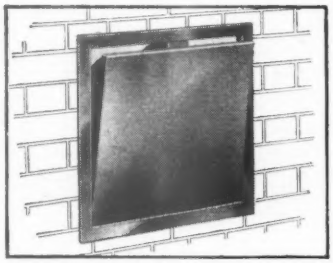
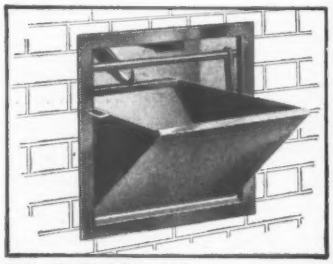
THE FINCH FUEL HOPPER IN OPERATION



CLOSED AND LOCKED



SET FOR OPENING BY COALMAN



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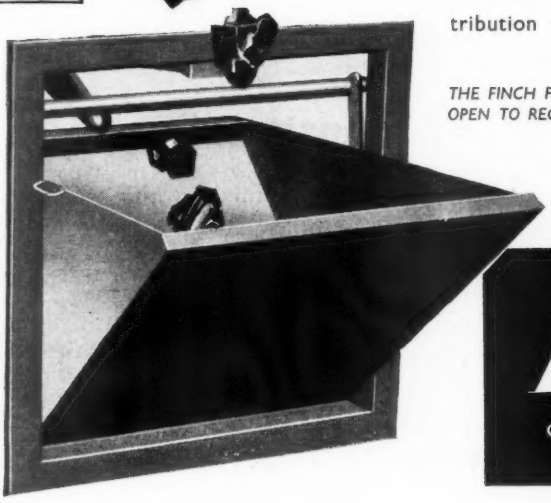
The Finch Fuel Hopper is the result of an architect's request to design and manufacture a fuel hopper for a block of flats. The specification was for a fuel hopper which was free from projecting handles and padlock fastenings, possessed of a locking device which could not be opened by unauthorised persons and able to operate in such a manner that it could not at any time foul the fuel.

The Finch designer solved this problem and thus added another practical contribution to the industry's progress.

THE FINCH FUEL HOPPER OPEN TO RECEIVE FUEL



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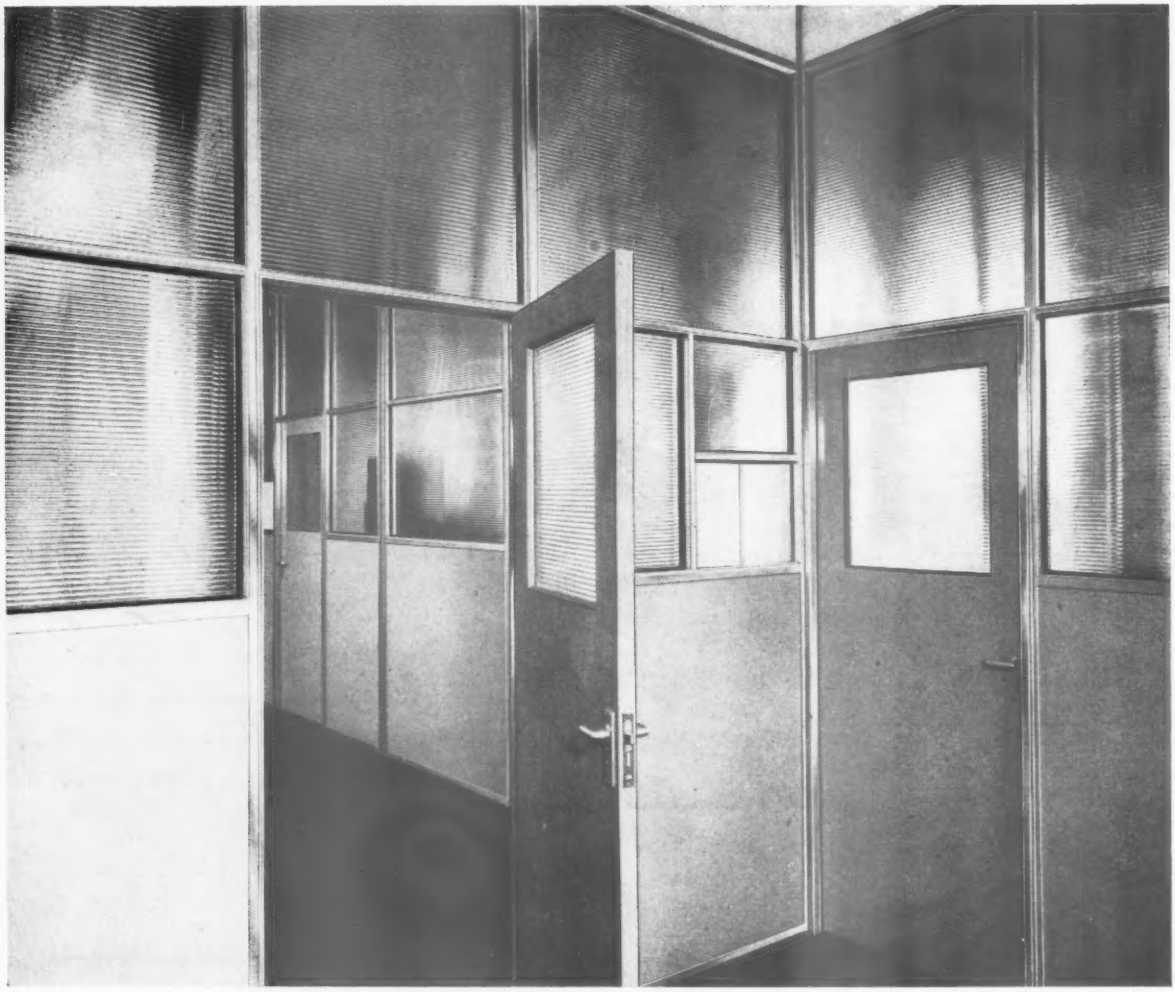

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● *Type 'F' Partition is the latest addition to the Anderson range. The framing, formed of extruded aluminium sections, embodies special features including rubber glazing beads and rubber inserts in architraves to eliminate noise and vibration. Choice of panelling may be made from a variety of attractive sheet materials. Enquiries are invited. Please ask for literature.*

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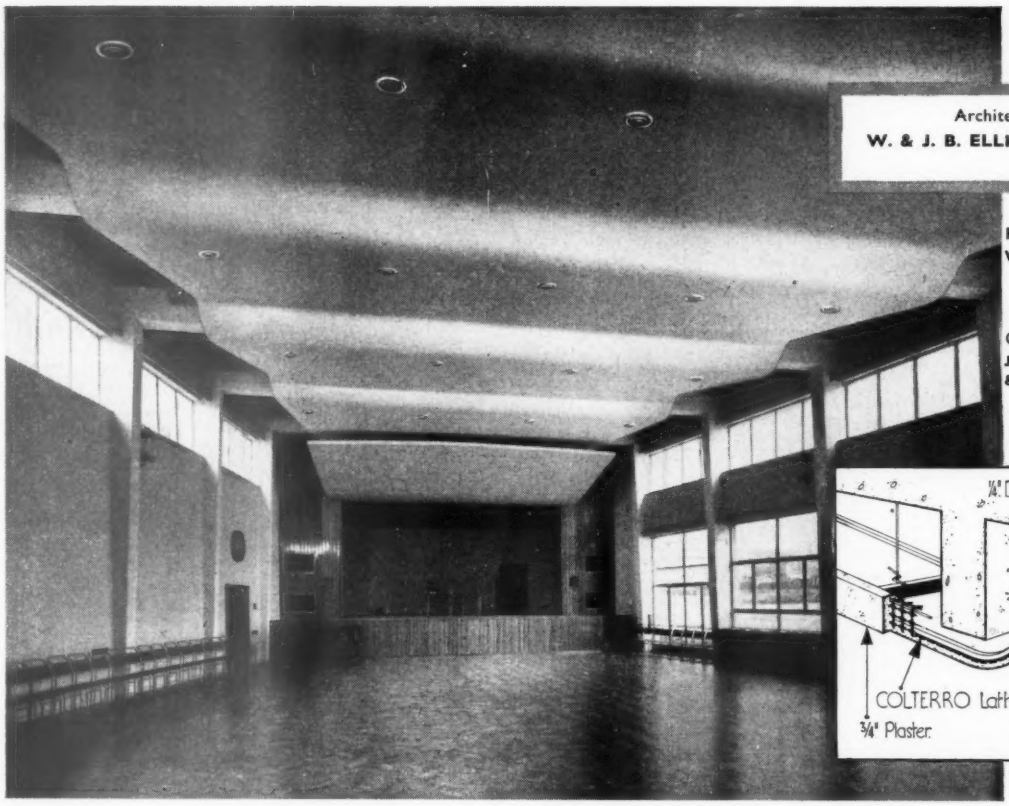

Architects:
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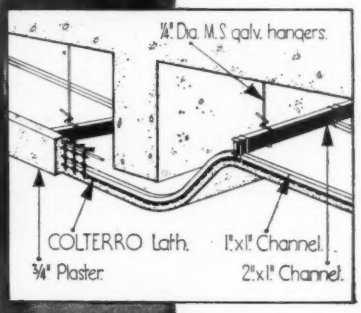

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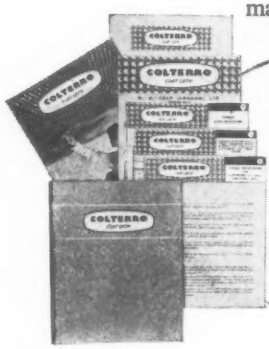

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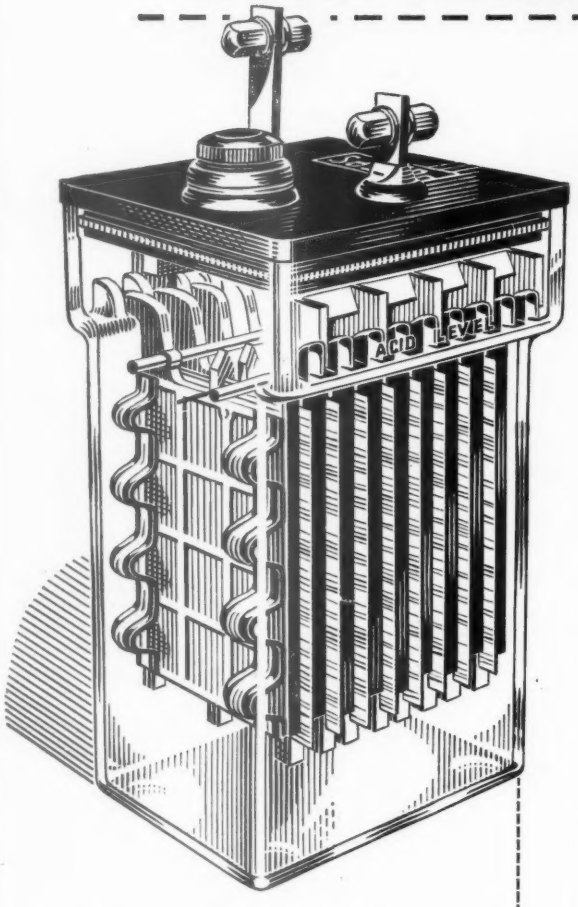

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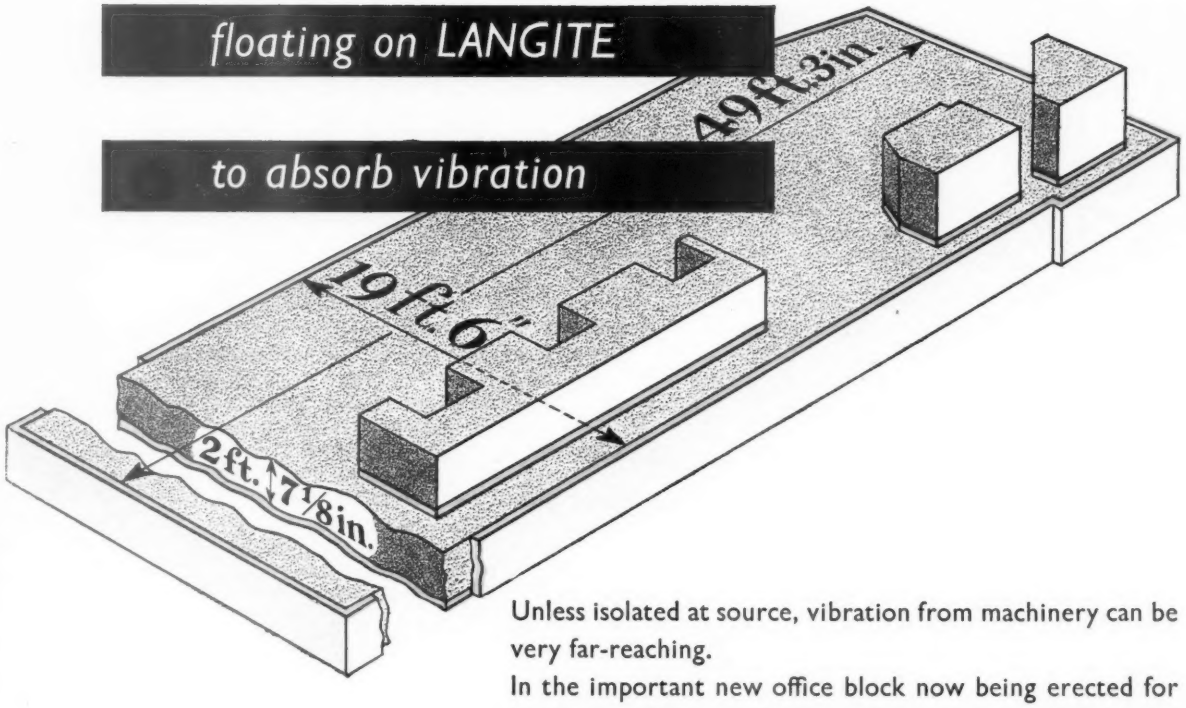

Unless isolated at source, vibration from machinery can be very far-reaching.

In the important new office block now being erected for the Diamond Trading Company Ltd., on the west corner of Holborn Viaduct, Langite cork pads are being used to float the whole anchor slab of the lift motor room, completely insulating it against the transmission of vibration to the rest of the building, or adjacent property. In addition, the gear plinths will be similarly treated.

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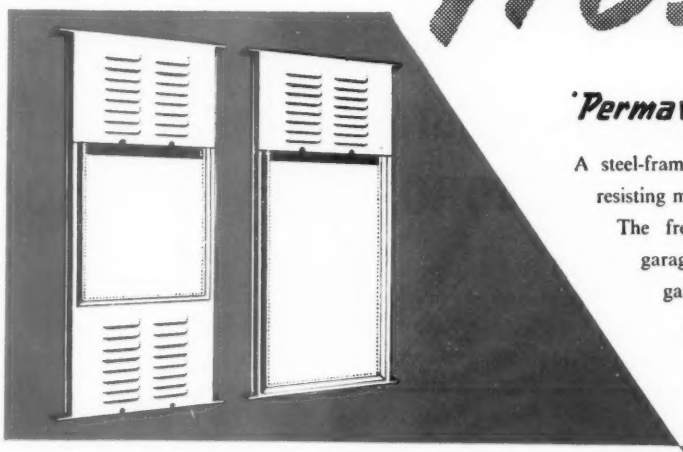

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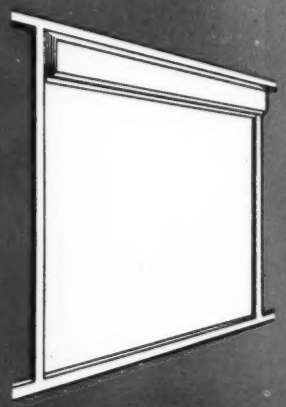

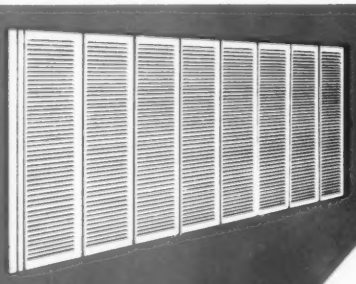

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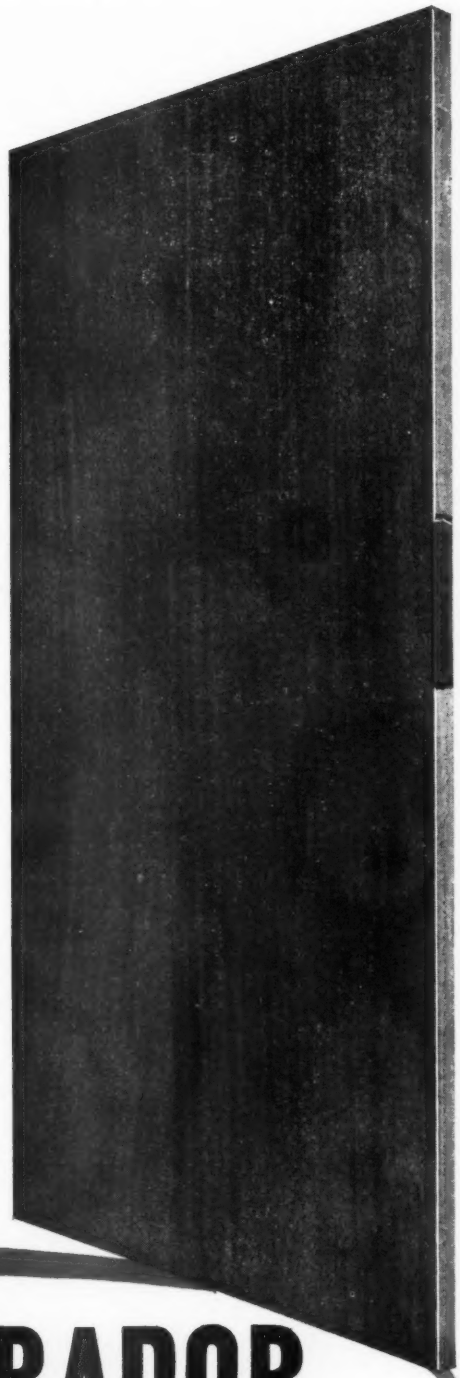

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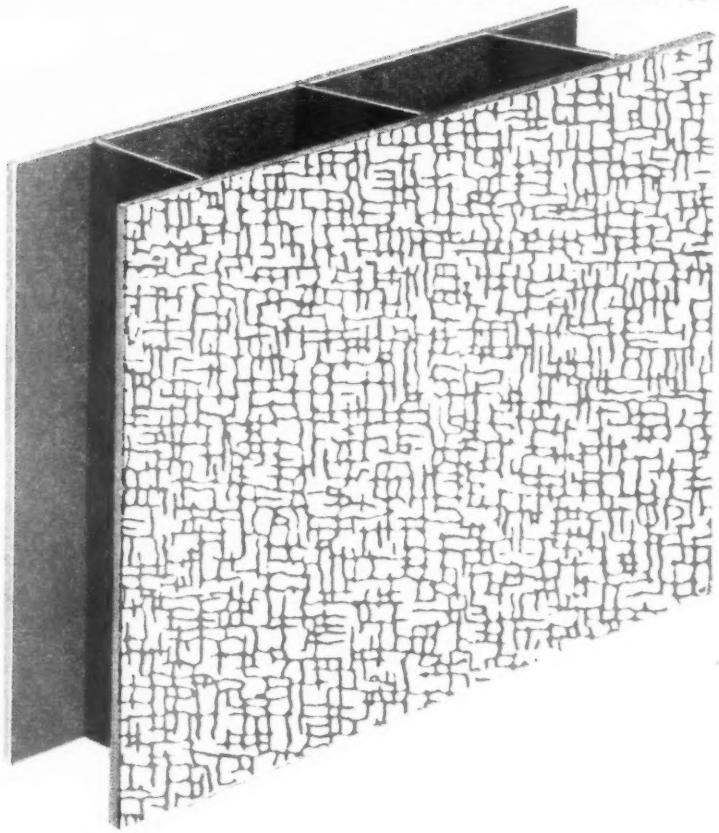

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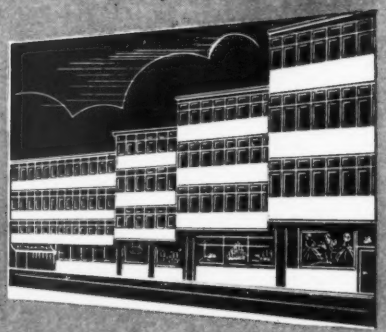

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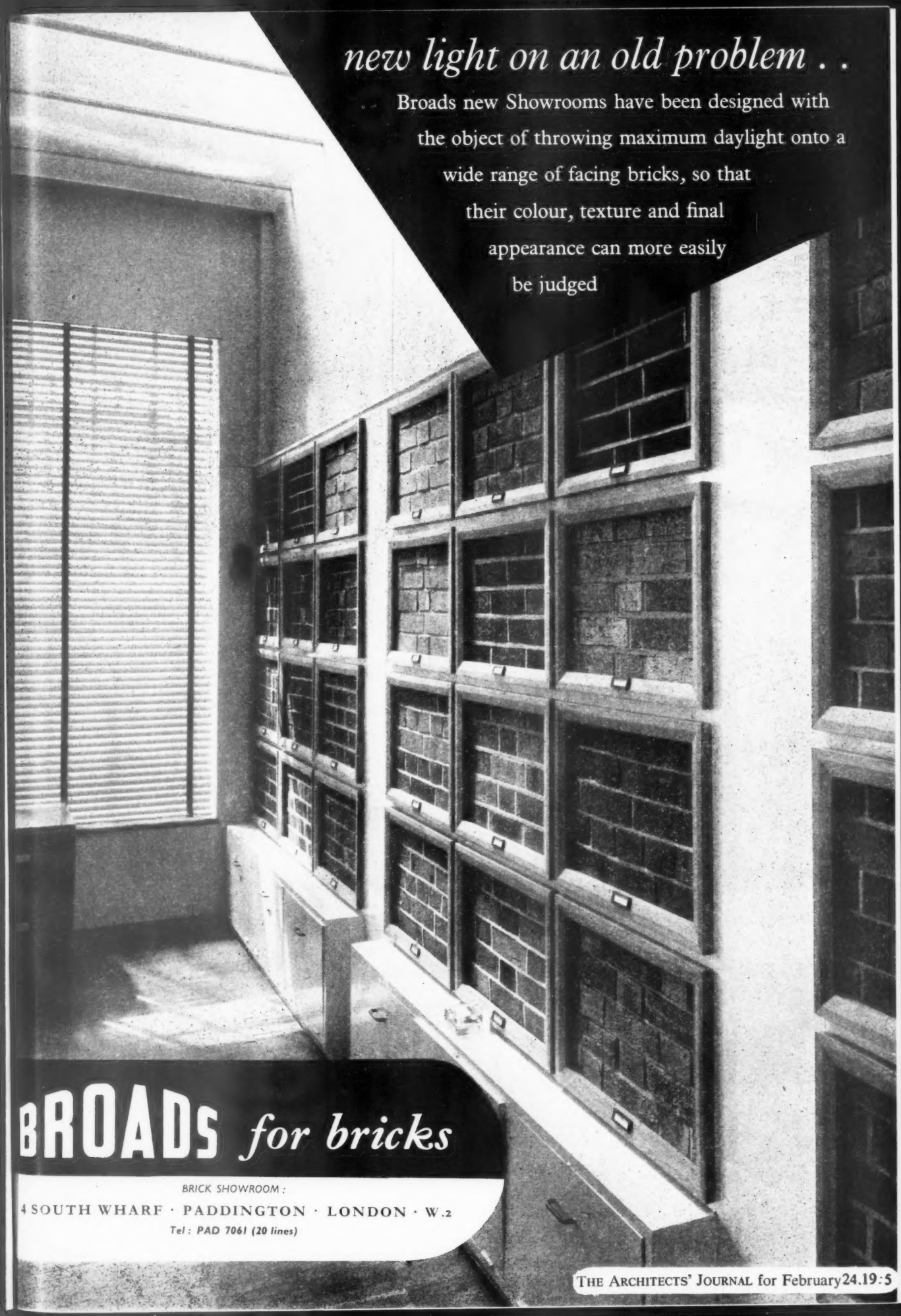
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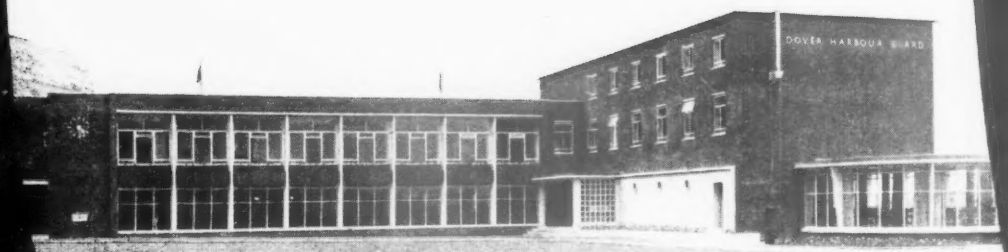

Dover Car Ferry Terminal finished inside and out with Leigh Paints (Photograph by courtesy of Dover Harbour Board — Architects : J. M. Wilson, H. C. Mason & Partners)

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The convection heating arrangement is built into the stove so that no ducts or grilles are required for either freestanding or inset models.

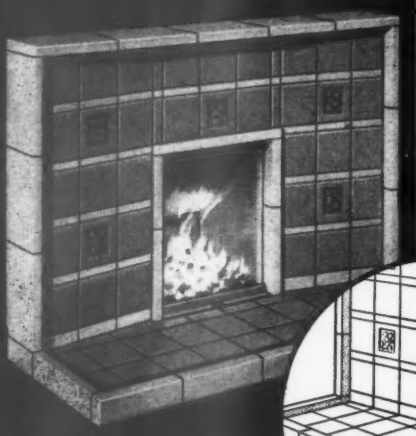
A special feature is the new type of transparent fire door which does not become obscured and slides up out of sight to give a completely open fire.

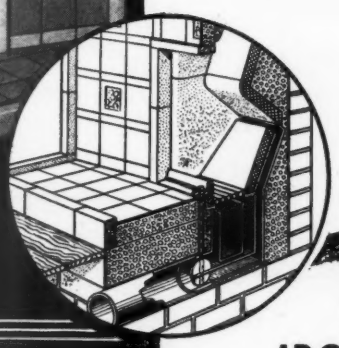
The Sofono-Sunray Stove can be supplied with or without a back boiler, and may be fitted into any type of surround with the very minimum of structural alterations.

It is nationally advertised and electros and stereos are available FREE on request for your own local press or catalogue advertising.

It's the new stove with the open fire look !

Contemporary Comforts





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The Summit looks just like any ordinary sunk fire—*but with a difference!* It incorporates a completely new and clever idea which is designed to convert waste flue gases into useful room heat.

Air is drawn through a pipe under the floor, brought up behind the fire where it is heated and finally emitted through the horizontal slot at the back of the fire (see sectional diagram). This heated air ignites the waste gases thereby giving another source of heat in addition to the fire itself. This arrangement also minimises room draughts.

It is comparatively simple to install, and all the necessary instructions and fittings are provided. The Summit Fire is also nationally advertised and free electros and stereos are available on request.

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Also manufactured by The Warrington Light Castings Co. Ltd., Warrington, Lancs.

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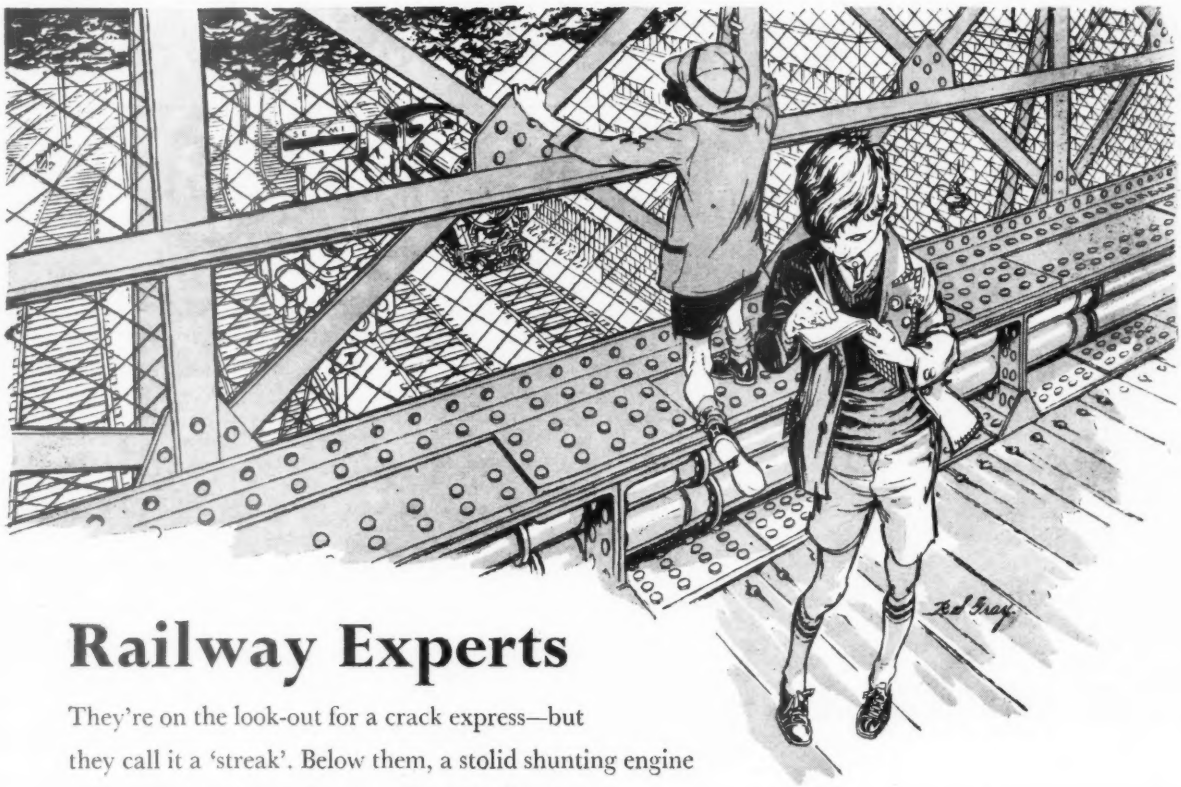

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They're on the look-out for a crack express—but they call it a 'streak'. Below them, a stolid shunting engine rolls unnoticed into a factory siding, hauling its vital load of raw material. The story of these factory sidings—hundreds of them up and down the country—is the story of Britain's industrial development. It is a story in which the Thos. W. Ward organisation has played an important role, for many of these private railways have been built by Wards.

Wards hold an unrivalled position in the specialised field of laying and maintaining industrial railway sidings. They can advise on and contract for installations of every kind, ranging from a simple run-in to an intricate network. Wherever rails are needed to move the goods, Wards are the people to provide them.

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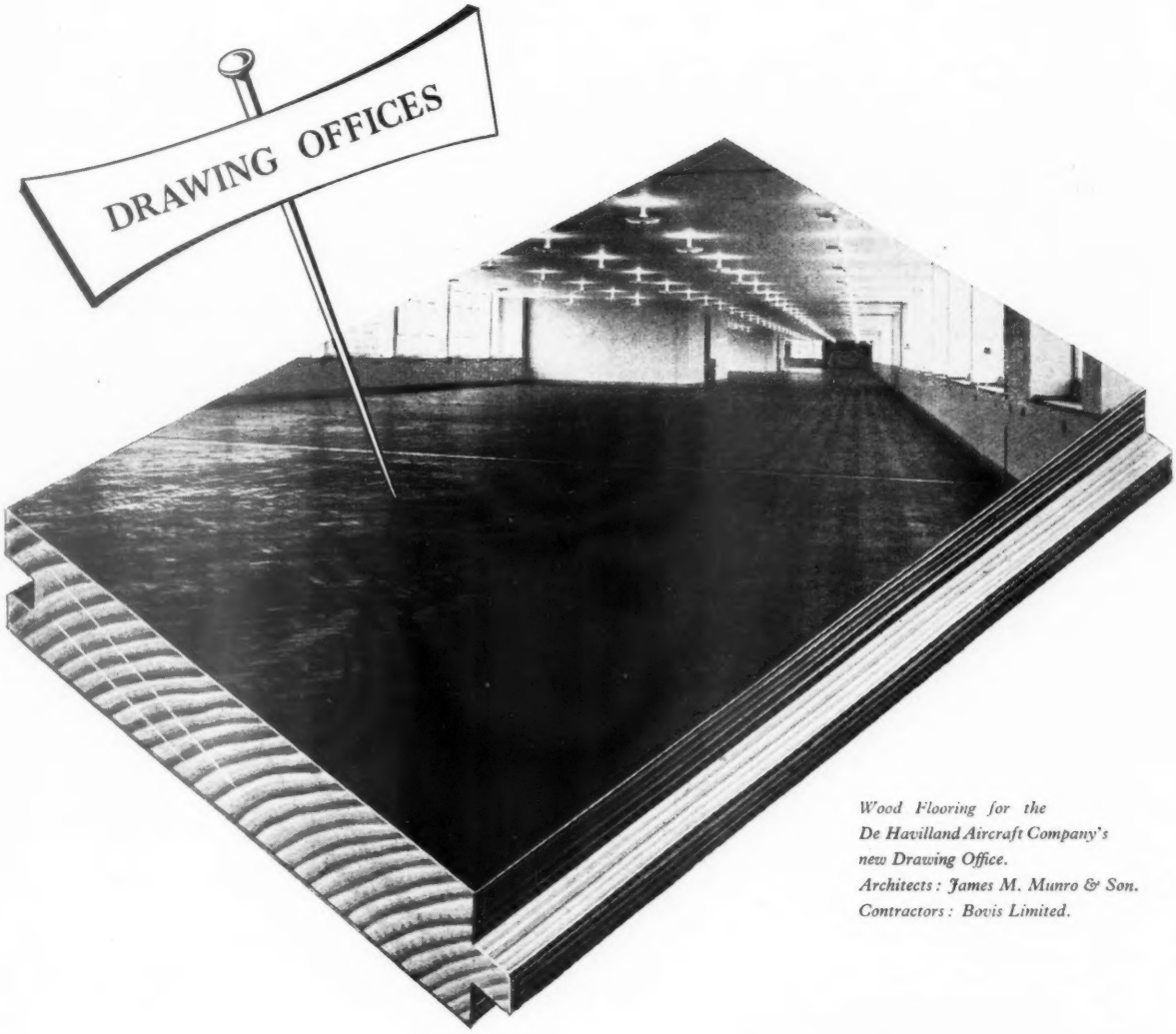

Wood Flooring for the De Havilland Aircraft Company's new Drawing Office.
Architects: James M. Munro & Son.
Contractors: Bovis Limited.

They chose WOOD floors

- ★ A good hardwood floor stands up to a lifetime of hard wear.
- ★ It is quiet, warm and comfortable underfoot.
- ★ It is a pleasure to look at.
- ★ It can be cheaply and easily maintained in perfect condition.

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ISSUED BY THE TIMBER DEVELOPMENT ASSOCIATION LIMITED, 21 COLLEGE HILL, LONDON, E.C.4, AND BRANCHES THROUGHOUT THE COUNTRY IN CONJUNCTION WITH THE HARDWOOD FLOORING MANUFACTURERS' ASSOCIATION

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Setting by Heal's of London

Start Getting Rid of Smog Now

"Clean air" is now national policy. You can plan against impending legislation by specifying Radiation's new smoke-consuming PARKRAY freestanding convector fires.

They actually burn about 80% of the smoke ordinary fires discharge into the air — a big step towards cleansing the smoke polluted atmosphere of our cities. A big step forward in efficiency, too, since smoke is unburnt, wasted fuel and wasted heat.

From no more coal or even nutty slack than is burnt in the ordinary open grate, the Parkray No. 2A extracts enough heat to thoroughly warm quite a large room. The Parkray No. 2 in addition heats enough hot water for all the family's needs, and a towel rail or radiator.

The PARKRAY extracts even more heat from smokeless fuels like coke.

How is it done? Part of the secret is in the down draught fuel box. Another aid to comfort and fuel economy in the Radiation 'throat restrictor' which reduces heat wasting air changes by around ⅓. Yet another, is the constant flow throughout the room of convected warm air. To these real advantages in efficiency is added the convenience of gas ignition for trouble free fire lighting, and a shaker grate which dumps clinker and stones.

There is no building-in. The Parkray is self-contained and combines the simplest method of fixing with the most efficient method of convection heating. The small recess — brick, stone, tiled or rendered in tinted cement — opens up a new field for the decorative treatment of the hearth. Why not provide for it in your plans and give the owner or tenant a *choice* of home heating appliances?

Radiation

Product of Radiation Ltd

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For Technical Information Sheets, write to Radiation Group Sales Ltd. Belper Production Centre, Park Foundry (Belper) Ltd. nr. Derby

Bob Wilson holds a full house

A quick, ready smile, merry eyes, a pleasant wit—yes, Bob Wilson*, our London Area Manager, is a born raconteur and good value at a party. But don't underestimate his poker! Nor his organizing ability. With so many of the nation's architects concentrated in his area, he has to be on his toes and keep his large efficient team of draughtsmen, estimators and window fixers on their toes. Sometimes, perhaps, he feels a nostalgia for the old days. There is so little time for the flying ("it is a bit expensive, anyway!"), the motor racing, the rough shooting and the landscape painting he used to enjoy so much.

* MR. J. R. WILSON WILLIAMS & WILLIAMS LTD.
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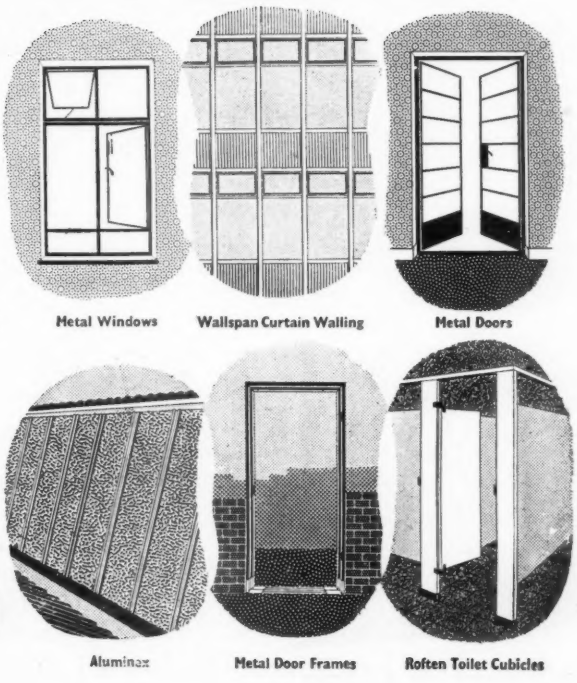
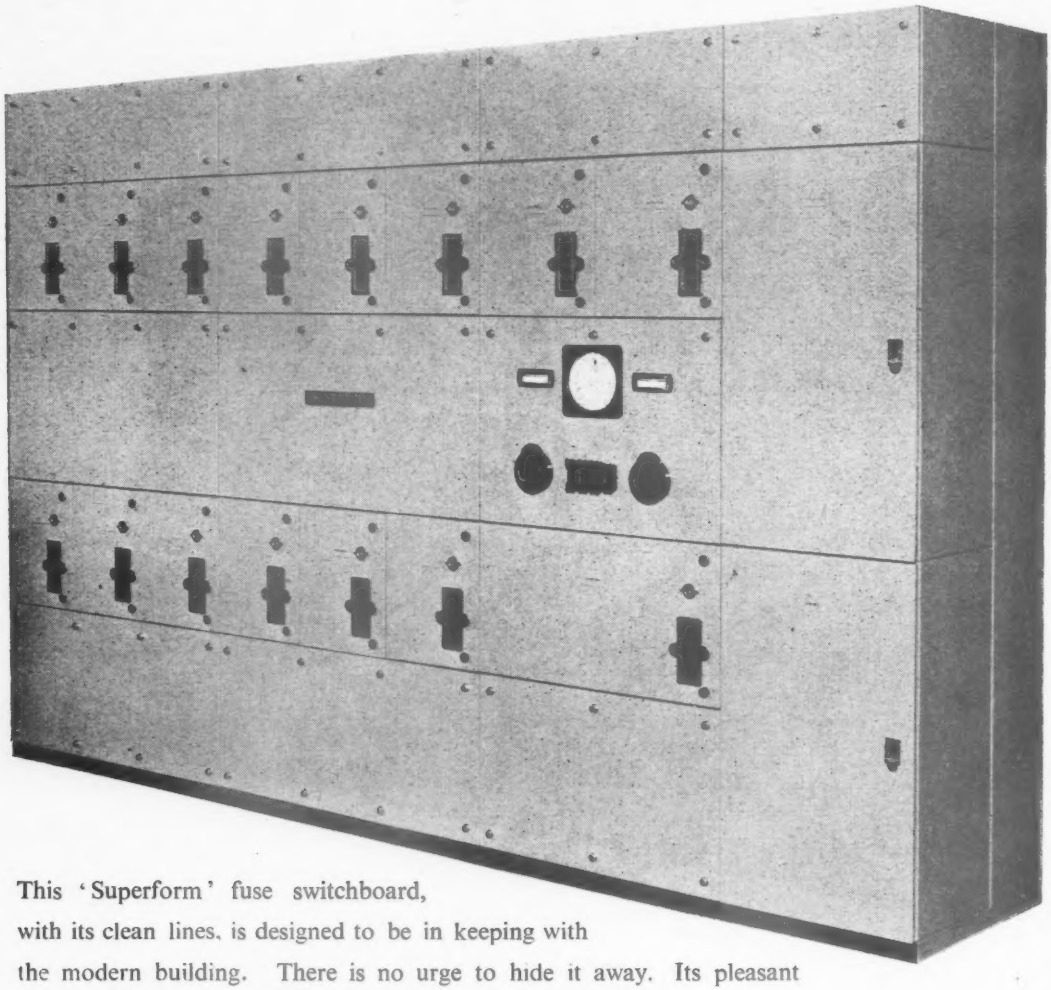


Not made to Hide and Seek



This 'Superform' fuse switchboard, with its clean lines, is designed to be in keeping with the modern building. There is no urge to hide it away. Its pleasant appearance invites installation in whatever position is desirable for convenience and accessibility. The smooth contour enables it to be kept clean easily.

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fusegear

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WOODEN FLOOR IN SHOCKING CONDITION. Renovation with lino could be a cheap answer—but it could be pretty expensive in the long run if it is not done by very skilled people. This is the sort of job we are doing every day. Make no mistake—it *is* highly skilled work—but after 60 years in the lino business, you get to know the snags and how to overcome them. If you've got a floor like this to put right, Catesbys and lino will do a good job for you. Why not let them.

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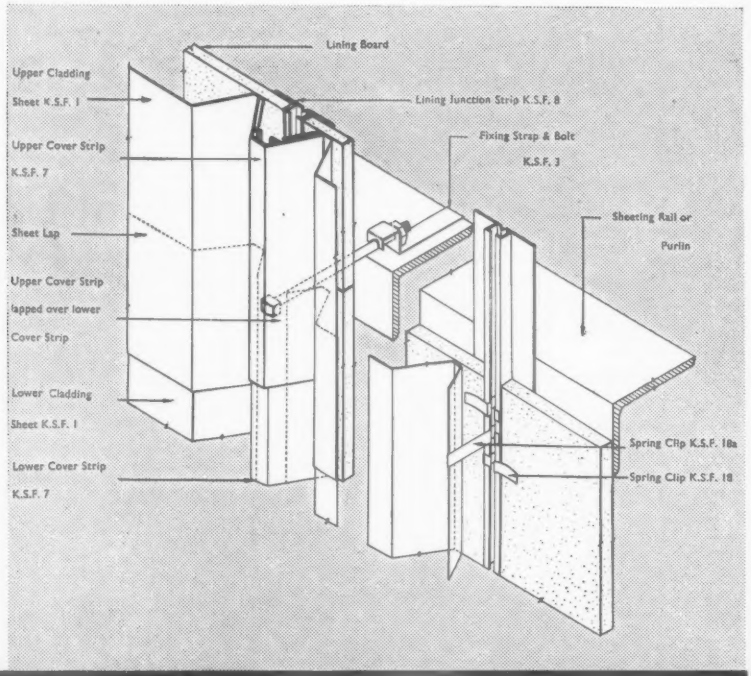
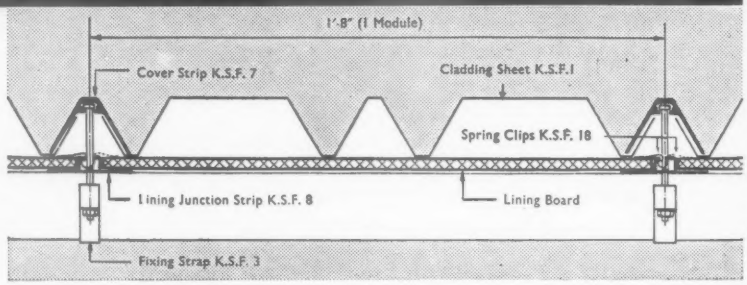
A new roof and wall cladding



'KYNALOK'

Secret-fix



The 'Kynalok' *Secret-fix* system offers a greatly improved method of roof and wall cladding, using 'Kynal' aluminium alloy profiled sheets and extrusions, with provision for insulating lining. Both cladding and insulation are erected at one and the same time, using fixings common to both.

The cladding is held in position by an extruded aluminium alloy cover strip which accepts the head of the fixing bolts on its underside; there are thus no protruding bolt heads and no drilling of the cladding is required.

Licensed under British Patent Nos. 648,527, 699,054 and 699,055 and British Patent Application No. 14281/54.

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1 **Extremely strong and durable.**
2 **Neat and distinctive—all bolts concealed.**
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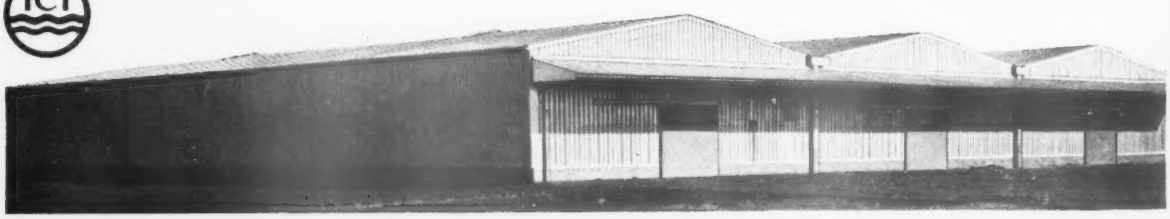
5 **High thermal insulation.**
6 **Insulation lining fixed integrally.**
7 **Light to transport.**



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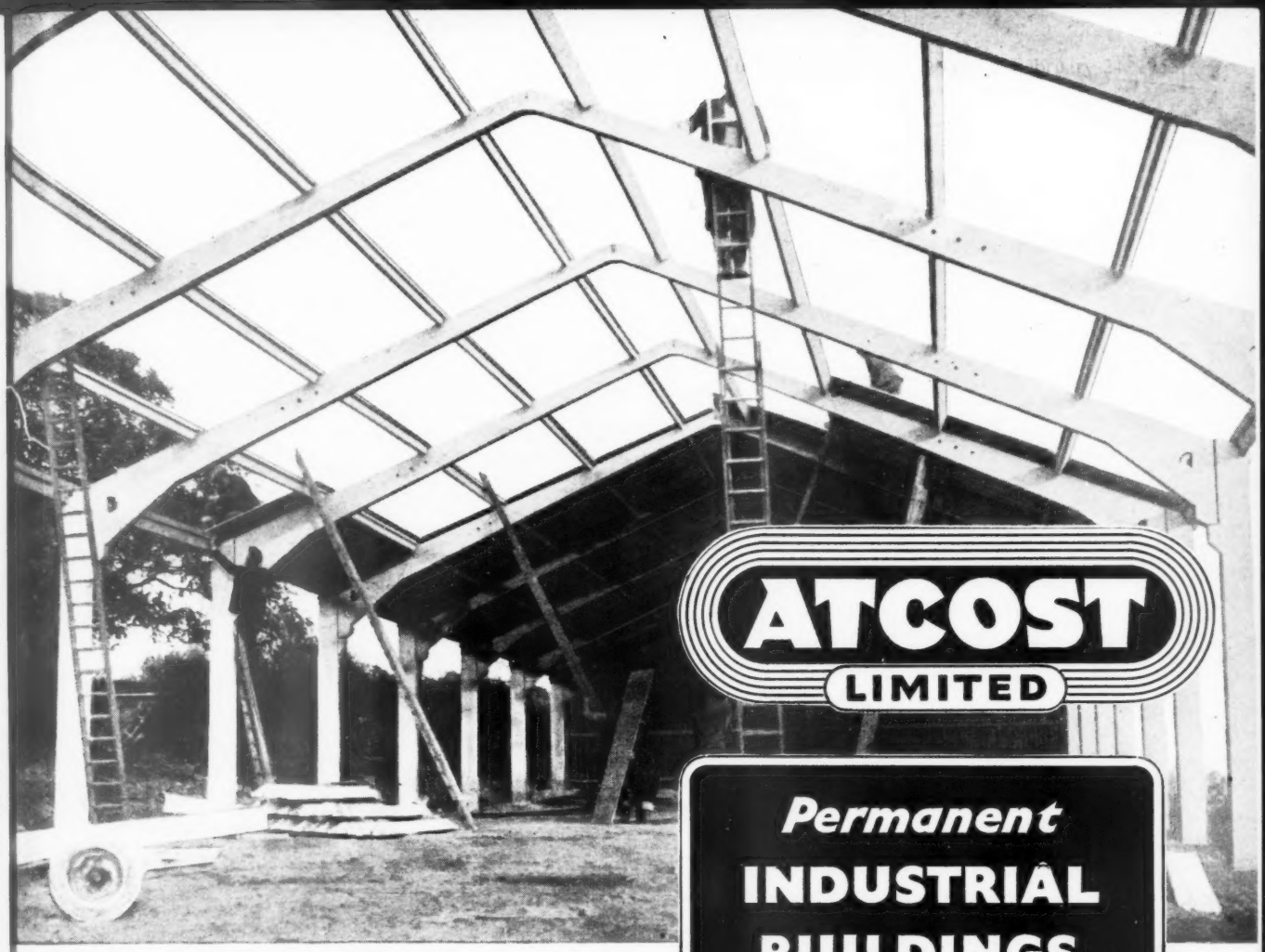

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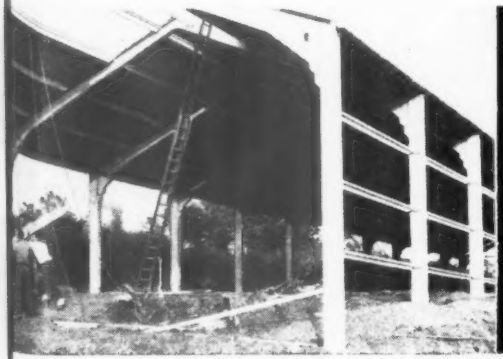

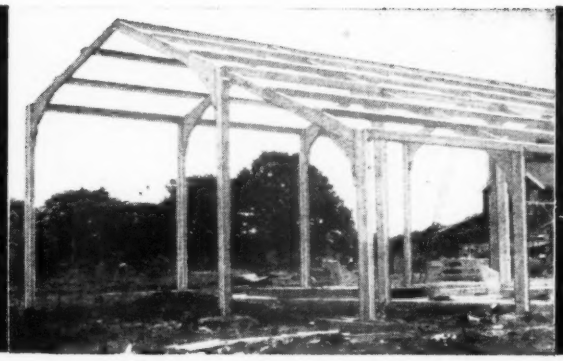

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CANADIAN DOUGLAS FIR PLYWOOD

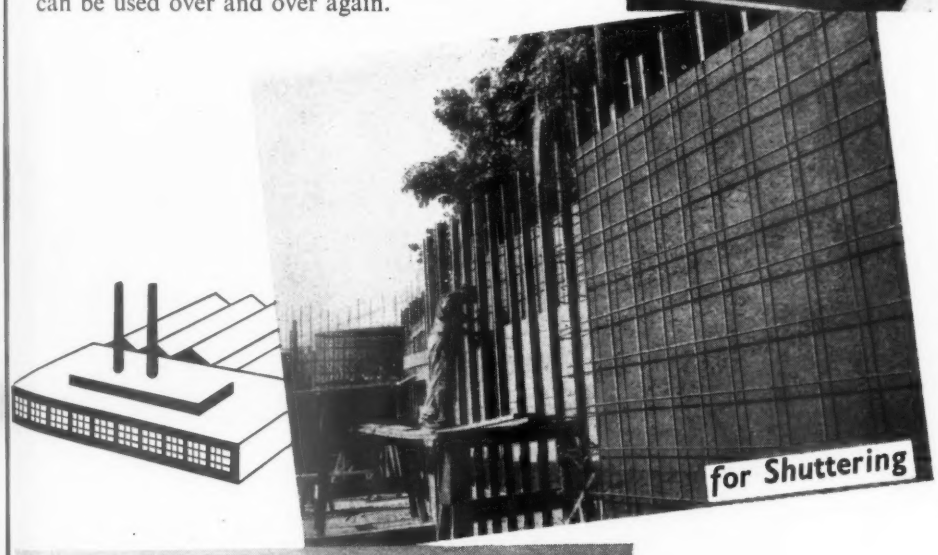
—every panel bonded with Phenolic Formaldehyde Glue!

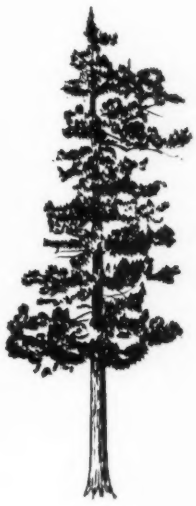
Engineers, architects, contractors and master builders who have once used waterproof Douglas Fir Plywood continue to specify and buy this versatile material. Standard 8′ x 4′ panels are available in grades and thicknesses suitable for most applications—special sizes can be supplied to your order.

An excellent flooring and ideal base for linoleum or carpet. A single panel covers 32 square feet—requires less nailing—less handling.

Its high strength/weight ratio and diaphragm action will add strength and rigidity to the structure you are building.

Properly designed Douglas Fir Plywood concrete shuttering produces superior concrete finishes and can be used over and over again.





FOR FURTHER INFORMATION concerning Canadian woods contact The Commercial Secretary (Timber), Canada House, Trafalgar Sq., London, S.W.1

Canadian Douglas Fir Plywood is :

Easy to handle ***Speedy to use***

Split-proof ***Dimensionally stable,***

Bonded with Phenolic Formaldehyde Glue

This advertisement is one of a series featuring Canadian Spruce, White Pine, Western Red Cedar, Red Pine and Pacific Coast Hemlock.

Solid ground floors, covered with MARLEY tiles, as well as being the best . . .

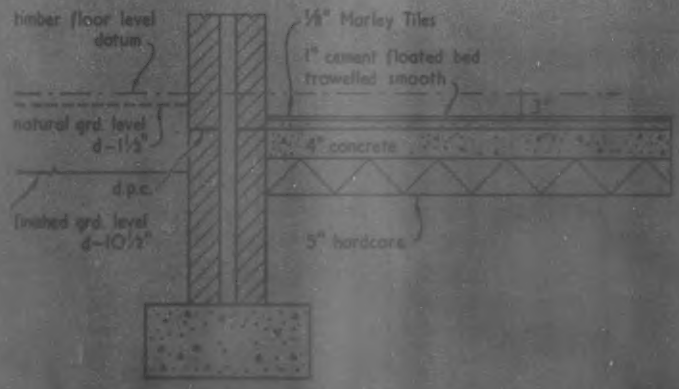
COST LESS

The illustrations on the right summarise the detailed information on two of the fourteen examples of flooring costs given in the Marley publication FF.2. The costs throughout the booklet have been compiled by a firm of chartered quantity surveyors, and are based upon current competitive prices for houses.

EXAMPLE A For Normal Type of Site

38 yds. sup. Excavate, remove and deposit @ 1/1d.	2	1	2	5 ft. run Form pipe chase @ 1/-	5	0	
4 yds. cube Excavate to reduce to levels @ 4/9d.	19	0		31 yds. sup. 1" screed @ 4/10d.	7	9	10
4 yds. cube Remove and spread surplus @ 5/-	1	0	0	31 yds. sup. ½" Marley Floor Tiles @ 11/3½d.	17	10	1
31 yds. sup. Hardcore and blinding @ 3/10d.	5	18	10	6 ft. run Galvanised steel bar as step @ 1/10½d.	11	3	
31 yds. sup. Concrete bed 4" thick @ 5/10d.	9	0	10				

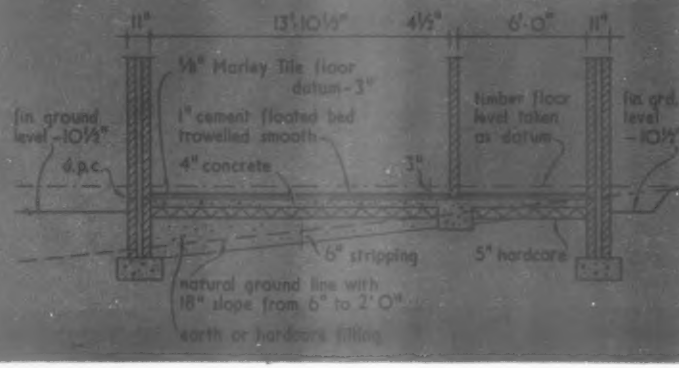
Total for Example A £44 16 0



EXAMPLE C2 For Sloping Site (18" crossfall from front to rear)

38 yds. sup. Excavate, remove and deposit @ 1/1d.	2	1	2	31 yds. sup. 1" screed @ 4/10d.	7	9	10
9½ yds. cube Filling to make up level @ 4/9d.	2	3	11	31 yds. sup. ½" Marley Floor Tiles @ 11/3½d.	17	10	1
31 yds. sup. Hardcore and blinding @ 3/10d.	5	18	10	6 ft. run Galvanised steel bar as step @ 1/10½d.	11	3	
31 yds. sup. Concrete bed 4" thick @ 5/10d.	9	0	10	DEDUCT 9½ yds. cube Remove surplus @ 5/-	45	0	11
5 ft. run Form pipe chase @ 1/-	5	0			2	6	3

Total for Example C2 £42 14 8



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AJ

THE ARCHITECTS' JOURNAL

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

No. 3130 February 24, 1955 VOL. 121

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GAIETY OFFICES

The English Electric Company, in deciding to build offices on the site of the Gaiety Theatre are, according to their Press handout, "fully mindful of the great importance of the site. . . ." They regard it as part of their public duty to erect a fine modern building which . . . "will find a place of affection in the hearts of future generations." These somewhat grandiose terms are pretty fairly met by the winning design by Gordon Tait (of Burnet, Tait and Partners) shown on pages 254 and 259-260 of this issue. Although I have made no close study of the conditions, Tait's design would seem a worthy winner. It is one of only three "point" blocks entered. Five of the remainder were, rather surprisingly, today, perimeter developments. The other—by David Aberdeen—was a circular tower.

*

When studying competitors' perspectives readers should realize that a large, 250-ft. diameter roundabout, in fact, a pentagon, is planned immediately west of the site, the corners being the top of Wellington Street (which leads to Waterloo Bridge) to the south, the Strand to the west, Wellington Street—continued—to the north, and Aldwych and the continuation of the Strand to the east. Tait's low block, which continues the line of Norman Shaw's Marconi House, will form one side of the pentagon and set a scale for future development, a point which the assessors no doubt appreciated. The clients have recently pointed out that they are not committed to building the winning design. It will be a pity if they do not. They had nine most eminent architectural firms competing, with widely differing approaches to design, and two sound assessors. They are unlikely to do better, and, as a glance over their shoulder east-, or City-wards, would show them, it is possible to do far worse.

CORRECTION

Two unfortunate misprints occurred in this column last week. W. M. Shennan, Sir William Holford's partner, had his name mis-spelt, and my reference to the Jeremiah Ambler factory contained the remark that it was designed by the architects and built by Bovis Ltd. in the remarkable time "for the operatives" of twelve months. There is nothing remarkable in this time for Bovis operatives, of course. This was a misprint of: "for both operations," i.e., for designing and building—a feat which would be well-nigh impossible without that excellent feature, the Bovis contract, a type of contract now, presumably, following this job for the BOT, approved by Government departments.

WHERE TO SIT AND HOW

From half-way up a stalled escalator, ASTRAGAL looked out over the canopies of the stands at this year's Furniture Trades Exhibition at Earls Court, and saw that there was a fair correlation between the design of the product on display under the canopy, and the workmanship of the structure that held the canopy up. Behind the standard fascia which all stands use were tatty pieces of string and lath and over-massive baulks and planks, though the happy few had neatly-latticed trusses. But having announced the correlation between structure and design-quality, one had better name no names, and restrict oneself to saying that had the correlation been complete, there would have been no praiseworthy structures visible at all.

*

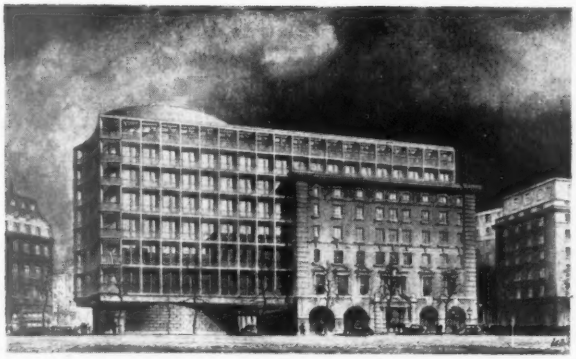
The average quality of design is lower this year than ever. There is an increase of the sense of puddingy mediocrity, and ASTRAGAL was left full of admiration for Stag Cabinet, who are still persevering with their unassumingly contemporary *Cumberland* suite, at an unassuming price.

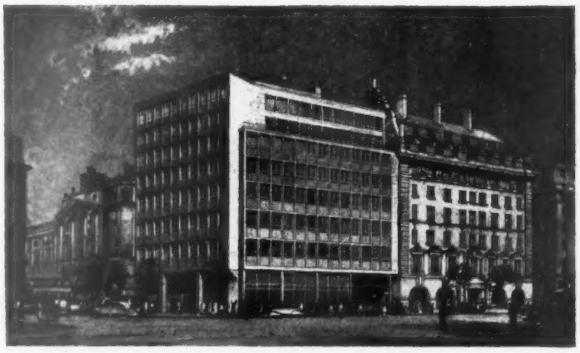
*

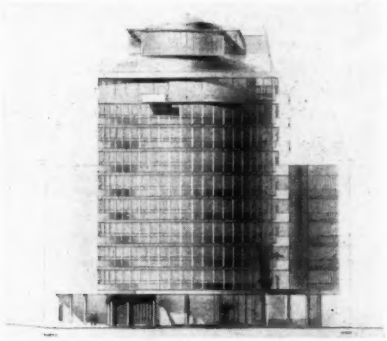
If, on the other hand, one genuinely admired hydraulically-operated cocktail cabinets in two tones of toffee-coloured birdseye veneer. . . .

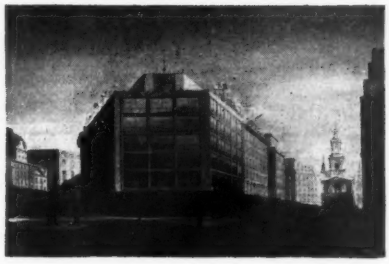
*

The proportions of some of the pieces on show looked a bit quaint, too, and ASTRAGAL wished he had in his hand









Six of the nine designs submitted in a limited competition for offices on the Gaiety Theatre site, Aldwych, which was sponsored by the English Electric Company. The designs of the winner and two "mentioned" competitors are shown on pages 259 and 260. The authors of the designs shown here are—top left: Farquharson and McMorran; right, Farmer and Dark. Centre: left, Yorke, Rosenberg and Mardall; right, David du R. Aberdeen. Bottom: left, Michael Rosenauer; right, Louis de Soissons.

for easy reference a strange, useful, yet faintly scarifying book which has lately come his way—*Human Engineering Guide for Equipment Designers.** You will find in this handsomely presented tome not only optimum dimensions for chairs for executives, secretaries, cinema audiences and fighter pilots, but also those for aircraft seats so that passengers can get out past one another without having to say "excuse me," and for levers to be pulled, and knobs to be turned and stair-rails to be grasped, and dials to be read, and sounds to be heard, not to mention an Anthropometric Nomograph of Army Men, as well as notes on hunger and Neuron Excitation—oh, and a little cardboard cut-out man on squared graph paper in case the compilers have forgotten any conceivable operational postures.

*

Practically every bit of information about human performance and dimensions that can be figured, tabulated or rendered graphically is within the covers of this book, and the total result is unmistakably Brave New World. For instance, the impression an intelligent Martian would get from it is that men *see* many things, but the only ones they *look* at, are women and things they are *paid* to observe. The book remains for ASTRAGAL, in the blunt but picturesque phrase of someone else who has read it "The Technological Zombie's guide to the Highest Ape."

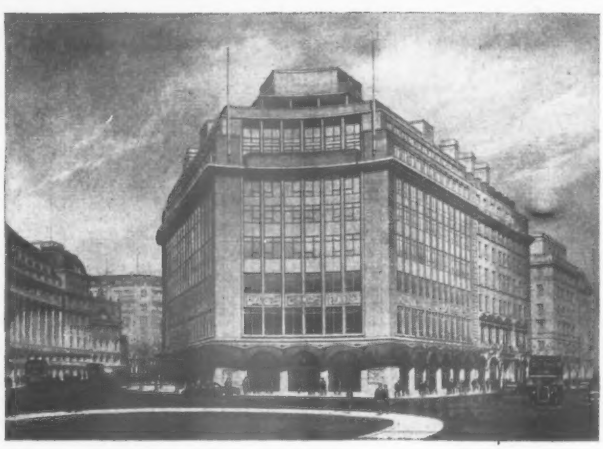
* Cambridge University Press, 25s.

THE ARCHITECT'S DILEMMA

At the end of the second of Maxwell Fry's talks on the BBC, ASTRAGAL noted an immediate sensation of gratitude in his shrivelled old heart, that Fry had been able to discuss the Hunstanton school as if it were simply a building, and not the temple of Anti-Christ. This was the touchstone of a pair of adult and intelligent discourses on *The Architect's Dilemma*—the same old dilemma, aesthetics versus machinery—which, to ASTRAGAL'S ear, set a remarkably high standard for radio talks on architecture.

*

In the first, Fry had discussed the pioneer period of the Modern Movement in England, the brave 'thirties, the



The "Gaiety" Site Competition

The top sketch above is of Gordon Tait's winning scheme in a limited competition for offices (for the English Electric Company) on the Gaiety Theatre site in Aldwych. (Elevations and plans are published on pages 259 and 260, together with the report of the assessors, Sir Percy Thomas and John Murray Easton). Also shown above are schemes by Basil Spence (left) and Adams, Holden and Pearson, both of which were mentioned by the assessors in their report. Of Basil Spence's design they say: "It is an interesting one and presents a most dramatic elevation to the future square." (ASTRAGAL refers to this square in his note on page 251). And of the scheme by Adams, Holden and Pearson the assessors write: "We consider this to be the best of the schemes in which the offices are placed round an internal courtyard and, granted the limitations of this type of plan, the circulation and the arrangement of the offices generally are clear and logical. But there are two main vertical circulations instead of one and communication with the existing building at ground floor level is by way of the present display room on the Strand. The authors of this scheme have obviously attached great importance to the integration of the elevations of new and old." Six other submitted designs are shown on page 253.

heroic age of MARS group—and with becoming modesty was everywhere careful to bracket in his associates and contemporaries, *viz*: "F. R. S. Yorke suggested . . ." "Wells Coates and I . . ." And with equal modesty he admitted the microscopic bulk of modern architecture in England compared with the total amount of building that went on in the 'thirties.

*

But this was really only a lead-in to the second talk, in which he discussed what happened when the mechanized and rationalized approach to architecture which MARS had advocated actually got involved with bulk building—the prefab programme, the Herts. schools, factory-made curtain walling, the UN building. It is not for ASTRAGAL to repeat his arguments in detail, and thus do the *Listener* out of a job, but to recommend you to read the talks if you didn't hear them, for the sake of their balanced, humane, intelligent and above all—heartfelt approach to a major architectural problem.

CROSSROADS

Last week I had something to say about the RIBA's treatment of bad behaviour in its ranks. Harvey G. Frost, the able new president of the NFBTE, who held his first conference with the technical Press the other day, also referred to the difficulty of handling inefficient members. Like the RIBA, he pointed out, they could only sack them. But the reference was significant. It smacked more of a professional approach to the problem of safeguarding the public than that of a trade association anxious to conceal its imperfections. The NFBTE today is a very powerful body, with a greater influence for the good of the nation than it would seem to realize. High jinks at the annual dinner at the Dorchester with Churchill, so smooth, efficient and enjoyable, is but one, not insignificant outward sign of the general acceptance of the importance of the Federation. It is now preparing, we gather, some statements on productivity and costs which are shortly to be released. Judging from Harvey Frost's remarks it should go far towards establishing the concept of team-work between architect, builder and operative in order to achieve higher standards for the nation's buildings.

ASTRAGAL

The Editors

BUILDINGS ILLUSTRATED

ARCHITECTURAL magazines are often criticised for the false impression they give readers about contemporary buildings. Photographers, editors, the designers of the buildings illustrated and the readers themselves practice or encourage the practice of telling white (and probably worms-eye) lies about the appearance of buildings. And the emphasis has usually been on the superficial appearance of buildings rather than on how they have been put together. This attitude may have been reasonable enough when modern buildings were rarities, but now, when the majority of architects are designing, with very varying degrees of success, in a contemporary style, we feel that it is essential to adjust our policy accordingly. From this week, instead of being content to publish a relatively superficial record of an achievement, we are giving readers a much more comprehensive account of the design, construction and cost of buildings.

As announced in our last issue, we start the new series with one of the much publicised but little published Herts Schools. After nine pages of photographs and drawings, accompanied by lengthy descriptive captions, come five pages of tabulated information. This last section is not meant to be read avidly by all. It is as full a technical description as can reasonably be expected, giving what materials the architects used for this building, where they placed it, and the reasons, whenever possible, for the choice made. It is intended as an essential technical supplement for the reader particularly interested in school building and this type of construction. The reason for the rigid format is, of course, that we want readers to be sure of finding information; items will be in the same sequence each week, thus allowing easy comparisons between buildings in different articles. These pages, supplemented by the illustrated pages, form a case-book study of one building which we believe will prove more worth filing than a more superficial coverage of three or four designs.

We also publish a cost analysis of the Herts School. The importance and value of such analyses is brought out by this year's Guest Editors in their article on the subject on pages 261-4. We would like to add our appeal to theirs for further examples of cost-analysed buildings. Whenever possible such a cost analysis will accompany the main weekly article on a building; but we would like to supplement these with additional cost analyses of different types of buildings so that as rapidly as possible readers will be able to build up a stock of practical information on costs.

We believe that equally as important as pioneering in modern design is consolidation of knowledge which we already have. We feel sure that the JOURNAL can play a fuller part in assisting architects to become familiar with existing techniques, so that these techniques can be perfected, and costs controlled. These are two vitally important factors if the architect is to keep his position as leader of the building industry.

Last week in the JOURNAL's leading article on the current controversy over a trade union for the profession, it was suggested that there was a more fundamental approach to the whole problem of remuneration and status than that conjured up by the term "a negotiating body." We proposed that before discussing salaries (or fees), the first task was simply to discover what, ideally, an architect really was, and then to discover how many there were of them. We envisage the architect as the man who designs and details a building, supervises the construction and controls the cost and the time factor. He may have some skilled helpers, but he is in charge, so that the failures and successes of the final building can fairly be laid on him, and no one else. Such close control means that he can only have three or four helpers. Such a man, the architect, should be in direct personal contact with the client. This definition means that many architects who are now known as section leaders, deputies, chief officers, junior or senior partners and principals are not, in fact, architects. They may be very responsible committee men, organizers, job getters, business men, and so on, but they are not architects in the sense defined above. Although they may be equally and, occasionally, even more important. When the number of true Architects has been found several further actions can be seen to be necessary. For instance:—to establish an upper limit to the amount of work an Architect is allowed to take on, so as to ensure that he has no inducement to sacrifice personal supervision of a design for financial gain (Doctors have the same restriction on the number of patients they are allowed). Then it could be assumed that these Architects were entitled to the usual RIBA scale of charges, and a scale of salaries for assistants could be related to the Architects fees (in local authorities, of course, Architects would not get the 6 per cent. rate, as overheads would be deducted and probably a further sum, in the larger offices, for a "co-ordinating (or chief) architect." A similar levy would be necessary in large private offices to pay for the "job getters"). Further, it would be necessary to control the intake into the profession, so that, once a sufficient number of architects for the nation's needs have been trained, only replacements were allowed in. It would also be necessary to revise architectural education in order to ensure that Architects would be able to implement fully.

All this may sound impractical and idealistic. But it would appear to be a simple and logical alternative to the present trend of amalgamation into large centralised offices under one well-paid titular-head, and, of course, eventually and inevitably, the creation of an under-privileged class of assistant architects who have to have recourse to trade union action. Can any reader suggest an alternative course of action which would improve status, and for which the preliminary measures can be taken without recourse to outside bodies but within the profession itself?

On this and the opposite page Martyn Webb puts forward, in response to questions put to him by an editor, his views on the present controversy about architects, trade unions and professional associations. This article will be concluded next week, and will be followed by a criticism of it from a supporter of the trade union idea.

ARCHITECTS AND TRADE UNIONS

A Discussion between an EDITOR *and* MARTYN WEBB *on the type of organization best suited for improving the conditions of work, salaries and incomes of the architectural profession.*

WEBB: I would like to open the discussion by saying that perhaps too much attention has been paid to the question of *means*, that is "how are we going to get what we want?" rather than to *ends* or, more explicitly, to defining exactly what it is the profession wants or needs, or ought to have. Carr Saunders, in his famous book "The Professions," written in 1933, just after the passing of the first Registration Act, commented on this muddle of ends and means and added that, in his opinion, there ought to have been a "better comprehension of the inevitable limitations" which the Act would have.

Of course, he was right, and a new Act had to be passed some years later. I'd like therefore to turn our attentions to ends rather than means; to try and see if we can bring out some sort of working policy. So that we may try, if possible, to avoid having to radically alter or even destroy any machinery that may be created.

EDITOR: *Is there any particular theme or idea around which you would like to build your suggested policy?*

WEBB: Yes, I'd like architects to realize that at all times

they are *professional men* and to plan everything they do accordingly.

EDITOR: *What makes you conclude that architects are indeed professional men—are they not also technicians?*

WEBB: Obviously architects must be experts in the technique of building and the uses and properties of building materials, but this interest is to them a means to an end, and not the end in itself. The loyalties of architects are toward the client and, above all, to architecture and the architectural profession. A profession, incidentally, whose code of conduct forbids certain kinds of contact with the building industry. Architects cannot classify themselves as technicians. Let me refer you to the conclusions of Carr Saunders and to those of Lewis and Maude who, in their recent and most stimulating book "Professional People," most certainly regarded architects as being professional men.

EDITOR: *So, in your opinion, being, as you call it, "a professional man," makes all the difference?*

WEBB: Quite definitely. All professional men follow some, or all, of the following practices:
(*a*) They act as intermediaries between their clients and others; interpreting their clients' wishes and/or providing services which the client might otherwise only manage to do at some considerable trouble to himself.
(*b*) They do not engage in trade or have pecuniary interests, other than the client's fees or salaries, in the transactions in which they are concerned.
(*c*) They govern their normal day-to-day conduct by a code of ethics.
(*d*) They do not advertise, nor do they undercut a fellow professional.
(*e*) There is usually a minimum qualification required for entry into the profession; a qualification which may be expensive in both time and money.
There are, of course, others, but architects subscribe to every one I've mentioned; and these are the most important tests. I think you will agree that a body of men subscribing to these practices will have an enormous difficulty in trying to fit themselves into trade unionism as understood today.

EDITOR: *We would like to take you up on that last point, but, first, are you trying to say that all "architects" are professional men?*

WEBB: No, it would be quite wrong to consider all who are working within the architectural profession to be, in fact, professionals. Using the tests I mentioned in my last answer, I'd say that we could only include the following groups: first, the registered architect; second, all Charter members of the RIBA, and, third, all student members of the RIBA. I include the second and third groups basically because they subscribe to the Code of Conduct; they may be, of course, just as highly qualified as the registered architect. This means excluding a large number of people on the grounds of being non-professionals. In any case, if we did include non-professionals, their freedom of action would be hindered if at the same time they were asked to subscribe to codes of conduct, etc., which have no meaning to them.

EDITOR: *You mean, in effect, that, in some way, the economic interests of architects are bound up with his professional status?*

WEBB: Yes, very much so. It's the community at large who really give recognition. The history of professionalism is, in fact, the history of a long struggle to achieve a special status, a status which is not lightly given and yet so easily taken away. This special status sets the professional man above the ordinary working or business or trades man; I think the phrase "professional pride" best expresses what I have in mind, and the professions stand or fall by their behaviour. It behoves all professional men to do all within their powers to protect and enhance their status; whether they are working on their own accounts or as salaried employees.

EDITOR: *Yes, we quite agree, but you can't pretend that the architect always does this.*

WEBB: I do not think for a moment that all do. Those who lower the status of the profession seem to be unaware of the fact that low status has always gone hand-in-hand with low salaries, and incomes and poor working conditions. Consequently, I believe very strongly that all qualified persons should register and become *Architects*, and that once having done so they should see to it that their code of conduct is not broken, in either letter or spirit.

EDITOR: *Coming back to trade unionism and the architect; you said in an earlier reply that professionalism and trade unionism are incompatible. Could you explain this?*

WEBB: First of all we must be clear on what we mean by a trade union. Historically and politically, trade unions have been fashioned to serve the needs of workers in their struggle to achieve better working conditions, higher wages and freedom from exploitation. Professions on the other hand struggled for their part to achieve status and recognition; an end which, as I explained earlier, would give them higher rewards and better working conditions. No one reading a history of trade unionism could see what it has to do with professionalism. The whole atmosphere is different. Very few professional associations have ever thought their interests would be best served by joining and working through the Trade Union movement (for example, by affiliation with the TUC). Some trade unionists have tried, unsuccessfully, to overcome this difficulty by classifying professional men as "intellectual workers" but the lack of trade union affiliations among the profession remains. This is not plain snobbery, but the direct result of real differences in aims and aspirations between the working and professional classes.

EDITOR: *How can you explain, therefore, the RIBA's insistence that if the architectural profession was going to have anything, it must have a trade union?*

WEBB: I don't think we can accuse the RIBA of trying to kill the whole idea of a professional association by calling a spade a spade; relying on the snobbish element within the profession to resist any contamination from "trade unionism." Partly, I think its position is the result of an

unconscious feeling that trade unionism and professionalism do not mix, and partly, because of the fact that, for some reason or other, the RIBA are convinced that a trade union, as legally defined and registered, possesses a supernatural form of protection from the law and from the legal consequences of those actions for which it might otherwise have to defend in a court of law.

I cannot give the sort of advice which only Counsel could give, but it does seem to me that the following points could be made:

(*a*) Professional associations have never been considered illegal by the State; nobody has ever thought to regulate their conduct by statute. This is despite the fact that they, the RIBA included, have acted in restraint of trade—*i.e.*, have fixed scales of charges, etc.

(*b*) Legislation with regard to trade unions has been almost entirely framed with a view to combating the strike weapon, and the protection which the law gives to trade unions relates, in essence, to the disturbances and damages which might result from a strike. Does the architectural profession want to strike? I do not think so, and the protection is, therefore, rather pointless.

(*c*) It seems likely that as long as professional associations are acting in the "honour and interests of the profession" and providing they do not use "threats," they will not be interfered with by the Courts.

(*d*) In any case not all benefits of protection from the law are restricted to trade unions alone. It seems that any body, whose principal objects (but not necessarily the sole objects) were those of a trade union, *i.e.*, regulation of relations between employer and employer, or employer and employee or employee and employer, and the imposing of restrictive conditions on the conduct of any trade or business, will receive most, if not all, the benefits.

(*e*) Furthermore, trade unions, when registered as such, are somewhat restricted in what they can do in the matter of money and property.

You see, if the architectural profession is *a profession* then it has nothing to fear, or so it seems. It all depends upon whether or not is is a properly constituted professional organization, likely to behave as such and willing to battle to achieve recognition by the community. The BMA, for example, is *not* a trade union, but a limited company—it does not, therefore, enjoy all the benefits it would if it were a registered or certified trade union (and, of course, has none of the disadvantages). I understand that the BMA was informed many years ago that they were not even entitled to register as a trade union; the implication being that doctors were not of the working classes.

EDITOR: *You mean, therefore, that it is quite unnecessary for architects to form a trade union?*

WEBB: Yes; and the fact that the architects need not form a trade union will not, it seems, go counter to the Industrial Disputes Order of 1951, which talks of *trade unions* which habitually take part in the settlement of terms and conditions of employment as being the only body entitled to report a dispute to the Minister of Labour. Here again, we meet the term "worker." Is an architect a "worker" in the legal and social senses of the word?

EDITOR: *How would you sum up at the end of the first part of our discussion?*

WEBB: I would say that our main points are:

(*a*) Architects are professional men, set apart from the conventions governing the relations between master and worker.

(*b*) That the economic status of architects depends upon their professional status in the eyes of the public.

(*c*) That an architectural trade union is both unnecessary and inappropriate to the needs of the architectural profession.

(*d*) That if the architectural profession *is a profession*, then it can go ahead and plan its association according to needs, free from fear of unwanted attacks by outsiders, not because it is protected by law as a trade union, but because of its status as a profession.

NEWS

ROYAL ACADEMY

Why Not Help it out of the Rut?

Must the Royal Academy exhibition of architecture continue to be an annual joke? If you have something in your office that is better than last year's worst exhibit (and that would not be difficult), why not send it in to Burlington House, Piccadilly, before March 18—the last day for this year's entries? (Applications must be made by the end of this month.) And if it bounces back, send it to the JOURNAL editors who will consider it for publication.

TRADE UNION

The End of Bag?

The British Architectural Guild, which was formed about a year ago—just before the RIBA sent out questionnaires asking members if they wanted a trade union—has decided to close down if nobody wants it. If, on the other hand, enough architects get in touch with the Guild (at 59, New Cavendish Street, W.1) in the near future, a meeting will be called "with a view to setting down such modifications to the rules as will make them acceptable to all sections of the profession."

The Guild, which claims that it has kept quiet while the RIBA "has been engaged in investigating the position," says that now the RIBA has announced "its inability to act as, or to promote the formation of, a Trade Union," it is time for the profession to be asked whether or not it has any use for the Guild.

The Guild (says the Guild) has drawn up rules which may not all be found generally acceptable—"in particular the rule providing that a proportion of the governing council should be members of certain specified bodies. . . . At the time when rules were drawn up this particular rule seemed good because it was thought better to move the Union to the existing professional bodies, thus ensuring stability, than to allow its possible drift into the hands of political extremists."

However, the as yet un-moored Guild, which claims that it has "no strings," does not particularly want to sink (to continue in the nautical vein), and it is prepared to have its form and shape "hammered out by its membership."

The Guild is willing to send all particulars of its aims and objects to architects in salaried employment (official or private) and architect students similarly employed.

RIBA

Next Year's Critic

G. Grenfell Baines will give the criticism of drawings submitted in competition for this year's RIBA prizes and studentships. This criticism will be given next February.

DIARY

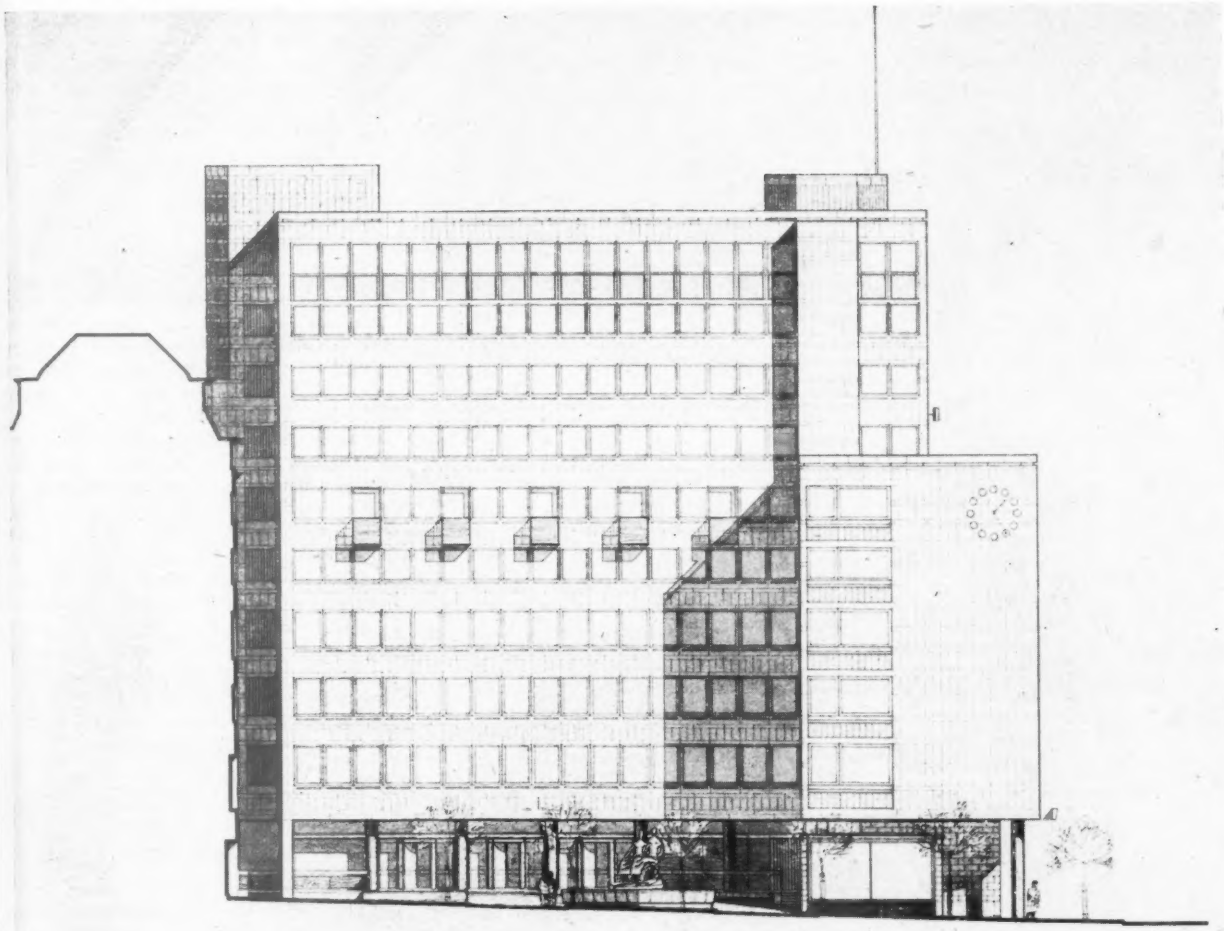
German Architecture Today. Talk by Richard Sheppard on the current exhibition at the RIBA. On the BBC Third Programme. 5.40 p.m. FEBRUARY 27

German Architecture Today. 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 24

Historic Buildings: their Preservation and Use. Talk by J. Chuter Ede, member of the Historic Buildings Council for England. At the RICS, 12, Great George Street, S.W.1. 5.30 p.m. FEBRUARY 28

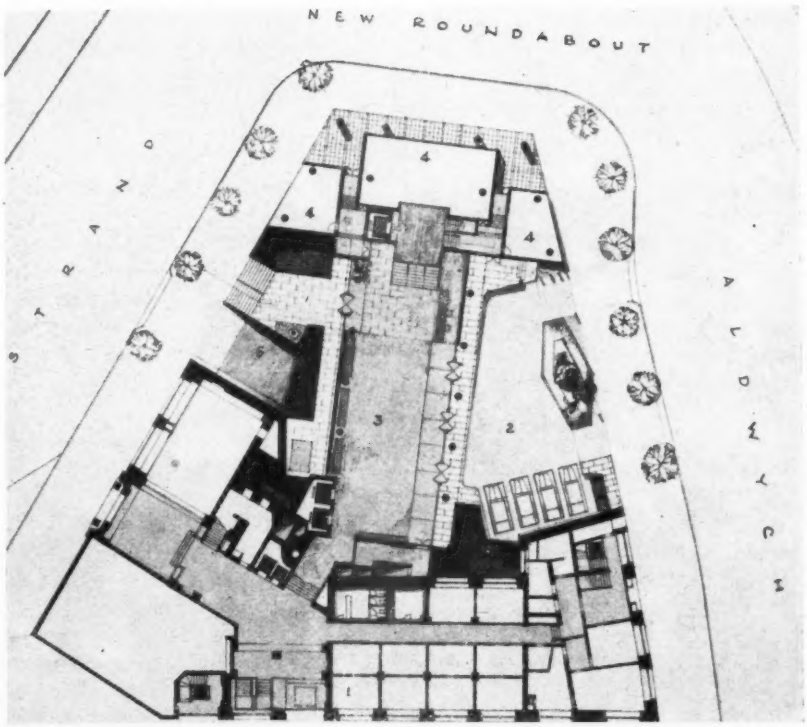
Architecture as a Science and Architecture as an Art. Sessional Paper to be given by Dr. J. Bronowski. At the RIBA, 66, Portland Place, W.1. 6 p.m. MARCH 1

WINNING DESIGN FOR OFFICES ON GAIETY SITE



North-west elevation

This design, by Sir John Burnet, Tait and Partners, for a block of offices for the English Electric Company, has won first place in a limited competition. (Each competitor—see pages 253 and 254 for their names—gets £750.) The assessors, Sir Percy Thomas and John Murray Easton, made the following report about the winning design: "It adopts the principle of the spine development, with the addition of a 5-storied block at the apex of the site, the main block having 9 stories above the ground floor. In form and mass it is simple and impressive. The plan is a very good one. On the ground floor a large entrance hall, approached either by foot from the Strand, or by car from Aldwych, links up directly with the existing entrance hall in Marconi House, and the two new lifts being adjacent to those in the existing building, become part of a well-placed vertical circulation. A central toilet and cloakroom unit is formed in the existing building in a space which would otherwise have been inadequately lighted; allowance for this loss of office space is made in computing the total net office accommodation provided. Exhi-



KEY:

1. Marconi House (existing)
2. Forecourt
3. Entrance Hall
4. Display Area
5. Ramp to garage

Ground floor plan

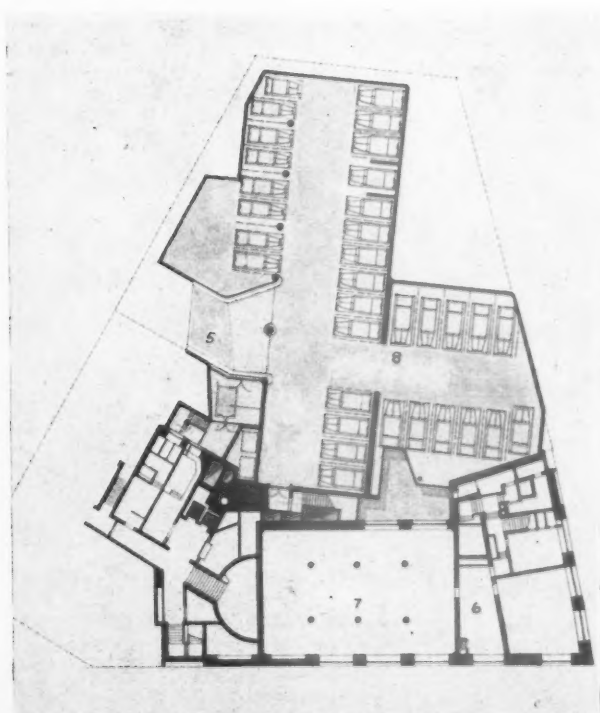
WINNING DESIGN FOR OFFICES ON GAIETY SITE continued

South-west elevation

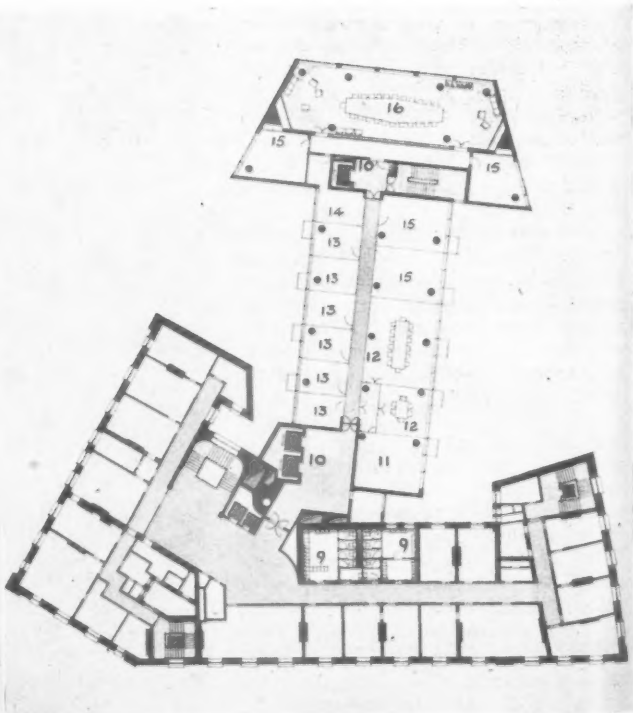
bition space is provided at the apex of the ground floor and all the offices are well lighted and suitable for dividing up by movable partitions. The net new office floor area provided in this scheme (excluding entrance hall and exhibition space) is 38,694 square feet, and the estimated cost £387,000." The assessors also made the following general remarks in their report: "We have examined the nine designs which have been submitted in this competition. The shape of the relatively small site, and the highly personal and vigorous architectural character of Marconi House presented the competitors with a difficult problem, further complicated by the fact that the open space which the new building will ultimately abut, is not likely to be created for some considerable time. Full integration of the new with the existing building and the provision of as large an addition to its floor area as possible were major considerations, which, added to those first mentioned, called for great skill. The rectangular block on the axis provides the most satisfactory solution to the problem—it avoids the drawbacks of an internal courtyard and long communicating corridors, and the setting back of the central block must reduce the noise of traffic in the offices. In addition very little alterations to the appearance of Marconi House are entailed."

KEY

5. Ramp
6. Projection room
7. Upper part canteen
8. Garage
9. Toilets
10. Lifts
11. Kitchen and servery
12. Dining room
13. Office
14. Cloakroom
15. Directors
16. Boardroom



Garage floor plan



Third floor plan

Can building costs be brought under control? The JOURNAL'S *Guest Editors (Costs) for* 1955, *whose fifth article appears below, believe that there will be more chance of costs being controlled if architects, quantity surveyors and building contractors are given as much information as possible about the comparative costs of building. For this reason the Guest Editors (N. Stanley Farrow, M.I.O.B.; A. W. Cleeve Barr, A.R.I.B.A.; James Nisbet, A.R.I.C.S.; Ivan Tomlin, A.I.B.E.; and E. F. L. Brech, B.A., B.Sc., M.I.I.A.) are willing to co-ordinate analyses of costs of buildings which readers are responsible for, and the* JOURNAL *Editors are prepared to publish them for purposes of comparison. Please write to us if you are interested.*

THE COST OF BUILDING:

COST ANALYSIS

In our Office Building story (AJ January 27 and February 3) we tried to make it clear that there is a need for a method of cost study that would enable the architect to plan expenditure during the design stage; a method that would show how the cost of a building is distributed. One such method is already in use and although it was developed primarily for assessing costs in school building, we consider that it might be applied with equal benefit to most other types of building.

The need for cost analysis

Lack of information makes it difficult to draw reliable conclusions about the pattern of costs in the various spheres of building such as factories, office buildings and so forth. But the conditions which operate in these spheres seem to be very much the same as those which, in the case of school buildings, prompted the development of cost analysis. To give some idea of these conditions we quote from MOE Building Bulletin 4 (Cost Study).

"The schools built since the war differ widely in constructional, architectural and educational quality as well as in cost. Costs per square foot for example range from about 42s. to about 78s. 9d. for primary schools, and from about 43s. 9d. to about 68s. 5d. for secondary schools. Clearly many different factors have contributed to these variations; in one case particularly difficult site conditions may have increased costs; in another standards may have been sacrificed to achieve a low figure. The problem is to distinguish first those schools which have been built extravagantly, and second those elements in either class of school which have absorbed an unduly high proportion of cost, perhaps at the expense of other elements."

If this is equally true of other types of building, and we think it is; it should be noted that while some £50 m. is spent yearly on schools, some £230 m. is spent on housing and about £70 m. on factories.

Figs. 1 and 2 (overleaf) illustrate wide differences implied in the paragraph quoted above. A very significant aspect that has been found in the range of school costs is that they are evenly distributed from the lowest to the highest. They do not cluster at an obvious average cost. It follows therefore that the architect and client with an entirely free choice have a very wide range of costs from which to make a selection; moreover, anyone who attempts to estimate on the basis of an *average* cost is almost bound to get an unreliable answer. This also is very likely true of buildings other than schools.

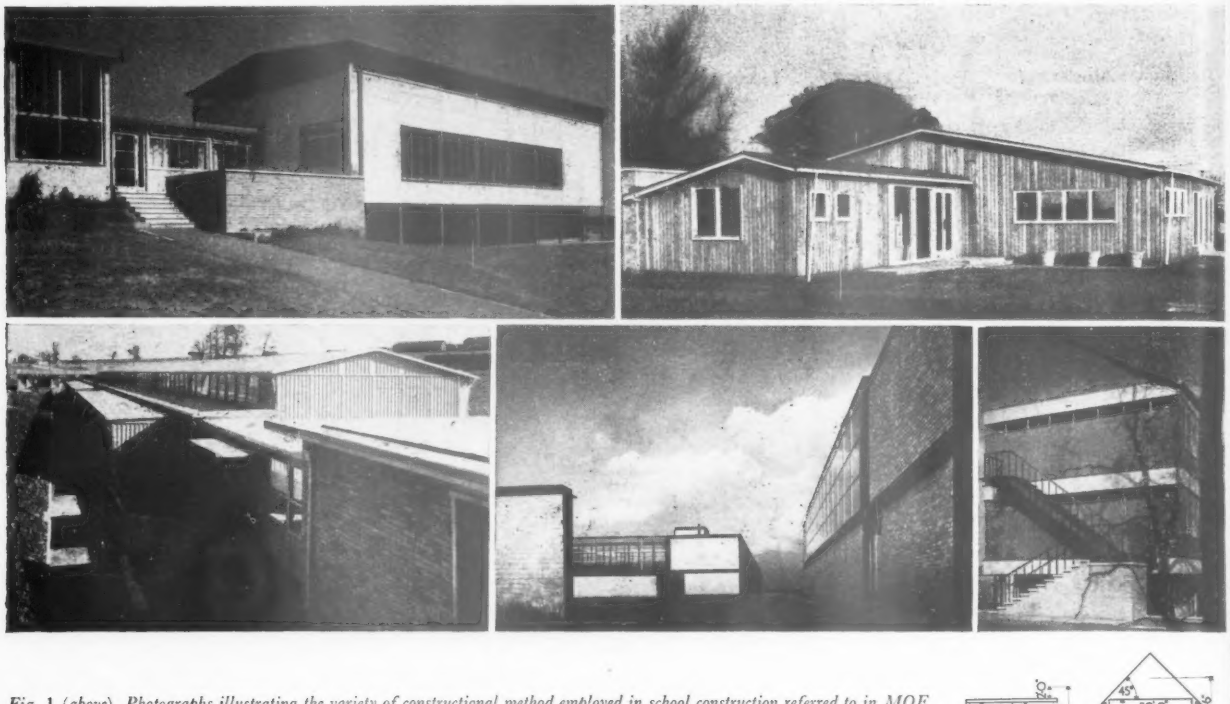
Having outlined the questions that the cost patterns pose, we now describe the MOE method which can lead to an answer.

Elements

It is obvious that the total cost per school, per place or per square foot tells us little about why a school costs what it does. To find this out it is necessary to break down the cost into small and convenient units, and the unit adopted is called (by the MOE) an *element*. To divide a building into its elements is to divide it according to function—irrespective of materials or constructional methods used—walls, floors, staircases, roof and so on. This breakdown relates more to the purpose of the building, and to the way the designer thinks of it, than to division by trades. Fig. 4 (on page 263) shows a schedule of the elements found most appropriate for schools, but this is not a complete list. Some schools would have more than the elements given, and some less. It is obvious, for example, that " upper floor constructions " and " staircases " would not occur in single storey schools.

Cost unit

The cost of each element is expressed in terms of shillings per square foot of floor area. Floor area was chosen by



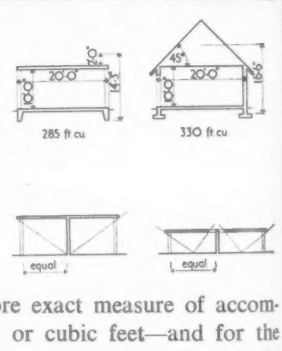
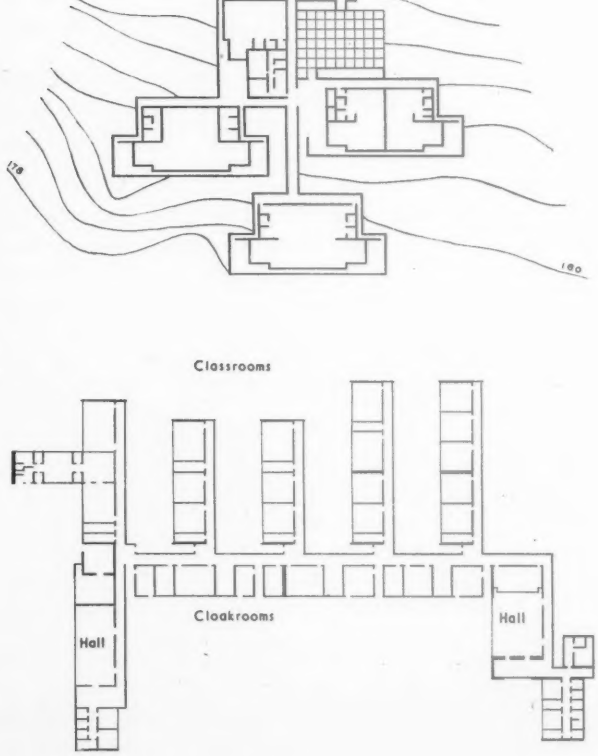


Fig. 1 (above). Photographs illustrating the variety of constructional method employed in school construction referred to in MOE Bulletin No. 4. Fig. 2 (below), plans of schools: top, Ilkeston Kirk, Hallam by Norman and Dawbarn in collaboration with F. Hamer Crossley; bottom, Twickenham Heathfield by C. G. Stillman. These indicate the difference in plan shape that arise from differing architectural problems and site conditions. Cost analysis offers a basis for comparing this variety of construction and plan shape. Fig. 3 (Right, below), two kinds of classroom of equivalent floor area but differing ceiling height and cube. Right, above, two kinds of building of equivalent floor area and ceiling height, but differing cube. These examples show how cube can be both an unreliable guide to accommodation, and an unreliable unit for comparison of cost.



the MOE because it is a more exact measure of accommodation than school places or cubic feet—and for the client, the education authority, accommodation is the thing that matters. Also floor area is the only unit allowing comparison between elements of schools which differ in size and total cost. We show how cubic measurement is an unreliable guide to accommodation in Fig. 3. One classroom is entirely side-lit; the other is partly side-lit and partly top-lit, thus allowing a lower ceiling height. Although the room width and floor areas are the same in both cases, the cubes are markedly different. Fig. 3 also shows that cube can vary with constant floor area and constant ceiling height. Cubic foot costs can thus be misleading, as the figures given below indicate. They were quoted in an excellent report by the West Riding CC Architect's Department, published in the *RIBA Journal* of September, 1954.

Cost per square foot s. d.		Cost per cubic foot s. d.
54 11·6	school x	3 10
55 0·3	school y	4 11
90 2·9	school z	4 6

Notice that while the cube cost of schools y and z are much the same, the foot super costs differ markedly.

The possibility of expressing element costs as percentages was also considered in the MOE investigation, but rejected, for it would tend to conceal the actual cost per element. For example, an element costing 5s. in each of two jobs,

one with a total cost of 60s. per square foot and the other of 70s., would give a percentage of 8·3 and 7·1 respectively. Thus the element would appear cheaper in the second job, although in fact both jobs cost the same. Or again an element such as plumbing could be roughly the same in houses of notably different total cost.

		SCHOOLS A.	B.	C.
		s. d.	s. d.	s. d.
1	Preliminaries and insurances	3 3	3 1	2 0
2	Contingencies	1 6	1 0	0 10
3	Work below ground floor level	6 7	4 6	3 3
4	External walls and facings	5 6	3 3	4 6
5	Frame	—	7 0	10 6
6	Upper floor construction	2 0	—	2 4
7	Staircases			
8	Roof construction	9 3	6 0	3 3
9	Rooflights	0 6	0 9	0 3
10	Windows	5 7	5 0	5 3
11	External doors			
12	Glazier	0 7	0 10	0 8
13	Internal partitions	2 1	1 9	1 3
14	Screen	—	—	—
15	W.C. doors and partitions	0 3	0 2	0 6
16	Internal doors	1 2	0 5	0 10
17	Ironmongery	0 10	0 4	0 8
18	Floor finishes	3 3	4 9	2 1
19	Wall finishes	1 0	2 0	1 4
20	Ceiling finishes	1 9	1 3	1 6
21	Decorations	1 3	2 6	2 0
22	Cloakroom fittings	0 9	0 2	0 6
23	Fittings	0 6	2 0	1 3
24	Gymnasium kit lockers and changing room benches	—	—	—
25	Kitchen equipment	—	—	—
26	Plumbing (external)	0 6	0 2	0 8
27	Plumbing (internal)	1 10	1 3	1 2
28	Plumbing (sanitary fittings)	1 0	1 4	0 10
29	Gas installation	0 3	0 4	0 6
30	Electrical installation	5 0	2 4	1 8
31	Heating installation	6 5	5 6	7 6
32	Kitchen ventilation	0 6	0 2	0 3
33	Drainage	1 10	2 1	2 4
34	Playgrounds and paved areas	2 0	4 6	3 0
	Net cost per square foot floor area	66 11	64 5	62 8

Fig. 4 (above). A schedule of the elements that have been found most appropriate for schools. For single-storey schools the elements "upper floor construction" and "staircases" would not of course occur. Fig. 5 (below). The element costs of schools A, B and C added together in groups, with the three major constituents shown graphically. A proportion of preliminaries and insurances has been included in each group. Note that although the schools are of roughly similar cost per sq. ft., there is wide variety in the distribution of those costs.

The purpose of cost analysis

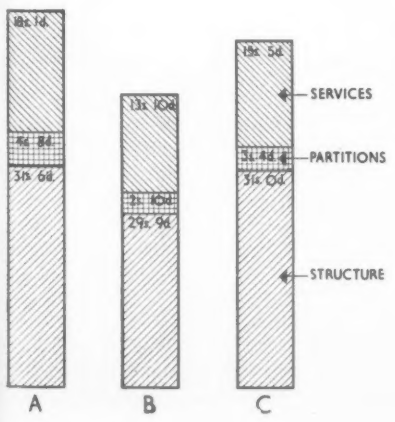
Having prepared an analysis we can see how costs are distributed among elements or groups of elements. To illustrate this we have grouped the elements of the three schools given in Fig. 4 under seven principal headings, and expressed the three major constituents graphically in Fig. 5. The schools are roughly similar in cost per square foot, but it will be seen that there is wide variety in the way the costs are distributed. A useful conclusion cannot, of course, be drawn from such analyses unless consideration is given to the quality of the building obtained for the money. But it will be seen that if these analyses were related to real schools they would invite closer investigation. "Would it have been of greater value," one might ask, "to spend less than 18s. 1d. on services in school A and a little more on fittings and playgrounds?" The relative importance of these costs will be apparent when it is remembered that a difference of 1s. per square foot makes £600 difference in the cost of a primary school and £2,200 in a secondary school. It should be noted that in comparing the cost of two buildings, those parts of the work affected by site conditions such as foundations and drainage are isolated from those not so affected thus allowing comparison of different buildings to be made on the same basis.

An analysis allows us to relate the cost of an element to its importance as a necessary part of the building. Of course the degree of importance will depend on assessment of quality, function and performance. The following prices, taken from the analysis in Fig. 4 might be reconsidered in relation to the part they play in the building:

Element	*School*	*Cost*
Frame	C	10s. 6d.
Electrical installation	A	5s.
Floor finish	C	2s. 1d.
Heating	C	7s. 6d.
Heating	B	5s. 6d.

An analysis also enables us to compare the costs of different types of element:

	Schools A	B	C
Floors	3s. 3d.	4s. 9d.	2s. 1d.
Electrical installation	5s.	2s. 4d.	1s. 8d.
Heating	6s. 5d.	5s. 6d.	7s. 6d.
Playgrounds	2s.	4s. 6d.	3s. 6d.



	SCHOOLS A	B	C
	s. d.	s. d.	s. d.
Contingencies: (2)	1 7	1 0	0 10
Structure: (3—12)	31 6	28 9	31 0
Partitions: (13—17)	4 8	2 10	3 4
Finishings: (18—21)	7 7	11 0	7 2
Fittings: (22—25)	1 4	2 3	1 10
Services: (26—33)	18 1	13 10	15 5
Playgrounds: (34)	2 2	4 9	3 1
Net cost per sq. ft. floor area:	66 11	64 5	62 8

Notice here that the price of a particular element can vary considerably from school to school.

In the planning of schools it would be possible to allocate cost among the elements to get the best value for money. Indeed it is not difficult to imagine that an architect and his quantity surveyor who made analyses of all jobs that went through their offices, would develop—over the years—an acute "cost sense." The distribution of cost in each job would be considered in the light of those that had been done before. For instance, comparison of schools A, B and C might suggest the following:

School C spend less on frame and more on floor finishes and electrical installation;
School B spend less on playgrounds and more on heating and ironmongery;
School A spend less on electrical installation and more on decorations and floors.

If a tender received was too high, a cost analysis would show where reductions could most beneficially be made. For example, in School C reductions could be made more effectively on frame, windows, external walls and facings than on contingencies, ironmongery and external plumbing. On School A reductions should be on roof, external walls and windows rather than on fittings, wall finishings and glazier. At this stage it might, of course, be too late to make changes in the structural elements such as the frame. But for the architect who systematically used a cost analysis and cost planning technique, tenders would be less often likely to provide unwelcome surprises than they do now.

There is another use for the cost analysis: it can explain why a tender is unexpectedly high; for example, if the preliminaries should prove to be much higher than is normal.

Analysis helps the architect to appraise proprietary systems of construction—such as those for which the manufacturer supplies and erects only the structural shell. If the costs of those elements in another building which collectively perform the same function as the proprietary system are added together, a comparison of cost can be made. Similar comparisons can be made of elements such as internal plumbing, heating, electrical installation, floor finishes and wall finishes; where the architect is faced with the problem of choice between various alternatives.

Preparation of the analysis

A full specification of the job, the drawings and a priced bill of quantities give the necessary information. The prices may be either those given in the tender or the final account figures, provided a consistent policy is adopted so that all jobs are comparable. A bill gives in general terms the cost break-down according to trades so that compilation of the element costs becomes a process of abstracting in reverse. The element headings are entered on abstract sheets, then the worker-up goes through the bill transferring the prices of items, or more usually groups of items to the appropriate element heading. The elements are next totalled and checked with the final account figure. The floor area is measured (from the inside face of the external walls) and the element totals are divided by this figure.

In this process two kinds of decision have to be made: first the decision as to what constitutes an element for a particular type of building; second, decisions as to what items in the bill will be ascribed to particular elements, the important thing being consistency of policy within a building type, so that comparison is always on the same basis.

Elemental bills

Obviously analyses can be completed more quickly by those who prepared the original bills; even so it has been found that after the initial phase that a primary school analysis need only take two days at the most. On other kinds of building there is insufficient experience to say how long analysis would take. In traditional construction, for example, isolation of elements might take longer.

It may be asked then, if the bill of quantities could not in the first instance be prepared in such a way that the abstracting process were reduced or avoided altogether. This possibility, which is being investigated, was discussed in an article in the JOURNAL for September 16, 1954, by C. M. Nott. The idea is to arrange the bill in element headings. Apart from a reduction of the abstracting time, it appears to promise certain other advantages. It is easier to locate items in the bill. The system offers a more ready basis for checking expenditure during the contract; of programming and bonusing the work; and of preparing certificates. We shall give more attention to this development in later articles, particularly when we discuss the contract operations' aspect of the cost problem.

Publication of cost analyses

On following pages of this JOURNAL there appears an account of the Herts. CC's one hundredth school. This kind of presentation is to be a regular feature in forthcoming JOURNALS. Part of it is a cost analysis, the publication of which raises an important question. It will be evident from what we have said that the greater the common fund of cost knowledge there is available to architects, quantity surveyors and builders, the wider the opportunity for comparison and thus control of costs. The work so far done on cost analysis has been confined very largely to schools but we believe that some form of cost analysis could be applied to other types of building with equal success. The fulfilment of this belief will depend very much on the free exchange and comparison of results obtained all over the country.

This suggests the idea of a published cost library—built up and constantly renewed from the findings of architects, quantity surveyors and builders in various parts of the country—freely available to all for reference. Clearly such an exchange would have to be co-ordinated so that analyses were done on a comparable basis, and certain difficulties would have to be surmounted. Would the benefits of such an exchange be a sufficient inducement for architects, builders and their clients to release cost information? We believe it might, but then would quantity surveyors be willing to do the analyses, and how much other information would have to accompany the analyses for interpretation and comparison of them to be fair and of value?

Some of these questions are addressed to you, the reader, for while the JOURNAL is willing to act as co-ordinator of the work and publisher of the cost library, the supply of information would have to be from you.

SECONDARY SCHOOL

in BARNET LANE, BARNET, HERTS for the HERTFORDSHIRE COUNTY COUNCIL

designed by C. H. ASLIN, county architect

K. C. EVANS, architect in charge, W. G. APPS, assistant architect

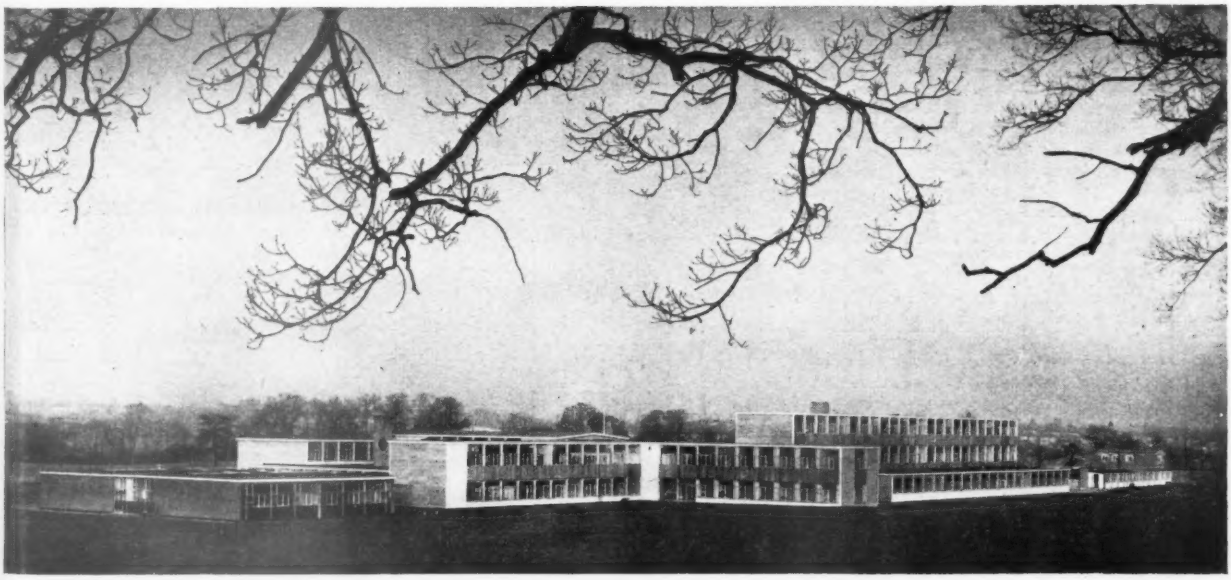
THOMAS BARRETT, SONS AND PARTNERS and

GARDINER AND THEOBALD, quantity surveyors

This is the JOURNAL'S *first attempt to present in a new and comprehensive way the three things an architect-reader wants to know about a new building: what it looks like, how it was built and how much money was spent on what. In this first feature in our new series of buildings illustrated we discuss aesthetics and planning from page* 266, *we give detailed tabulated information about construction and finishes from page* 274, *and on page* 278 *we give an analysis of costs. We suggest that readers will find it useful to file the section on costs so that they can make comparisons with cost analyses on similar buildings which we shall be publishing later. We also call readers' attention to the request for cost analyses made on page* 261

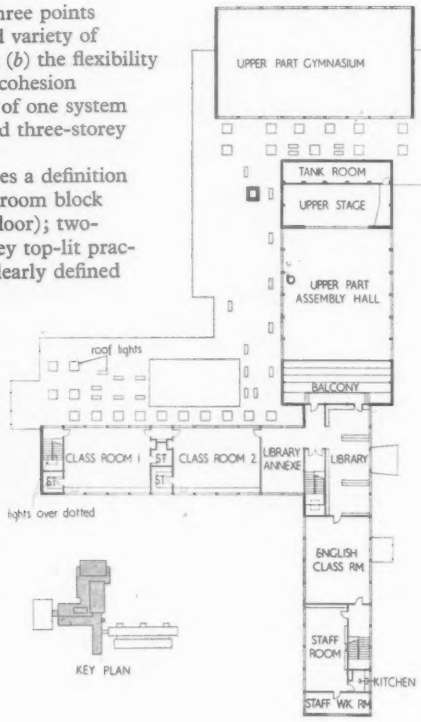
This is the hundredth school of the Hertfordshire County Council's post-war programme. Structurally it differs from previous Herts schools, for it is the first in which the "traditional" 8 ft. 3 in. steel frame has been taken up three storeys. More important than any differences perhaps, are the great similarities between this and other programme schools, for this is a production-line job; the latest example of a continuous process of development. Part of the secret of the high standard of finishes and equipment can be seen in the cost analysis on page 278. The approximate disposition of money (based on previous experience and present trends) is made at an early stage, thus giving the architect greater confidence and amongst other things the knowledge that each major decision, once made, will not be jeopardised at a later date through lack of money. The names of other architects in the County Architect's Department who were responsible for the 1952-53 secondary school programme are on page 284.

The school from the south-west.



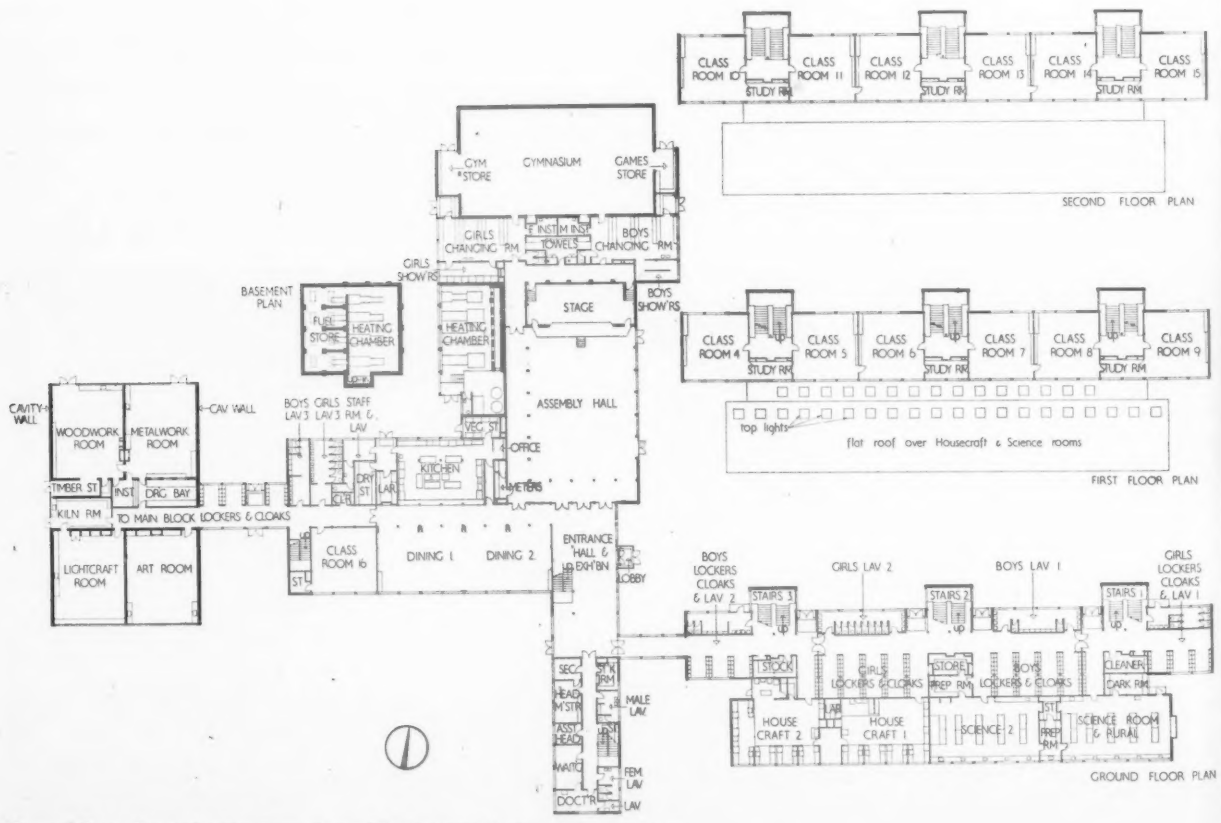
This first section of the JOURNAL'S *new method of describing buildings, contains illustrated comments on aesthetics and planning*

Right: this photo brings out three points clearly: (*a*) the complexity and variety of activity of a secondary school; (*b*) the flexibility of the structure; (*c*) a general cohesion resulting from the application of one system of building to single-, two- and three-storey blocks.
The building's appearance gives a definition of activities: three-storey classroom block (with cloakrooms on ground floor); two-storey staff rooms: single-storey top-lit practical rooms. Each activity is clearly defined



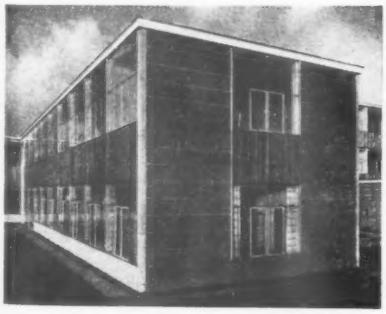
First floor plan, centre block

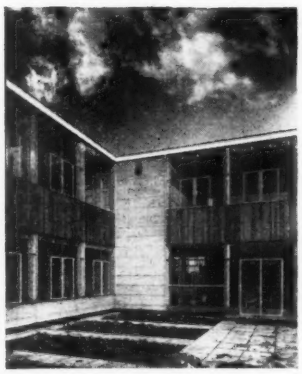
both on plan and in section and each block is related to the others by certain basic elevational rules of articulation which are derived logically from the structure. In principle these " rules " are: (*a*) where concrete cladding is used it should run from eaves to plinth without a break. (*b*) where windows are needed the frame and panel technique is used from eaves to plinth; (*c*) change of colour and texture with change of plane.
These " rules " are interpreted freely and empirically and no dogma is established. For instance, brick panels are used on staircase end walls simply to add a different colour and texture to the elevation.



Ground floor plan and upper floor plans of three-storey block [Scale : $\frac{1}{64}$" = 1' 0"

SECONDARY SCHOOL AT BARNET

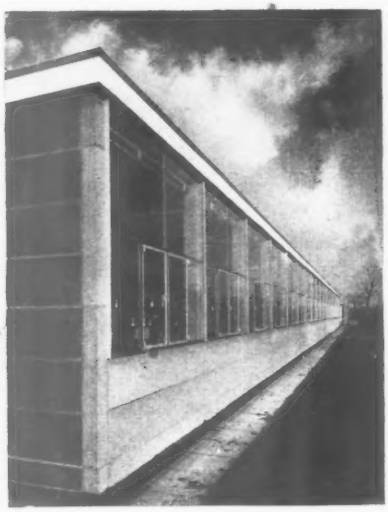




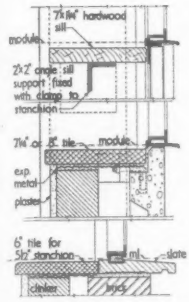
Above: the main entrance and the east facade of the assembly hall. The windows on either side of the entrance porch consist of fixed glazing in standard frames, with centre-hung pivoted opening-lights in standard frames above. *Extreme left:* in this photograph of the administrative block from the south-west, the cladding blocks on the right have a green granite finish and those on the left a white spar finish. The plinth is fair-faced concrete, bitumen painted. *Left:* the two-storey administrative wing where it meets the dining-room block showing the junction of normal cladding with curtain walling. Cladding blocks are 8 ft. 3 in. by 1 ft. 4 in. nominal. The mullions are set up first, then the window units are inserted and then the timber framing to which is nailed the vertical weatherboarding. It is a characteristic of this building that all problems arising from junctions of materials have been carefully studied and neatly solved without fuss. *Bottom:* The wall of the hall is a series of 8 ft. 3 in. wide strips running from eaves to plinth, the strips being separated from one another by a continuous mullion. The roof has a slight pitch and the eaves overhang is therefore increased to accommodate gutters and rainwater heads. The vertical weatherboarding to the assembly hall is of western red cedar. The assembly hall and gymnasium blocks have external roof drainage because pipes cannot be taken down inside conveniently.

Top left: The problem of obtaining a hard, impact-resisting material at ground floor level could have been solved by providing a different type of panel to fit between mullions. At the time of building this was not possible (except at too high a cost). So pre-cast concrete blocks were used at this level of the three-storey classroom block. This was unfortunate because such a confusion of materials occurs infrequently in the building and may later be ironed out of the system. *Centre left:* junction of sill and weatherboarding—typical of the curtain-walling on the south side of the 3-storey block. *Below left:* internal corner and change of level at the link of the 3-storey block and entrance hall.

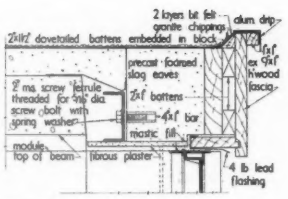
SECONDARY SCHOOL AT BARNET



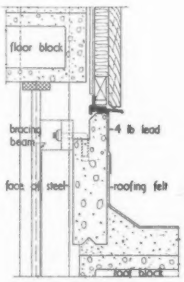
Cladding colour is changed with change of plane. The rather indecisive corner resulting from the use of spa finish on both faces could have been overcome by the use of a quoin block of white or neutral colour with a smooth finish. Although considered at one stage this was later rejected because it was felt that it would overemphasise the corner. The very small eaves projection—logical for this sort of structure—reflects the general neatness and trimness of structural detailing. *Left: top*, eaves; *centre*, junction at mullion sill-quoin; *bottom*, slate sill. (See detail F).



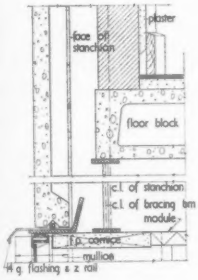
Sill details, at C (top) G (centre) and where brick panel used (bottom)



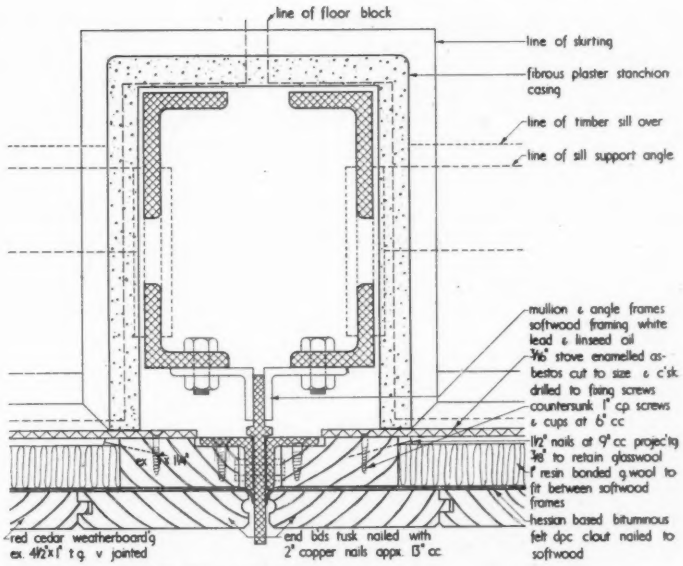
Detail A



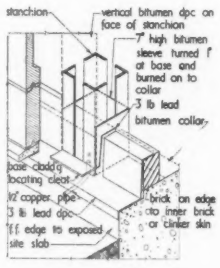
Detail D



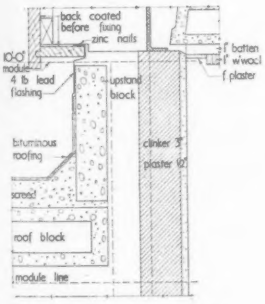
Detail B



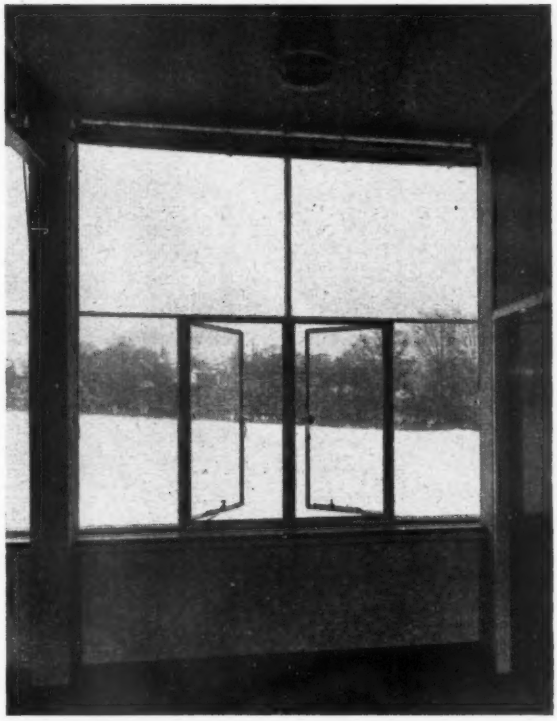
Plan between details C and D [Scale : 3" = 1' 0"]



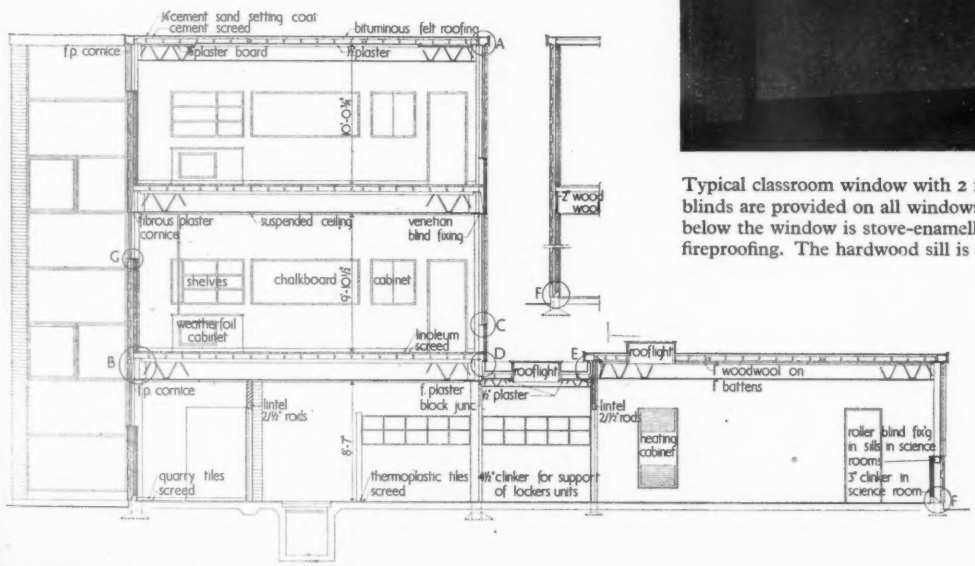
Detail F



Detail E [Scale : 1" = 1' 0"]



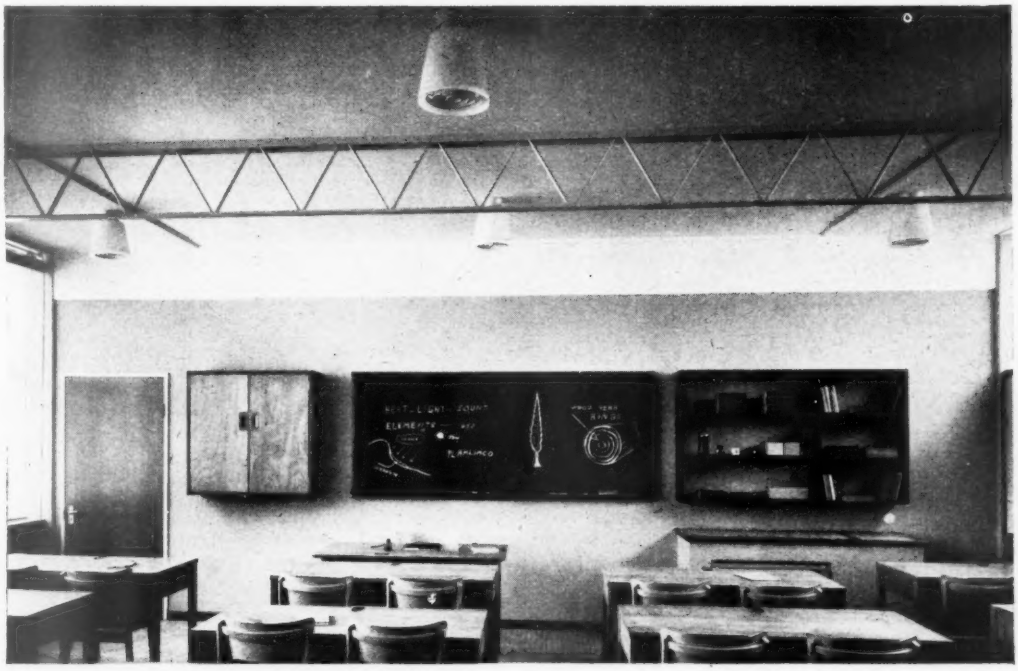
Typical classroom window with 2 ft. 8 in. sill height. Venetian blinds are provided on all windows facing south. The panel below the window is stove-enamelled asbestos, for structural fireproofing. The hardwood sill is treated with plastic polish.

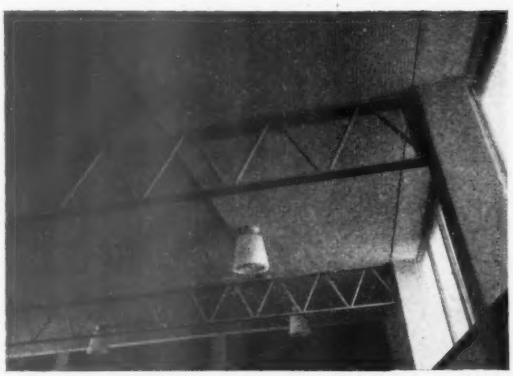


Typical cross section through 3-storey block [Scale : $\frac{1}{12}$" = 1' 0"]

Opposite page, top: the assembly hall. The proscenium arch, which is illustrated as a Working Detail in this issue, and the side splays are of fibrous plaster. The ceiling and window spandrels are faced with perforated plasterboard on studding, with glass fibre backing. The floor is finished with muhuhu blocks. Clerestory windows are fitted with roller blackout blinds running in metal U side grooves, and curtains to lower windows are lined for blackout. The stage curtains are printed in archrome colours selected by the architect. Walls on each side of the stage are faced with Uxbridge flint bricks. Above the proscenium opening the fibrous plaster is painted white. The stage floor is of seraya strips and the stage front is faced with vertical African mahogany boarding. The panels between windows are painted white and the colours (Archrome) are pale grey (43) for the structure, medium grey (21) for the doors and grey green (29) for the ceiling. The beams are painted glossy white. *Opposite page, right:* this glazed hardwood screen leads to the link between entrance hall and three-storey classroom block. Under this link runs the existing sewer which crosses the site (shown on the site plan, page 274). This is a fire door and the fixed glass is wired and the door panels are clear armour plate. The finish of all ironmongery in the school is satin chrome anodised aluminium. The framing is of African mahogany. In the foreground the floor is of grey concrete tiles. *Opposite page, left:* the r.c. staircase in the main entrance hall is constructed free of the main structure, within the 8 ft. 3 in. grid. The balustrading is painted white and the handrail is mahogany. The Danish wallpaper on the left has a white pattern on a dark red background.

SECONDARY SCHOOL AT BARNET



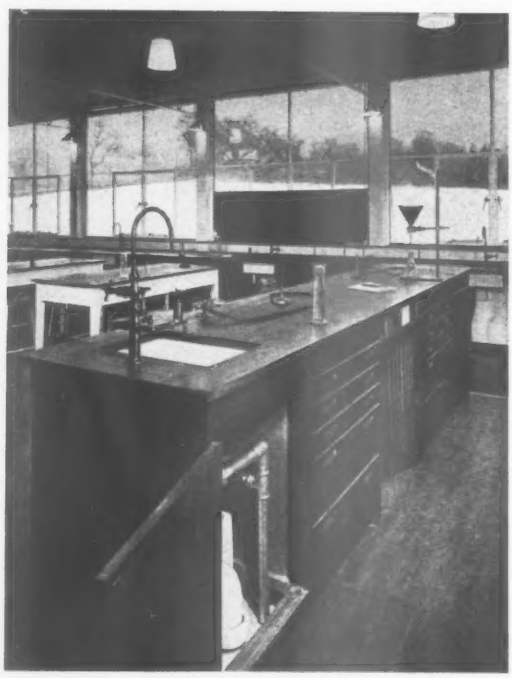


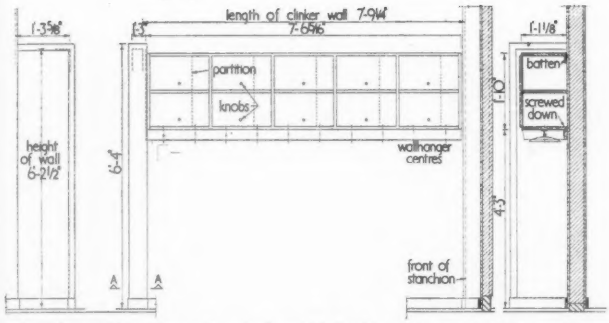
Above: typical arrangement of classroom teaching walls. The chalk-board has horizontally-sliding reversible leaves, which may be removed to expose the plastered wall, painted with chalkboard paint. The flat-topped dual desks, which have two drawers, are designed—as is most of the furniture in the school—by the architects. The pin-up area is 60 to 100 sq. ft. and is situated against the wall facing the main windows. The light fittings are louvred " buckets " designed by the architects in collaboration with the manufacturers. On the right of the photograph, under the open shelves, is a low-level warm-air heating-unit. Archrome (Munsell) range colours are: facing wall grey (44) or grey-green (29), beams and column casings pale grey (43), right-hand wall yellow (19) or orange-red (4), door dark grey (46), ceiling, white. The floor is finished with buff coloured studded rubber tiles
Left: ceiling in a typical second-floor classroom. Down each side of the room are strips of 4 ft. by 4 ft. perforated plasterboard sheets on battens, backed by glass fibre, and forming an absorbent area which is 1/16th of the total. The aims are: (*a*) to absorb external noise when windows are open; (*b*) to increase intelligibility, not necessarily to reduce total noise level; (*c*) to prevent " build-up " of sound by reflection in the corners of the room. This solution was worked out in collaboration with the BRS.

In this light craft room in the single-storey block at the western extremity of the school, walls are of fair-faced brickwork (deep buff) like those in other practical rooms, to give " a more robust environment." The 2 per cent. daylight factor is maintained by a rooflight in six bays. The ceiling is of 1-in. wood wool slabs, distempered white and fixed to 1-in. battens. The floor is finished with red quarry tiles. The Archrome colours used in this room, reading from left to right, are as follows. Shelves on left wall stone (17); cupboard doors on left wall red (5); door to kiln room dark grey (46); double doors of pottery cupboard medium grey (21); doors of three centre cupboards stone (17); vertical heater cabinet off-white (42); door to corridor dark grey (46). Table tops are of iroko, legs painted off-white (42). The high level panel on far wall is light blue (34).

SECONDARY SCHOOL AT BARNET

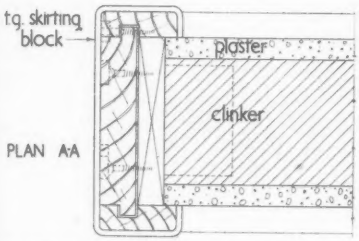
Kitchenette bay in housecraft room. Each bay is used by 4 girls at a time and contains a sink, cooker, plastic worktop and crockery saucepan, cutlery and general storage (see detailed plan on page 278). *Right:* the science room. Windows are fitted with venetian blinds at the top and black-out blinds at the bottom.





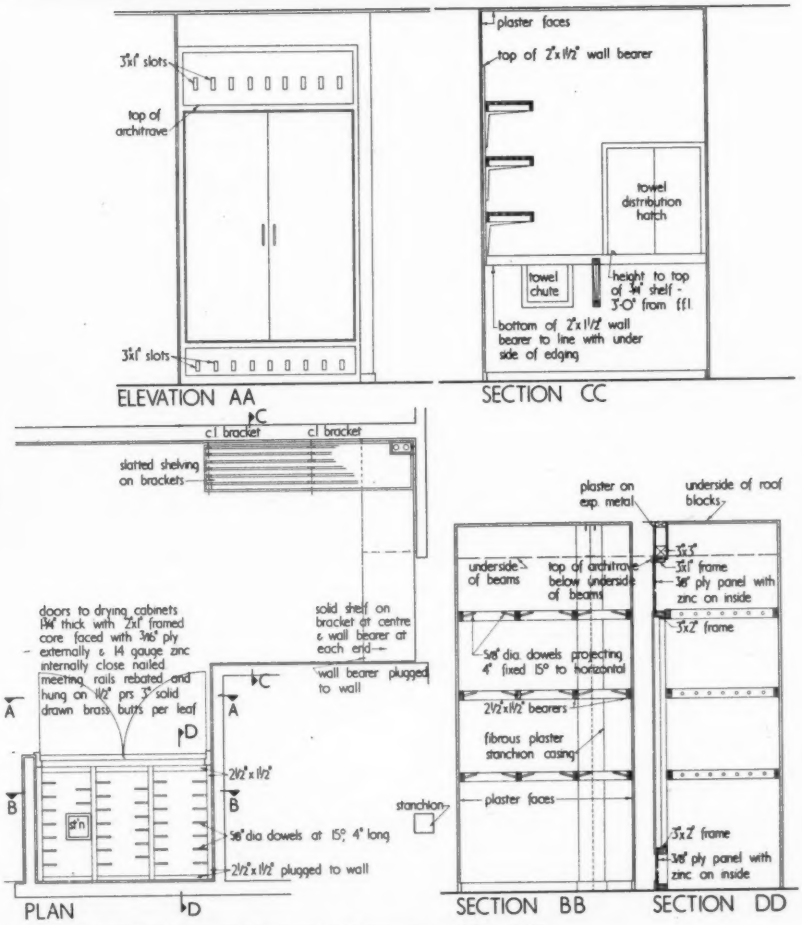
Elevation and section of typical pupil's locker unit [Scale : ½" = 1' 0"]

Pupils' individual locker and coat-hanging units. The slotted absorbent ceiling reduces noise in an otherwise very noisy area. This type of light fitting with bare bulb is used throughout the school in circulation areas. The chequered floor of peat brown and grey thermoplastic tiles maintains a reasonably high reflector factor without showing black rubber heel marks. The lockers are painted alternately black and white in glazed finish emulsion paint. The ceiling is fibrous plaster painted white and the end wall colours (Archrome) are orange-red (4) left and grey (44) right. The panels at the ends of lockers are pale grey (43) framed in polished African walnut. The left wall is of fair-faced Uxbridge flint bricks.



Detail plan A-A [Scale : 3" = 1' 0"]

The laundry, which is described in detail on page 278, has a floor of buff quarry tiles and white walls. In the foreground is the hydro-extractor, with the washing machine behind it. In the far wall are the issue and return hatches for towels. Hot and cold water is supplied to the washing machine: this is found more economical than the raising of heat by the electric coil in the machine.



Details of laundry drying cabinets and shelves [Scale : ½" = 1' 0"]

The section which begins below is planned so that readers may refer easily to details of design, construction and costs

SECONDARY SCHOOL AT BARNET

CLIENT'S BRIEF: his stated requirements

A 4 F.E. Secondary Modern School for 600—680 boys and girls between 11 and 15 years. No special educational emphasis was required except that a high standard of equipment was asked for in all practical rooms (workshops, housecraft, etc.). The schedule of accommodation is as laid down by the MOE, but all detailed planning was carried out in collaboration with specialists, either in person or through a document known as *User Requirements* which had been prepared for the 1950—51 secondary school programme. This document was re-written for the 1952—53 programme and is constantly under review by the County Education Officer, his special subject organizers and the Secondary Schools Group of the Architects Department. Two further checks were made to sharpen and refine knowledge of detailed requirements: first, discussions with headmasters of existing schools; second, a "post-mortem" enquiry conducted by the Education Officer after the school had been in use for some time. This procedure of gathering and processing basic data is a routine that is applied to every project. This method of feeding basic data into a common pool which is kept under periodic review, gives every group access to up-to-date specialist information. Consequently much time usually wasted on re-examination of fundamental problems that have already been adequately solved, may be spent on the detailed examination of any new educational problems thrown up by the type of school.

SITE: topography, surroundings, access, planting

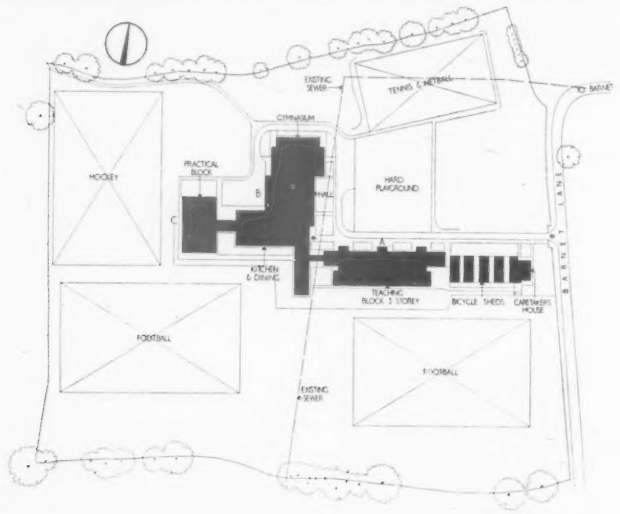
The ground slopes generally from south to north with falls varying from 1 in 10 in the S.E. corner to nearly level on the north side. Surroundings generally are open agricultural land with hedgerows and trees. The housing development to the south is screened by trees. An existing sewer, which affected the plan considerably, crosses the site (see site plan).

Access is from Barnet Lane (east side) which links Barnet with Totteridge, and from a field path linking Totteridge with a housing estate on the west of Barnet.

Tennis courts have been provided as part of the statutory "hard area," the extra cost being met out of "external works." The Rural Science course will use a 1 acre garden in the S.E. corner of the site in addition to a potting shed and animal house. Present hedges will be reinforced, any additional fencing required will be temporary and will eventually be hidden by new hedge planting. The detailed planting scheme will be developed by the Education Dept. in consultation with the architect.

AREA OF SITE: 19·16 acres.

SITE BEFORE DEVELOPMENT: Acquired by the County Council before the last war, the site is 1 mile from Barnet. No other site of similar size is available nearer Barnet. It is poor agricultural land, badly drained and waterlogged by overflow from a pond on the north side which receives stormwater outfall from Totteridge. The site surroundings to the west and north are scheduled as a "green belt" and no further development is to be allowed on the east side of Barnet Lane.



Site plan

PLAN: general appreciation

The building is planned to lie between the 280.0 and 282.0 contour lines to avoid excess cut and fill and to avoid an internal change of level on the ground floor. The existing sewer passes under the link between blocks A and B. Entrance for children is mainly on a "broad front" from the play pitch to the ground floor of block A.

The school consists of three linked blocks: A, a three storey teaching block; B, the entrance hall; and C, the practical block. The caretaker's house and the bicycle sheds flank the approach road and separate the school from Barnet Lane. There is a close relationship between changing rooms and play pitches and between the boiler house position and heavy users of domestic hot water. All circulation to upper floor rooms is by staircase access, there being no upper floor corridors.

Detailed planning relationships which are of particular interest, *e.g.*, dining space, housecraft bays and laundry are examined later in this analysis.

MAIN CONSTRUCTION

This is the Hills Hertford 8 ft. 3 in. welded steel frame, extended to cover from single to three-storey construction, with horizontal cladding spanning between stanchions. Precast unit floors and roofs, semi-curtain wall with weatherboard panel in-filling and solid ground floors. Block C has load bearing walls and long prestressed concrete block roofs.

LOAD BEARING ELEMENT: Welded steel box stanchion and steel lattice beam frame. The stanchions are 5½ in. square for single storey and 5½ in. × 6½ in. for multi-storey.

Location: Stanchions occur on grid intersections at 8 ft. 3 in. crs. in perimeter and internally to trim openings and at change of level junctions. *Beam spans:* Multiples of

WORKING DETAIL

PROSCENIUM: SCHOOL IN BARNET

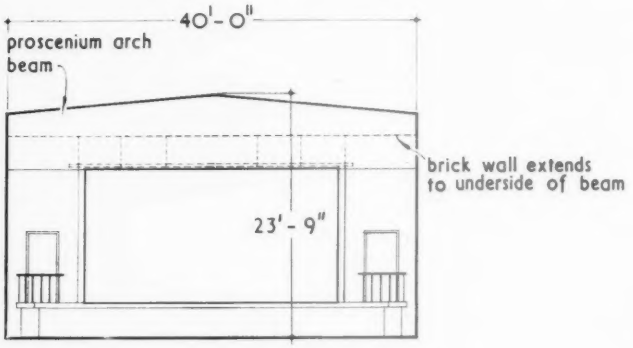
C. H. Aslin, architect to the Hertfordshire County Council

The proscenium arch is built up of six sections and is "wadded" (i.e., attached by strips of canvas soaked in plaster) to the steel hangers. The plaster splay linings are each made in a single piece with a long dimension of 17 ft. 6 in. to carry them up (on the stage side) to the full height of the brick walls. The 1½ in. by ½ in. steel flats which serve as stiffeners project from the bottom edge of the splay linings and are grouted into the concrete sub-floor. The top edge of each splay lining is wadded to the proscenium arch.

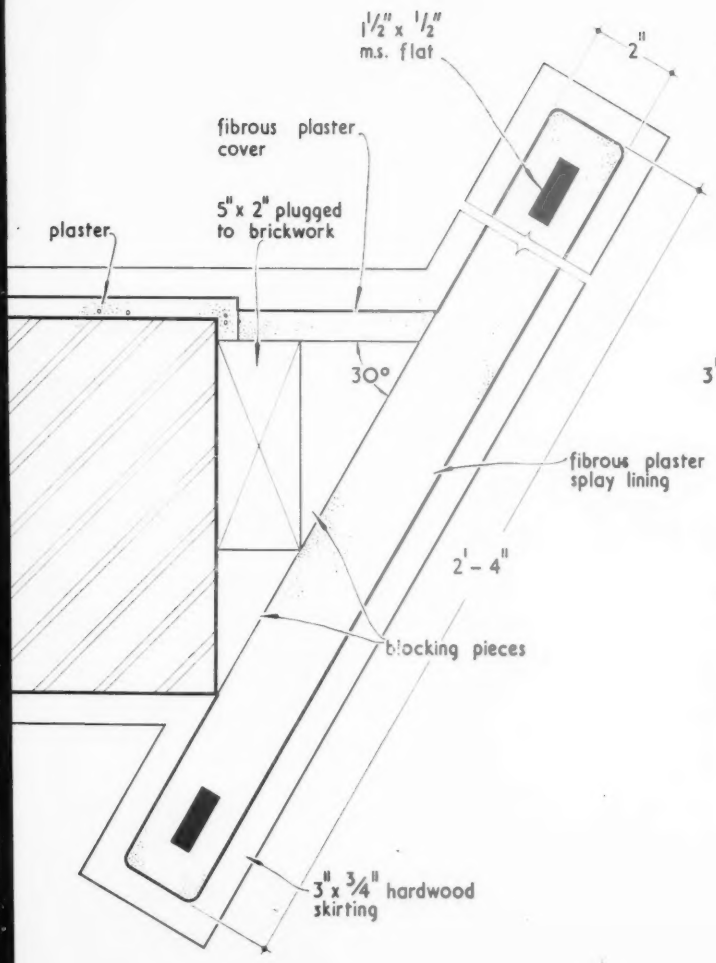
WORKING DETAIL

PROSCENIUM: SCHOOL IN BARNET

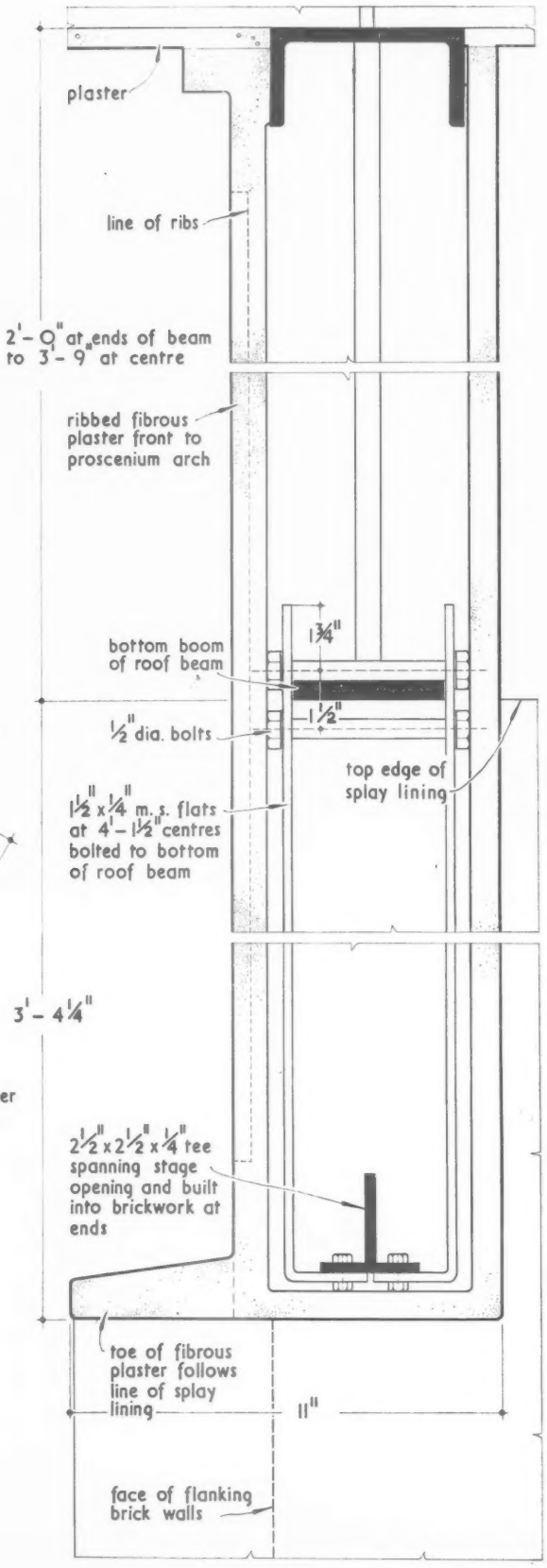
C. H. Aslin, architect to the Hertfordshire County Council



ELEVATION OF STAGE AND PROSCENIUM WALL.
scale 1/16" = 1'-0".



PART PLAN OF PROSCENIUM WALL. scale ¼ full size



VERTICAL SECTION THROUGH PROSCENIUM.

WORKING DETAIL

ROOFLIGHTS: SCHOOL IN BARNET

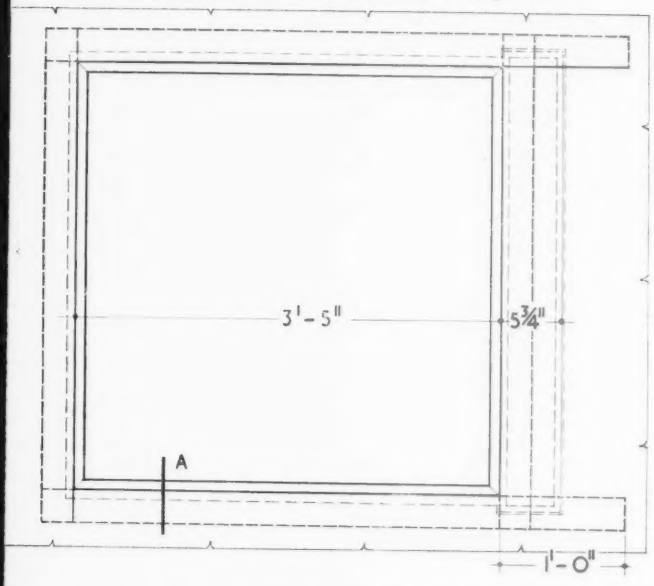
C. H. Aslin, architect to the Hertfordshire County Council

The galvanised steel hood and the limitation of the opening to 1 degree short of the horizontal enable the rooflight to be open in all conditions of weather (except driving rain). When the rooflight is closed permanent ventilation is secured by means of a $\frac{3}{16}$-in. gap between the lower edge of the frame and the glass. The linings are of cedar (to ensure reasonable dimensional stability) and are painted, white being used where the maximum of reflected light is wanted and pale grey on those surfaces where the reflection is likely to disturb those working in the room.

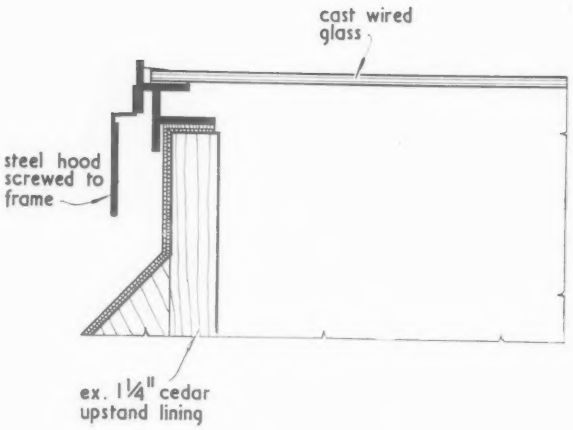
WORKING DETAIL

ROOFLIGHTS: SCHOOL IN BARNET

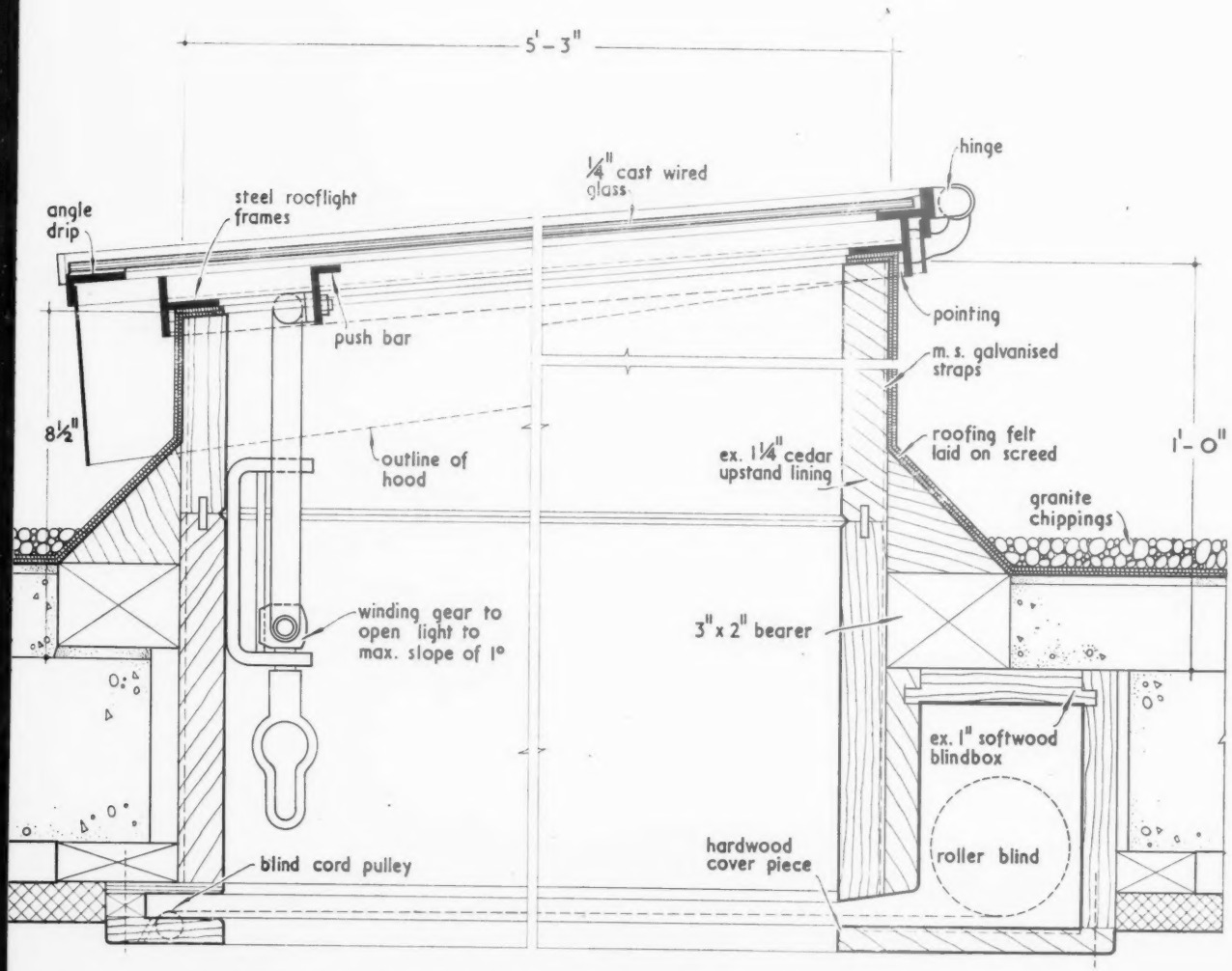
C. H. Aslin, architect to the Hertfordshire County Council



PLAN OF ROOFLIGHT. scale ¾" = 1'-0"



VERTICAL SECTION AT A.



VERTICAL SECTION THROUGH ROOFLIGHT AND BLINDBOX. scale ¼ full size

8 ft. 3 in. (8 ft. 3 in., 16 ft. 6 in., 24 ft. 9 in., 41 ft. 3 in.). All beams must intersect at a column. Beam depths vary with span. *Column Grid:* 8 ft. 3 in. square grid. Structural grid coincides with planning grid. *Reasons:* A standard "component" prefabricated frame with maximum off-site labour and minimum erection time. The frame system lends itself easily to the standardization and flow production of other major units in floors, roofs and cladding.

FOUNDATION TYPES: *a.* Mass concrete pads. *b.* Reinforced edge beams. Site slab reinforced as necessary. *c.* Strip loadings in Block C. *Locations: a.* Under stanchions. *b.* Between stanchions. *c.* Under load bearing walls. *Subsoil:* Medium clay with an average safe bearing load of 0·9 tons sq. ft. *Depths: a.* Generally 3 ft. 6 in. below F.G.L. *b.* Edge beams deepened to contain fill where necessary. *c.* 2 ft. 9 in. below floor slab. *Reasons:* The estimate for bored piles was higher than that for mass concrete foundations due to the large pile cap resulting from embedding of stanchion base 1 ft. 4 in. below F.G.L. (necessary to resist moments). At the time there was only one firm equipped with augurs large enough to provide single piles to each stanchion.

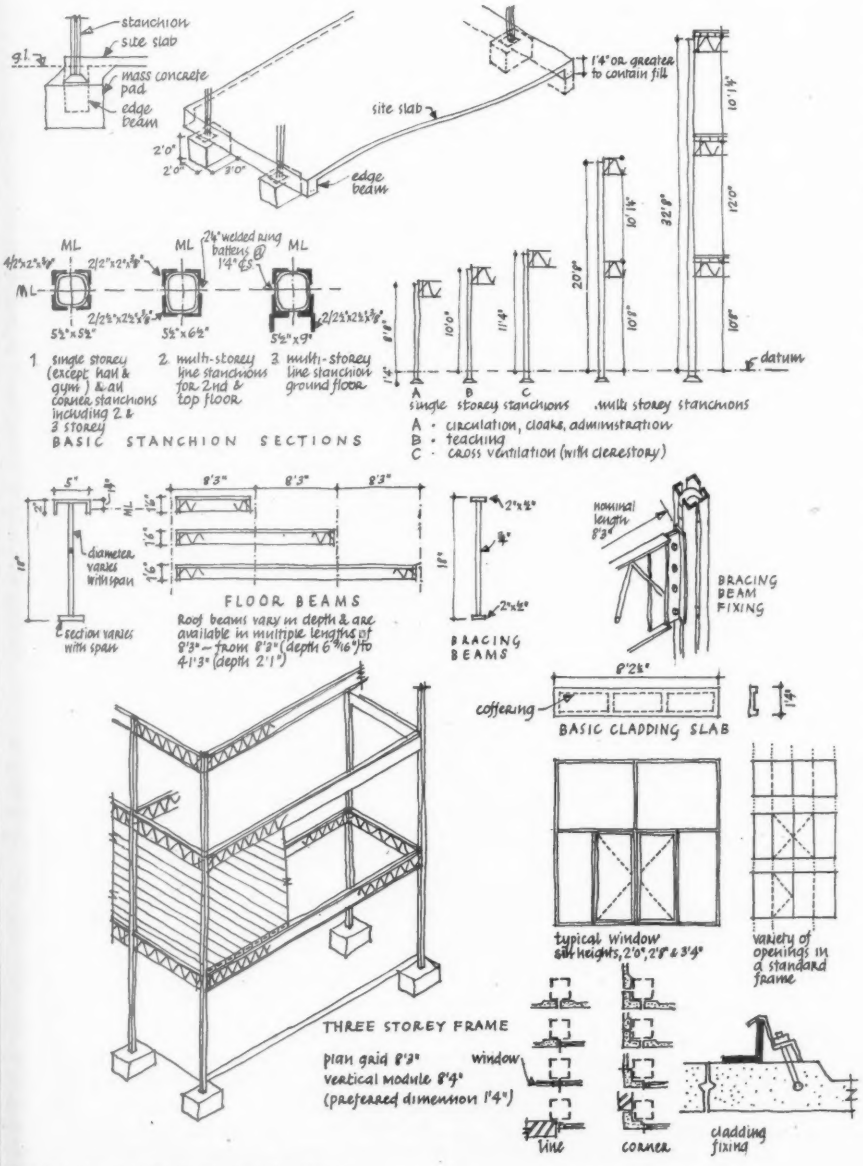
OUTER WALL TYPES: *a.* Horizontal cladding blocks with cavity and lining. *b.* Semi-curtain wall. *c.* Load bearing. *Locations: a.* Generally, but mainly north sides and gables. *b.* South sides and large window areas. *c.* Block C. *Materials: a.* Faced, vibrated, pre-cast concrete. *b.* Steel with glazing and weatherboard panels. *c.* Brickwork (bricks at 285s. per 1,000). *Finishes: a.* White Derbyshire spar integral finish and green criggion granite chips. *b.* Western red cedar weatherboard. *c.* Fair-faced. *Reasons:* The spacing of stanchions at 8 ft. 3 in. centres is economic only if they are used to the full for fixing walling without further intermediate supports. Window units are standard multiples of basic units. Spar finish is ½ in. thick, vibrated with the slab. While still green it is wire brushed and hosed. There is extensive experience of these techniques in the Dept.

ROOF TYPES: *a.* Flat. *b.* Slight pitch. *Locations: a.* General. *b.* Assembly Hall, outbuildings, cottage. *Materials: a.* Hollow pre-cast concrete blocks spanning 8 ft. 3 in. with insulating screed. *b.* Corrugated asbestos and woodwool on timber framing. *Finishes: a.* Two layers bituminized felt (first layer stuck down at edge only) with granite chippings or mineral grit. *b.* Coloured finish on asbestos (painted by manufacturer). *Reasons:* Pre-cast blocks give simple speedy fixing without shuttering. As there are seven units per 8 ft. 3 in. bay, there is great flexibility in the position of rooflights in relation to the plan.

FLOOR STRUCTURE TYPE: Pre-cast structural units on lattice steel floor beams. *Location:* General. *Material:* Hollow pre-cast concrete blocks 1 ft. 2 in. by 8 ft. 3 in. long by 5 in. thick, plus screed. *Finishes: a.* ¼ in. thermoplastic, 18s. to 20s. yd. laid. *b.* 4·5 mm. linoleum, 20s. 7d. yd. laid. *c.* Studded rubber, 21s. 9d. yd. laid. *d.* ⅛ in. t. and g. cork, 27s. yd. laid. *e.* ½ in. normal magnasite tiles. *f.* Serraya strip, 31s. 5d. yd. laid. *g.* Muhuhu block, 39s. yd. laid. *Reasons:* Prices of floor finishes include for the appropriate surface treatment, *i.e.* plastic seal on cork, polish on wood. The price for studded rubber is pre-purchase tax and was further reduced by bulk purchasing for the programme.

INTERNAL WALL TYPE: *a.* Hand erected block. *b.* Brickwork. *Locations: a.* General. *b.* Long spans and Block C. *Materials: a.* Vibrated cavity clinker block. *b.* Flint bricks. *Finish: a.* Plastered and painted. *b.* fairfaced or plastered and painted. *Reasons:* Economy and soundproofing with reasonable speed of erection. Block C is loadbearing throughout—see additional information on page 277.

CEILING TYPES: *a.* Surface finish. *b.* Fixed up to soffit of roof, with beams exposed. *c.* Suspended. *Locations: a. b.* Top floor and single storey. *c.* Beneath suspended floors (1st and 2nd). *Materials: a.* Plaster. *b.* Plasterboard or woodwool on battens. *c.* Plasterboard and fibrous plaster. *Finishes:* Emulsion paint and oil bound distemper. *Reasons:* Best available solution for fireproofing, acoustic qualities, appearance, economy, speed of erection and services. All ceilings were designed by the architect, suspended ceilings in collaboration with specialists. Emulsion paint was used to speed up decoration on plaster.



Sketches showing basic structural system

ARTIFICIAL LIGHTING

SOURCE AND FITTING TYPE: *a.* Mains A/C electricity. *b.* Tungsten filament semi-enclosed with direct and semi-direct fittings. *Location:* ceilings generally, some wall brackets. *Illumination level and quality:* Illumination to comply with statutory requirements using low brightness and non-glare fittings to maintain an even level. *Comment:* Anti-glare louvered fittings giving a 45 deg. cut-off are used extensively.

WIRING AND SWITCHING TYPES: VIR in screwed rod conduit with iron clad switchgear. *Location:* Suspended ceilings, box stanchions, roof screeds, floor and wall chases. *Reasons and comments:* Ease of re-wiring. Absence of universal suspended ceilings precluded alternative methods without conduit.

POWER SUPPLY TYPE: 3 phase, 4 wire. *How distributed:* Partly PILCSWAS cables to phase distribution boards. Otherwise VIR conduit. *Comments:* Secondary schools have bigger electrical loads and more complex requirements than Primary schools and since no universal ducting system was available, there was some difficulty in accommodating large cables and subsidiary switch and fuse gear. This was aggravated by the educational decision to put more storage fittings into the classrooms, thereby reducing the number of separate store rooms which would normally also accommodate switch and fuse gear.

NATURAL LIGHTING

WALL GLAZING: Window units fixed beween 4 in. " Detroit " mullions on cleats to outside of stanchions. *Location:* General. *Reasons and comments:* To facilitate construction by allowing windows to be fixed before or after cladding and to produce a flexible unit range for the secondary school programme. To eliminate expensive metal trim to stanchions.

ROOF GLAZING TYPE: Unit rooflights on box frame upstands. Opening lights operated by long-arm gear. *Location:* General. *Reasons and comments:* The extensive use of rooflight units either singly or in rows, to maintain the required 2 per cent. DF, makes planning more flexible. The cube of the building can be reduced by cutting out the need for clerestory lighting. A pressed metal skirting to opening lights allows them to remain open during driving rain.

THERMAL INSULATION

TYPES: *a.* Cavity wall, concrete block and clinker linings. *b.* Weatherboard panels with glass fibre linings. *c.* 2-in. Screeds on hollow concrete roof blocks. *Locations: a.* General. *b.* In areas requiring large glass surfaces. *c.* Roofs. " *U*" *Value: a.* Approx. 0·25. *b.* Approx. 0·15. *c.* Approx. 0·20.

HEATING AND VENTILATION: artificial and natural

HEAT EXCHANGER TYPES: *a.* Heater battery and fan cabinet (re-circulated warm air). *b.* CI radiators (hospital type). *Location: a.* General, *i.e.* one cabinet per area, two cabinets in large areas. *b.* Small admin. rooms. *Criteria temp:* 62 deg. F. internally for 32 deg. F. external. *Airchange/Hr.:* 3 (classrooms). *Reasons:* The whole system is thermostatically controlled and of proved efficiency.

BOILER TYPES AND CAPACITY: *a.* No. 3 Sectional 9 KL 3,774,000 BTU. *b.* Domestic HWS, Sectional 10N 838,200 BTU. *Heat load: a.* 2,020,000 BTU. *Fuel type:* washed singles. *Stoking method:* Automatic bunker to boiler, worm underfeed. *Reason for choice:* Ease of control, fuel and labour economy.

WATER HEATER TYPES: *a.* Domestic boiler and mains with indirect cylinder. *b.* Electric storage heaters. *Locations: a.* Boilerhouse. *b.* Block C. *Fuel types: a.* Washed singles. *b.* Electricity. *Stoking method: a.* Automatic bunker to boiler, worm underfeed. *Reasons for choice: a.* Main use areas planned near to boilerhouse. *b.* To serve isolated remote sinks with small load.

HOT WATER STORAGE TYPE: Lagged cylinders. *Location:* Boilerhouse. *Materials:* Galvanized MS. *Capacity:* 1,200 gallons. *Comments:* Standard practice.

PIPES AND JOINTING TYPES: *a.* Screwed and welded class B. *b.* Black barrel (heating). *c.* Screwed class B (galv.) hot water. *Locations: a.* Ducts (suspended ceilings). *b.* general. *c.* Small pipes exposed. *Materials: a.* Iron. *b.* Galvanized iron. *c.* Copper. *Installation method:* Small exposed pipes are in copper for neatness and ease of installation. Welding was used for convenience in some positions. Pipes in ceiling spaces are threaded through and supported by lattice beams.

COLD WATER STORAGE: Daily reserve of 4½ gallons per head. *Location:* Tank room behind stage. *Material:* Galvanized MS. *Capacity:* 3,000 gallons.

REFUSE METHODS: *a.* Kitchen-bins. *b.* Boiler-house-bins. *Types of refuse: a.* Food waste. *b.* Clinker and ash.

SPECIAL ACOUSTICAL TREATMENT

SOUND ABSORPTION MATERIAL: *a.* Perforated plasterboard with glass fibre. *b.* Perforated fibrous plaster with glass fibre. *c.* Woodwool. *Locations: a, b.* Classrooms, assembly hall and corridors. *c.* Particularly noisy rooms. *Absorption coefficient for low, medium and high frequency ranges respectively: a.* 0·2, 0·7, 0·3. *b.* Approx. as *a. c.* 0·15, 0·6, 0·6. *Comments:* In classrooms absorbent ceilings have been located strategically (see photograph on page 269). Ceiling absorbent is closely related to floor and wall finish and to activity in the particular space.

SOUND INSULATION: *a.* Cork flooring. *b.* Studded rubber flooring. *c.* Cavity clinker plastered partition. *Locations: a.* Block B. *b.* Classrooms (Block A). *c.* General. *Insulation standard: c.* 35 decibel reduction. *Comments: a, b.* Resilient flooring is used on upper floors to insulate structure from impact noises without using expensive floating floor method.

SOIL WASTE

TYPE OF SYSTEM: Separate system to main sewer. *Location:* Under site slab. *Materials:* Cast iron under buildings. 1st quality S.W. outside. *Methods and comments:* Prefabricated wastes are used for lavatory basins. They are neat, easy to clean and quickly installed.

DRAIN TYPE: Acid collection and dilution. *Location:* Science labs. *Material:* Chemical lead and fireclay dilution ports. *Method and comments:* In principle to collect from acid source with chemically resistant material and to dilute in pots at the end of a run of sinks.

RAIN WATER DISPOSAL TYPES: *a.* Roof sumps. *b.* Gutter. *Locations: a* Internal pipes. *b.* External pipes. *Materials: a.* Cast Iron. *b.* Aluminium alloy. *Comments:* Gutters and alloy pipes are used only where internal pipes are impracticable. Rainwater is piped to ditches.

FIRE

STRUCTURAL PRECAUTIONS : Fibrous plaster casings to stanchions. Fibrous plaster ceilings beneath floors in multi-storey parts. Smoke lobby doors. *Grade of protection:* Half-hour protection to structure of 2 and 3 storey. *Apparatus, sprinklers, etc.:* High pressure hose reel system. Fire warning bells. Extra local precautions in kitchen, labs. and workshops. *Hydrants:* All to comply with MOE regulations and County Fire Brigade recommendations. *Planning precautions, access for fighting:* Hard roads alongside the building for fire tenders. Smoke doors to stair wells and various sections of the building. *Means of escape:* Alternative means of escape from all rooms. Panic bolts to assembly hall.

COLOUR

PAINT TYPES : *a.* Oil paint, gloss. *b.* Oil paint, semi gloss. *c.* Oil paint, flat. *d.* Emulsion. *e.* Oil bound distemper. *f.* Plastic polish. *g.* Wax polish. *Where used: a.* Externally. Lavatories, kitchen, etc. *b.* Internal walls generally and stanchion casings. *c.* Fibrous plaster cornices. *d.* " Wet " ceilings. *e.* " Dry " ceilings. *f.* Handrails and sills. *g.* Hardwood generally. *Colour treatments, reasons, references :* Detailed colour scheme was prepared in accordance with County Architect's Department, experience and development work on use of colour in school buildings. Generally a panel treatment with structure consistently painted a neutral grey and infilling depending on light conditions and function of area. Colours were selected from the Archrome (Munsell) Range (see MOE Building Bulletin No. 9)– the reflectance factor for all colours on this range is part of their specification.

EQUIPMENT AND FURNITURE

All " loose " equipment selected or designed by architect.

All fixed furniture was designed within the Architect's Dept. and all loose furniture and equipment was selected subject to approval by the furniture sub-committee of the Edn. Committee. Some items of furniture (pupils' chairs, practical tables, service tables, etc.) were designed by the architect's staff.

The unit furniture is a development of the range designed for the 1950-51 Sec. School programme and provides a flexible and comprehensive range suitable for practical rooms as well as admin. rooms. All lockers, shelving, units, etc., were designed by the architects. Certain light fittings were designed in collaboration with the manufacturers.

TIME SCHEDULE

Job drawings: 6,000 man-hours. *Contract signed:* October, 1952. *Work commenced:* October, 1952. *Work completed:* June, 1954 (practical completion). *Type of contract:* Bill of quantities. *Comments:* First school in the 1952-53 secondary school programme and pilot scheme for bulk orders and programme sub-contractors.

ADDITIONAL INFORMATION

This school is the first secondary school of the County's 1952-53 programme comprising 10 secondary schools of which 6 others are now under construction ,using similar methods of construction). The 1954-55 programme contains 11 secondary schools of which 9 are based on similar methods. Standard drawings are produced as far as possible and these have been revised and amended to incorporate improvements found to be desirable. The system of construction is developed directly from preceding work in the department covering primary and secondary schools of single and two storey construction. The major developments are in the field of window construction and eaves treatment, together with general development in all elements of construction and finish based on experience of buildings in use. As a 'programme" school to be based on the maximum possible use of standard components and with bulk ordering of materials and components it was essential that the system of construction should be one that was well tried and this precluded changing to systems based on 3 ft. 4 in. grid which were still in an early stage of development. The school (and the programme) was planned during the 1952 steel shortage. This resulted in the elimination of all inessential stanchions and the use of hardwood for internal screens. The allocation of structural steel was insufficient for the whole job, therefore one section (block C) was built in loadbearing wall and prestressed pre-cast roof units. This also allowed a useful investigation of alternative methods in case the steel position deteriorated.

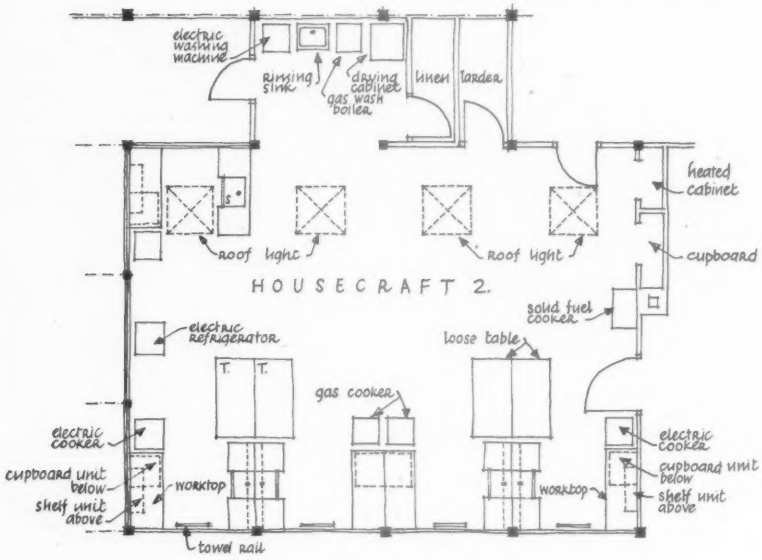
A primary object of the constructional methods and organization of the group of architects working on secondary schools, is to produce schools which can be built in under two years on site with a target of 18 months. This school, although commenced in October on a badly drained clay site, was occupied within 20 months and completed in 21 months. Although the man hours for preparation of drawings and site supervision are high, the benefit of this has been reaped in the following schools of the 1952-53-54 programmes as many job drawings have been revised to form "standards" and further subcontracts have been arranged to cover several schools. Consequently the time required to produce the necessary drawings for following schools has been considerably reduced.

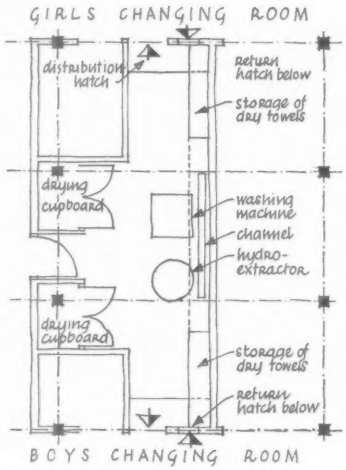
JOB DRAWINGS: Final number 180. *Standard Drawings:* Over 200 standard drawings and information sheets prepared before or parallel with the job drawings (under 22 section headings). Many of these were later superseded by manufacturers approved drawings. All have subsequently been revised and amended as necessary. *Steelwork Drawings:* Over 150 standard component drawings as well as job and layout drawings. As the frame was considerably revised (to cover 3 storeys), many items were not detailed until this school was designed and many of these items became " programme components." *Window System Drawings:* App. 50 standard drawings plus job drawings. These largely supersede the original architects drawings. *Specialist Drawings:* There are the usual number of other specialist drawings and shop drawings, based on architects job or standard drawings. *General:* It was originally intended to separate " Component " from " Assembly " drawings. This led to a large increase in numbers and was not entirely successful in a building containing a fair amount of " builders work."

DETAILED PLANNING OF SELECTED AREAS

LAUNDRY UNIT: This is the first school in which the laundry unit has been "planned in" although units have been fitted in to several earlier schools. The principle is that a clean towel is provided every time a shower is taken after a "Physical Education" period. It is issued by the instructor and when used is returned through the hatches. The equipment consists of an electric washing machine and a centrifugal hydro-extractor. After passing through the latter the towels are hung up in the built-in drying cupboard and are dried overnight. The work is carried out by the caretaker's wife and two hours per day are allowed for this. The capacity of the cupboards is 300 towels per day but others can be dried by hanging in the changing rooms. All other school laundry, e.g. tablecloths, roller towels, overalls, etc., is also carried out and considerable savings are being made in running costs against the cost of a laundry service.

HOUSECRAFT ROOM: Each bay in this room is arranged to demonstrate equipment found in a normal house and allows individual attention by teachers.





Above: laundry plan
Left: housecraft room plan

SITE AND PLAN ANALYSIS

SITE ACCOMMODATION	Area in acres	Per cent. of total
Building	1·13	7·0
Playing fields	14·53	76·0
Hard playing areas	1·07	5·7
School garden	1·00	5·4
Planting near building	0·23	1·3
Roads	0·31	1·7
Paths	0·67	1·6
Caretaker	0·09	0·6
Bicycle sheds	0·11	0·6
Rural science	0·018	0·1
TOTAL	19·16	100·0

PLAN ACCOMMODATION	Area in sq. ft.	Per cent. of total	Area per place
Hall (and balcony) / Stage	4,690	9·3	6·9
Gymnasium (and changing)	4,769	9·35	7·0
Library	952	1·86	1·4
Storage (teaching) / General and practical classrooms	19,838	39·22	29·2
Dining	2,160	4·22	3·18
Pupils storage	2,500	4·9	3·68
Sanitary accommodation	1,392	2·74	2·05
Staff rooms	2,589	5·02	3·81
Service (kitchen, heating)	3,214	6·25	4·58
Circulation	8,808	17·24	13·0
TOTAL	50,920	100	

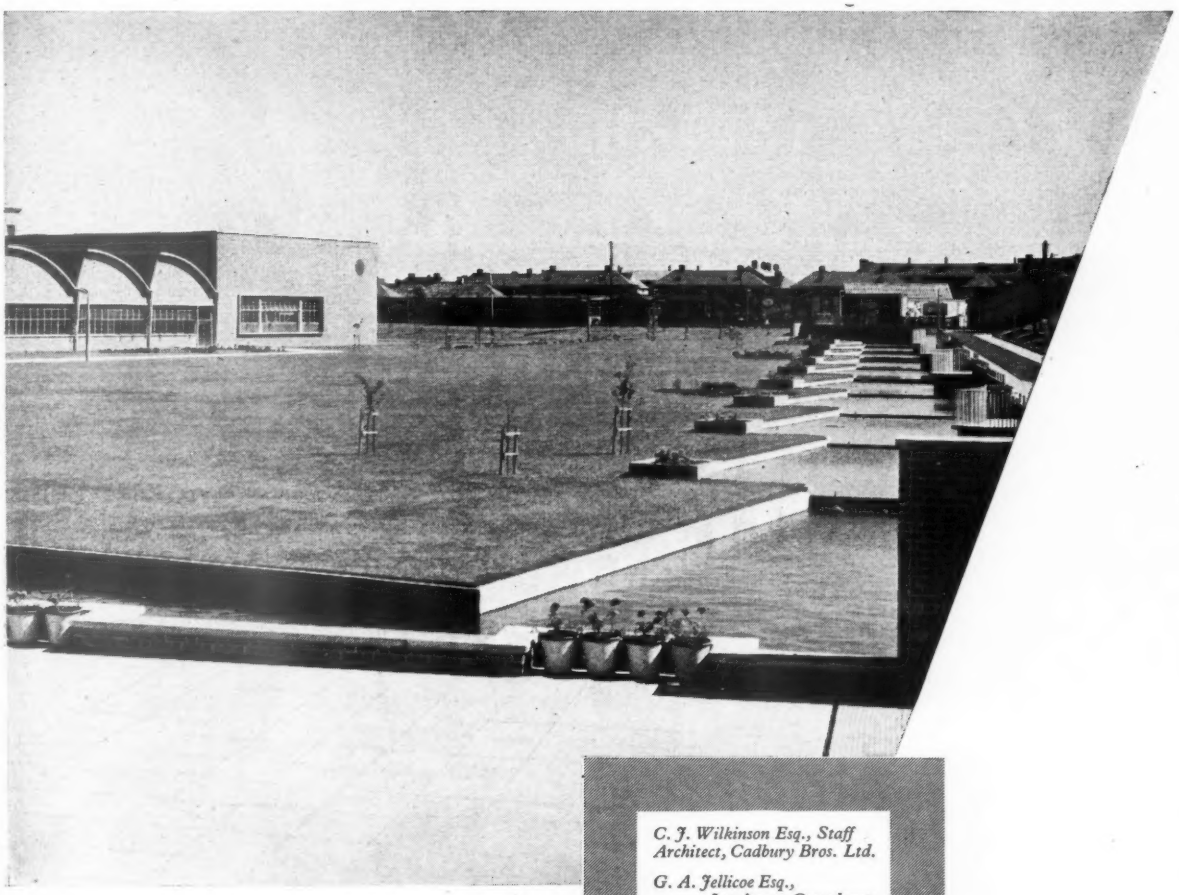
COST ANALYSIS

Note: Gross cost = net cost plus external works. External works include: *a.* Drainage works beyond m.h's adjacent to building. *b.* Road paths and fencing. *c.* Site layout, planting. *d.* Caretaker's house. *e.* Playing fields including additional cost of foundations due to bad site and abnormal cost of site works caused by water-logged clay site.

No. of form entries	4
No. of places	680
Floor area (sq. ft.)	50,920
No. of sq. ft. per place	74·9
Net cost	£166,170
Net cost per place	£244·5
External works	£22,648
Gross cost	£188,818
Gross cost per place	£277·6
Tender date	Sept. 1952

ELEMENT	cost per sq. ft. in pence
Policies and insurance	12·02
Contingencies	18·53
Work below ground floor level	47·01
External walls and facings	48·69
Internal load bearing walls / Internal partitions	23·04
Frame	114·65
Upper floor contr. and staircase	26·25
Roof	58·38
Rooflights	7·48
Floor finishes	51·46
Ceiling	25·94
Windows and doors (ext.)	59·64
Doors (internal)	10·28
W.C. doors and partitions	2·20
Cloakroom fittings	3·20

ELEMENT	cost per sq. ft. in pence
Wall finishes	26·02
Built-in fittings / Fittings	39·63
Ironmongery	4·60
Plumbing (external)	9·32
Plumbing (internal)	13·42
Sanitary fittings	8·66
Gas installation	4·59
Electric installation	42·09
Heating installation	71·17
Ventilation	0·78
Drainage	20·01
Glazing	9·74
Decorations	27·45
Playgrounds / Paved areas	41·98



C. J. Wilkinson Esq., Staff Architect, Cadbury Bros. Ltd.

G. A. Jellicoe Esq., Landscape Consultant.

General Contractors: J. Gerrard & Sons Ltd., Swinton, Manchester.

AT the new factory for Messrs. Cadbury Bros. Ltd., in Moreton, Wallasey, 'PUDLO' Brand Powder was used in the reinforced concrete walls and floor of an ornamental waterway. It was also used in the reinforced concrete weirs which were placed 44 feet apart to form a series of waterfalls. This waterway is decorated with Flower Boxes and Lily Ponds. *The composition of the waterproofed concrete was:— 1⅔ parts washed and screened River Mersey sharp sand. 3⅓ parts of ¾" to 3/16" graded double washed and screened crushed gravel, reinforced with B.R.C. fabric. 5 lbs. of 'PUDLO' Brand Powder to each 100 lbs. of cement.*

Descriptive booklet sent on request.

CEMENT WATERPROOFING POWDER

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BRAND

The word 'PUDLO' is the registered Trade Brand of Kerner-Greenwood & Co. Ltd., by whom all articles bearing that Brand are manufactured. Sole Props. & Manufacturers:—

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TECHNICAL SECTION

This week has seen the publication of MOE Building Bulletin No. 10 on Playing Fields.* We are hoping very shortly to publish a review of this Bulletin. In the meanwhile, we wish to take this opportunity of stating its value in reiterating the architect's right and duty to take an intelligent interest in this class of work. For its significance goes beyond playing fields or even school building. A characteristic of almost any building operation in an open site is that work on the surrounding open space is begun late—often after the building is finished: with the result that the building user must contemplate a desolate scene for at least one season longer than he need. One reason for this is, of course, the architect's unwillingness to concern himself with site organization in any aspect: an unwillingness which springs chiefly from unfamiliarity with the facts. This Bulletin does not pretend to arm the architect with a specialist's knowledge, but it does set out to give him a working notion of the possibilities. It is an attempt to enlarge the area of his competence and as such is particularly to be welcomed.

* *New School Playing Fields*, obtainable from HMSO. Price 3s. 6d.

CURRENT PRICES FOR MEASURED WORK

Prepared by Davis, Belfield & Everest, chartered quantity surveyors

Prices are for work executed complete and are for an average job in the London area. All prices include overhead charges and profit for the general contractor. Current prices of materials and rates of wages last appeared in the JOURNAL *for February* 10.

PRELIMINARIES

To all valuations for measured work add for Preliminaries, Water and Insurances, according to the nature of the job (say)		10%

EXCAVATOR

Excavation

N.B.—The following prices are applicable to hand excavation in heavy soil.

Surface digging, 6″ deep	per yard super	1/–
Ditto, 12″ deep	,,	2/1
Excavating not exceeding 10′ 0″ deep to reduce levels	per yard cube	8/5
Excavating not exceeding 5′ 0″ deep to form basement	,,	9/5
Ditto exceeding 5′ 0″ and not exceeding 10′ 0″ deep ditto	,,	13/8
Excavating not exceeding 5′ 0″ deep to form surface trenches	,,	11/7
Ditto exceeding 5′ 0″ deep and not exceeding 10′ 0″ deep ditto	,,	15/9
Excavating not exceeding 5′ 0″ deep to form basement trench commencing 10′ 0″ deep	,,	19/11

Disposal

Returning, filling and ramming around foundations	per yard cube	3/9
Wheeling excavated soil not exceeding 100 yards and depositing	,,	4/3

EXCAVATOR—(*continued*)

Ditto and spreading and levelling	per yard cube	5/6
Ditto, ditto, and consolidating to make up levels under floors and pavings	,,	6/11
Filling into lorries and carting away	,,	13/10

Planking and Strutting

Planking and strutting to sides of surface or basement excavation not exceeding 5′ 0″ deep	per ft. super	–/7
Ditto not exceeding 10′ 0″ deep	,,	–/9
Planking and strutting to sides of surface trenches not exceeding 5′ 0″ deep (both sides measured)	,,	–/2
Ditto not exceeding 10′ 0″ deep (ditto)	,,	–/3

CONCRETOR

Concrete (Basic Prices)

Portland cement concrete 1 : 3 : 6 with 1½″ coarse aggregate in foundations and masses exceeding 12″ thick	per yard cube	70/–
Ditto 1 : 2 : 4 with ¾″ coarse aggregate ditto	,,	70/5
Working around rod or mesh reinforcement	,,	4/3
Being in beds less than 12″ thick (6″-12″)	,,	2/1
Ditto less than 6″ thick (4½″-6″)	,,	6/4
Being in small quantities not exceeding 3′ cube	,,	16/10
Being in suspended floors and roofs....	,,	12/7
Being in walls not exceeding 6″ thick	,,	21/–
Ditto exceeding 6″ but not exceeding 12″ thick	,,	14/9
Ditto exceeding 12″ thick	,,	10/6

CONCRETOR—(*continued*)

Add to Basic Prices for:—

Being in lintels, beams, etc., not exceeding 72 sq. in. sectional area	per yard cube	31/6
Ditto exceeding 72 and not exceeding 144 sq. in. sectional area	,,	25/3
Ditto exceeding 144 sq. in. sectional area	,,	21/–
Being in columns not exceeding 72 sq. in. sectional area	,,	39/11
Ditto exceeding 72 and not exceeding 144 sq. in. sectional area	,,	31/6
Ditto exceeding 144 sq. in. sectional area	,,	25/3

Formwork

Close boarded formwork and supports to soffites of floors not exceeding 12′ high	per yard super	15/8
Ditto to vertical faces of walls (both sides measured)	,,	15/9
Ditto to sides and soffites of lintols and beams	per foot super	2/3
Add to any of the above for wrot formwork and rubbing down concrete	per yard super	2/10

Reinforcement

⅜″ to 1″ diameter mild steel rod reinforcement, hooked, bent and tied at intersections as required and fixing in concrete	per cwt.	53/4
½″ diameter ditto	,,	58/1
¼″ diameter ditto	,,	72/8
Steel wire mesh fabric reinforcement to B.S. 1221, weighing 4·71 lb. per yard super, well lapped at joints and embedded in concrete	per yard super	3/6
Ditto weighing 9·32 lb. per yard super ditto	,,	6/10

BRICKLAYER

Common Brickwork

		Flettons	Rough stocks
Reduced brickwork one brick thick in cement-lime mortar (1 : 3 : 9)	per yard super	30/3	36/3
Add to the above:—			
If in cement mortar (1 : 3)	,,	–/3	–/3
If circular on plan to flat sweep	,,	4/11	5/3
Ditto to quick sweep	,,	9/9	10/5
Half brick wall in cement lime mortar (1 : 3 : 9)	,,	16/5	19/5
Ditto built fair and pointed both sides with a neat flush joint	,,	18/6	21/7
One brick wall built fair and pointed both sides with a neat flush joint	,,	35/9	41/9
11″ hollow wall with 2″ cavity and galvanized iron twisted ties	,,	35/6	41/6

Engineering Brickwork

		Lingfield Engineering Wirecuts	Blue Pressed bricks
Reduced brickwork one brick thick in cement mortar (1 : 3)	per yard super	44/5	77/6
Half brick wall in cement mortar (1 : 3)	,,	24/–	40/10
Ditto built fair and pointed both sides with a neat flush joint	,,	26/1	43/8
One brick wall built fair and ditto	,,	49/–	82/8

Sundries

Extra for internal fair face and flush pointing	per yard super	1/2
Horizontal damp-proof course of two courses of slates and bedding and pointing	per foot super	3/9
Ditto of hessian base bitumen well lapped at joints	,,	–/10
Fixing only metal window, size 1′ 8″ × 4′ 0″, including cutting and pinning lugs to brickwork, bedding frames and pointing in mastic one side	each	8/7
Ditto, 3′ 3″ × 4′ 0″ ditto	,,	13/4
Ditto, 6′ 6″ × 4′ 0″ ditto	,,	23/6

Partitions

		2″	2½″	3″	4″
Clinker concrete solid partition blocks to B.S. 2028 (Type B and C) and setting in cement mortar	per yard super	8/3	9/7	11/4	13/9
Hollow clay partition blocks to B.S. 1190, keyed on both sides and ditto	,,	9/–	9/11	11/6	—
Molar hollow partition blocks, keyed on both sides and ditto	,,	18/11	20/4	21/10	26/7

BRICKLAYER—(*continued*)

Facings

		Ordinary facings, p.c. 244/– M.	Ordinary facings, p.c. 261/4 M.	White glazed facings p.c. 1,376/– M for stretchers 1,354/6M for headers and pointing with white cement
Extra over common brickwork built with bricks p.c.113/- M for facings as described and pointing with a neat weathered joint:—				
To solid wall in Flemish bond	per yard super	14/5	15/8	84/9
To cavity wall in stretcher bond	,,	11/10	12/9	67/10
To ditto in Flemish bond with snapped headers	,,	14/–	15/2	—
Half brick wall in facings in stretcher bond built fair and pointed one side with a neat weathered joint	,,	27/–	27/11	—
Ditto pointed both sides	,,	28/1	29/–	—
One brick wall in facings built fair and pointed one side	,,	50/5	52/3	—
Ditto pointed both sides	,,	51/6	53/4	—
Brick on end flat arch in facings 4½″ on soffite and 9″ high and pointing	per foot run	3/2	3/3	—
Brick on edge coping to 9″ wall with two courses plain tiles under, laid breaking joint, two cement angle fillets and pointing	,,	5/3	5/4	—

ASPHALTER

Tanking

		To B.S. 1097	To B.S. 1418
Horizontal asphalt tanking in three thicknesses on brick or concrete	per yard super	18/5	29/5
Vertical ditto	,,	23/8	33/7

Roofing

		To B.S. 988	To B.S. 1162
¾″ asphalt flat in two thicknesses on and including felt underlay	per yard super	13/2	22/1
¾″ asphalt skirting 6″ high with angle fillet at bottom and rounded top, turned into groove	per foot run	2/4	2/7
¾″ asphalt fascia 6″ high with solid water check roll at top and undercut drip at bottom	,,	4/6	5/3

DRAINLAYER

Trenches and Beds

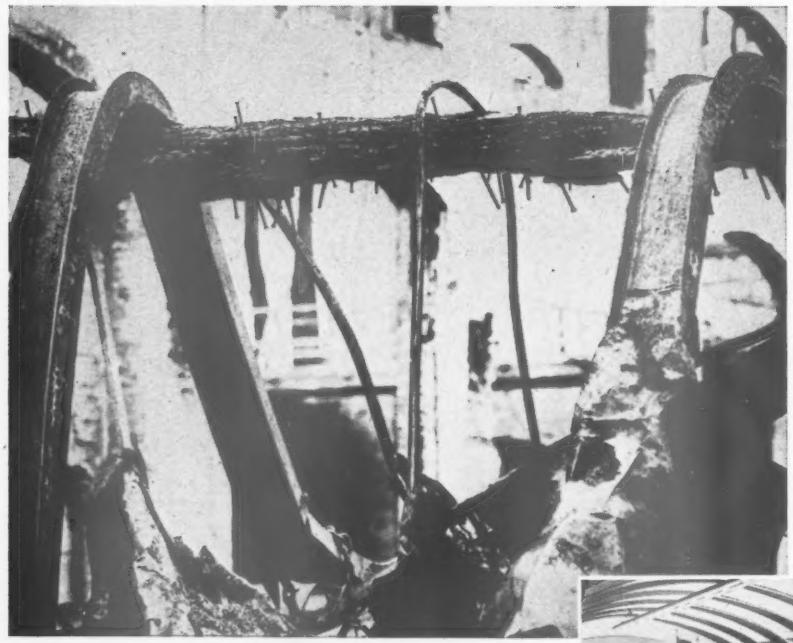
N.B.—The following prices are applicable to hand excavation in heavy soil, only requiring planking and strutting for depths of 3′ or more.

Excavate trenches for 4″-9″ pipes, including planking and strutting, filling in and ramming, and wheeling and spreading surplus:—			
For each 12″ in depth, for trenches not exceeding 3′ 0″ deep	per yard run		3/4
Ditto for trenches exceeding 3′ 0″ and not exceeding 5′ 0″ deep	,,		4/10
Ditto for trenches exceeding 5′ 0″ and not exceeding 10′ 0″ deep	,,		7/6
6″ concrete (1 : 3 : 6) bed and benching for pipes	per yard run	4″ 9/5	6″ 11/–
6″ ditto, and surround	,,	15/4	18/5

Drains

		3″	4″	
Clayware butt-jointed land drains and laying in trench	per foot run	–/5	–/6	
" Seconds " quality glazed stoneware socketed drains and laying and jointing in trench	,,	4″ 2/1	6″ 2/11	9″ 4/11
" British Standard " quality ditto	,,	2/5	3/6	6/–
Extra on " Seconds " quality for bends	each	3/2	4/9	13/9
Ditto " British Standard " quality ditto	,,	4/–	5/11	17/7
Extra on " Seconds " quality for equal single junction	,,	5/5	8/–	17/3
Ditto " British Standard " quality ditto	,,	7/11	9/10	21/8

Laminated Timber...



...can make all the difference!

Because of combustible powders, the fire in the wrecked building shown in the main photograph above was short and hot. The steel roof trusses quickly collapsed, but the heavy wood member, a 12" x 16" nailed, laminated beam (untreated with any fire-resistant material) stood up after hours of burning and supported the twisted steel girders. Laminated timber roof trusses would have made all the difference; instead of a total loss, much of the building *and its contents* would undoubtedly have been saved.

Take next the inset illustration of a canteen at the Boeing Aircraft Company, Seattle, U.S.A. The laminated arch construction gives a clear span at floor of 92½ feet . . . and makes all the difference, too, between an ordinary, and an attractive looking hall.

Today, modern glues make possible the use of laminated timber for both interior and exterior work, and for large or small constructions. *The selection of the correct type of glue is, however, highly important and, as specialists in this field, we invite all who are interested in laminated construction—whether from the fabricating or specification angle—to contact us for full information on "Glues for Timber Laminating".*

CASCO

SYNTHETIC RESIN & CASEIN GLUES

for Timber Laminating

Manufactured in Gt. Britain by

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DRAINLAYER—(*continued*)

Cast iron socketed drains to B.S. 437 and laying and jointing in trench	per foot run	11/7	17/6	34/2
Extra for short radius bend (Fig. No. 4)	each	23/5	46/6	130/9
Extra for single junction (Fig. No. 18)	,,	42/9	83/–	231/1

Fittings, etc.

		4″	6″
Glazed stoneware trapped gulley with galvanized grating and outlet and setting in concrete	each	23/1	42/7
Ditto with vertical inlet ditto	,,	28/7	48/1
Cast iron trapped gulley with high invert, grating, and 4″ outlet and setting in concrete	,,	71/4	—
Ditto with vertical inlet ditto	,,	76/–	—
Glazed stoneware intercepting trap with inspection arm, stopper and chain and fixing in manhole and jointing to drain	,,	72/5	84/4
Brown glazed stoneware half round straight channels and bedding and jointing in cement mortar	per foot run	1/11	2/10
Ditto ordinary channel bend and ditto	each	5/8	7/11
Cast iron coated single seal manhole cover and frame to B.S. 497 Grade C and setting frame in cement and cover in grease	,,	24″ × 18″ 45/–	24″×24″ 66/4
Galvanized ditto	,,	75/5	114/6

PAVIOR

		¾″	1″	1¼″
Cement and sand (1 : 3) floated screed to receive pavings	per yard super	3/8	4/5	5/–
Ditto trowelled smooth to receive linoleum	,,	4/–	4/9	5/4
Cement and sand (1 : 3) paving trowelled hard and smooth	,,	4/1	4/10	5/5
Granolithic paving (1 : 2½) laid on concrete	,,	1″ 6/4	1¼″ 7/2	1½″ 8/–
½″ red composition paving to B.S. 776 laid on prepared screed	per yard super			16/6
⅜″ terrazzo paving (Portland cement and spar aggregate) laid on prepared screed	,,			33/8
Extra for white or cream cement	,,			5/3
⅛″ rubber flooring in all colours, laid on prepared screed	,,			58/3
⅛″ × 12″ × 12″ rubber tile flooring ditto	,,			48/10
⅛″ × 12″ × 12″ cork tile flooring (brown shades) laid in mastic on prepared screed, surfaced and polished....	per yard super			45/11
1½″ hard red paving bricks p.c. 441/6 per M. laid flat on prepared bed in cement mortar....	,,			23/9
1½″ ditto laid herringbone	,,			25/10
6″ × 6″ red quarry tile paving to B.S. 1286 laid on prepared screed with straight joints	per yard super		⅝″ 22/11	⅞″ 25/7
6″ × 6″ buff quarry tiles as last	,,		25/11	29/3
2½″ (finished) gravel path laid on prepared bed, well watered and rolled to cambers and falls	,,		2/10	

MASON

Portland stone and all labours in pilasters, and quoins	per foot cube		37/–
Ditto in jambs, lintols, etc.	,,		39/4
Ditto in arches	,,		47/9
Ashlar av. 6¾″ on bed with plain dressed face....	per foot super		21/9
Portland stone or artificial stone to B.S. 1217:—		Portland	Artificial
4½″ × 4″ sill, sunk, weathered, throated and grooved for water bar, set and jointed in cement mortar	per foot run	7/2	4/3
		Portland	Artificial
9″ × 3″ ditto	per foot run	8/6	6/6
2″ × 12″ Coping, weathered and twice throated, set and jointed as last	,,	7/8	5/9
3″ × 12″ Ditto	,,	11/2	8/8
5″ × 12″ Saddle back coping twice throated, set and jointed as last	,,	18/7	13/2
6″ × 12″ Ditto	,,	20/9	14/11

SLATER, TILER AND ROOFER

Slate

		20″ × 10″	16″×10″
Best Bangor slates to B.S. 680 laid with 3″ lap, each slate nailed with two stout copper nails	per square	309/9	262/6
Ditto hung vertically to dormer cheeks and gables	,,	315/–	270/4

SLATER, TILER AND ROOFER—(*continued*)

Tiles

		Hand made	Machine made
Best sand faced plain (nibbed) tiles to B.S. 402, 10½″ × 6½″ laid to a 4″ gauge with each tile in every fourth course nailed with galvanized nails	per square	189/–	171/2
Ditto hung vertically to dormer cheeks and gables to 4½″ gauge with each tile nailed with galvanized nails	,,	204/9	191/8
Berkshire hand made sand faced red pantiles 14½″ × 10″ laid to 2½″ head and 1½″ side laps, each tile in every third course nailed with galvanized nails	per square		191/7
Ditto to mansard slopes....	,,		212/8
Bridgwater hand made Double Roman red sandfaced tiles 16½″ × 14″ laid to 3″ laps, each tile in every course nailed with galvanised nails	,,		138/1
Concrete plain (nibbed) tiles to B.S. 473, 10½″ ×6″ laid as before described for plain tiles....	,,		131/3
Ditto hung vertically to dormer cheeks, and gables, ditto	,,		157/6
Concrete interlocking tiles 15″ × 9″ laid to 3″ lap, each tile in every third course nailed with galvanized nails	,,		97/1
Ditto to mansard slopes ditto	,,		102/4

Asbestos Cement

6″ corrugated asbestos cement sheeting fixed to wood roofs with galvanized drive screws and washers with a side lap of 1½ corrugations and an end lap of 6″	,,	101/10
6″ ditto but fixed vertically	,,	112/10
Add to both last if fixed to steel purlins or sheeting rails with galvanized hook bolts	,,	5/3

Felt

Reinforced bituminous roofing felt laid with 3″ laps and nailed to rafters at 18″ centres with galvanized clout nails	,,		20/9
		Two layer	Three layer
One-ply bitumen felt to B.S. 989 laid on concrete. Each layer bedded in hot bitumen	per yard super	8/8	11/6
Extra on last for finishing with granite chippings	,,		–/9½

CARPENTER

Carcassing

Softwood, sawn and fixed, in plates, sleeper joists and lintols	per foot cube	15/4
Ditto in floor and ceiling joists	,,	17/3
Ditto in stud partitions	,,	19/–
Ditto in rafters	,,	18/11
Ditto in purlins and struts	,,	19/–
Ditto and framing in ridge	,,	18/11
Ditto in hip and valley rafters including cutting rafters to sizes	,,	21/3

Battening and Boarding

		Roof slopes	Vertical hanging
¾″ × 2″ battens nailed to softwood for 20″ × 10″ slates to 8½″ gauge	per square	30/5	33/1
Ditto 16″ × 10″ slates to 6½″ gauge	,,	40/5	43/7
¾″ × 1½″ ditto for 10½″ × 6″ tiles to 4″ gauge (4½″ for vertical hanging)	,,	53/7	54/7
		Roof slopes	Mansards
¾″ × 2″ ditto for 14½″ × 10″ pantiles to 12″ gauge	,,	23/8	24/8
¾″ × 1½″ ditto for 15″ × 9″ concrete interlocking tiles to 12″ gauge	,,	18/4	19/5
Roof boarding in batten widths close jointed and fixed to flat or sloping roofs	,,	¾″ 113/11	1″ 141/6
Ditto tongued and grooved and prepared for felt roofing including firring to falls	,,	160/4	198/3
Sawn gang boarding fixed to joists in roof	per foot super	1/3	1/6
Wrot and crosstongued eaves soffite	,,	2/–	2/4
6″ wrot and grooved eaves fascia planted on	per foot run	–/11	1/1

Wall and Ceiling Boards

		Vertically	Soffites
½″ fibre board to B.S. 1142 fixed with galvanized flat headed nails to softwood	per yard super	6/–	6/2
3/16″ asbestos cement flat sheeting to B.S. 690 fixed as last	,,	6/11	7/3
¼″ ditto	,,	8/1	8/5

Continued next week

INFORMATION CENTRE

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

10.122 design: building types
GARAGES AND FILLING STATIONS

Garagen- und Tankstellenbau. Rolf Vahlefeld and Friedrich Jacques. (Georg. D. W. Callwey, Munich. 1953. £3 2s. 6d.)

Having regard to the almost total lack of reference books on garages and filling stations written in English, this imposing German contribution lays claim to special attention. Comprising 300 photographs and about 100 drawings, it is divided into three parts.

The first part deals with general planning standards especially in respect of space needed and different possible schemes for parking. The schematic and isometric drawings illustrating large and multi-storey garages and their different means of ascent are particularly interesting. They include ramps, lifts, dollies, a double-drum construction and rotating platforms connected with lifts. The difficulties involved when raising cars to the upper floors of multi-storeyed garages have been very thoroughly dealt with. About 15 different schemes employing ramps, inside and outside buildings, are shown, together with the proportions, measurements and gradients and angles of entrance, etc., for driving lanes. Garages with ramps need more space than those with lifts, and usually cannot be built higher than 4 to 5 storeys above ground, but as they do not depend on mechanical aid the costs of electricity and maintenance are smaller. In cities where space is limited and expensive, however, lift garages may prove cheaper in the long run, despite the higher running costs, provided that their capacity is fully utilized, as they can be built to a much greater height and thus provide more accommodation on a small site.

Almost more rapid than the development of garages has been that of petrol-filling stations. The many examples dealt with vary from a single column under a canopy roof to very large and well equipped filling and service stations with assembly line type washing and maintenance shops, and special services for drivers such as refreshment rooms, washing and bathing facilities, shops and telephones and big servicing stations attached to motels.

The second part of the book is a sequence of constructional detail drawing ranging from foundations for garages and drives to details of garage doors, petrol filling tanks and their handling, lighting fittings, etc.

Three hundred photographs, of all types of garages and filling stations, form the third part of the book. The single type garages and those for public vehicles are mostly German examples. Those of hall-type, ramp and lift garages for commercial purposes have been collected from many countries and include garages to hold up to 1,800 cars. The photographs are supplemented with measured drawings of floor plans, elevations and parking schemes, isometric drawings and sections and many details such as the working of different sorts of mechanical lifts, all with short clear descriptions.

A most useful, well presented and thorough book, certainly welcome to anyone who has to deal with this topical subject.

18.160 construction : theory
SHELL ROOF CONSTRUCTION

Proceedings of a Symposium on Concrete Shell Roof Construction. (Cement & Concrete Association. 1954. 30s.)

Complete record of the proceedings of the Symposium held in July, 1952, of interest to both architects and engineers. The papers were presented under three headings, Architectural Aspects, Design and Research, and Construction and Formwork, and are reprinted in full with the discussion. A massive bibliography is appended.

24.188 lighting
REDESIGN OF OFFICE ARTIFICIAL LIGHTING INSTALLATION

Relighting Design for the Visual Environment. Journal of the Illuminating Engineering Society (USA). Dec., 1954.

An interesting account of the relighting and redecoration of the Customers' Billing Department of Public Service Electric and Gas Company, Newark, New Jersey.

Special attention was given to the type of work, which involves use of billing machines. Modifications were made to the keyboards of these machines to overcome specular reflection and glare and the old black machines were replaced with new machines having a grey finish (reflectance factor 20 per cent.). One difficult aspect of the problem was that the work surfaces were almost entirely on the vertical plane and this called for a high level of general illumination. Accordingly, the installation was designed to give an absolute minimum illumination of 50 ft. candles with an initial level of 85 ft. candles. This was provided by two-lamp louvred luminaires with metal sides providing 45 deg. by 45 deg. shielding, suspended 16 in. from the ceiling and giving an upward component of light. These fittings were supplemented by surface-mounted units on the bottoms of beams and ducts.

Arrangements were made for group replacement of lamps at 80 per cent. of their expected life and the cleaning cycle (every 6¾ months) was selected to coincide with lamp replacement. Room surfaces were scheduled to be washed every 20 months and repainted every 80 months.

It was stated that the relighting scheme resulted in a 4 per cent. increase in bills prepared per hour and a 12 per cent. reduction in errors per 1,000 bills. These figures were on the basis of 35 per cent. of employees who continued doing the same work before and after the installation of the new lighting system.

CLASSIFICATIONS FOR TECHNICAL ARTICLES AND INFORMATION CENTRE

1 Sociology. 2 Planning: General. 3 Planning: Regional & National. 4 Planning: Urban & Rural. 5 Planning: Public Utilities. 6 Planning: Social & Recreational. 7 Practice. 8 Surveying & Specification. 9 Design: General. 10 Design: Building Types. 11 Materials: General. 12 Materials: Metal. 13 Materials: Timber. 14 Materials: Concrete. 15 Materials: Applied Finishes & Treatments. 16 Materials: Miscellaneous. 17 Construction: General. 18 Construction: Theory. 19 Construction: Details. 20 Construction: Complete Structures. 21 Construction: Miscellaneous. 22 Sound Insulation & Acoustics. 23 Heating & Ventilation. 24 Lighting. 25 Water Supply & Sanitation. 26 Services & Equipment: Miscellaneous. 27 Furniture & Fittings. 28 Miscellaneous.

QUESTIONS & ANSWERS

Questions to the Technical Editor are answered confidentially and free of charge.

3081 HOUSING ACT, 1949

Q *With reference to your recent articles upon improvement grants under the Housing Act, 1949, for the improvement of properties, we have made application to a Council for a grant towards improvements of sanitary accommodation, provision of larder, etc., in respect of a property.*

We quote from the reply received:

"I regret that it has been decided that applications for improvements be not considered at the present time, this Authority being of the opinion that, in view of the present financial position of the Council, this is not an appropriate time to make such grants."

In view of the fact that this is an Act authorized by the Ministry, could you please inform us whether the local Council have the power to refuse to make such a grant?

A Under the Housing Act, 1949, the making of a grant is entirely at the discretion of the local authority, and there is no appeal to the Ministry against a refusal.

In circular 36/54 dated April 20, 1954, and published in the RIBA Journal for May, 1954, on page 285, the Minister said that whilst the power to make a grant is permissive and not mandatory, it was clearly the intention of Parliament that grants should be available to private owners willing to comply with the requirements, and a refusal to entertain any application could only lay a local authority open to increasing criticism from their constituents as the provision of the grants are made more widely known.

INFORMATION CENTRE

INDEX FOR 1954

An alphabetical index covering Information Centre items and special articles published in the Technical Section during the twelve months ended December 31, 1954, 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 7, 1955.

Please send me the Information Centre Index for 1954:

Name .....

(Block letters)

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Address .....

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AJ 24.2.55

Readers requiring up-to-date information on building products and services may complete and post this form to the Architects' Journal, 9, 11 and 13, Queen Anne's Gate, S.W.1

ENQUIRY FORM

I am interested in the following advertisements appearing in this issue of "The Architects' Journal." (BLOCK LETTERS, and list in alphabetical order of manufacturers names please.)

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Please ask manufacturers to send further particulars to :—

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PROFESSION or TRADE

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ADDRESS .....

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24.2.55

Buildings Illustrated

Ravenscroft Secondary School, Barnet Lane, Barnet, Herts, for the Hertfordshire County Council. (Pages 265-278). County Architect: C. H. Aslin, C.B.E., P.R.I.B.A., Architect-in-charge: K. C. Evans, DIP. ARCH. (BIRM.), A.R.I.B.A. Assistant Architect: W. G. Apps, A.R.I.B.A.; in addition the following worked on the County Secondary School programme 1952-53: Deputy County Architects, W. E. Tatton Brown, M.A., A.R.I.B.A., A.M.T.P.I., and G. C. Fardell, M.B.E., A.R.I.B.A., Principal Assistant Architect, J. T. Redpath, M.B.E., A.R.I.B.A., Group Architects, K. C. Twist, A.R.I.B.A., R. A. de Yarburgh-Bateson, M.A., A.R.I.B.A., Bruce Martin, A.R.I.B.A., C. E. Lovegrove, A.R.I.B.A., Architects, J. Burnett, B.ARCH., A.R.I.B.A., L. S. Clarke, B.ARCH. (SYDNEY), A.R.I.B.A., D. Embling, A.R.I.B.A., D. A. Forder, A.R.I.B.A., Max Gerlack, M.A.A. (DENMARK), G. V. Howes, D.A. (EDIN.), A.R.I.B.A., J. Hughes, A.R.I.B.A., A. Meikle, A.R.I.B.A., R. Radford, A.R.I.B.A., J. Singer, B.SC., A.R.I.B.A., E. Twist, A.R.I.B.A., P. A. Townsend, A.R.I.B.A., R. J. Whitley, A.R.I.B.A., G. M. Whitley, A.R.I.B.A., A. Williams, A.R.I.B.A., J. Weate, A.R.I.B.A., G. Woodward, B.ARCH., A.R.I.B.A., and S. V. Wyatt, A.R.I.B.A.; Sites and Surveys, G. Newell, A.R.I.B.A., A.M.I.STRUCT.E., G. Pollicutt, A.R.I.C.S.; Engineering Services, T. E. S. Thwaite, A.R.I.B.A., A.M.I.E.E., A.M.I.H.V.E., H. Falconer, A.M.I.E.E., B. J. Vardy, A.M.I.E.E., and H. Freeguard, A.M.I.H.V.E. Quantity Surveyors: Thomas Barrett, Sons & Partners, and Gardiner & Theobald. General Contractors: Marples Ridgeway & Partners Ltd. Sub-contractors and suppliers: balustrades, B. Finch & Co. Ltd.; bricks, Ibstock Brick & Tile Co. Ltd. (external); ceilings (suspended), Claridges (Putney) Ltd. (fibrous plaster), Gyproc Products Ltd. (plasterboard and plaster), (fixed up) Uniseco Woodwool; doors, Leaderflush (internal flush), (external) Marples Ridgeway & Partners (by Barkers of Hitchin), tip-up door, fibrous plaster, Claridges (Putney) Ltd.; floors, Korkoid Ltd. (linoleum and cork), Granwood Flooring Co. (magnasite tiles), Hollis Bros. Ltd. (thermoplastic, wood block and strip), Dover Engineering Co. Ltd.; fume cupboards, E.S.A. Ltd.; gymnasium equipment, Spencer Heath & George; heating, Weatherfoil Heating Systems Ltd.; kitchen equipment, Benham & Sons Ltd.; lavatory partitions, Venesta Ltd. (Plymax); paint, Docker Bros. Ltd.; structural roof, Concrete Ltd. (Bison); windows, door frames, rooflights, Crittall Manufacturing Co. Ltd.; structural frame, rainwater pipes (external), gates, Hills (West Bromwich) Ltd.; shoe lockers, changing rooms, A. J. Binns Ltd.; stairs (structural), reinforcement, Twisteel Ltd.; vents (mechanical), Greenwoods & Airvac Ventilating Co. Ltd.; walls (internal), Broad & Co. Ltd. (clinker blocks); (external), Dow-Mac Ltd. (precast blocks); waste fittings, Econa Modern Products Ltd.; loose furniture, George M. Hammer & Co. Ltd. and William Birch; light fittings, Merchant Adventurers of London Ltd., Tucker & Edgar, Hume Atkins & Co. Ltd., Falk Stadelmann & Co. Ltd.; waterproofing, Sealocrete Products Ltd.; clocks, bells, Gent & Co. Ltd.; acoustic tiles, Horace W. Cullum Ltd.; flagpole, J. W. Gray & Son Ltd.; flexible window gear, Arens Control Ltd.; wallpaper, Arthur Sanderson & Sons Ltd.; metalwork, B. Finch & Co. Ltd., W. J. Furse & Co. Ltd.; window panels, Block C, Holoplast Ltd.

Correction

In the JOURNAL for September 30, 1954, the Quantity Surveyor for Offices in Wherstead Road, Ipswich, Suffolk, was wrongly named as being J. M. Reed; this should have read J. W. Reed. We regret any inconvenience this error might have caused.

Lead Priming Paint

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The New Red Lead/White Lead Primer manufactured by Associated Lead is guaranteed to conform to B.S.S.2523 Type C.

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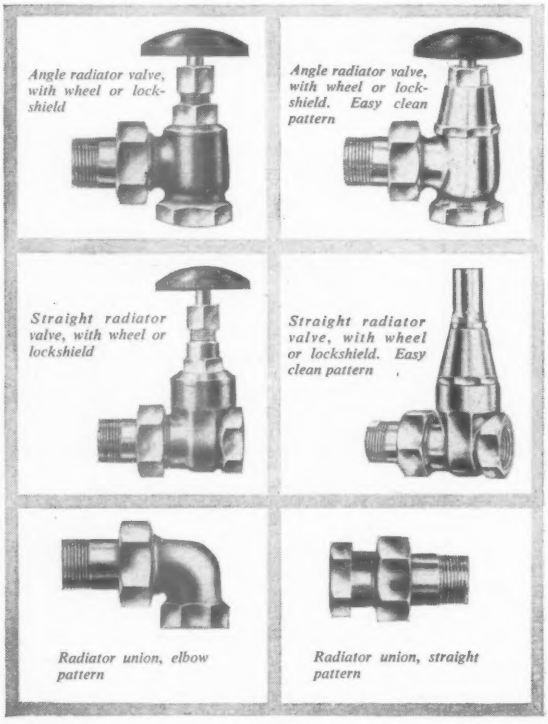

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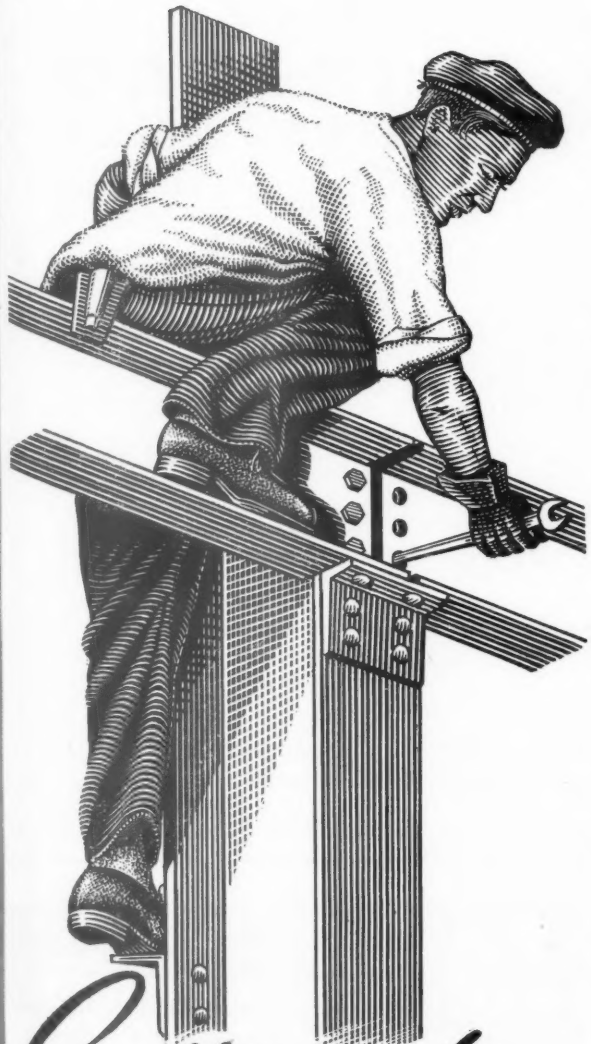

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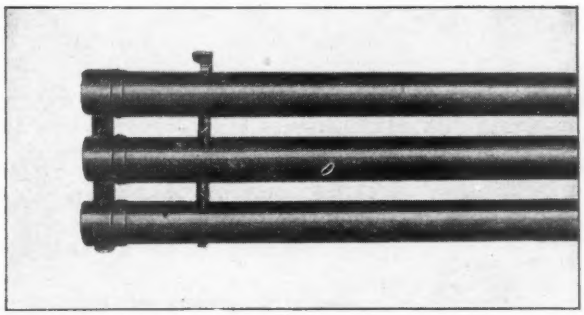

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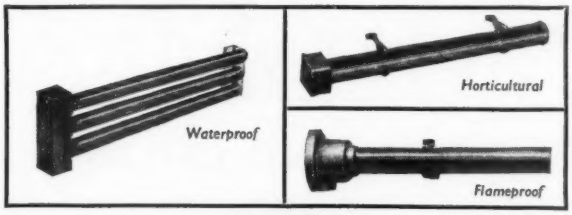

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CLASSIFIED ADVERTISEMENTS

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

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

Public and Official Announcements

25s. per inch; each additional line, 2s.

The engagement of persons answering these advertisements must be made through a Local Office of the Ministry of Labour or a Scheduled Employment Agency if the applicant is a man aged 18-64 inclusive or a woman aged 18-59 inclusive unless he or she or the employment is excepted from the provisions of the Notification of Vacancies Order, 1952.

OFFICE OF THE RECEIVER FOR THE METROPOLITAN POLICE DISTRICT.

Applications are invited for unestablished appointments as LEADING ARCHITECTURAL ASSISTANTS in the Architect and Surveyor's Department. The work is concerned with the design and construction of police dwellings and buildings, and candidates will be required to work in the Westminster area.

*Rates of Pay** (*Men*).—£665 × £20—£725 × £25—£780.

Women.—£580 × £20—£640 × £25—£665.

* The scales quoted are subject to an increase of approximately 3 per cent., while a 44½-hour week is being worked and also to the addition of a Pay Supplement of £25 or £30 per annum, according to the point reached on the scale.

Conditioned hours.—44 per week.

Annual Leave.—24 days.

Application forms from the Chief Architect, Architect and Surveyor's Department, New Scotland Yard, London, S.W.1, marking the envelope "Architectural Assistants." 6005

MINISTRY OF WORKS.

ARCHITECTURAL ASSISTANTS required for drawing offices in London, Edinburgh and various provincial offices.

Candidates must have had at least three years' architectural training, some experience in an architect's office, and be of Intermediate R.I.B.A. standard. London salary £442—£695 per annum. Rates elsewhere slightly less. Starting pay according to age and experience. Prospects of promotion and permanency.

State age and full details of training and experience to E. Bedford, Esq., C.V.O., A.R.I.B.A., Chief Architect, Ministry of Works, W.G.10/CA. 19, F9, Abell House, John Islip Street, London, S.W.1. 8375

COUNTY BOROUGH OF SUNDERLAND.

Applications are invited for the following appointments in the Borough Architect's Department. Candidates must be Associates of the Royal Institute of British Architects. Commencing salaries will be fixed according to experience.

(*a*) CHIEF ASSISTANT ARCHITECT.—Salary within Grade VI £825—£1,000. The position requires a man of considerable ability to take charge of a team within the Planning and General Section of the department to deal primarily with the general planning and schematic development of central reconstruction and major building projects for the Corporation.

(*b*) SENIOR ASSISTANT ARCHITECTS.—Salary within Grade V £750—£900. The positions call for men of initiative with an aptitude for good design and ability to translate their individual designs into practice.

Application forms and further details from the Borough Architect, Grange House, Stockton Road, Sunderland (state for which appointment it is desired to apply). Closing date for receipt of completed applications, 11th March, 1955.

Canvassing, either directly or indirectly, will disqualify.

G. S. McINTIRE,
Town Clerk.

Town Hall,
Sunderland.
8th February, 1955. 8579

LONDON COUNTY COUNCIL.
ARCHITECT'S DEPARTMENT.

Vacancies for ARCHITECTS, Grade III (up to £892 10s.), and ARCHITECTURAL ASSISTANTS (up to £739 10s.), in Schools, Housing, and General Divisions.

Particulars and application forms from Architect (AR/EK/A/2), County Hall, S.E.1. (1058) 2206

STAFFORDSHIRE COUNTY COUNCIL.
COUNTY ARCHITECT'S DEPARTMENT.
APPOINTMENT OF ARCHITECTURAL STAFF.

Applications are invited for experienced and capable ASSISTANTS at N.J.C. Salary Grades III—IV (within the range of £600 p.a. to £825 p.a.). Applicants should give full details of experience, qualifications, age, present salary and position and should state salary required. Applications, together with copies of three recent testimonials, should be forwarded as soon as possible to C. M. Coombs, F.R.I.B.A., County Architect, County Buildings, Martin Street, Stafford.

T. H. EVANS,
Clerk of the County Council.

County Buildings, Stafford.
9th February, 1955. 8640

CAMBRIDGESHIRE COUNTY COUNCIL.
COUNTY ARCHITECT'S DEPARTMENT.

Applications are invited for the following appointments:—

(*a*) THREE ASSISTANT ARCHITECTS, Grade A.P.T. V (£750—£900). Applicants must be registered architects, and preference will be given to members of the R.I.B.A. They should have a knowledge of modern school design and construction, the preparation of specifications and site supervision.

(*b*) THREE ARCHITECTURAL ASSISTANTS, Grade A.P.T. IV (£675—£825). Applicants must be registered architects, and should be able to develop working drawings from sketch plans.

(*c*) THREE ARCHITECTURAL ASSISTANTS, Miscellaneous Grade III (£420—£485) and one ARCHITECTURAL ASSISTANT, General Division (£170—£475, according to age and qualifications). Applicants should be neat and expeditious draughtsmen and be able to prepare working drawings from tracings.

(*d*) THREE QUANTITY SURVEYORS, Grade A.P.T. IV (£675—£825). Applicants should be chartered surveyors and should have had considerable experience in all duties of quantity surveying, including site measuring and final accounts.

(*e*) ONE ENGINEER, Grade A.P.T. V (£750—£900). Applicants should be associate members of the Institute of Heating and Ventilating Engineers or hold equivalent qualifications and should have experience in the design, specification and supervision of contracts for heating, ventilating and lighting services in large public buildings.

The appointments are subject to the Local Government Superannuation Acts, 1937 to 1953, the National Scheme of Conditions of Service, a satisfactory medical examination and termination by one month's notice on either side.

Applications stating age, present salary, present and previous appointments, details of training and experience, together with one recent testimonial and the names and addresses of two referees should be submitted to the undersigned not later than Thursday, 3rd March, 1955.

CHARLES PHYTHIAN,
Clerk of the County Council.

Shire Hall,
Cambridge.
9th February, 1955. 8585

COUNTY BOROUGH OF EAST HAM.
ARCHITECTURAL STAFF, HOUSING DEPARTMENT.

(A) ARCHITECTURAL ASSISTANT. Salary new A.P.T. II (£560—£640 per annum*).

(B) ARCHITECTURAL ASSISTANT. Salary new A.P.T. I (£500—£580*).

(* Plus London Weighting.)

Applicants for (A) or (B) should have passed the intermediate examination of the R.I.B.A. and have had experience in the detailing of flats and houses.

Further details and forms of application (returnable by 9th March, 1955) from the Town Clerk, Town Hall, East Ham. 8581

NEWCASTLE REGIONAL HOSPITAL BOARD.
REGIONAL ARCHITECT'S DEPARTMENT.
APPOINTMENT OF SURVEYING ASSISTANT.

Applications are invited for the appointment of a permanent (superannuable) Surveying Assistant on the Headquarter's staff of the Regional Architect in Newcastle. Candidates must have passed the Intermediate Examination of the Royal Institution of Chartered Surveyors, or an examination recognized by the Institution as equivalent.

The commencing salary within the Grade £465×£25(1)×£20(8) to £650 per annum, will depend upon the applicant's age and amount of practical experience since passing the Intermediate Examination but will not exceed £550 per annum.

Candidates should be experienced in surveying sites and buildings and the man appointed will be the junior member of a team responsible for completing a survey of all hospital sites and buildings in the Region, for preparing folios of up-to-date record-plans and for making inspections of lands and properties which the Board may consider acquiring.

The terms of appointment and conditions of service will be as set out in the Whitley Council Circulars P.T.B. 19, 20 and 40 relating to professional and technical status of Regional Hospital Boards. The successful candidate will be required to pass a medical examination.

Applications stating age, qualifications, past and present appointments, present salary and details of training and experience, together with the names of three referees, should be forwarded to the Secretary not later than 4th March, 1955. "Dunira,"
Osborne Road,
Newcastle-upon-Tyne, 2. 8610

BUCKS. COUNTY COUNCIL.

Applications are invited for the appointment of an ASSISTANT QUANTITY SURVEYOR in the County Architect's Department at a salary in accordance with A.P.T. Grade II £560—£640 p.a.

The appointment is superannuable and subject to medical examination.

A weekly allowance of 25s. 0d. and return fare home once every two months may be paid for six months to newly appointed married officers of the Council unable to find accommodation.

Applications on forms giving further particulars of the appointment are obtainable from F. B. Pooley, County Architect, County Offices, Aylesbury, and returnable by 28th February, 1955. 8673

BEDFORDSHIRE COUNTY COUNCIL.
ARCHITECT'S DEPARTMENT.

Applications are invited for the following established posts:—

TWO ASSISTANT ARCHITECTS A.P.T. VI (Salary £825—£1,000).

THREE ASSISTANT ARCHITECTS A.P.T. IV (Salary £675—£825).

TWO ARCHITECTURAL ASSISTANTS A.P.T. II (Salary £560—£640).

TWO TECHNICAL ASSISTANTS General Division (Salary according to age)

Applicants for Senior posts should be suitably qualified and state experience on (*a*) New Colleges and Schools; (*b*) Modernisation of existing Schools.

Forms of application are obtainable from the County Architect, Shire Hall, Bedford, and should be returned on or before 28th February, 1955. 8562

SOUTH WEST METROPOLITAN REGIONAL HOSPITAL BOARD.

Applications are invited for the following appointments to the Board's Architectural Staff:—

1. ARCHITECTURAL ASSISTANT.—Commencing salary between £465 and £550 p.a., according to age and experience. Scale £465 × £25 (1) × £20 (8)—£650 p.a. plus London Weighting Allowance of £10—£30 p.a. according to age. Applicants must have passed the Intermediate examination of the Royal Institute of British Architects (or an examination recognised by the Institute as equivalent), have had good architectural training and general experience, and be capable of preparing working and detail drawings. Previous experience of Hospital Architectural work is not essential.

2. ASSISTANT QUANTITY SURVEYOR.—Salary scale £625 × £25 (7) × £30 (3)—£890 p.a. plus London Weighting Allowance. Commencing salary in accordance with age and experience. Applicants must be Associate Members of the Royal Institute of Chartered Surveyors (Quantity Surveying Branch) and have sound practical experience in the estimating and analysis of prices, working up and taking off of quantities for small contracts and also of checking Contractors' accounts.

Applications stating age, qualifications, present appointment and salary, training and experience, together with the names and addresses of three referees, should be forwarded to the Secretary (S.2) 11a, Portland Place, London, W.1, marking the envelope "Architectural Staff," by not later than 4th March. 8600

COUNTY BOROUGH OF DARLINGTON.
BOROUGH ARCHITECT'S DEPARTMENT.

Applications are invited for the appointment of THREE ASSISTANT ARCHITECTS, each at a salary in accordance with Grade A.P.T. IV, viz.:—£675—£825 p.a.

The department has a large programme including secondary and primary schools, housing, and municipal offices. Preference will be given to candidates experienced in this class of work, and who are members of the R.I.B.A.

Housing Accommodation will be made available if required.

Applications giving full particulars of age, qualifications, present appointment with salary, previous appointments with dates, and the name and address of three referees to be sent to E. A. Tornbohm, A.R.I.B.A., A.M.T.P.I., Borough Architect, Central Buildings, Darlington, not later than Monday the 28th February, 1955. 8558

CORPORATION OF GLASGOW.
ARCHITECTURAL AND PLANNING DEPARTMENT.
SENIOR INSPECTOR OF WORKS.

Applications are invited for the above position from suitably qualified persons who have had a first-class wide experience in the supervision of large scale building projects and who possess a sound technical knowledge combined with administrative and organisational ability.

Salary scale £952 10s.—£1,075 per annum.

The appointment will be superannuable, subject to medical examination.

Particulars of appointment and form of application may be obtained from the Principal Administrative Officer, 20, Trongate, Glasgow, C.1.

Candidates who submitted applications in response to a previous advertisement need not renew application.

A. G. JURY,
City Architect and Planning Officer. 8566

BOROUGH OF LEYTON.
COMMITTEE FOR EDUCATION.
APPOINTMENT OF TEMPORARY ASSISTANT ARCHITECT.

Applications invited for appointment as temporary SENIOR ASSISTANT ARCHITECT in the School Architect's Section of the Borough Engineer and Surveyor's Department.

Applicants should be Registered Architects with experience in planning, construction and supervision of school buildings.

Salary will be Grade A.P.T. IV, £735—£855, including London weighting, which is reduced according to scale when the age of the successful applicant is less than 26 years.

Full details and form of application from Borough Education Officer, Kirkdale Road, Leytonstone, E.11, to whom they should be returned by Friday, 11th March, 1955.

D. J. OSBORNE,
Town Hall, Leyton, E.10. *Town Clerk.* 8675

METROPOLITAN BOROUGH OF CAMBERWELL.
DEPARTMENT OF DIRECTOR OF HOUSING AND BOROUGH ARCHITECT.

(*a*) **SENIOR ASSISTANT ARCHITECT.** National Scale. A.P.T.V (£780—£930 inclusive of £30 London weighting); (*b*) **ASSISTANT ARCHITECT.** A.P.T. III/IV (£630—£855 inclusive); (*c*) **JUNIOR ARCHITECT.** A.P.T.II (£590—£670 inclusive). Commencing salary according to experience. Qualification required for first two posts A.R.I.B.A.; for junior architect R.I.B.A. Intermediate Examination or its equivalent followed by a minimum of one year in an architectural office. Work of department includes design and construction of public buildings, housing estates including multi-storey construction. No housing provided. Superannuation scheme. Application form from Town Clerk, Town Hall, S.E.5. Closing date 9th March, 1955. 8612

BOROUGH OF WATFORD.

ASSISTANT ENGINEER (A.P.T. Grade III); **ASSISTANT ARCHITECTS** (A.P.T. Grade II).

Applications are invited for the above appointments. N.J.C. Conditions.

Forms may be obtained from me and applications must be received by 2nd March, 1955.

F. C. SAGE,
Borough Engineer.

Town Hall, Watford. 8674

BOROUGH OF SOUTHGATE.
BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.
ARCHITECTURAL ASSISTANT.

Applications are invited for the appointment of **ONE ARCHITECTURAL ASSISTANT** in the Department of the Borough Engineer and Surveyor. The post is permanent and superannuated and is Graded A.P.T. III (£600 × £25—£725 p.a.) plus London Weighting. The starting salary will be fixed in accordance with qualifications and experience.

Forms of application may be obtained from the Borough Engineer and Surveyor and should be returned to the undersigned by not later than 9 a.m. on Monday, 7th March, 1955.

Canvassing, directly or indirectly, will be a disqualification.

GORDON H. TAYLOR,
Town Clerk.

Town Hall,
Palmers Green,
London, N.13.
February, 1955. 8604

AIR MINISTRY Works Designs Branch requires in London and Provinces (with liability for overseas service) **ARCHITECTURAL ASSISTANTS** experienced in planning/preparation of working drawings and details for permanent and semi-permanent buildings. Salaries up to £810 P.A. for men and £690 for women. Starting pay dependent upon age, qualifications and experience. Extra duty allowance or overtime payable. Posts non-pensionable with long term possibilities. Natural born British subjects only. Write stating age, qualifications, employment details including type of work done to Ministry of Labour, 236, Walworth Road, London, S.E.17, quoting Order 81/AA. 8506

EAST ANGLIAN REGIONAL HOSPITAL BOARD.

ASSISTANT QUANTITY SURVEYOR.—Applicants must hold, or have previously held, Corporate Membership of R.I.C.S. and have had experience in preparation of preliminary estimates, taking-off and preparation of Bills of Quantities, site measurements and valuations for interim certificates and settlement of final accounts, etc. Salary £625 × £25(7) × £30(3)—£890. Commencing salary may be fixed at point above minimum for candidates over 25 years of age where experience at full professional standard is shown.

QUANTITY SURVEYING ASSISTANT.—Applicants must have passed Intermediate Examination of R.I.C.S. or examination recognised by Institution as equivalent. The person appointed will be responsible for working up Bills of Quantities, assisting in site measurements and taking-off. Salary £465 (at age 21 or over) × £25(1) × £20(8)—£650. Commencing salary may be fixed at point above minimum but will not exceed £550.

JUNIOR (Male).—The person appointed will be required for squaring dimensions, abstracting and giving general assistance to technical staff of the section. Salary £170 (at age 16)—£370 (at age 25).

Applications, stating age, qualifications, experience and full details of present position, with names of three referees, to Secretary of Board, 117, Chesterton Road, Cambridge, by 11th March, 1955. 8738

NORTH THAMES GAS BOARD.

An **ARCHITECTURAL ASSISTANT** is required in the Drawing Office of the Chief Engineer's Department, Westminster.

Applicants should have passed the R.I.B.A. Final Examination, should be capable of preparing working drawings and specifications, and supervising the work on contracts. Experience in design and planning of industrial buildings would be an advantage.

Starting salary, depending on age and qualifications, will be within the range £615—£735 per annum, and the successful candidate will be required to join the Staff Pension Scheme.

Applications, stating age and giving full details of qualifications and experience, should be sent to the Staff Controller, North Thames Gas Board, 30, Kensington Church Street, London, W.8, quoting reference 666/194. 8643

CITY OF BELFAST.

QUANTITY SURVEYOR, Class I, to deal with all housing contracts, including multi-storey flats and road and sewer works, required for the Housing Architect's Department.

A thorough knowledge of preparing Bills of Quantities and considerable experience in handling large-scale contracts, including valuations for interim certificates and the settlement of final accounts, are essential.

Salary scale: £655 × £25—£905 (progression × £25—£955 × £15—£970 if A.R.I.C.S.), commencing point according to qualifications and experience. Superannuation contributions are payable at 5 per cent. (approx.) of remuneration. Reciprocal pension arrangements exist between Local Authorities in Great Britain and the Belfast Corporation.

Canvassing in any form will disqualify.

Application forms, etc., are obtainable from the Housing Architect, 94, Chichester Street, Belfast. Completed applications, together with two testimonials, must reach the undersigned not later than Friday, 4th March, 1955.

JOHN DUNLOP,
Town Clerk.

City Hall, Belfast.
P.O. Box 234.
11th February, 1955. 8641

BIRMINGHAM REGIONAL HOSPITAL BOARD require **ASSISTANT ENGINEER** for Architect's Department. Salary £625—£890 according to age and experience. Applicants should have A.M.I.H. and V.E. Superannuable. Write, naming three referees, to Secretary, 10, Augustus Road, Birmingham 15, by 5th March, 1955. 8644

ARCHITECTURAL ASSISTANTS required. Applications invited for two permanent posts (*a*) at salaries £650/£775 p.a. plus weighting and two temporary posts (*b*) at salaries £560/£640 p.a. plus weighting. Candidates for (*a*) must have passed R.I.B.A. Final and for (*b*) Intermediate. Forms obtainable from Borough Engineer and Surveyor, Poplar Town Hall, Bow Road, E.3. Closing date: 7th March, 1955. 8705

COUNTY BOROUGH OF EASTBOURNE.
BOROUGH ENGINEER & SURVEYOR'S DEPARTMENT.

ASSISTANT ARCHITECT, A.P.T. II, £560—£640 p.a.

Applications are invited for the above appointment. Full particulars of age, present position and salary, qualifications and experience, together with the names of two referees, to be sent to the undersigned by noon on Monday the 7th March, 1955.

R. WILLIAMS, Esq., B.Sc., A.M.I.C.E.
2/4, Saffrons Road, Eastbourne, Sussex. 8647

WEST MIDLANDS GAS BOARD.
BIRMINGHAM AND DISTRICT DIVISION.
SENIOR DRAUGHTSMAN.

A **SENIOR DRAUGHTSMAN** is required on the Divisional Engineer's Staff for building construction work. Candidates should have had a good experience of industrial and general buildings in brick and reinforced concrete and should be competent to carry out surveys, prepare drawings, specifications and estimates.

The salary will be within Grade 10 (£715—£815 per annum) of the National Salary Scales for Gas Staffs.

The post is pensionable and the successful candidate may be required to pass a medical examination.

Applications, stating age, experience, positions held and qualifications, together with the names of two referees, should be addressed to Mr. J. E. Wakeford, Divisional General Manager, West Midlands Gas Board, Birmingham and District Division, Gas Offices, Edmund Street, Birmingham, 3, to reach him within fifteen days of the appearance of this advertisement.

J. C. INGRAM,
Secretary to the Board.
8648

LONDON COUNTY COUNCIL. PARKS DEPARTMENT, requires:—

(i) **ARCHITECTS AND BUILDING SURVEYORS.** Recognised professional qualifications. Commencing salary (on a scale £701 5s. 0d.—£31 17s. 6d.—£892 10s. 0d.) according to qualifications and experience.

(ii) **LANDSCAPE ARCHITECT.** Recognised professional qualifications and extensive experience of preparation of working drawings and specifications and execution of work by contract. Commencing salary (on a scale £701 5s. 0d.—£31 17s. 6d.—£892 10s. 0d.) according to qualifications and experience.

(iii) **ARCHITECTURAL AND SURVEY ASSISTANTS** for preparation of working drawings and specifications and supervision of work on site. Experience in landscape work and design an advantage. Salaries up to £739 10s. 0d.

(iv) **SURVEY OR LANDSCAPE ASSISTANTS.** Good knowledge of preparation of working drawings, schedules and specifications for park or garden re-instatement or new layouts to be executed under contract. Salaries up to £739 10s. 0d.

An extensive programme of construction of new parks and open spaces, the laying-out of grounds to new schools and housing estates and other types of ground work is in hand, and all these positions provide exceptional opportunities for applicants desiring to extend their experience in this field and in architectural work in association with landscaping.

Application forms from Chief Officer, Parks Department (A.1.), Old County Hall, Spring Gardens, S.W.1 (WHI 3121, Ext. 33). (180) 8650

CITY AND COUNTY OF NEWCASTLE-UPON-TYNE.
CITY ARCHITECT'S DEPARTMENT.

The City Architect will be pleased to receive applications for vacancies in his Department on the following salary grades:—

(*a*) A.P.T. Division, Grade V (£750—£900)—Housing (Flats Sub-Section);

(*b*) A.P.T. Division, Grade IV (£675—£825)—Housing or General Section;

(*c*) A.P.T. Division, Grade III (£600—£725)—Housing Section;

(*d*) A.P.T. Division, Grade II (£560—£640)—Housing Section.

Candidates for all posts should be fully qualified architects with an appreciation of good design and possessing sound experience. Post (*a*) is likely to involve interesting and responsible work in the redevelopment of housing areas in the City.

The appointments will be subject to the provisions of the Local Government Superannuation Act, 1953, and to one month's notice on either side. Successful candidates will be required to pass a medical examination.

Applications, stating position applied for, age, particulars of training, qualifications, experience, present and past appointments, together with copies of two recent testimonials or the names and addresses of two persons to whom reference may be made, should be addressed to George Kenyon, A.R.I.B.A., A.M.T.P.I., City Architect, 18, Cloth Market, Newcastle-upon-Tyne, 1, not later than Thursday, 10th March, 1955.

JOHN ATKINSON,
Town Clerk.

Town Hall, Newcastle-upon-Tyne, 1.
11th February, 1955. 8646

LONDON COUNTY COUNCIL.
ARCHITECT'S DEPARTMENT.

Vacancy for **ARCHITECT Grade III** (up to £892 10s.), for maintenance, repair and small improvements of Council buildings. Experience of alteration work and maintenance work on schedule basis an advantage; A.R.I.C.S. desirable. Particulars and application form returnable by 10th March, from Architect (AR/EK/M/2), The County Hall, London, S.E.1. (210) 8683

COUNTY BOROUGH OF BARNSLEY.
BOROUGH ENGINEER & SURVEYOR & PLANNING OFFICER'S DEPARTMENT.

Applications are invited for the following appointments:—

(*a*) **TEMPORARY ASSISTANT ARCHITECT,** A.P.T. Grade III (£600—£725 per annum).

(*b*) **PLANNING ASSISTANT, A.P.T.** Grades I—II (£500—£640 per annum, commencing salary to be fixed in accordance with the provisions of Paragraph 21(8)(X)(b) and (c) of the N.J.C. Conditions of Service as recently amended).

Applicants for appointment (*a*) should be suitably qualified and have had previous experience on municipal housing work; and for (*b*) applicants should be good draughtsmen and have had previous experience with a Planning Authority.

The appointments will be subject to (i) the Scheme of Conditions of Service for A.P.T.C. Staff; (ii) any other general conditions of employment operating within the Corporation from time to time; (iii) one month's notice on either side; and (iv) to passing a medical examination.

Appointment (*b*) will be subject to the Local Government Superannuation Acts.

Applications, stating age, present and previous appointments, experience, qualifications, etc., and giving the names of two persons for reference, should reach the Borough Engineer, Town Hall, Barnsley, not later than Monday, 14th March, 1955.

Canvassing will disqualify.

A. E. GILFILLAN,
Town Clerk.

Town Hall, Barnsley.
February, 1955. 8684

BOROUGH OF WREXHAM.

Applications are invited for the following appointments:—

(*a*) **ARCHITECTURAL ASSISTANT.**—Salary £650 × £25 to £775.

(*b*) **COST CLERK** in Quantity Surveyor's Section.—Salary in the General Division or Higher General Division according to educational standard.

Applicants for appointment (*a*) will be required to have passed Parts I and II of the R.I.B.A. Final or Special Final or their equivalent and to have at least five years' experience (including the period spent on theoretical training).

The duties will be in connection with New Municipal Buildings, Housing and other architectural work.

Applicants for appointment (*b*) should have the General Certificate of Education and have experience in the costing of Builders' work and preferably in a Quantity Surveyor's Office.

The Council is prepared to offer housing accommodation to the successful applicant in appointment (*a*), if married.

Form of Application and Conditions of Service may be obtained from the Borough Engineer & Surveyor, 31, Chester Street, Wrexham. Applications on the prescribed form, together with copies of two recent testimonials, and the names of two referees, should be delivered to the undersigned in an envelope endorsed (*a*) Architectural Assistant; or (*b*) Cost Clerk; not later than 12 noon on Monday, 7th March, 1955.

PHILIP J. WALTERS,
Town Clerk.

Guildhall, Wrexham.
February, 1955. 8707

CITY OF CARDIFF.
APPOINTMENT OF ARCHITECTURAL ASSISTANTS.

Applications are invited for the following appointments in the City Surveyor's Department:
(*a*) ARCHITECTURAL ASSISTANT (General), A.P.T. Grade 5 (£825—£1,000 per annum).
(*b*) ARCHITECTURAL DRAUGHTSMAN, A.P.T. Grade 2 (£560—£640 per annum).

The appointments are in connection with the design and erection of The Wales Empire Pool to be built in Cardiff.

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

General Conditions of Appointment may be obtained from the undersigned.

The Council will assist in providing housing accommodation for a period for the successful applicants.

Applications, accompanied by the names and addresses of three referees and endorsed "Architectural Assistant (General), A.P.T. Grade 6" or "Architectural Draughtsman, A.P.T. Grade 2" as the case may be, must be delivered to me not later than the 9th, March, 1955.

S. TAPPER-JONES,
Town Clerk.

City Hall, Cardiff.
February, 1955. 8709

CITY OF CARDIFF.
APPOINTMENT OF DEPUTY BUILDING SURVEYOR & ESTIMATOR.

Applications are invited for the following appointment in the City Surveyor's Department:
DEPUTY BUILDING SURVEYOR & ESTIMATOR, A.P.T. Grade 4 (£675—£825 per annum).

Applicants must have extensive administrative experience in Building Surveying, Estimating and supervision, and organisation of Maintenance of Building of all descriptions, including housing.

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

General Conditions of Appointment may be obtained from the undersigned.

Preference will be given to candidates qualified as A.R.I.C.S. and the Council will assist in providing housing accommodation for a period for the successful applicant.

Applications, accompanied by the names and addresses of three referees and endorsed "Deputy Building Surveyor and Estimator, A.P.T. Grade 4" must be delivered to me not later than the 9th March, 1955.

S. TAPPER-JONES,
Town Clerk.

City Hall, Cardiff.
February, 1955. 8708

NATIONAL COAL BOARD.—Applications are invited for the post of ARCHITECTURAL ASSISTANT, in Edinburgh. Salary scale £525 × £25—£650 (exceptionally to £800). Applicants should have passed the Intermediate Examination of the R.I.B.A. and should have a sound knowledge of Building Construction and be experienced in the preparation of working drawings. Applications, giving full details of age, education, qualifications, experience (in chronological order), present post and salary, should be forwarded to the Establishments Officer, 1, Eglinton Crescent, Edinburgh, 12, within seven days. 8617

DERBYSHIRE COUNTY COUNCIL.
COUNTY PLANNING DEPARTMENT.

Applications are invited for the post of ARCHITECTURAL ASSISTANT (Grade A.P.T. II: £560—£640). Applicants should have passed the Intermediate Examination of the Royal Institute of British Architects or graduated in Architecture. Experience in the layout and design of estates and schemes of redevelopment will be deemed an advantage.

Applications accompanied by one recent testimonial and the names of two persons to whom reference can be made should reach the County Planning Officer, 8A, Bold Lane, Derby, not later than 7th March, 1955. 8668

GOVERNMENT OF NORTHERN IRELAND.
VACANCY FOR ARCHITECT.

Applications are invited for the unestablished post of ASSISTANT ARCHITECT, Class II, in the Works Directorate, Ministry of Finance.

The salary scale which attracts pay supplement of amounts between £25 and £35 per annum is £675 × £25—£750 × £30—£960 × £40—£1,000. The minimum is linked to age 26 plus an increment for each year above that age, subject to a commencing salary not exceeding £900. An officer between 25 and 26 will be given a commencing salary of £650; and if under 25 will be paid according to qualifications and experience.

Candidates must be Registered Architects by examination, and must have had at least two years' experience in an Architect's Office in the preparation of working drawings for new buildings.

Preference will be given to a suitably qualified candidate who served in H.M. Forces during the 1914-18 or 1939-45 wars, provided the Ministry is satisfied that such a candidate is, or within a reasonable time will be, able to discharge the duties of the post efficiently.

Application forms may be obtained from the Director of Establishments, Ministry of Finance, Stormont, Belfast, to whom they must be returned, with copies of two recent testimonials, so as to reach him not later than the 9th March, 1955. 8671

CAERNARVONSHIRE COUNTY COUNCIL.

Applications invited from qualified architects for post of ASSISTANT ARCHITECT, A.P.T. III IV (£600—£825) in County Architect's Department. Commencing salary according to experience.

Further particulars and application forms from Clerk of County Council, Caernarvon. Closing date: 12th March, 1955. 8645

NATIONAL COAL BOARD.
NORTHERN (N. & C.) DIVISION.
ARCHITECT, GRADE II.

Applications are invited for the post of ARCHITECT, Grade II, in the Divisional Architect's Department of the National Coal Board, Northern (N. & C.) Division, Gosforth, Newcastle-upon-Tyne, 3. Applicants must be associates of the R.I.B.A., capable of preparing working drawings and details. Commencing salary according to qualifications and experience within the scale of £600 × £25—£650 × £30—£900.

Applications, stating age, training, and full details, including salaries of past and present appointments, should be submitted to the Divisional Establishment Officer, National Coal Board, Northern (N. & C.) Division, Ellison Buildings, Ellison Place, Newcastle-upon-Tyne, 1, not later than 5th March, 1955. 8706

UNIVERSITY COLLEGE, LONDON (Gower Street, W.C.1) requires SENIOR LECTURER to be Director of Studies for evening course in TOWN PLANNING. Duties to commence 1 May, 1955, or as soon as possible thereafter. Salary, according to experience, up to £1,500 p.a. Superannuation and family allowances. Membership of Town Planning Institute essential, in addition to good University Degree in related subject. Duties (mainly afternoons and evenings) include organisation of part-time courses for Town Planning Certificate and Diplomas. Applications, to be received by 28th March, 1955, should be sent to the Secretary, from whom further particulars may be obtained. 8670

MIDDLESEX COUNTY COUNCIL.
COUNTY ARCHITECT'S DEPARTMENT.

(*a*) ASSISTANT ARCHITECTS (2) Grade IV (£675 to £825 p.a. plus London weighting). Unestablished.

(*b*) ARCHITECTURAL ASSISTANTS (2) Grade II (£560 to £640 p.a. plus London weighting). Established.

(*c*) JUNIOR ARCHITECTURAL ASSISTANT, Grade I (£500 to £580 p.a. plus London weighting). Established.

Post (*a*) should be Registered Architect; (*b*) and (*c*) should preferably hold Inter. R.I.B.A. All posts: appointment to grade minima. Subject to medical assessment and prescribed conditions. Application forms (stamped, addressed, foolscap envelope) from County Architect, 1, Queen Anne's Gate Buildings, Dartmouth Street, S.W.1, returnable by 7th March (quote P. 979 AJ). Canvassing disqualifies. 8669

CITY OF OXFORD.
CITY ARCHITECT AND PLANNING OFFICER'S DEPARTMENT.

Vacancy for SURVEYING ASSISTANT, Grade IV, A.P.T. Division (within the range £675—£825).

Candidates must be qualified members of the Royal Institution of Chartered Surveyors or the Chartered Institute of Auctioneers and Estate Agents; additional qualifications in Planning an advantage. Permanent pensionable post; medical examination.

The successful applicant will be required to undertake varied duties in the Estates and Planning Sections of the Department, particularly with regard to the acquisition of property in areas of re-development and to the economics of Planning, including compensation matters. Experience in the work of a Local Authority desirable.

Housing accommodation, if required, will be provided by the Council.

Forms of application and conditions of appointment from the City Architect and Planning Officer, Town Hall, Oxford, to whom completed forms must be returned by 12th March, 1955.

HARRY PLOWMAN,
Town Clerk.

Town Hall, Oxford. 8672

AMENDED ADVERTISEMENT

BIRMINGHAM REGIONAL HOSPITAL BOARD require ASSISTANT QUANTITY SURVEYOR. £625 × £25(7) × £30(3)—£890 p.a. for Architect's Department. Applicants should have Final R.I.C.S. or recognised qualifications of I.Q.S. or I.A.A.S. and be fully experienced in taking-off and preparing Bills of Quantities and settling Final Accounts. Superannuable. Write, naming three referees, to Secretary, 10, Augustus Road, Birmingham 15, by 7th March, 1955. 8737

COUNTY BOROUGH OF GREAT YARMOUTH EDUCATION COMMITTEE.
APPOINTMENT OF CLERK OF WORKS.
Salary £12 19s. 7d. per week.

Applications are invited for the appointment of a Clerk of Works to supervise erection of the new Girls' High School.

The appointment is temporary, for approximately 2½ years, and subject to one month's notice on either side.

Applications stating age, qualifications, experience and present employment, together with names of two persons to whom reference can be made, must be received by me not later than Friday, 4th March, 1955.

D. G. FARROW,
Chief Education Officer.

22, Euston Road,
Great Yarmouth. 8713

HORNCHURCH URBAN DISTRICT COUNCIL.
ENGINEER & SURVEYOR'S DEPARTMENT.

Applications are invited for appointment as Temporary ARCHITECTURAL ASSISTANT, Grade II (£560—£640 p.a.).

Applicants should have had full time architectural instruction and passed the R.I.B.A. Intermediate Examination or equivalent, and have had a minimum of one year's service in an Architectural Office.

Applications, on forms obtainable from the undersigned, should be received by me in envelopes endorsed "Architectural Assistant," not later than Saturday the 5th March, 1955.

P. L. COX,
Clerk of the Council.

Council Offices, Billet Lane, Hornchurch.
11th February, 1955. 8703

GOVERNMENT OF NORTHERN RHODESIA.
ARCHITECT—PUBLIC WORKS DEPARTMENT.

To design, prepare working drawings and specifications for various Government projects, and supervise their erection either by contract or direct labour.

Appointment will be on contract for one tour of three years in first instance in the salary range £940—£1,560 per annum with gratuity of £25—£37 10s. for each completed three months of satisfactory service after completion of contract. Cost of living allowance varying between £160 12s. and £256 2s.

Free passages for officer, wife, and children up to cost of one adult fare on first appointment and on leave. Leave at rate of five days for each month of resident service. Government quarters provided at rental of not more than 10 per cent. of salary.

Candidates between the ages of 32 and 45 must be A.R.I.B.A. and have had considerable experience on the design, construction and supervision of large building schemes.

Apply in writing to the Director of Recruitment, Colonial Office, Great Smith Street, London, S.W.1, giving briefly age, qualifications and experience, and quoting reference No. BCD 112/3/02. Closing date for receipt of initial enquiries: 22 March, 1955. 8740

NATIONAL COAL BOARD.
NORTH EASTERN DIVISION.

Applications are invited for the following appointments to the staff of the Divisional Chief Architect at Denaby Main, near Doncaster:—

1. ARCHITECTURAL ASSISTANT, Grade I.—Scale: £525 × £25—£650 per annum.

Applicants should have passed the Intermediate Examination of the Royal Institute of British Architects and have had not less than three years' subsequent practical experience, should be able to prepare Sketch Plans and Working Drawings under supervision, and have a sound knowledge of building construction.

The point of entry into this Grade will depend upon qualifications and experience.

2. ARCHITECTURAL ASSISTANT, Grade II.—Scale: £440 × £20—£540 per annum.

Applicants should have passed the Intermediate Examination of the Royal Institute of British Architects, and have had some subsequent practical experience, should be able to prepare Sketch Plans and Working Drawings under supervision and have a sound knowledge of building construction.

The point of entry into this Grade will depend upon qualifications and experience.

3. JUNIOR ARCHITECTURAL ASSISTANT.—Scale: £2 17s. 6d. per week at 16 years of age, rising to £8 per week at 25 years of age, according to age.

Applicants should have obtained their General Certificate of Education in sufficient subjects to enable them to proceed with the Intermediate Examination of the Royal Institute of British Architects, and should preferably be studying for such Examination.

The work of the office consists chiefly of Pithead Baths, Canteens, Medical Centres, Offices, Laboratories, etc.

Application Forms may be obtained from the Divisional Chief Architect, J. A. Dempster, F.R.I.B.A., Architect's Department, P.O. Box No. 4, Denaby Main, Nr. Doncaster. 8704

CORBY DEVELOPMENT CORPORATION.
APPOINTMENT OF QUANTITY SURVEYORS.

Applications are invited for the following appointments:—

(*a*) SENIOR QUANTITY SURVEYOR at a salary of £800 × £40 to £1,000.

(*b*) JUNIOR QUANTITY SURVEYOR at a salary of £525 × £30 to £615.

Candidates for the senior appointment should be professionally qualified and possess a wide experience of quantities and contractor's accounts of every kind.

For the junior appointment candidates, preferably qualified, should have had experience in a first-class office for at least two years.

The successful candidates will be required to pass a medical examination and to contribute to either a superannuation or an assurance scheme.

Applications, stating age, education, training, qualifications, past and present appointments and salaries, together with the names of two referees, must be received by the undersigned not later than 12th March, 1955.

Housing will be available.

R. F. BROOKS GRUNDY,
General Manager.

Spencer House, Corporation Street, Corby, Northants. 8701

CITY OF MANCHESTER HOUSING COMMITTEE. Applications are invited for the following appointments:—

SENIOR ASSISTANT ARCHITECT—Grade A.P.T. IV, £675—£825 p.a. (Applicants must be registered Architects and Associates of the R.I.B.A.).

ASSISTANT ARCHITECT—Special Scale £650—£775 p.a. (Applicants should have passed Parts I and II of the R.I.B.A. Final or Special Examination).

ASSISTANT ARCHITECT—Grade A.P.T. II, £560—£640 p.a. (Applicants must have passed Intermediate Examination of the R.I.B.A. and have worked for a minimum of three years in an Architectural office).

The appointments offer scope for experience in large-scale central area development, and preference will be given to applicants with a keen interest in contemporary design.

Applications, giving particulars of age, qualifications and experience, should be addressed to the Director of Housing, Town Hall, Manchester 2, and be received not later than the 3rd March, 1955. 8639

LONDON COUNTY COUNCIL.
ARCHITECT'S DEPARTMENT.

ARCHITECTURAL ASSISTANT (up to £739.10.0d.), interested in contemporary school design, required for Voluntary Schools Section. Duties mainly the preparation of schemes for development of school sites, and liaison with private architects at all stages in planning and design of new primary and secondary schools. Particulars and application forms, returnable by 5th March, from Architect (AR/EK/VS/2), The County Hall, S.E.1. (211) 8748

COUNTY OF LEICESTER.

SENIOR ASSISTANT ARCHITECT £675—£825. Candidates must be Registered Architects experienced in design and construction of modern buildings and must be capable of carrying through projects from inception to completion. Apply by 11th March, on form obtainable from County Architect (c), 123, London Road, Leicester. 8741

COUNTY BOROUGH OF SOUTHAMPTON.
BOROUGH ARCHITECT'S DEPARTMENT.

Applications are invited for the following appointments:—

(*a*) ASSISTANT ARCHITECT, Grade II (£560—£640).

(*b*) ARCHITECTURAL ASSISTANTS, Grade I (£500—£580).

(*c*) ASSISTANT QUANTITY SURVEYOR, Grade I (£500—£580).

(*d*) PLANNING ASSISTANT, Grade II (£560—£640).

(*e*) PLANNING ASSISTANT, Grade I (£500—£580).

(*f*) JUNIOR PLANNING ASSISTANT, Higher General Division (£170—£475).

Applicants for positions in the APT Division should possess the appropriate qualification for Special Classes of Officers under N.J.C. Conditions of Service.

Application forms from the Borough Architect, Civic Centre, Southampton, to be returned by Monday, 14th March, 1955. 8742

SOUTHAMPTON C.B.C.

requires under N.J.C. service conditions:

(*a*) ARCHITECTURAL ASSISTANT, A.P.T. Grade I (£500/£580). Should have passed the Intermediate examination of the R.I.B.A., or its equivalent at one of the recognized schools of architecture, and preferably with some experience in an architectural office. Commencing Salary according to experience.

(*b*) ARCHITECTURAL ASSISTANT, A.P.T. Grade II (£560/£640). Must have passed the Intermediate examination of the R.I.B.A. or its equivalent at one of the recognized schools of architecture, and have had subsequent experience, preferably in local government housing, in accordance with the grading of Special Classes of Officers. Commencing Salary according to experience.

Housing accommodation at an economic rent will be provided if required for the above appointments.

Apply, with copies of two testimonials, to the Borough Engineer and Surveyor, Civic Centre, Southampton, by the 14th March, 1955. 8743

EAST RIDING OF YORKSHIRE COUNTY COUNCIL.
COUNTY ARCHITECT'S DEPARTMENT.

Applications are invited for the appointment of a CHIEF ASSISTANT ARCHITECT, Grade VII, A.P. and T. Division. Salary £900—£1,100 per annum.

Applicants should be Fellows or Associates of the R.I.B.A., and should have had considerable experience in architectural design, with a sound knowledge of building construction and experience in the supervision of drawing office staff.

The appointment is superannuable and subject to the passing of a medical examination.

Applications, giving particulars of age, training, qualifications, experience, past and present appointments stating salaries, together with the names of three referees, should be addressed to the County Architect, County Hall, Beverley, and must be received by him not later than Friday, 4th March, 1955.

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

THOMAS STEPHENSON,
Clerk of the Council.

County Hall,
Beverley.
February, 1955. 8744

National Coal Board, East Midlands Division, invite applications for the following permanent appointments in the Architects' Department, Nottingham.

S.V. 371.—ARCHITECTS, Grade II; and

S.V. 372.—QUANTITY SURVEYORS, Grade II. Salary scale £600 × £25—£650 × £30—£900. Candidates must have passed the final examination of the appropriate professional body and have had not less than 1 year's subsequent practical experience.

S.V. 373.—ARCHITECTURAL ASSISTANTS, Grade I; and

S.V. 374.—QUANTITY SURVEYORS' ASSISTANTS, Grade I. Salary scale £525 × £25—£650 (exceptionally to £800). Candidates should preferably have passed the Intermediate examinations of the appropriate professional body and have had not less than 3 years' subsequent practical experience.

Applications, stating age, education, qualifications, present appointment and salary, should be submitted, within 14 days of publication, to:—The Secretary, National Coal Board, East Midlands Division, Sherwood Lodge, Arnold, Notts.

Envelopes and applications should be marked with the appropriate "S.V." reference and original testimonials should not be sent. 8739

BASILDON DEVELOPMENT CORPORATION.
DEPARTMENT OF ARCHITECTURE AND PLANNING.

Applications are invited for the following posts:

(*a*) ARCHITECT, Grade III: salary £860—£1,110;

(*b*) ASSISTANT ARCHITECTS, Grade IVB, salary: £760—£860;

(*c*) ASSISTANT ARCHITECTS, Grade IVA, salary: £660—£760.

These salary scales are under review.

The persons appointed may work on housing or industrial projects and must have experience either in the contemporary design of houses or medium and small factories, together with the preparation of working drawings and supervision of contracts.

The architect for post (*a*) will control a group and, additionally, must have considerable experience in all stages of contract management to completion of final accounts.

All posts require a professional qualification in architecture and for one vacancy in (*b*) or (*c*) a Town Planning qualification will be an advantage.

All appointments are subject to the provisions of the Local Government and Other Officers' Superannuation Act and medical examination.

A house in the New Town may be available.

Applications must be made on the special form (obtainable from the Chief Architect) to the General Manager, Basildon Development Corporation, Gifford House, Basildon, Essex, by 7th March, 1955. 8736

RURAL DISTRICT COUNCIL OF HATFIELD.
ARCHITECT'S DEPARTMENT.
APPOINTMENT OF ARCHITECTURAL ASSISTANT.

Applications are invited for the appointment of ARCHITECTURAL ASSISTANT, at a salary in accordance with Grade A.P.T. II (£560—£640). The commencing salary will be adjusted in accordance with the qualifications and experience of the successful candidate.

The appointment will be subject to:—

(1) The National Scheme of Conditions of Service.

(2) The Local Government Superannuation Acts.

(3) A Medical Examination.

Preference will be given to candidates who have passed the Intermediate Examination of the R.I.B.A. and who have studied at a recognised school of architecture.

Forms of application may be obtained from Mr. J. H. Parker, A.R.I.B.A., Architect to the Council, 82, Great North Road, Hatfield, and must be returned not later than 10th March, 1955.

EDGAR F. CULL,
Clerk to the Council.

16, St. Albans Road,
Hatfield.
11th February, 1955. 8711

COUNTY BOROUGH OF BURNLEY.

Applications are invited for the appointment of an ARCHITECTURAL ASSISTANT in the Borough Engineer and Surveyor's Department at a salary in accordance with Grade III of the National Scales (£600 × £25 × £725).

Applicants should be Associate Members of the Royal Institute of British Architects and have had considerable experience in municipal building projects, particularly educational buildings.

Form of application and conditions of appointment may be obtained from the Borough Engineer, 22/24, Nicholas Street, Burnley and should be returned to him not later than Saturday, the 5th March, 1955.

C. V. THORNLEY,
Town Clerk.
8710

BOROUGH OF EDMONTON.
APPOINTMENTS—BOROUGH ARCHITECT'S DEPARTMENT.

(*a*) JUNIOR ARCHITECTURAL ASSISTANT, A.P.T. I, £500 × £20—£580 plus London weighting. Candidates should have passed Intermediate R.I.B.A.

(*b*) QUANTITY SURVEYING ASSISTANT (temporary), A.P.T. II, £560 × £20—£640 plus London weighting. Candidates must have passed Intermediate R.I.C.S.

Applications on forms from Town Clerk, Town Hall, Edmonton, N.9, must be delivered by 10th March. 8676

LINDSEY COUNTY COUNCIL.
PLANNING DEPARTMENT.

Vacancies for following appointments:—

(*a*) PLANNING ASSISTANT.—A.P.T. II, £560—£640 per annum.

(*b*) JUNIOR ASSISTANT.—A.P.T. I, £500—£580 per annum.

Applicants for (*a*) must have passed Intermediate Examination of recognised professional institution. Commencing salary up to £600 per annum according to experience. Applicants for (*b*) should have completed not less than three years' professional training in planning, architect's or engineer's office and be expert draughtsmen.

Superannuation and N.J.C. conditions of service. Allowance of 25s. per week and return fare home bi-monthly payable for up to six months to married men unable to find housing accommodation.

Applications with full particulars of age, training, qualifications, experience, and names and addresses of two referees to be in my hands by Friday, 4th March, 1955. Canvassing will disqualify. Relationship to any member or senior officer of the Council to be disclosed in writing by candidate.

R. L. STIRLING,
County Planning Officer.

The Castle, Lincoln. 8745

BRACKNELL DEVELOPMENT CORPORATION.

Applications are invited for the following appointments:—

1. ASSISTANT ARCHITECT, Grade III.—Salary £860 × £50—£1,010. Applicants should be Corporate Members of the R.I.B.A. and should have had considerable experience in the execution of working drawings and the supervision of contracts. An increase in the salary for this grade is under consideration.

2. ASSISTANT ARCHITECTS, Grade IV.—Salary £710—£960 (increments 6 × £40, final £10). For one of these appointments preference will be given to applicant with industrial experience, and for the second appointment housing experience would be an advantage.

3. ASSISTANT QUANTITY SURVEYOR, Grade IV.—Salary £710—£960 (increments 6 × £40, final £10).

4. ASSISTANT QUANTITY SURVEYOR, Grade VI.—Salary £530—£680 (increments 7 × £20, final £10).

Both appointments 3 and 4 will be engaged on "working up."

Superannuation scheme, Medical Examination. Housing available in due course. Apply by 4th March, giving age, education and qualifications; experience and appointments held (with dates and salaries), and two references to the General Manager, B.D.C., Farley Hall, Binfield, Bracknell, Berks. 8702

Architectural Appointments Vacant

4 lines or under, 7s. 6d.: each additional line, 2s.

The engagement of persons answering these advertisements must be made through a Local Office of the Ministry of Labour or a Scheduled Employment Agency if the applicant is a man aged 18-64 *inclusive or a woman aged* 18-59 *inclusive unless he or she or the employment is excepted from the provisions of the Notification of Vacancies Order,* 1952.

BUILDING SURVEYING ASSISTANT (about R.I.C.S. Final Standard) with at least two years' practical experience required by City firm of Chartered Surveyors & Architects. 3925

ARCHITECTURAL ASSISTANT, intermediate standard required as a personal assistant to a principal in a large general practice in the Home Counties. The appointment will offer opportunity for works in all stages of architecture and in the administration of a private practice. Enthusiasm and ability essential. Box 5063.

SENIOR ASSISTANT ARCHITECTS required with experience of work on commercial and industrial buildings. Salaries up to £915 per annum for suitably qualified applicants.

ASSISTANT ARCHITECTS also required, capable of preparing working drawings and details from preliminary sketches. Salaries up to £745 per annum.

Applications stating age, experience, qualifications and salary required to G. S. Hay, A.R.I.B.A., Chief Architect, Co-operative Wholesale Society Ltd., 1, Balloon Street, Manchester. 4919

ARCHITECTURAL ASSISTANT: Intermediate approaching final. Commercial and industrial work; large-scale contracts. Watson, Johnson, Stokes, Victoria Square, Birmingham. 4895

ASSISTANT required in busy practice in West End, in early twenties, about Intermediate R.I.B.A. standard. Excellent opportunities for gaining all-round experience. Box 5092.

RONALD WARD & PARTNERS require several ARCHITECTURAL ASSISTANTS. Apply 29, Chesham Place, Belgrave Square, S.W.1, or telephone Belgravia 3361. 7023

ARCHITECTURAL ASSISTANT required. Must be good draughtsman and have sound knowledge of construction. Salary according to experience. Apply with full particulars to Jackson & Jackson, A/L.R.I.B.A., 13, North Street, Ashford, Kent. 8158

RILEY & GLANFIELD seek MALE ASSISTANT of experience for factory, Church, domestic and public house work. Ability to assume responsibility for design and supervision. Good draughtsmanship essential. Salary to be agreed. CHA 7328. 8483

ARCHITECTURAL ASSISTANT required; Intermediate to Final standard with office experience for small busy practice. Shaw and Lloyd, F.R.I.B.A., 74, Gt. Russell Street, W.C.1 Museum 9693. 8405

ARCHITECTURAL DRAUGHTSMAN required in Wembley. Write stating age, experience and salary required. Box 8406.

ARCHITECTURAL ASSISTANTS required, about Intermediate standard, for varied and interesting high grade work. 5-day week. Apply in writing only, giving full details of experience and salary required, to Sir Giles Scott, Son & Partner, 3, Field Court, Gray's Inn, W.C.1. 8354

JUNIOR and intermediate ARCHITECTURAL ASSISTANTS required. Applicants with knowledge of commercial work, including offices and stores, etc. London experience an advantage. Box 8481.

SENIOR and INTERMEDIATE ARCHITECTURAL ASSISTANTS required. 5-day week. Write or telephone, giving full particulars, including age and salary, to Hasker & Hall, Architects, 13, Welbeck Street, W.1. (WELbeck 0061). 8507

"THE ARCHITECTS' JOURNAL" requires a first-class DRAUGHTSMAN for the preparation of Working Details and Information Sheets with a keen interest in the compilation of technical data.

Write to the Editor (Information Sheets), 9, Queen Anne's Gate, S.W.1, stating age, architectural training and experience. 901

OPENING for two qualified ARCHITECTS to train as ASSISTANT DESIGNERS with an ever expanding firm of new traditional builders. Must have good general practical knowledge, a keen and enquiring mind and be willing to travel abroad if required. Starting salary £650. Messrs. Reema Construction, Ltd., Milford Manor, Salisbury, Wiltshire. 8491

CIVIL ENGINEERING AND ARCHITECTURAL ASSISTANTS required by The Steel Company of Wales Limited (Steel Division), Port Talbot, in their Engineering Drawing Offices.

Highest rates. Permanent positions. Attractive Pension Scheme.

Those wishing to apply should write giving full particulars of age, experience, qualifications, etc., to the Personnel Superintendent, The Steel Company of Wales Limited (Steel Division), P.O. Box No. 3, Port Talbot, Glam. 8501

REQUIRED for Architects' office, Central London area, young qualified ASSISTANTS interested in design and construction. Write, stating experience and salary required. Box 2325.

MAJOR Petroleum Distribution Company require for their London Office a SENIOR ARCHITECTURAL ASSISTANT. Applicants must be fully qualified, experienced and capable of applying initiative and drive to the development of a major project just commencing. Applications giving full details of age, qualifications and experience to Box 8420. Replies can only be sent to those selected for interview.

SURREY.—SENIOR ASSISTANT ARCHITECT required in busy and growing office—man of initiative able to take complete control of work. Excellent prospects, salary £750/£850; apply with full particulars to Box 8570.

ARCHITECTURAL ASSISTANT required; experienced in preparation of working Drawings, Details, Specifications and supervision, for South West London Office. Apply in writing, giving full particulars of experience, age and salary required, to Box 8432.

ARCHITECT'S ASSISTANT urgently required with experience of preparation of working drawings, details and specifications, etc. Please apply in writing stating experience, age and salary required, to H. Payne Wyatt, Son & Partner, Bank Chambers, 463/5, Brixton Road, S.W.9. 8433

CLIFFORD CULPIN & PARTNER require keen ASSISTANT. Salary approx. £700. Also enthusiastic JUNIOR with some office experience £6 to £8. Work includes Schools, Flats and Housing. 3, Southampton Place, W.C.1. CHAncery 5395. 8517

CITY firm of architects and surveyors require first-class DRAUGHTSMAN to work principally on shop fitting contracts. High standard and speed of draughtsmanship essential. Write giving particulars of past experience, qualifications and salary required to Box 8344, c/o, Charles Barker & Sons Ltd., 31, Budge Row, London, E.C.4. 8511

ARCHITECTURAL ASSISTANTS required for London and Ipswich Offices of Private Architect. Applicants should be aged 25 to 35 with a knowledge of contemporary works and preferably school trained. Reply, giving full details of qualifications and experience and salary required to Box 8519.

ASSISTANTS—Inter. and Final standard. Salary according to ability—ring AMB. 7271. Box 8571.

HELLBERG AND HARRIS F/A.R.I.B.A., require qualified senior ASSISTANTS for school, industrial and commercial work. Successful applicants will be given responsibility. Apply stating experience and salary required to 13, Queen Victoria Road, Coventry. Tel. 40521-3. 8548

ASSISTANTS, Junior and Senior, required. Salary according to qualifications and experience. Write giving details to Richardson & McLaughlan, 15, Mansfield Street, W.1, or telephone Langham 5964. 8576

ASSISTANTS required for firm of Architects in Portland Place area, the following qualifications being essential:—

(a) Should be about Intermediate standard;
(b) Excellent drafting ability;
(c) Several years office experience;
(d) Sound knowledge of construction;
(e) Keen interest in modern architecture.

Box 8564.

ARCHITECTS.—SENIOR ARCHITECTURAL ASSISTANTS required immediately for a wide variety of work. Salary range £700—£975 per annum. Superannuation scheme.

Application should be made in writing to:—Kenneth F. Masson, A.R.I.B.A., Chief Architect, S.C.W.S. Ltd., 119, Paisley Road, Glasgow C.5. 8565

A VICTORIA office requires both junior and intermediate grade ARCHITECTURAL ASSISTANTS. Applicants should be interested in planning for modern industry, the presentation of schemes and the working-up of details, etc. Please reply stating previous experience and salary required to Box 8536.

EXPERIENCED ASSISTANT required to take charge of Drawing Office in country town, North Essex. Salary, bonus and subsistence allowance. Apply with full particulars to Box 8533.

JUNIOR ASSISTANT required for general practice. Twelve miles on direct bus route from centre of Bristol. Apply giving details of experience and salary expected to J. A. Matthews, Dip.Arch.(Manc.), A.R.I.B.A., Chesterfield House, Chipping Sodbury. 8532

ARCHITECTURAL DRAUGHTSMAN required by multiple shop company, interesting and varied work, involves a certain amount of travelling, 5-day week, staff canteen, pension scheme, write stating age, qualifications, salary required, to Box 8529.

CECIL Howitt & Partners, Architects, St. Andrew's House, Mansfield Road, Nottingham, require JUNIOR ARCHITECTURAL ASSISTANTS, preferably Inter. R.I.B.A. standard. Please apply in writing, giving full details and stating salary required. 4706

ARCHITECTURAL ASSISTANT required, of Intermediate standard, preferably with experience of multi-storey flats. Five-day week. Luncheon vouchers. Write or phone, stating age, experience and salary required. Davies & Arnold, F.R.I.B.A., 27, Grosvenor Place, S.W.1. Sloane 7118. 8723

COVELL & MATTHEWS require three ARCHITECTURAL ASSISTANTS. Sound knowledge of contemporary construction and detailing churches, schools and hospitals. Salary £600—£700—£800. Apply, in writing, to 48, Seymour Street, W.1. 8724

ARCHITECT'S ASSISTANTS required (1 Senior and 2 Juniors) for West End Office. Write, stating full particulars and salary required, to Box 8725.

ARCHITECTURAL ASSISTANT required. Must be first-class draughtsman with good designing ability and capable of preparing presentation perspective drawings for varied and interesting sketch projects. Reply stating qualifications and salary required to Box 8735.

SENIOR ASSISTANT ARCHITECTS required with experience of work on Commercial and Industrial buildings. Salaries up to £900 0s. 0d. per annum for suitably qualified applicants. Box 8734.

ARCHITECTURAL ASSISTANT required, capable, usual office experience, specifications, land and property surveys. Age, experience, salary to Gilbert & Hobson, 69a, Castle Street, Farnham, Surrey. 8732

ASSISTANTS of A.R.I.B.A. Standard required by Bloomsbury Architects. Five-day week. Schools, Housing and General Practice. Salary according to experience. Box 8731.

DRAUGHTSMAN required by designers and builders of non-traditional housing. Scope for advancement. Starting salary: £9 weekly.—Unitroy Limited, 31/33, High Holborn, W.C.1. 8733

SENIOR ASSISTANT required, busy varied practice Midlands. Good prospects for enthusiastic, capable, experienced person. Salary: £600—£900 according to qualifications, etc. Write, giving full particulars indicating salary expected. Box 8730.

ARCHITECTURAL ASSISTANT with office experience required. Interesting and varied practice. Salary by arrangement. Apply in writing, with full particulars, to E. William Palmer & Partners, Chartered Architects, 8, The Town, Enfield, Middlesex. 872

HIGH WYCOMBE firm of Architects require: ONE ARCHITECTURAL ASSISTANT—senior fully qualified. TWO ARCHITECTURAL ASSISTANTS—junior, preferably Inter. standard. ONE QUANTITY SURVEYOR—senior qualified, able to prepare Bills of Quantities without supervision. ONE QUANTITY SURVEYOR—junior, capable of working-up. Salaries will be according to age and experience and applicant should have completed National Service. Box 8552.

A WELL-KNOWN Midland Motor Manufacturer requires an ARCHITECTURAL TRAINEE who has completed his Intermediate R.I.B.A. for work of interesting and responsible nature. He will be given opportunity to design complete garage premises. Reply, stating age and all relevant details, to Box 8726.

APPLICATIONS are invited for appointments in South-west England with designers and manufacturers of new traditional buildings.

(a) CHARTERED ARCHITECT as deputy to Staff Architect. Applicants must have good practical experience, and be capable of taking charge of Drawing Office Staff.

(b) CONSTRUCTIONAL DRAUGHTSMEN with sound knowledge of general building construction.

(c) DRAUGHTSMAN for design of Roads and Sewerage for new Housing Estates, with knowledge and experience of run-off calculation, sewer discharges, etc.

Full particulars of qualifications, age, experience and salary required, to Box 8727.

QUALIFIED SENIOR ASSISTANT required, busy general practice W.C. area. £800 per annum. Reply to Box 8746.

ARCHITECTURAL ASSISTANT required R.I.B.A. Intermediate Standard and above, experienced in working drawings. Opportunities for Advancement and good salary in return for industry and enthusiasm. Whitmarsh-Everiss & Smithies, Chartered Architects, 19, Hanbury Road, Clifton, Bristol, 8. 8747

ARCHITECTURAL ASSISTANT required for small but varied practice in Greater London area. Good design and draughtsmanship and some site supervision required. Commencing salary £440 per annum. Please write to Tingey Associates, 29a Longoridge Road, Barking, Essex. 8613

ARCHITECTURAL ASSISTANT of "plus" Inter. standard, required by small West End office with varied practice. Must be quick draughtsman with previous office experience. Write stating experience and salary required to Box 8418.

ARCHITECTURAL ASSISTANTS required; varied work; salaries £700 to £750. Write, stating age, training, experience, present salary; all interview expenses paid. G. de C. Fraser Son, & Gearey, chartered Architects, 27, Dale Street, Liverpool. 8719

ARCHITECTURAL ASSISTANT up to inter. R.I.B.A. standard. Applications stating age, experience, qualifications and salary required to Robert W. Ingram, R.I.A.B.A., Dip. Arch. (Leics.), Staff Architect, 77, Uxbridge Road, Ealing, W.5. 8718

ARCHITECTURAL ASSISTANT required in general private practice. Appiy, stating age, experience, etc., to Messrs. George E. Clay & Partners, AA.R.I.B.A., 10, New Road, Rochester. Salary £300 to £400 per annum, depending on experience and ability. 8722

ARCHITECTURAL ASSISTANTS required immediately in Architects Dept., at Head Office. Varied and interesting work with good opportunities for advancement. Permanent appointments with salaries from £600 to £800 per annum, according to qualifications and experience. Applicants should write, giving brief particulars of qualifications and experience to Chief Architect, George Wimpey & Co., Limited, 27, Hammersmith Grove, London, W.6. (Envelopes to be marked "Architectural Vacancies"). 8717

JUNIOR ASSISTANTS (Intermediate Standard) required for Bristol and Chippenham offices. Apply, giving full particulars of experience and salary required to: George Brown & Partners, Architects, Surveyors, Brunel House, College Green, Bristol, 1. 8720

SAMUEL MORRISON AND PARTNERS require first-class ASSISTANTS for contemporary work in the sphere of industrial design, housing, factories, schools and shops in various parts of the country. Group and individual work in pleasant surroundings. Salary according to experience. St. Alkmund's House, Belper Road, Derby. 8618

WEST YORKSHIRE: Old established firm Chartered Architects require ASSISTANTS: interesting work over wide area: co-partnership and profit-sharing in force. Box 8620.

ARCHITECTURAL ASSISTANT required in City firm of architects and surveyors. Intermediate R.I.B.A. standard. Good draughtsman essential, preferably with some experience of contemporary design of interiors and shops. Write stating particulars of previous experience and salary required to: Vigers & Company, 4, Frederick's Place, Old Jewry, E.C.2. 8622

SENIOR ARCHITECTURAL ASSISTANTS required at once for busy London office. Experienced and capable of taking responsibility. Salary £800—£900 or according to ability. Full details to Box 8623.

JUNIOR ASSISTANTS urgently required. Good draughtsmen with some experience. Excellent prospects in busy office Salary by arrangement. Write fully to Bowden, Son and Partners, 3, Adelaide Terrace, London, N.1. 8624

ONE SENIOR and two Intermediate R.I.B.A. standard ARCHITECTURAL ASSISTANTS, with office experience required in small private office. Write stating experience and salary required to S. W. Wendes, 29a, Lugley Street, Newport, I.O.W. 8654

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