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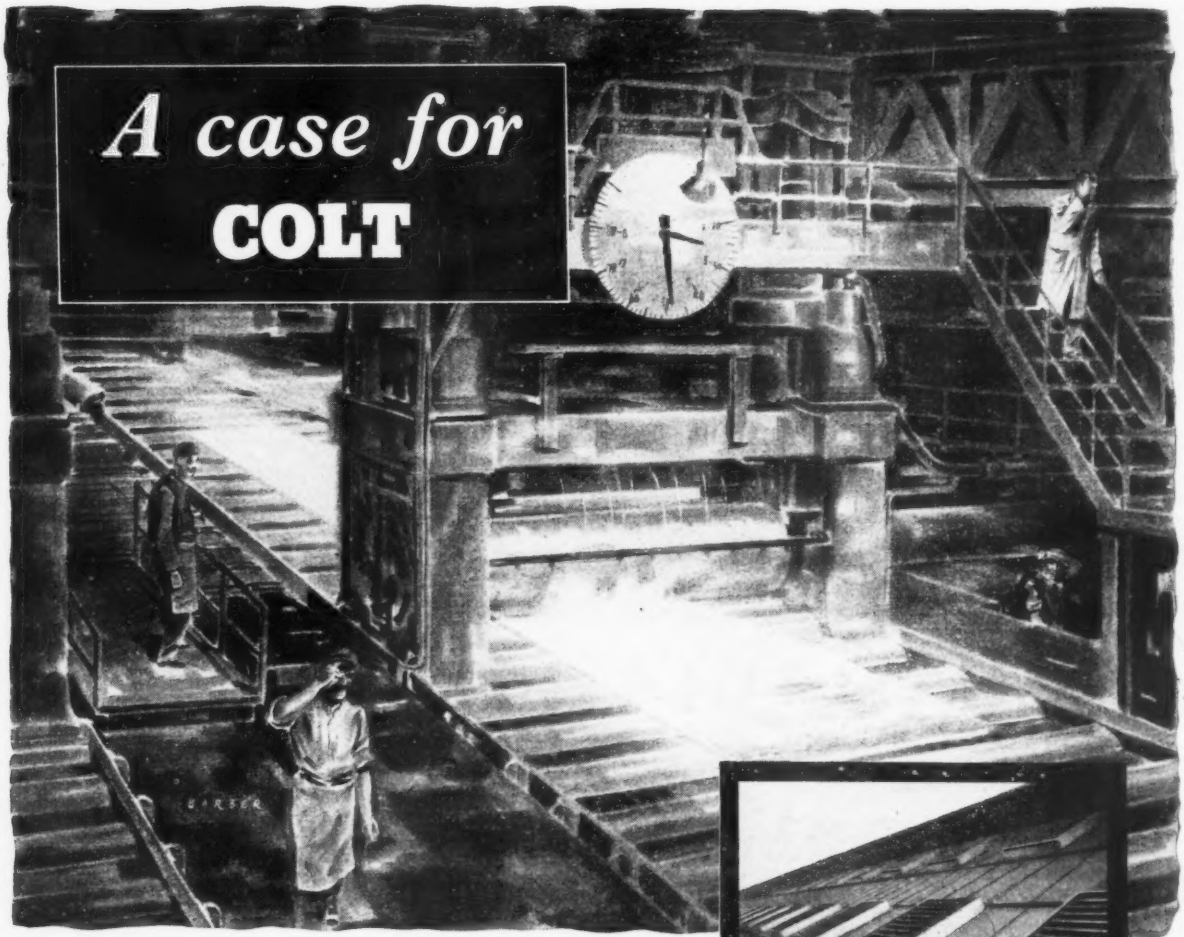
★ A glossary of abbreviations of Government Departments and Societies and Committees of all kinds, together with their full address and telephone numbers. The glossary is published in two parts—A to Ig one week, Ih to Z the next. In all cases where the town is not mentioned the word LONDON is implicit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

AA	Architectural Association, 34/6, Bedford Square, W.C.1.	Museum 0974
AAI	Association of Art Institutions. Secy.: W. Marlborough Whitehead, "Dyneley," Castle Hill Avenue, Berkhampstead, Herts.	
ABS	Architects' Benevolent Society. 66, Portland Place, W.1.	Langham 5721
ABT	Association of Building Technicians. 1, Ashley Place, S.W.1.	Victoria 0447–8
ACGB	Arts Council of Great Britain. 4, St. James' Square, S.W.1.	Whitehall 9737
ADA	Aluminium Development Association. 33, Grosvenor Street, W.1.	Mayfair 7501/8
ARCUK	Architects' Registration Council. 78, Wimpole Street, W.1.	Welbeck 2915
BAE	Board of Architectural Education. 66, Portland Place, W.1.	Langham 5721
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, C2.	Glasgow Central 2891
BID	Building Industries Distributors. 52, High Holborn, W.C.1.	Chancery 7772
BINC	Building Industries National Council. 11, Weymouth Street, W.1.	Langham 2785
BOT	Board of Trade. Whitehall Gardens, Horseguards Avenue, Whitehall, S.W.1.	Trafalgar 8855
BRS	Building Research Station. Bucknalls Lane, Watford.	Garston 4040
BSA	Building Societies Association. 14, Park Street, W.1.	Mayfair 0515
BSI	British Standards Institution. British Standards House, 2, Park St., W.1.	Mayfair 9000
BTE	Building Trades Exhibition. 32, Millbank, S.W.1.	Tate Gallery 8134
CABAS	City and Borough Architects Society. C/o Johnson Blackett, F.R.I.B.A., Civic Centre, Newport, Mon.	Newport 65491
CAS	County Architects' Society. C/o F. R. Steele, F.R.I.B.A., County Hall, Chichester.	Chichester 3001
CCA	Cement and Concrete Association. 52, Grosvenor Gardens, S.W.1.	Belgravia 6661
CCP	Council for Codes of Practice. Lambeth Bridge House, S.E.1.	Reliance 7611 Ext. 1284
CDA	Copper Development Association. 55, South Audley St., W.1.	Grosvenor 8811
CIAM	Congrès Internationaux d'Architecture Moderne. Doldertal, 7, Zurich, Switzerland.	
COID	Council of Industrial Design. 28, Haymarket, S.W.1.	Trafalgar 8000
CPRE	Council for the Preservation of Rural England. 4, Hobart Place, S.W.1.	Sloane 4280
CUC	Coal Utilization Council. 3, Upper Belgrave Street, S.W.1.	Sloane 9116
CVE	Council for Visual Education. 13, Suffolk Street, Haymarket, S.W.1.	Reading 72255
DGW	Directorate General of Works, Ministry of Works, Lambeth Bridge House, S.E.1.	Reliance 7611
DIA	Design and Industries Association. 13, Suffolk Street, S.W.1.	Whitehall 0540
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. 68, Gloucester Place, W.1.	Welbeck 9966
FASS	Federation of Association of Specialists and Sub-Contractors, Artillery House, Artillery Row, S.W.1.	Abbey 7232
FBBDO	Fibre Building Board Development Organization, Ltd. (Fidor), 47, Princes Gate, Kensington, S.W.7.	Kensington 4577
FBI	Federation of British Industries. 21, Tothill Street, S.W.1.	Whitehall 6711
FC	Forestry Commission. 25, Savile Row, W.1.	Regent 0221
FCMI	Federation of Coated Macadam Industries. 37, Chester Square, S.W.1.	Sloane 1002
FDMA	The Flush Door Manufacturers Association Ltd., Trowell, Nottingham.	Ilkeston 623
FLD	Friends of the Lake District. Pennington House, nr. Ulverston, Lancs.	Ulverston 201
FMB	Federation of Master Builders. 26, Great Ormond Street, Holborn, W.C.1.	Chancery 7583
FPC	The Federation of Painting Contractors, St. Stephen's House, S.W.1.	Whitehall 3902
FRHB	Federation of Registered House Builders. 82, New Cavendish Street, W.1.	Langham 4341
GPDA	Gypsum Plasterboard Development Association, 11, Ironmonger Lane, E.C.2.	Monarch 8888
GC	Gas Council. 1, Grosvenor Place, S.W.1.	Sloane 4554
GG	Georgian Group. 2, Chester Street, S.W.1.	Belgravia 3081
HC	Housing Centre. 13, Suffolk Street, Pall Mall, S.W.1.	Whitehall 2881
IAAS	Incorporated Association of Architects and Surveyors. 29, Belgrave Square, S.W.1.	Belgravia 3755
ICA	Institute of Contemporary Arts. 17–18, Dover Street, Piccadilly, W.1.	Grosvenor 6186
ICE	Institution of Civil Engineers. 1, Great George Street, S.W.1.	Whitehall 4577
IEE	Institution of Electrical Engineers. Savoy Place, Victoria Embankment, W.C.2.	Temple Bar 7676
IES	Illuminating Engineering Society. 32, Victoria Street, S.W.1.	Abbey 5215
IGE	Institution of Gas Engineers. 17 Grosvenor Crescent, S.W.1.	Sloane 8266

Problem No. 7 Intense radiant heat

A case for COLT



An outstanding example of radiant heat is found in a Rolling Mill where white-hot metal is processed at around 1,150°C. The heat given off not only causes acute discomfort to those nearby but if no provision is made for its escape, it is reflected back by the building structure, thus completely surrounding workers with heat radiating surfaces.

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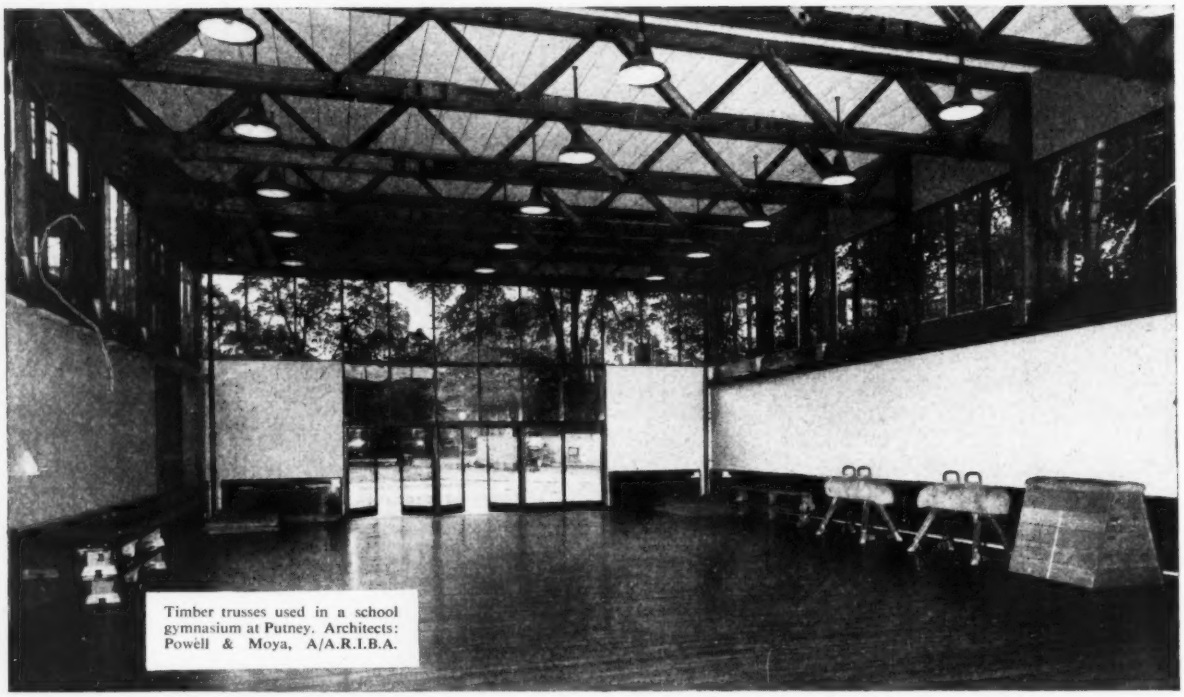
G. 393

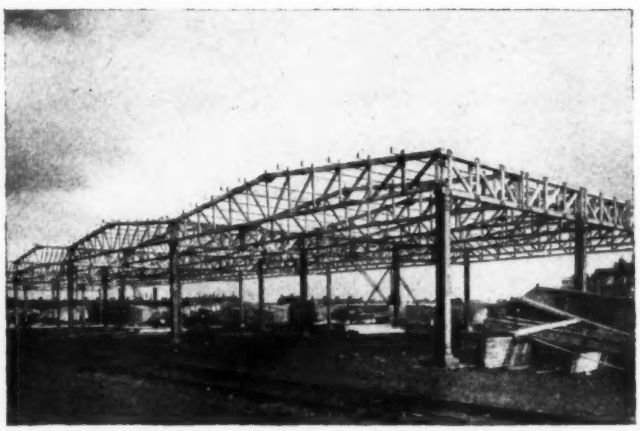


Timber trusses used in a school gymnasium at Putney. Architects: Powell & Moya, A/A.R.I.B.A.

CANADIAN TIMBER

cuts the cost of wide span trusses

New storage building at Falkirk before roofing. Length: 324 feet. Width: 81 feet. Span of bays: 54 feet Designed by Timber Development Association



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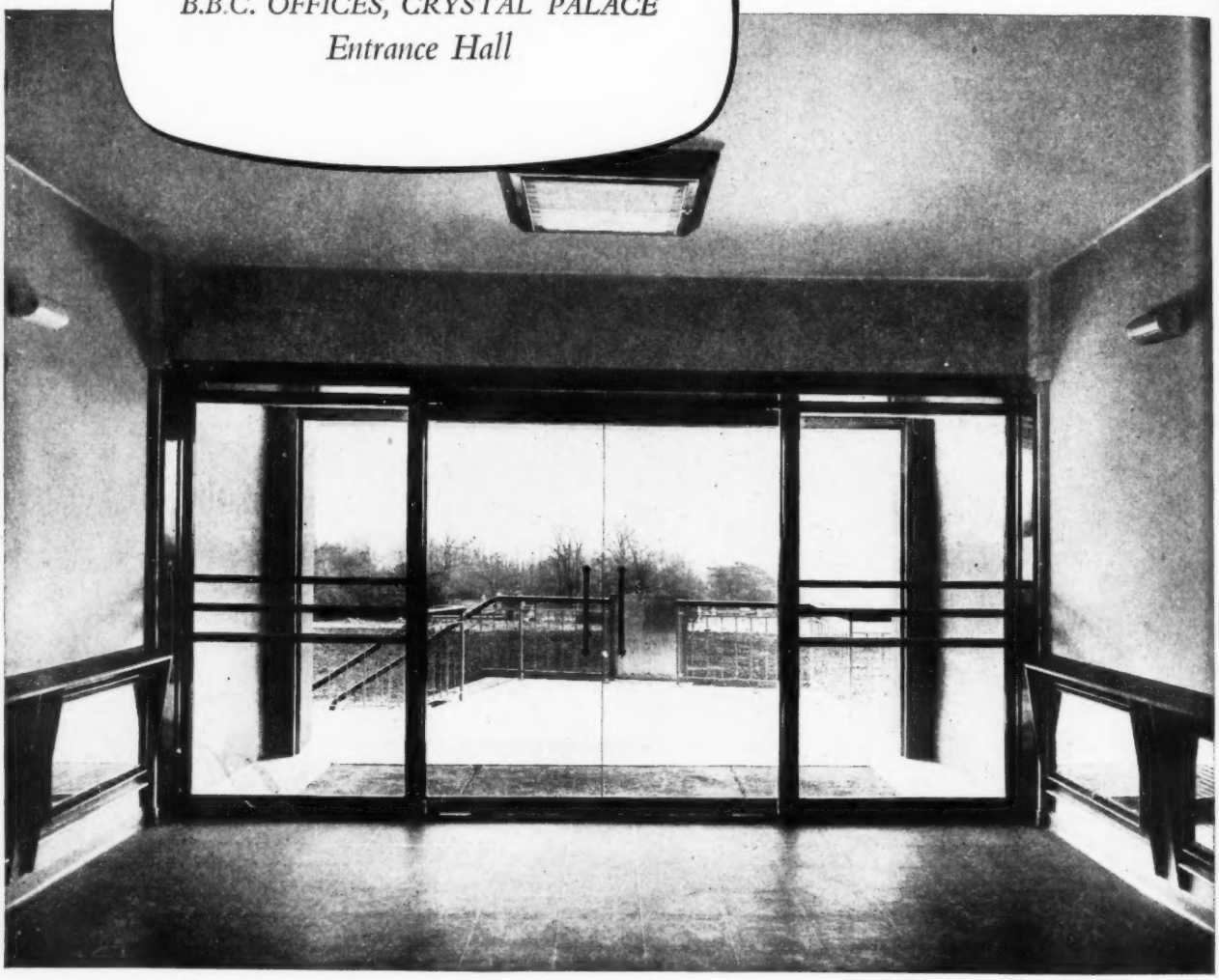

Architects: Building Dept., B.B.C.
Contractor: Higgs & Hill Limited.

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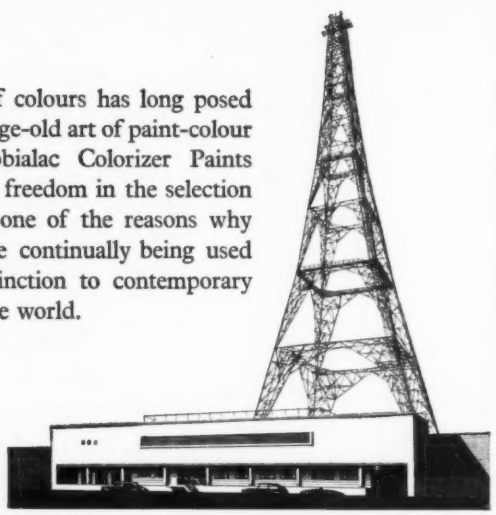

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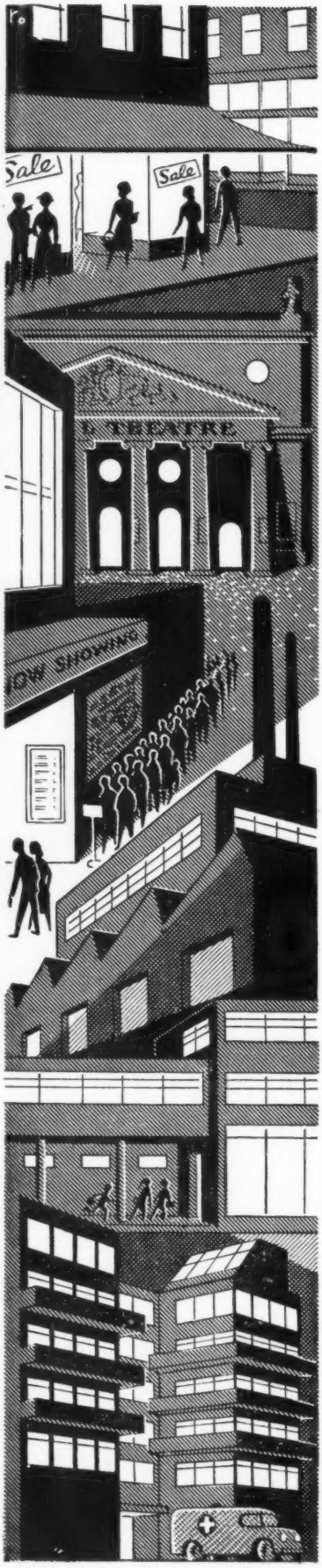

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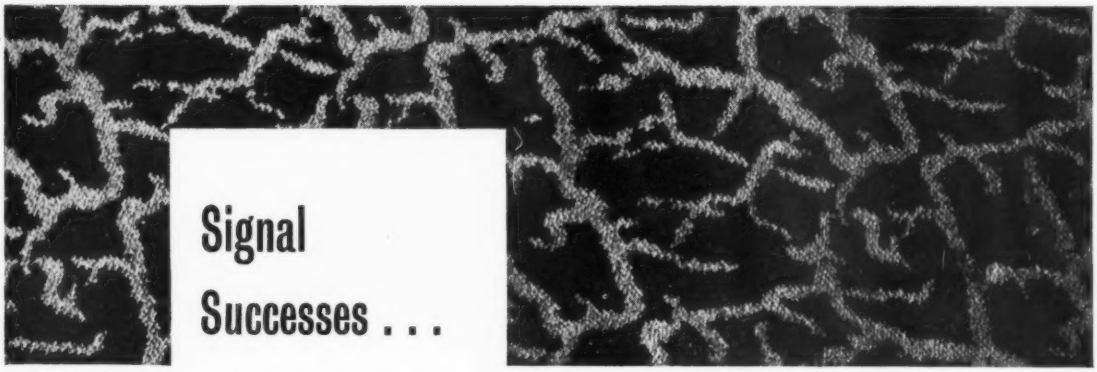

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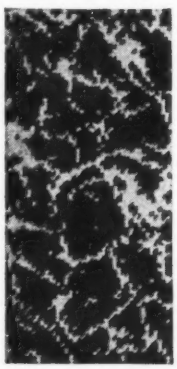

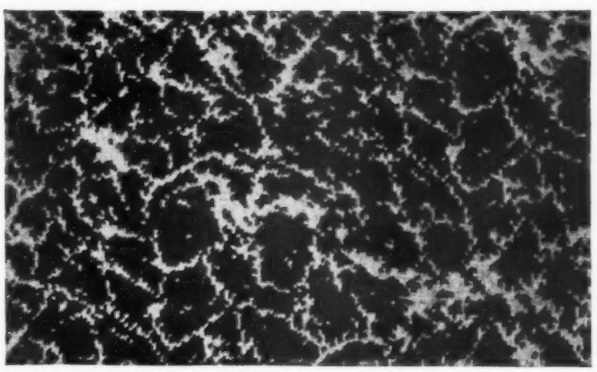

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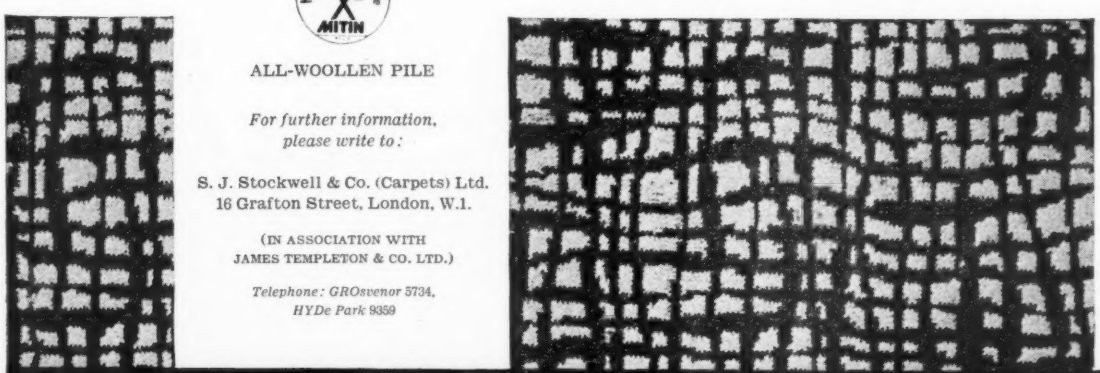

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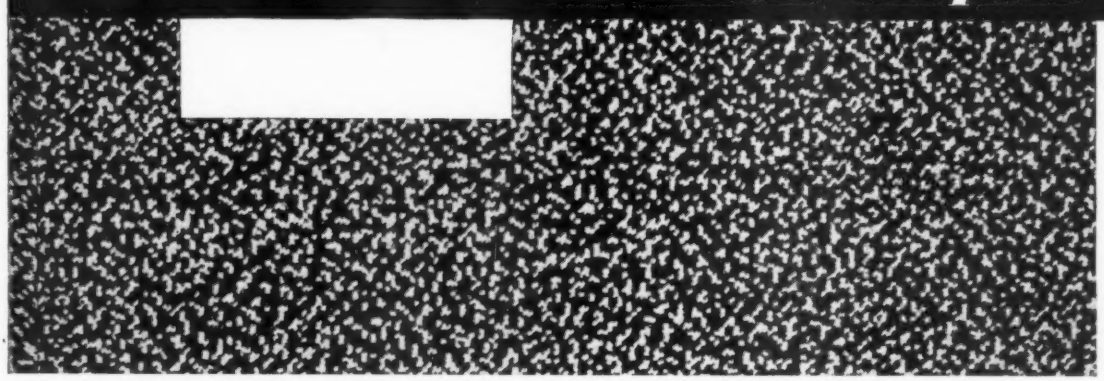

VISCOUNT
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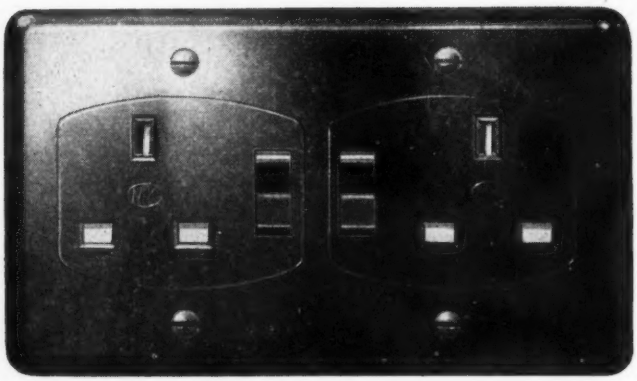
Black/Green, Black/White

List No. 2947
Flush Pattern



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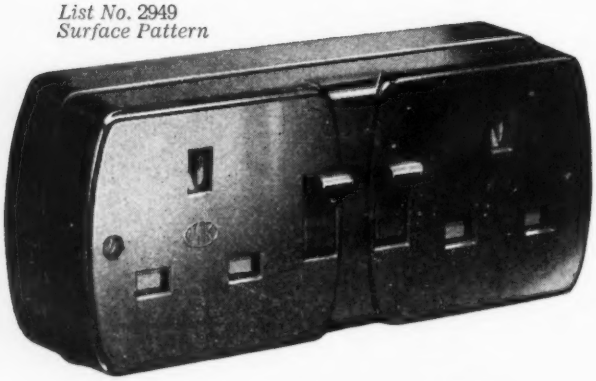
List No. 2949
Surface Pattern



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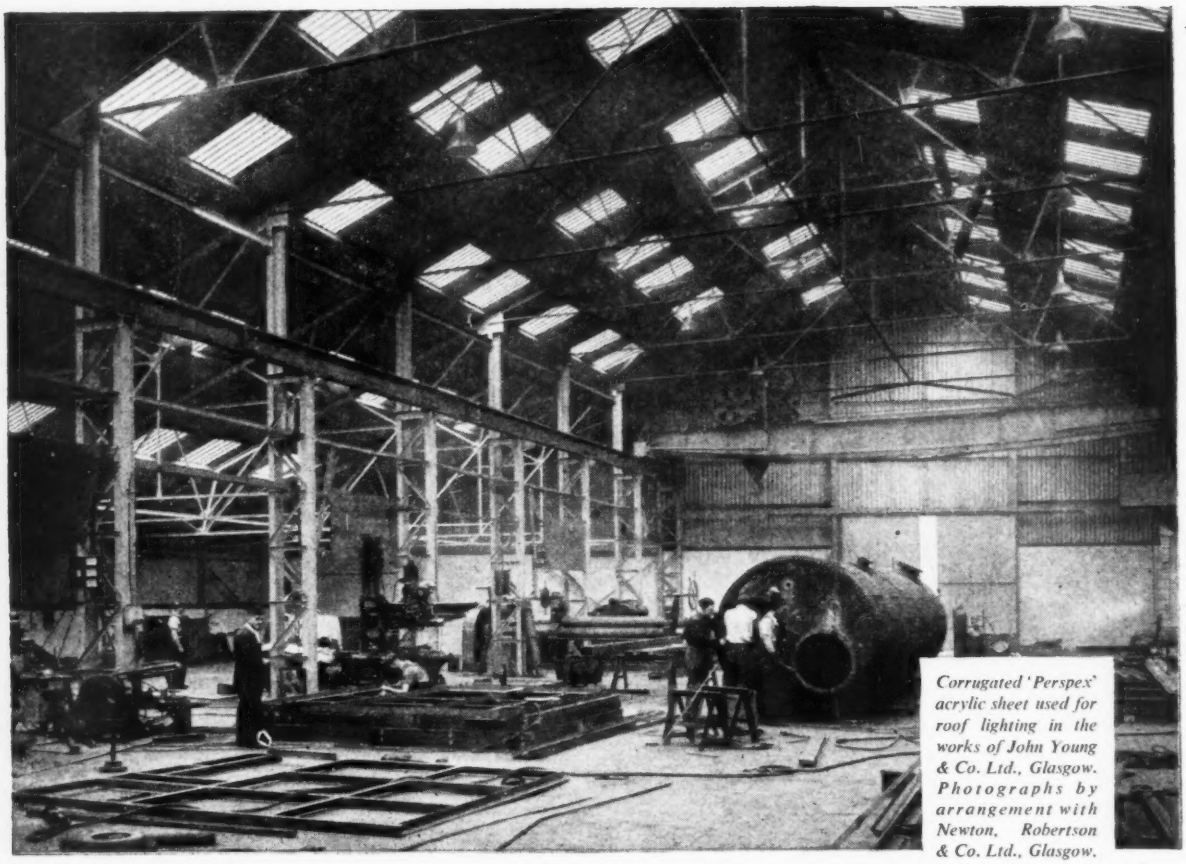

Corrugated 'Perspex' acrylic sheet used for roof lighting in the works of John Young & Co. Ltd., Glasgow. Photographs by arrangement with Newton, Robertson & Co. Ltd., Glasgow.

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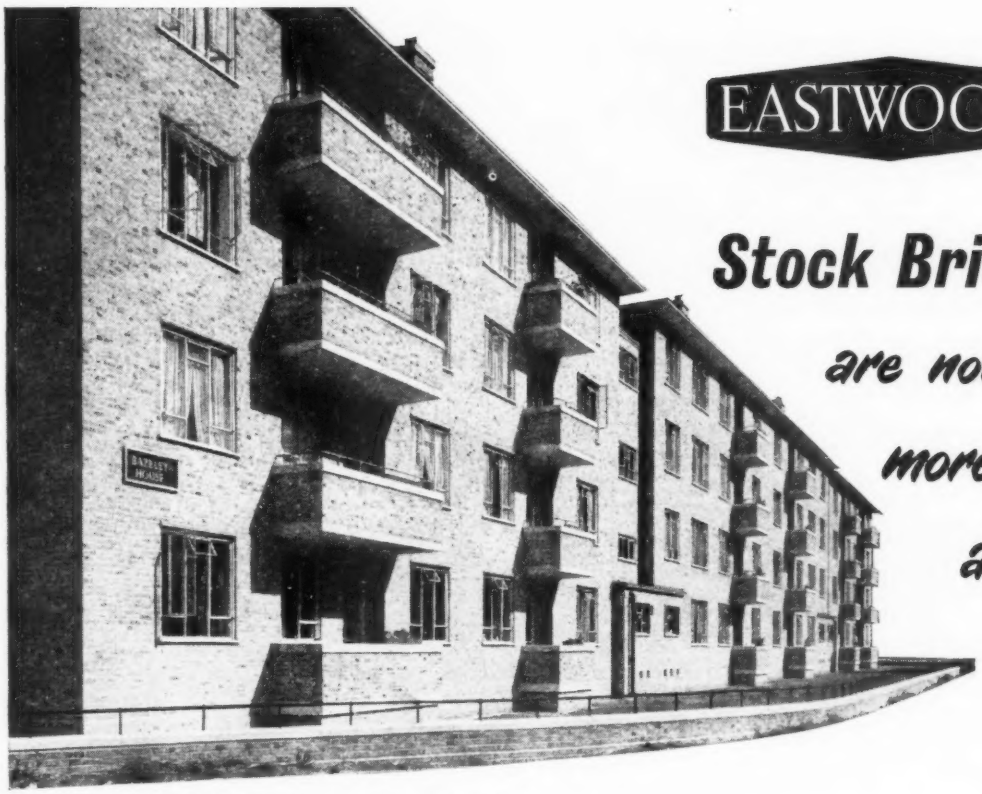

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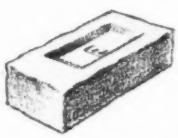

A hard high grade stock facing of uniform deep yellow colour and regular shape.
Their mellow warm colour make these bricks very suitable for special architectural features.

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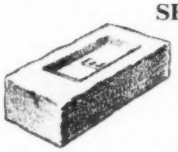
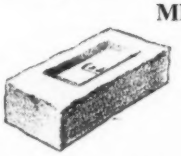


An economical, reliable and well burned brick of varying colour and slight irregularity in shape, the well-known "London" Stock is in great demand for both facing and foundation work.

MILD STOCK FACINGS



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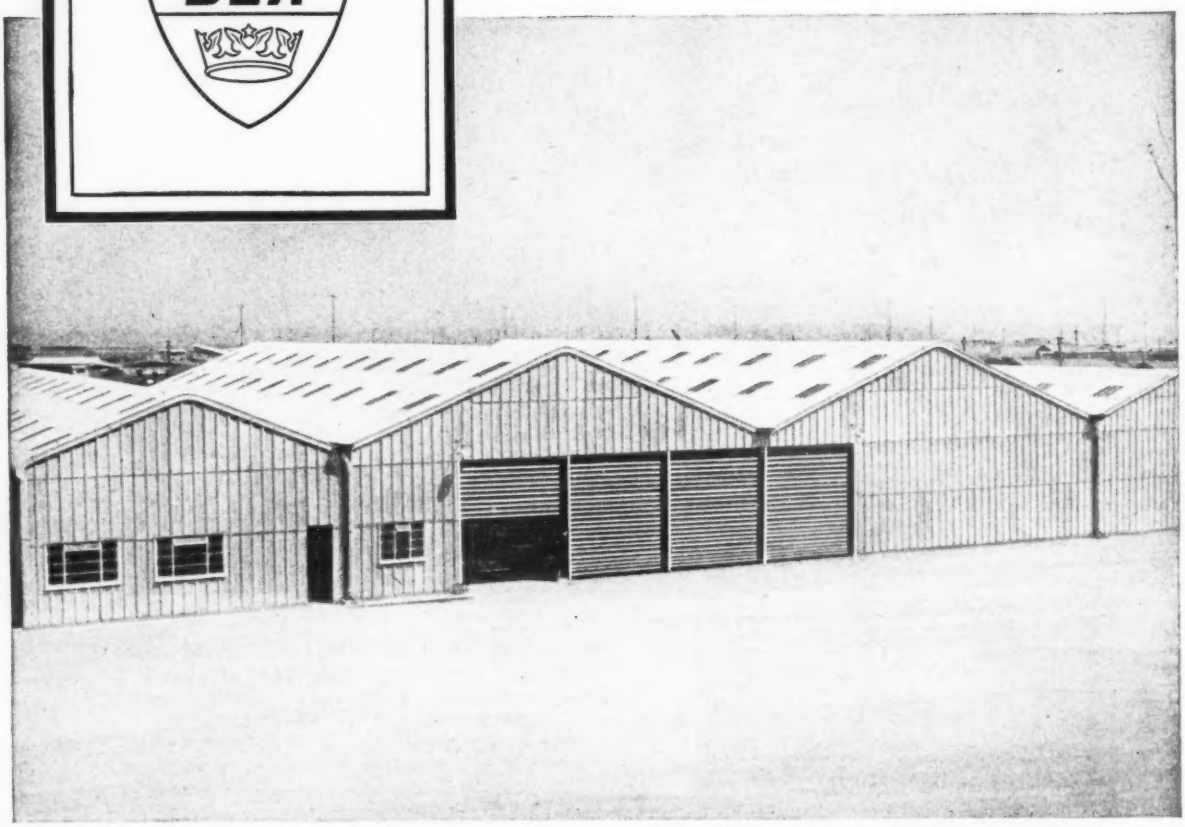

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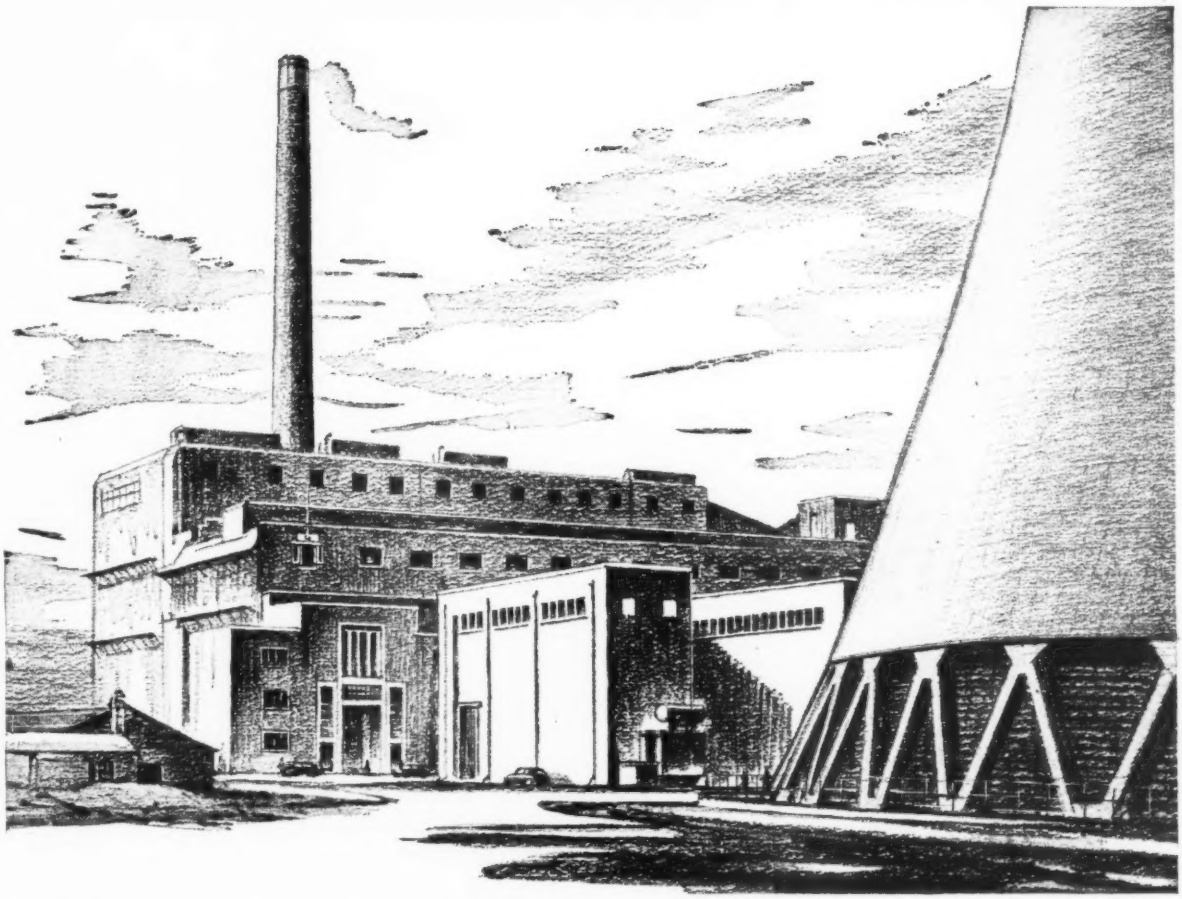

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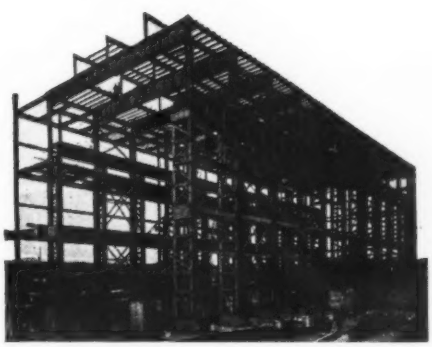

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Consulting Engineers: Kennedy & Donkin.
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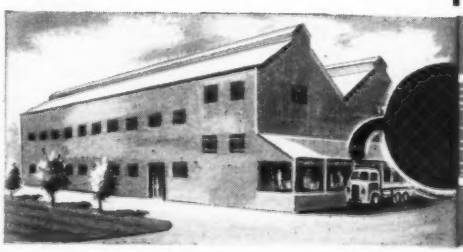

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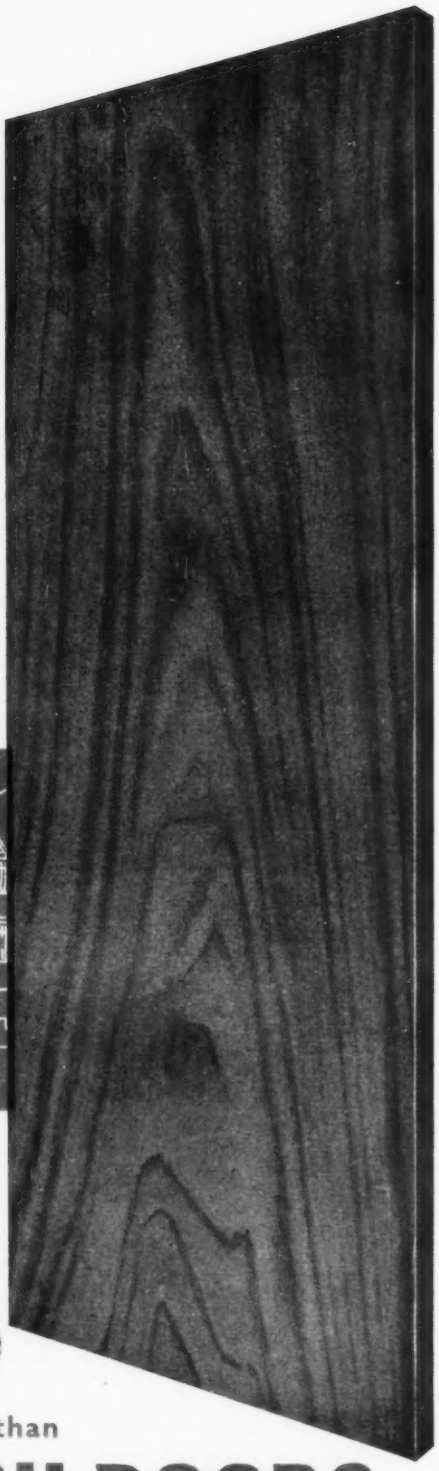

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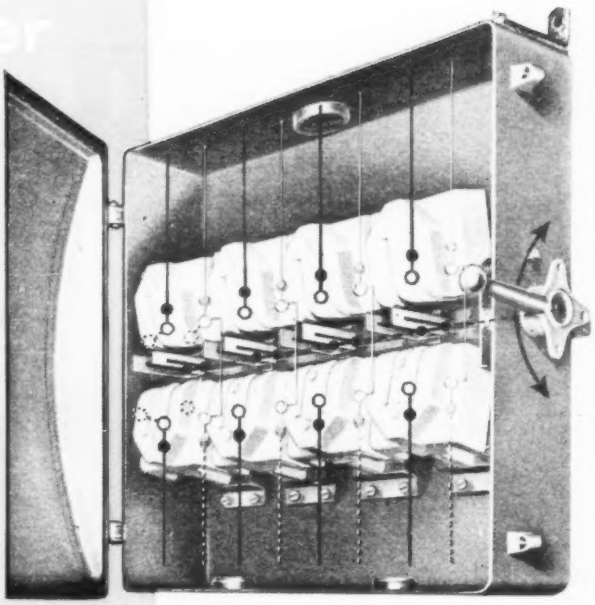

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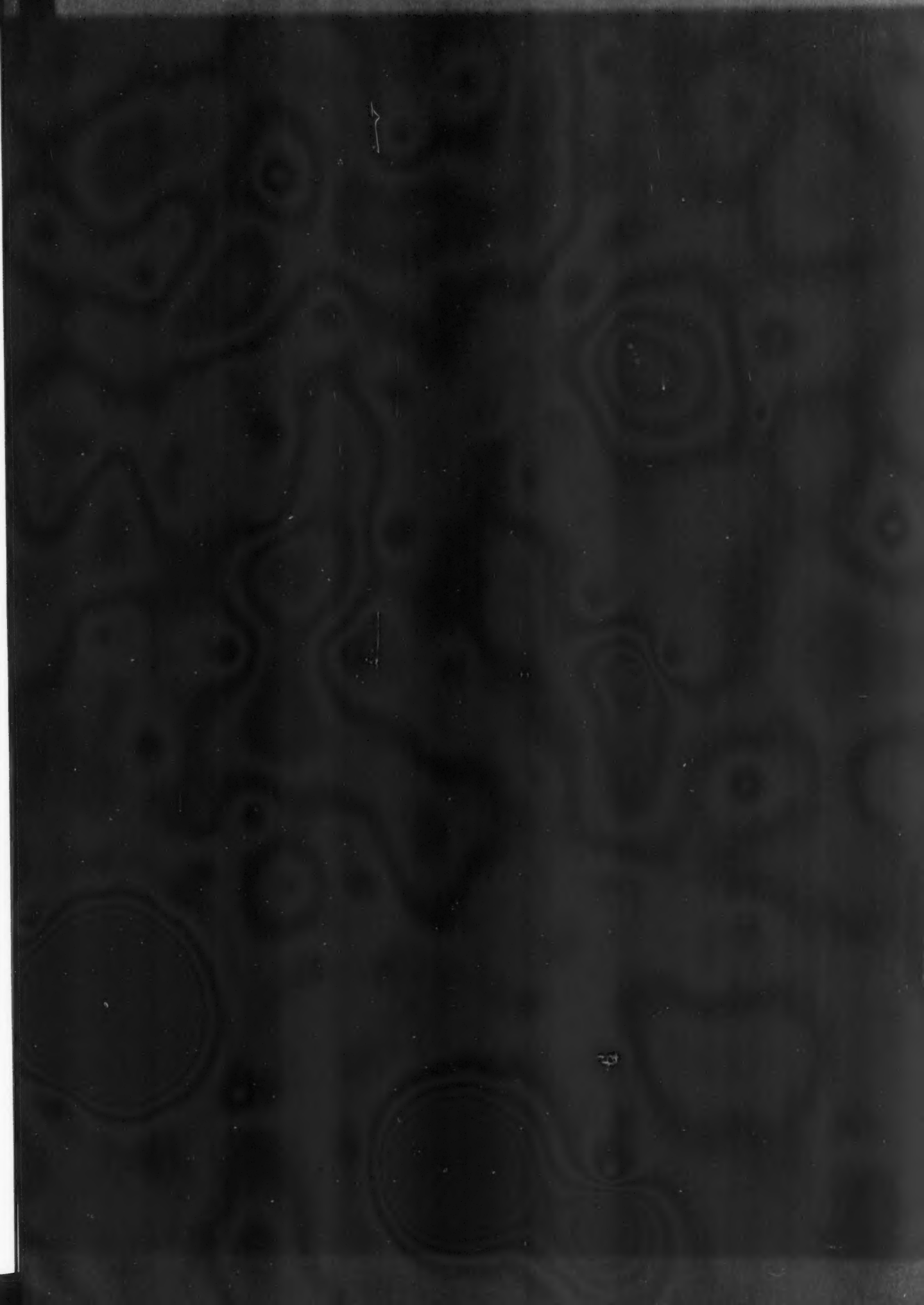


ELLARD

ESTATE
SLIDING DOOR GEAR

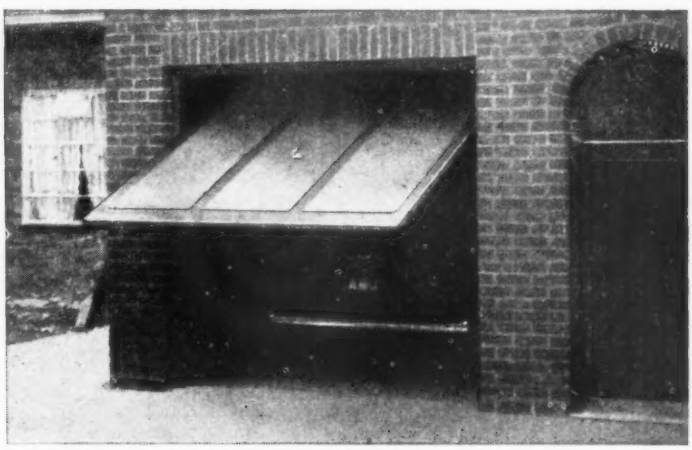
The illustration on right shows yet another example of the use of ELLARD "Estate" Sliding Door Gear in the modern dwelling house. See how simple it is to convert a spacious room to one of a cosy, intimate atmosphere. The finger-tip smoothness of door action offers immediate reduction of living space when desired with the additional advantage of fuel economy. Elegant appearance, ease of operation and long service are the main selling features of this attractive ELLARD Door Gear. Excellent design, moderate cost and maximum use of floor space make ELLARD Door Gear the obvious choice for both council estates and private houses.

RADIAL
SLIDING DOOR GEAR

Illustration on left shows ELLARD "Radial" Sliding Door Gear fitted to a private garage. Sliding doors are of great advantage in protecting cars against damage caused by accidental swinging of hinged doors. In addition, valuable working space is offered where it is most desired, at the entrance to the garage. Note also how ELLARD Door Gear provides easy access to and from the garage by a personal entry door. ELLARD "Radial" Sliding Door Gear is low in price and gives long service without maintenance. This gear is also suitable for the larger openings of commercial and industrial garages.

OVERDOR
GARAGE DOOR GEAR

ELLARD "Overdor" Gear, illustrated on right, represents the best method of operating an overhead type door, and it requires the minimum space, fixing time and maintenance. An entirely clear threshold is achieved, and both side walls are available for windows or shelves. "Overdor" Gear is designed for doors from 6ft. to 7ft. 3in. high and up to 200 lbs. in weight. The door is safely balanced and can be opened and closed with ease. The width of the door is not critical, but the construction should ensure that the door does not sag when in the raised horizontal position, and we suggest a maximum width of 10ft. The balance springs impose a compression force along the iambs, thus relieving the building of all stress until the door is raised, when less than half the weight of the door is supported by the twin top tracks. ELLARD "Overdor" is therefore especially suitable for lightly constructed buildings.



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BMJ.

HOUSE AT
WELWYN GARDEN CITY

In this fireplace wall, built in brickwork, the flue is shown expressed. Note also the brick risers to the steps on the right.

Architects:
Architects' Co-Partnership.

(*Photos: "Architects' Journal"*)

HOUSE AT
STANMORE, MIDDLESEX

Horizontal emphasis is achieved by colouring the vertical pointing to match the bricks, which are golden buff facings.

Clyde Young & Bernard Engle, Chartered Architects.

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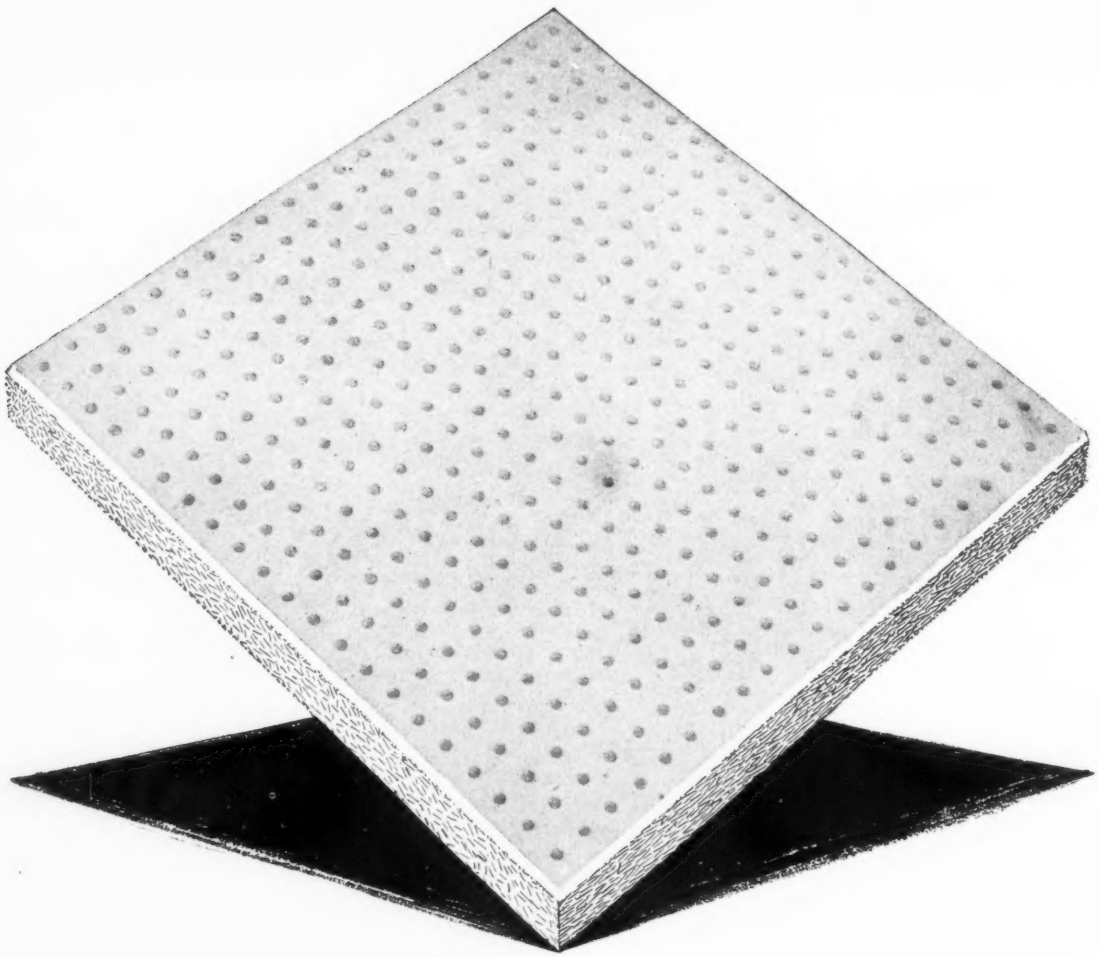

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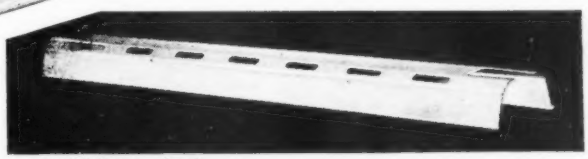
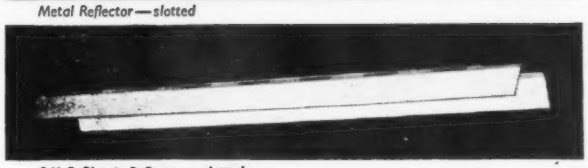
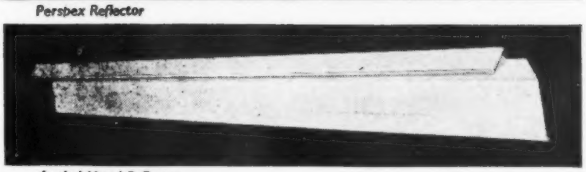


Metal Reflector—slotted

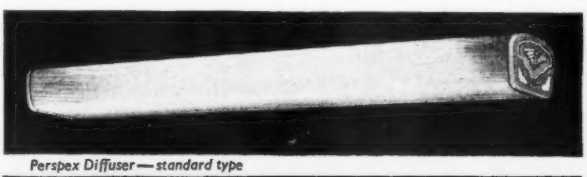


P.V.C. Plastic Reflector—slotted

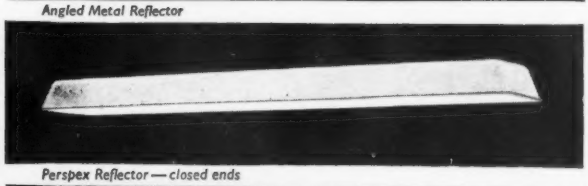
Perspex Reflector



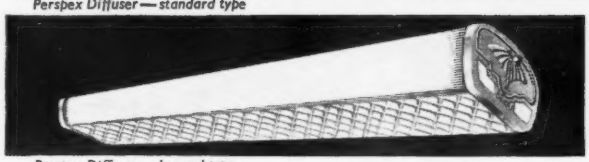
Angled Metal Reflector



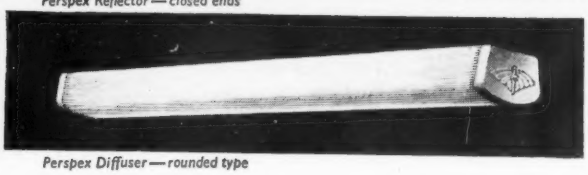
Perspex Diffuser—standard type



Perspex Reflector—closed ends



Perspex Diffuser—louvred type



Perspex Diffuser—rounded type

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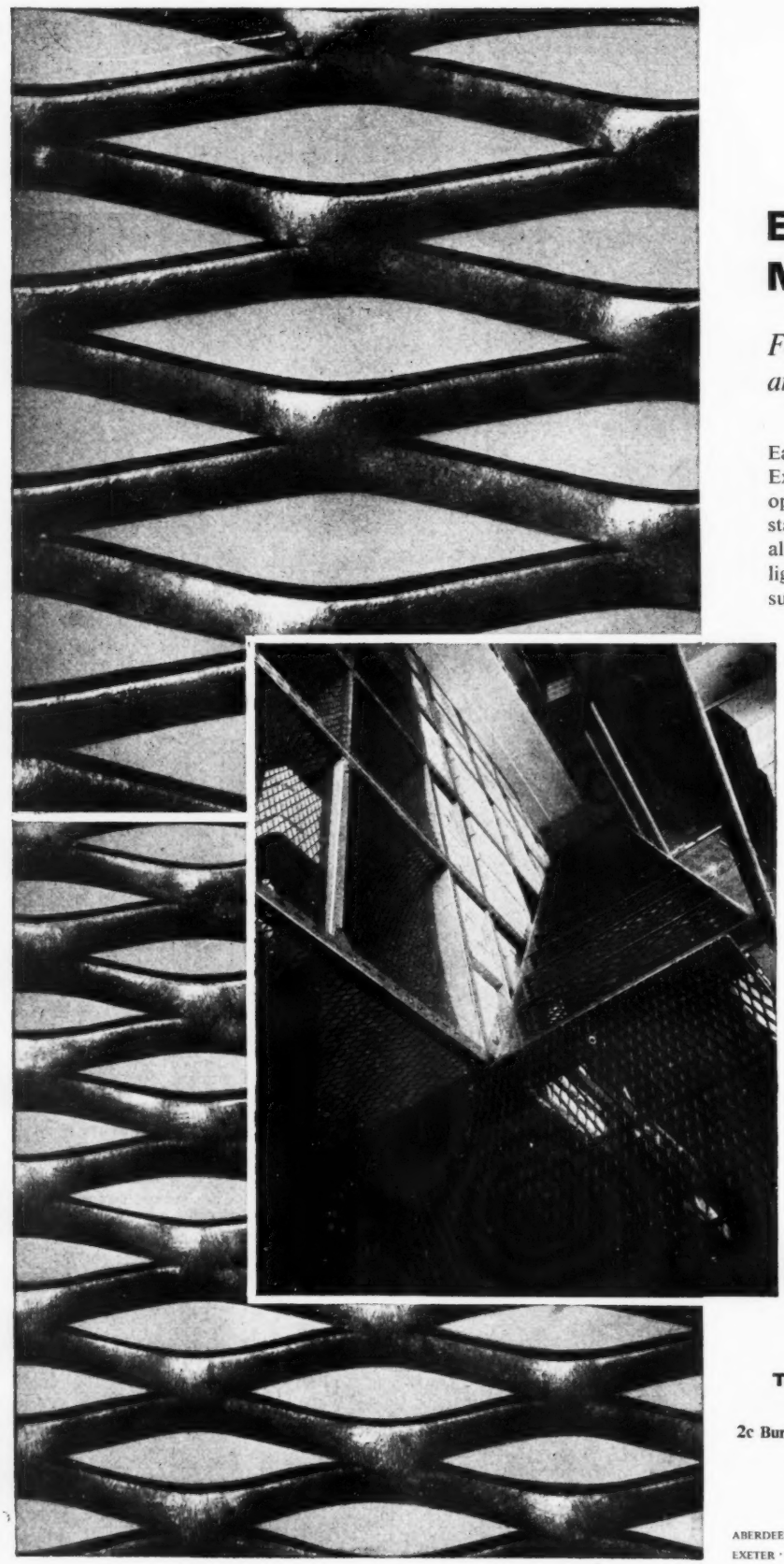

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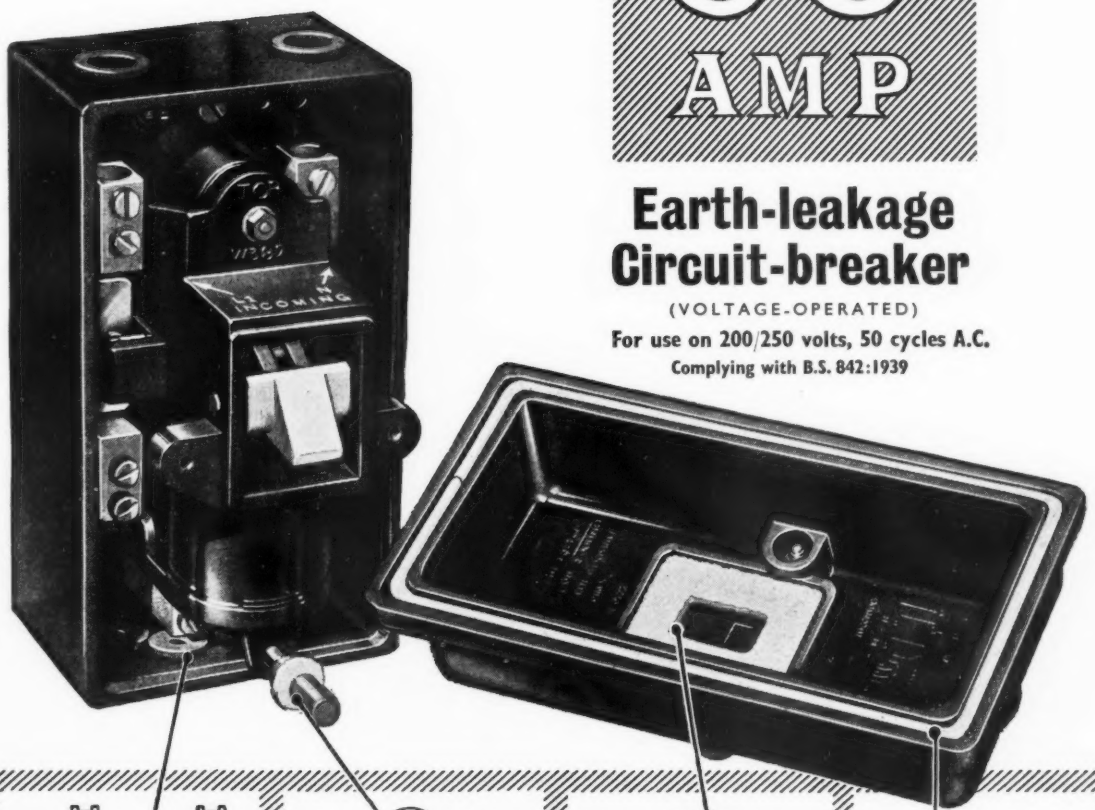

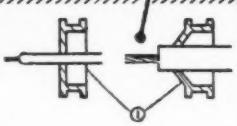

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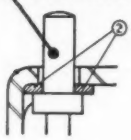
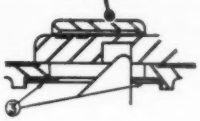


Felt washer (2) closes the test key entry.



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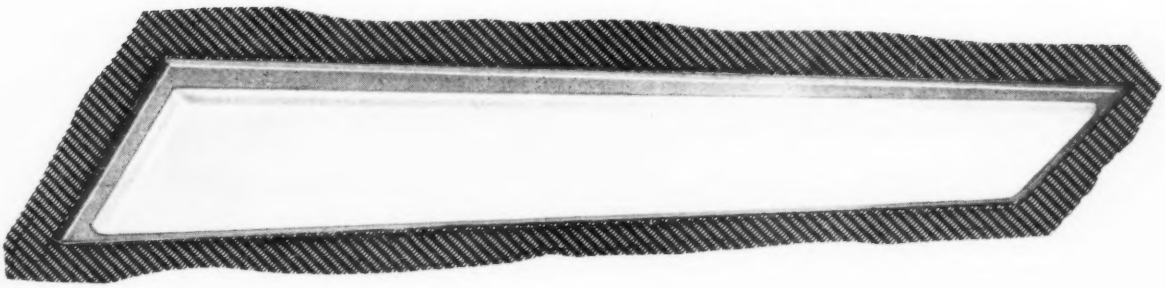
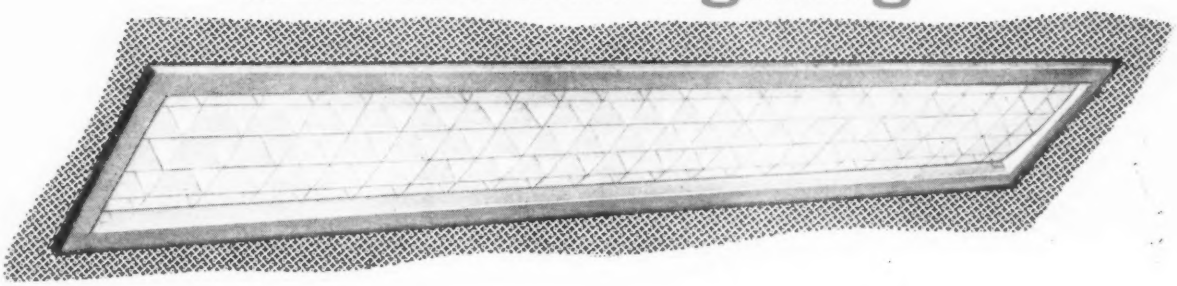
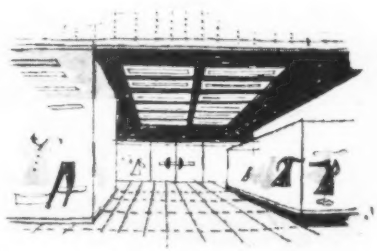


unobtrusive lighting





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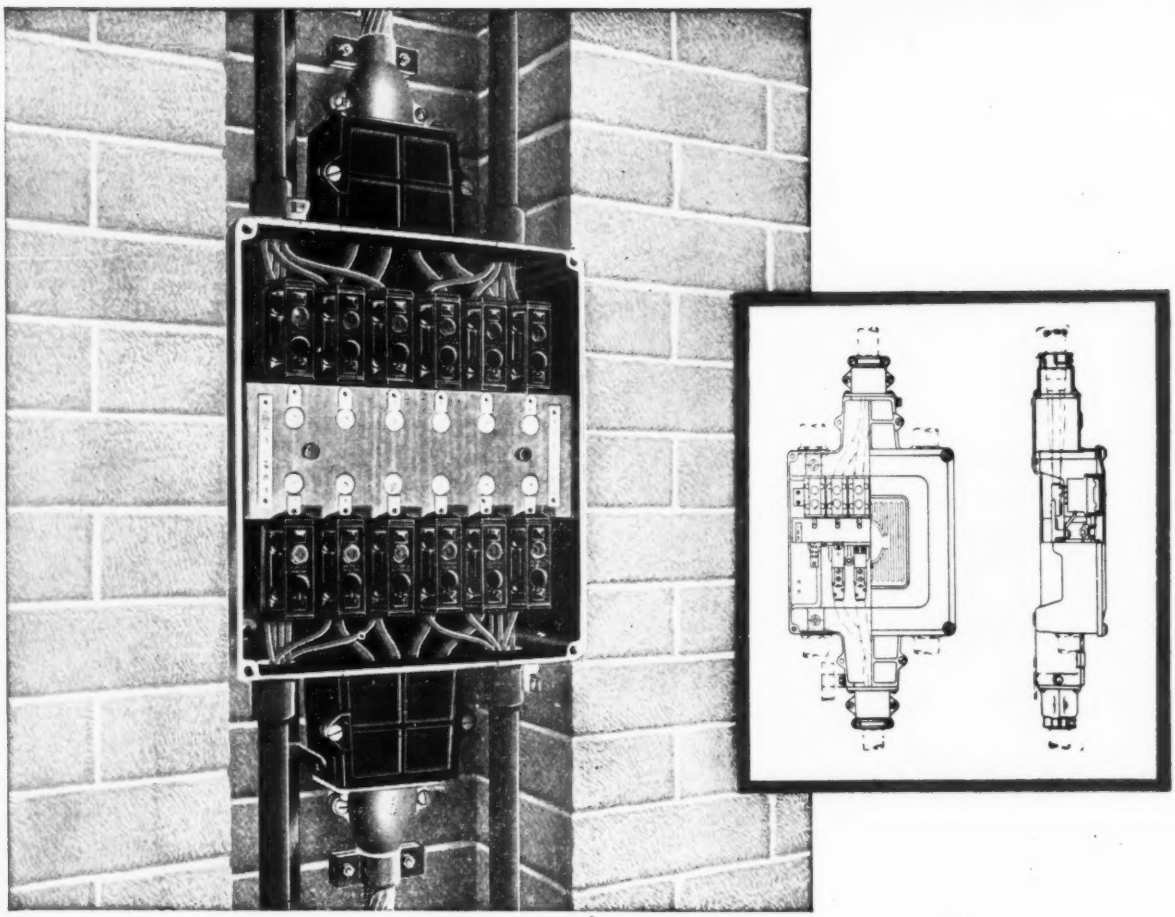

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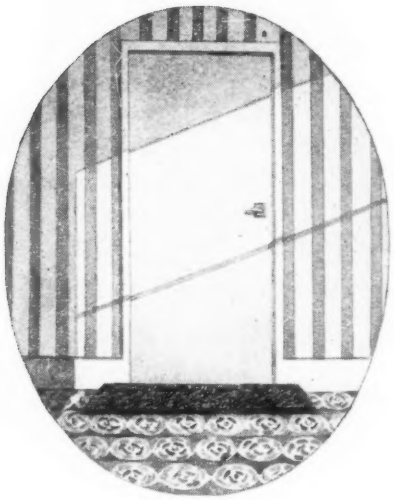

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M-W.74

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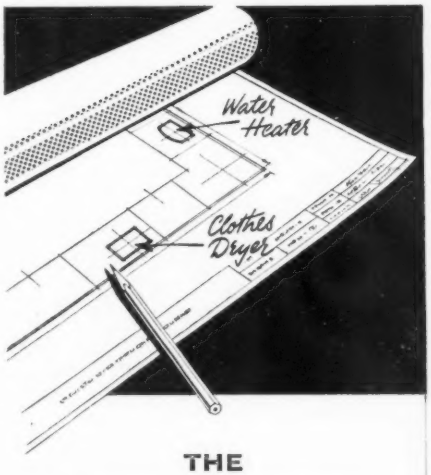

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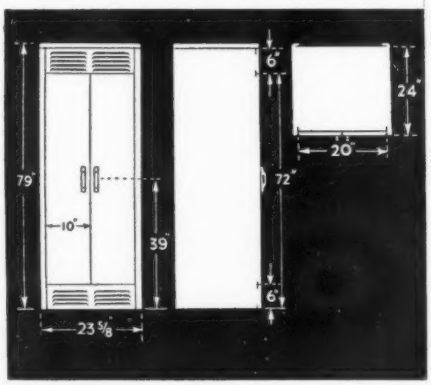
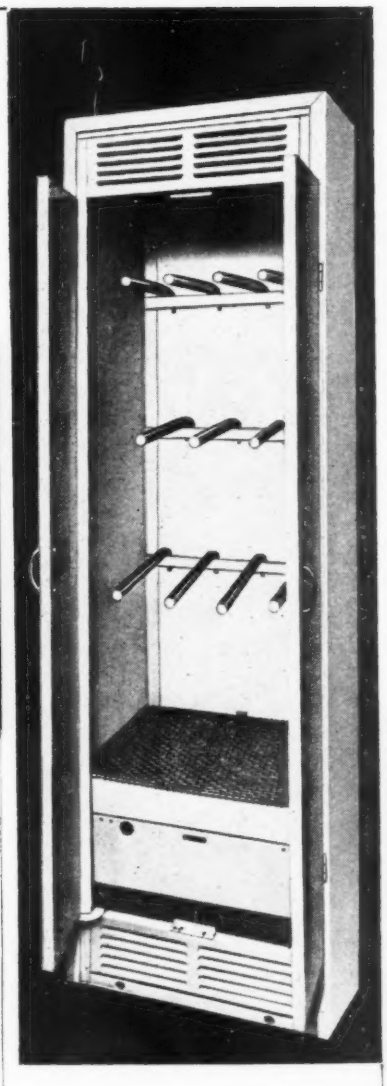
The Flavel 'Suntrap' Clothes Dryer is constructed so that it can be supplied either as a complete unit or, alternatively, for building into a recess or corner by utilising the main frame assembly and such component parts as may be necessary.





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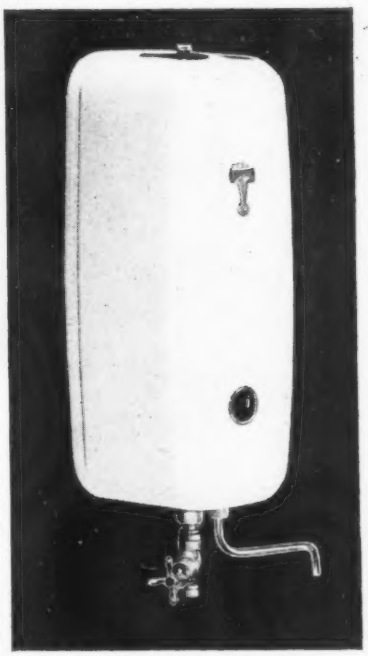

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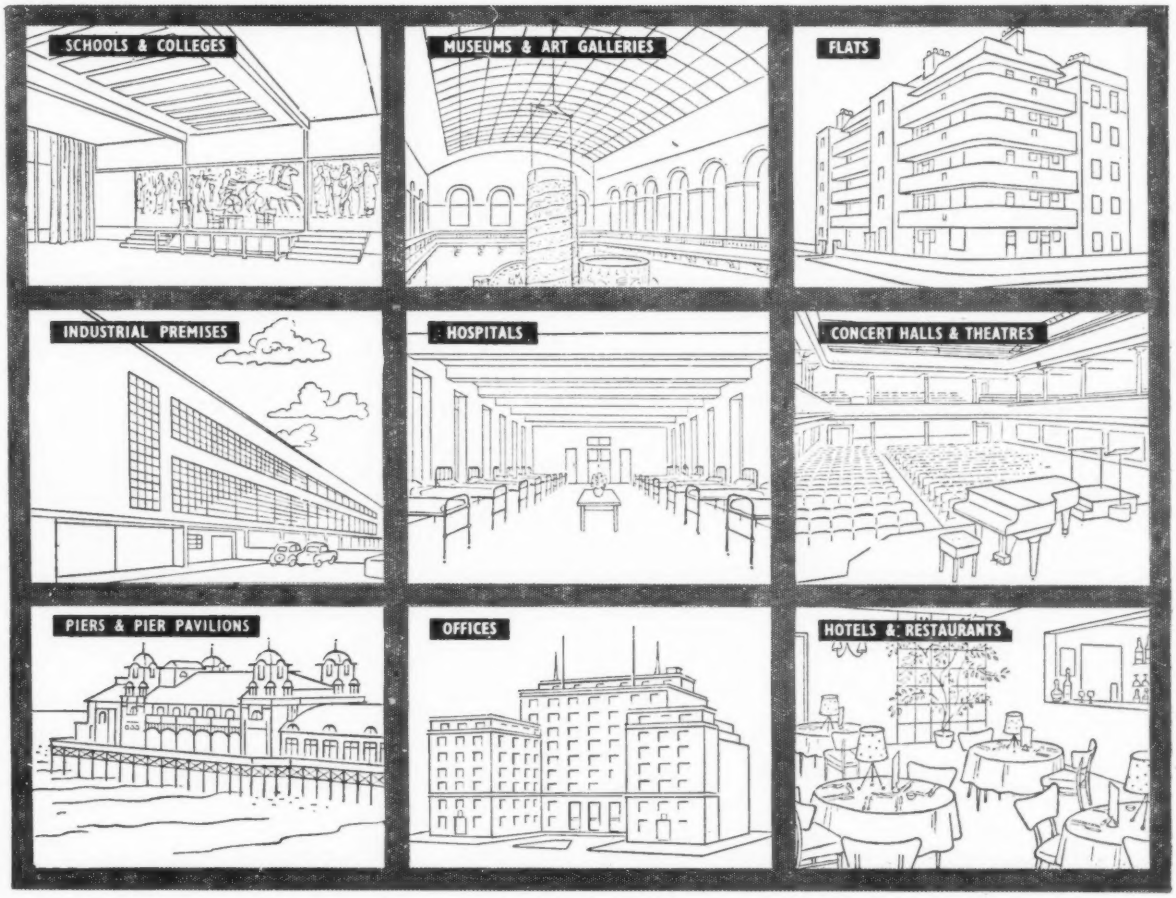

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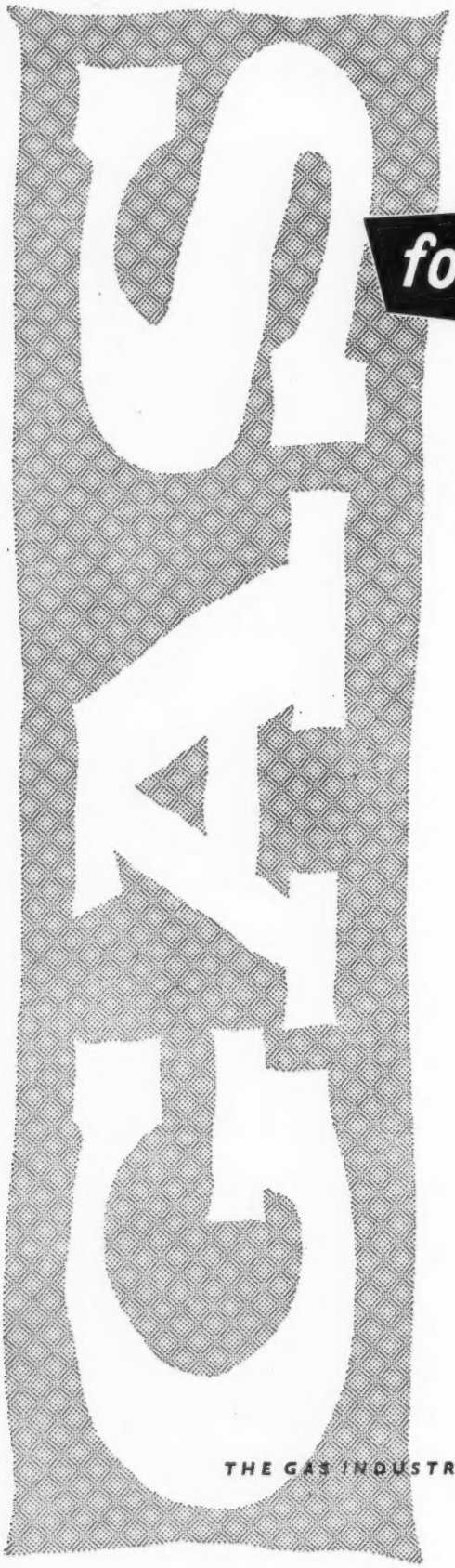

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THE ARCHITECTS' JOURNAL

No. 3228 Vol. 125 January 10, 1957

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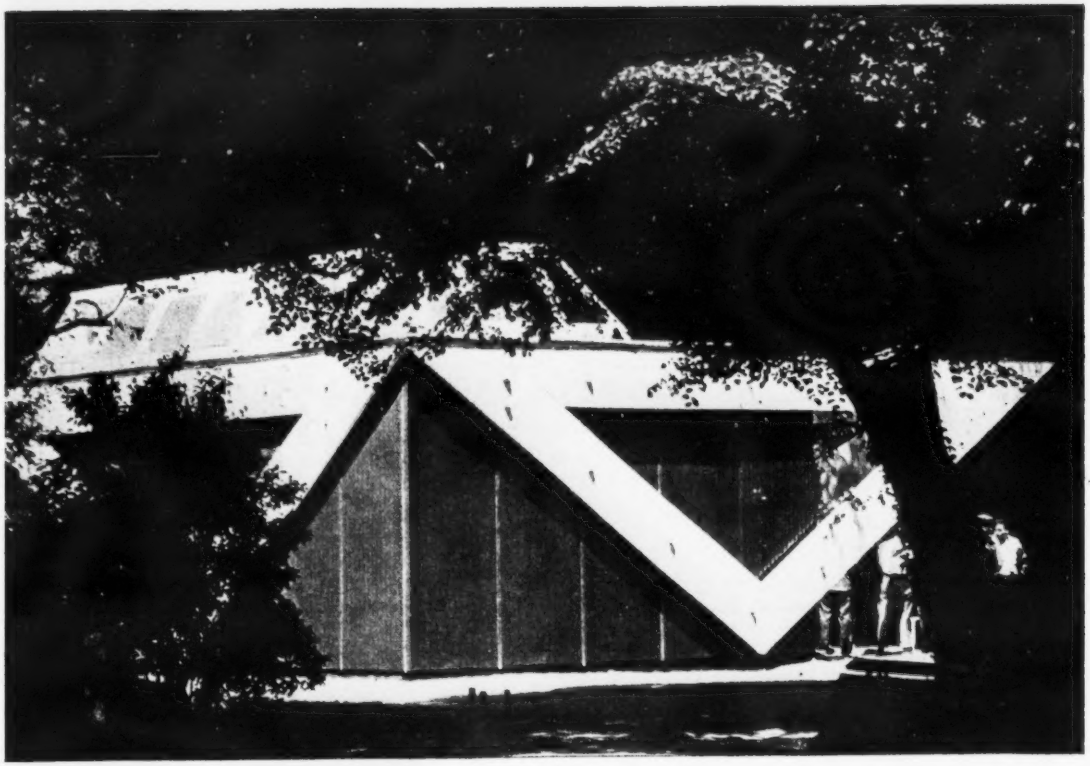
NOT QUITE ARCHITECTURE

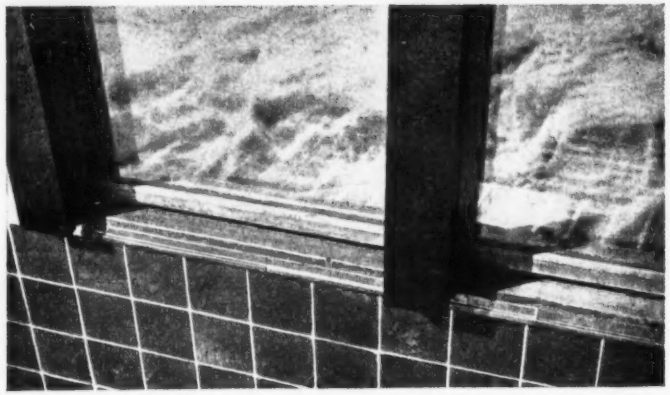
POOR MAN'S HOBBY

Until a year or so ago both the dailies and the glossies translated "yachting" as Cowes, white flannels and reefer jackets, wealth and beauty and the Squadron Lawn. For several decades, of course, "yachting" has been referred to by the slaves of the mystery as sailing, white flannels have become shiny-seated jeans, and reefers are things other people buy in the back streets of Soho. "Yachting" remained a rich man's hobby until 1939, when the J-class died in this country and the 12 metres of 1939 have shrunk to the 5·5 metres of today, while the few big ships are either owned by syndicates or used as a method of fiddling expense accounts and super-tax. The rot started in the early 1880's, when men like Claud Worth started sailing 8 to 12 tonners (tiny ships in those days) to Brittany, Biscay ports and almost everywhere else, without paid hands of any sort. The old rule of "one foot of waterline length for every year of your age" went by the board years ago, and now even the oldest are only too glad to pack themselves and three or four friends into 25 feet or less: every summer some hundreds of small boats are all over the west coast of Europe, the Baltic and the North Sea, and only occasionally do a few of the inexperienced make the headlines.

*

Sailing can still be enthralling for the few rich left, but the man too poor to have a car can enjoy the same way of life even though ships get smaller every year. You can be a solitary or a family type, you can potter sociably and be lazy or disappear for weeks and be tough,





A Medal for Proteus

By keeping an open mind about materials and forms, at a time when the machine aesthetes had narrowed their vision to concrete and steel, circles and rectangles, Alvar Aalto may well have saved the modern movement from frustration in a dead end. While the masters of the Twenties were going about face in the Thirties, re-discovering the virtues of free form and natural materials, he was already headed in several of the right directions at once. Regional but never parochial, practical but never pedestrian, he has earned—more than earned—the Royal Gold Medal of the RIBA for 1957 by being himself, entirely unpredictable, always consistent. He has never settled into a manner; works designed in the same year are often quite different; there is no Aalto Style. Even in his recent works, at an age when many might cautiously begin to rest on their laurels, he continues experimental, adaptable, ranging from the hard-faced rectilinear rectitude of this window from Säynätsalo, above right, to the triangular adventures and festive air of his pavilion for the Finnish section of the Biennale, left, and top right. And this protean adaptability extends equally to the range of objects he has designed, from regional plans to plywood chairs. All come equally to his hand, all are different and proper to their functions, all unmistakably Aalto. He commands the admiration of aesthetes and practical men, and every shade of live architectural opinion. He is the living proof that in the expanding universe of twentieth century construction, no single doctrine, no exclusive formula, holds the key to good architecture. From within the frontiers of a state that can boast neither teeming wealth, nor crushing military might, he has established an empire of respect that girdles the globe. Almost alone of the architectural giants of our time he can expect his reputation to rest on his buildings and not on his theories. Gold Medallist at fifty-eight, he is the kind of architect most architects would like to be.

and nobody minds which you do. That the cult has spread immeasurably since 1945 is shown by the current Boat Show, even now only in its third year, where you can see most things from 40 feet of copper-sheathed export yawl for £7,500 odd to build-it-yourself dinghy kits from a few pounds upwards. Many of the newcomers, one assumes, would have stuck to motoring in 1939, but now find roads impossible and no cars which are fun at less than £1,000. You can gaze with hopeless longing at £3,000 worth of Aston Martin, but class dinghies are every bit as fascinating at £150 or so, with plenty of exciting gadgets if you feel that way. The infection seems to catch all types, from the tough beards in duffle coats to the bowlers and umbrellas, with or without wives, girl friends or children. Nor can you tell who is going to like what when apparently fragile lovelies develop steel legs for sitting out dinghies and twelve-year-olds spurn the floating conservatories from the Broads, explaining to doubtful parents that a South Coast One-Design is really the thing and after all it's only three or four days to Santander.

*

This is one of the few shows where everyone seems to like nearly everyone else, and although builders regret the old days when a Fife or a Nicholson would be asked for an *America's Cup* winner, they seem to take their customer's overdrafts for granted and are quite happy to sell a bare hull for the impecunious to finish off in the backyard. Best of all, the standholders seem to be so pleased with what they have to show, and only ask you to be pleased with it too. You can write a cheque on the spot if you really want to, but the highest pressure salesmanship I heard was "Come back again if you've time—when there isn't such a crowd."

BRIAN GRANT

ANNOUNCEMENTS

C. B. Martindale, F.R.I.B.A., of Cathedral Chambers, Castle Street, Carlisle, and Moor Yeat, Wetheral, Cumberland, has opened a further branch office at 2, Assheton Road, Beaconsfield, Bucks. (Telephone 103.)

J. M. Wilson, H. C. Mason and Partners, F/F/F/A/L.R.I.B.A., of 3, Chandos Street, Cavendish Square, W.1, announce that H. C. Mason, O.B.E., and O. F. Savege, M.C., have retired from the firm.

Ellis E. Somake, DIPL.ARCH., F.R.I.B.A., has moved to Albury Edge, Rockshaw Road, Merstham, Surrey (telephone: Merstham 23).

The Editors

WHO GOES HIGH?

"YOU can now have a tall building in London," said Sir Howard Robertson to the RICS Junior Organization last week, "if you can get it." By which he meant that although fire regulations and so forth now allowed an architect to design a high building, the authorities, more often than not, were determined to prevent it. As he sensibly pointed out, the planners had not yet decided where they would permit high building, and, as we have stated in the JOURNAL, some developers are liable to be handicapped and discriminated against, if the various advisory and planning authorities do not jointly agree on a high building policy.

Provided an architect keeps within the 5 to 1 plot ratio, he can, in theory, build a tower block on any site. But if he attempts it near a park, a historic building, or in a street with existing even development, and so forth, he is piling troubles on himself, and possibly wasting his client's time and money. It seems to be generally agreed that the planners do not want London to become a forest of towers, like a New York in miniature, each overshadowing the other, but the alternatives to this are either: no towers; or towers if you are lucky, fight hard enough, and have influential friends; or towers in special, predetermined positions. Of the three possibilities, the last seems the most sensible and fair—if one can get it.

No towers would be a disaster. As Sir Howard pointed out, tall slim towers of flats and offices can contribute to the modern skyline as church spires did in the past. And, of course, they frequently provide the best conditions for the occupants. Towers obtained by chance are, at bottom, a bad risk and a waste of everyone's time and energy. Planned towers would seem to be the answer. Let the LCC get out a plan showing where sites suitable for tower development are. They need not concern themselves with problems of site ownership, that is for the developers to sort out, they need only show an area, perhaps consisting of several sites in different ownership, within which a tower would be permitted. Such a policy, though troublesome for the LCC to carry out, would at least avoid the ridiculous and exhausting battles of Bucklersbury and New Zealand House. The partial banning of towers could lead to the criticism that much development would be undertaken to outdated standards of planning. This could be true if the 5 to 1 plot ratio was retained, but for sites on which towers were forbidden it would be worth considering reducing the plot ratio to 4 or even 3 to 1.

The LCC should not attempt, however, to lay down the precise outline of the building, as they did with the proposed Shell offices on the South Bank. The architect of the Shell offices, Sir Howard Robertson, was asked at the surveyor's meeting whether he did not object to having his design so dictated to him. His answer was a very tolerant one, but the implication is disturbing. He said that he thought Dr. Martin (who was then Architect to the LCC) was a very able architect,

and that he had " no sense of grievance " about the layout because he believed that if Dr. Martin had not put forward a definite scheme the LCC would not have accepted a comprehensive plan for the South Bank.

If this is right, it is, in our view, a grave reflection on the LCC. We believe that, bearing in mind the complications of the site, the LCC's planners should have collaborated with Sir Howard to provide the correct amount of accommodation in the best disposition of buildings, having regard to the purpose of the buildings and their relationship to the existing structures around the site. The preconceived idea, or the planners' sketch, is a great danger. The planner cannot hope to design the scheme in detail, in advance, so as to be able to give a precise outline plan and elevation to the architect. He cannot do the architect's job for him. He can, however, advise the architect on the massing and disposition of blocks.

All this implies criticism of the LCC's Planning Division. This may seem a little hard on them. We have very great admiration for the good work they have done in London, but we believe that they are greatly understaffed. London's central areas are not being planned properly because there are not enough good planners in the LCC to assist the developers and their architects. If the LCC's Planning Department was given more planners, we would get towers in the right places.

CLEAN AIR

The cleaning of the air seems to be getting under way rather more rapidly than those " in the know " expected. MOHLG celebrated the last day of the old year by issuing an order empowering local authorities to establish smoke control areas. The establishment of these areas must be confirmed by the Minister, and presumably this will only be done as and when there is enough smokeless fuel available in the area and when everyone is able and ready to scrap their smoke-exuding equipment. For the social success of the clean air drive it seems all-important that smoke control areas should begin always on the windward side of every conurbation, not (as up to now) in the centres: for then the people who undergo the fuss and bother will get an immediate alleviation from dirt and everyone else will experience a slight improvement. With any other method the people who make the sacrifice will still have to suffer the smuts coming from everyone on the windward side of *them* and the great rosy dawn will seem as far off as ever. The moral for architects is the same as it was on July 5 last when the Act came into force: namely, don't put in an appliance anywhere which will not make the grade in a smoke control area. Because in the end (10 years is the target) these areas will cover the whole country; and if an unsatisfactory appliance has been put in *after* the coming into force of the Act, the owner or occupier will not be able to get a grant to have it replaced. We will shortly publish two articles discussing the provisions of the Act and what they mean to the profession.

SOMEONE HAS BLUNDERED

Last June the *RIBA Journal* published notes from the minutes of Council which included a reference to the working of the 1947 Planning Act with regard to æsthetic controls. The RIBA gave approval to a report which contained some very tough but very sound criticism of the MOHLG, and of the whole administration procedure which allows this country to be outraged—in the Ian Nairn sense of the word. The RIBA Council approved a policy that: all county boroughs should employ an architect as a chief officer, and that he should be responsible for town planning; that all large boroughs and urban districts should employ an architect with local planning duties; and in cases where county planning officers are not architects, county architects should advise planning committees on development control in small towns, rural districts and villages.

*

This is, of course, absolutely sound and right. If anyone is going to save this country from subtopia and outrage it is the architect. Of course, the profession cannot be described as absolutely perfect in every particular, but that applies to any trade or professional body.

*

Needless to say, however, the engineers and the surveyors and the planners took these comments very badly. Some tiny warning note

pinged at the back of their æsthetically untrained minds that someone was gunning for them, that someone, possibly, was even claiming that he could do their job better than they could. So, in the terms of the RIBA handout, "following upon the representations by the ICE, the IMun.E, and the RICS, these bodies, together with the TPI, accepted an invitation from the Royal Institute to attend a meeeting to discuss the position." It is quite a position.

*

In two senses the RIBA have brought this little trouble on themselves. Firstly, they should never have lost control of, and largely ignored, the vital issue of planning in the key years after the war. They should have taken every step to ensure that all planning, in terms of visual design, remained the architects' prerogative and responsibility. Of course, surveyor-planners and engineer-planners are essential, too, so are geographer and economist planners. But on matters of design the architect's training gives him a great and unassailable advantage over the other professions. So it is reasonable to keep and, indeed, enlarge his position in the planning field. The second mistake the RIBA has made is in publishing the minutes in the first place. In the form they took they were bound to be misunderstood.

*

The important thing, however, is for the RIBA to explain its viewpoint and stand by its declared policy. Engineers and surveyors may officially complain, but they know full well in their hearts that architects are as important for good town planning as they are themselves. So why not cut out the squabbles and plan together the pleasant land Duncan Sandys, the editors of the *Architectural Review* and fifty million citizens are patiently waiting for?

GAUDI STRUCTURE

One of the best bits of New Year news from the world at large is that after thirty years of indecision, embarrassments, Civil Wars, controversy and plain inertia, work is to be resumed on Antoni Gaudi's church of the Sagrada Familia in Barcelona—that masterpiece of Gothic Revival that transcends mere revivalism and begins to look nowadays like one of the most rational, as well as most fantastic, structural designs of the last hundred years. As you will probably know—Spain being so fashionable for holidays these last few years—only the shell of one limb of the church was completed in Gaudi's life-time, and has stood hollow ever since. Recently returned visitors from Barcelona have sounded increasingly worried about the state of the fabric—not merely flaking surfaces and crumbling crockets, but worse; it was such a rational and economical structure that the omission of any one part threatened the stability of the others, with the result the towers had begun to lean apart, and the heads of some of the arches to drop, for want of the buttressing intended to be provided by the rest of the structure. It looks as if there will have to be some jacking up and re-plumbing on a fairly large scale before building can be resumed.

THE CRUCIAL QUESTION

Inevitably, at some time in your career, you have to ask yourself, and possibly answer, the awful question: "What is my ability?" Bernard Harris, writing in a recent *Sunday Express*, seems to have disturbed quite a number of people by forcing their attention to this question, to judge by the letters received by the editors in the last week. The title of his article was "What is the plum job for your son?" It was all fairly harmless stuff save for a table (reproduced, I am told, elsewhere in this issue). The table gave sample salary scales for those of "average" and "exceptional" ability for a number of different professions. The architect of average ability gets £1,500, at 35 years of age, according to Mr. Harris, and £2,500 if he has exceptional ability.

*

Now Mr. Harris did not say the *average salary* at 35 was £1,500; which suggests that he has some independent standard by which he judges "average" ability. The dreadful implication is, of course, that if you don't, or didn't, earn the equivalent of £1,500 at the age of 35 you are below average ability. That, of course, would explain a lot about the profession. But it is, perhaps, more likely that Mr. Harris has been misinformed.

AS IT WAS, AND SHALL BE . . .

The old order doesn't change, it stays just as it was, at least in the world of design. The illustrations, below, show two houses at Frinton-on-Sea. No one will hesitate when asked which was the last to be built—the sham half-timbered one, of course. The other house is rather more interesting. It is one of those pioneer ventures of 22 years ago by Oliver Hill. The idea was to provide a large modern self-contained community—shops, schools,

Above and below, post-war and pre-war at Frinton-on-Sea.

everything, by the sea. A carefully designed contemporary town, in contrast with the mock-tudor mushrooming up all round. The mushrooms go on coming up, however, even 20 years later, as they will, and Oliver Hill's modest beginnings remain as they were, a brave, rather dated, rather *moderne* group of 20 houses. If the house seems faintly familiar to you, you are quite right. The group had their moment of fame and recognition. They were published in the first edition of F. R. S. Yorke's *The Modern House in England*. That's enough sentiment, boys—pass the half-timbering; after you with the hemlock.

A LESSON FROM CHELSEA

How far do good intentions excuse wrong-headed actions? This somewhat trite question, which I don't expect readers to answer, is inspired by

my perusal of *Lindsey House*, a nicely produced volume just published by Country Life.* It presents the results of a diligent and fascinating piece of research by the author, Peter Kroyer, who has traced the history of Lindsey House, Chelsea, back through the centuries and recorded the many famous people who owned or lived in it. They include (apart from Sir Thomas More on whose farm it was built), Count Zinzendorf, chief of the Moravian Brethren, the two engineer Brunels, John Martin the apocalyptic painter, Whistler the painter and Sir Hugh Lane the collector.

*

The house still stands, facing Chelsea Reach, although subdivided, as it has been for many years. Yet Mr. Kroyer's story has a most unhappy ending. He acquired the centre portion himself a few years ago, and with the best intentions decided to restore it to what it had looked like at the end of the seventeenth century, and in fact spoilt it. For as William Morris was the first to insist, you cannot by restoration recreate the qualities a building once had; you only produce a phony antique, with none of the charm that a building acquires by virtue of the history written on its face. It is only the pedant who minds that the history is not all of the same date.

*

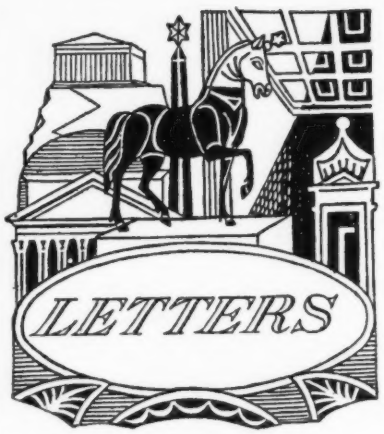
The charming Regency verandah, believed to have been added to Lindsey House by Brunel himself, has been stripped off, a new doorway, of precisely the right date, but imported from elsewhere, has been planted on, the lawn that stretched across the front has been replaced by paving because that was how forecourts were treated in the seventeenth century. And, underlining the fact that it is now an antiquarian object rather than a living piece of architecture, an enormous tablet has been built into the wall proclaiming its past history.

*

There it now stands, a sad reminder of the charm and character it but lately had. Saddest of all, it now belongs to the National Trust, whose duty it is to follow the precepts laid down by William Morris and preserve, but not restore.

ASTRAGAL

* The story of *Lindsey House*, Chelsea. By Peter Kroyer. Country Life. Price 42s.



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J. Evans, A.R.I.B.A.
Arthur J. Willis, L.R.I.B.A.
"Five Registered Architects"
"Spoil Sport"

New Look Prices

SIR,—I would like to congratulate you on the new contents and presentation of Measured Rates and Market Prices (AJ, December 27). I assume that you have made this step so that these rates can be used more readily in conjunction with the cost analyses that you publish weekly, and I think that the new format will help in this study. Particularly do I welcome the inclusion of new proprietary materials as these will play an ever increasing part in construction, and I look forward to their promised extension. May I suggest proprietary partitions, curtain walling and double glazing units as being worthy of attention?

The JOURNAL can be of great service in compiling rates for non-traditional operations, as I have found that it is in these that the estimator, with no experience upon which to draw, finds difficulty in arriving at realistic figures. Such items as hand-augured piles, proprietary partitioning systems and patent roofing units come readily to mind. I realize that up to a point the builder's problem is the quantity surveyor's problem but suggest that the latter, with help from the JOURNAL, would be able to cover a wider field.

To assemble measured rates into building elements might well give arbitrary results and a lot of interpolation might be necessary to fit a particular case, as obviously, every type of construction cannot be envisaged. However, many new materials which are being developed replace whole elements of traditional construction rather than single trades or operations, and therefore some form of measured rates for traditional elements is of immense help for comparisons. For example: the descriptions of roof and wall elements which are tabulated in books on thermal insulation for thermal transmission values.

These are suggestions for the future rather than criticisms and I shall follow the future developments of this service with interest.

ERIC HUNWICK BOOBYER.

London.

SIR,—I was very pleased indeed to see the new Prices feature (AJ, December 27). It is much improved in every way: I like the new typography and layout which are delightfully easy on the eye and I think I am going to find the new combined arrangement most helpful. I will pass on to you any comments of my own which arise from experience in using the information and I will try to introduce it as a subject for discussion at one of our forthcoming Chapter meetings. Meanwhile my congratulations on a job well done.

R. W. PAINE.

Canterbury.

Plane Criticized

SIR,—The elevational treatment of the proposed RIBA extension is not good enough. In this month's *RIBA Journal*, the two schemes can be compared, and the first pre-war scheme is immeasurably the better. I have no criticism of the plans, but if the perspective sketch by B. R. Williams was approved by the Council on November 4, then the Members of the Council are more easily satisfied than I am. Come, come, gentlemen, those motor rooms must be better organized than that—both the one coyly peeping over the main frontage, and the crowning folly terminating the side elevation are a disgrace.

There is also the question of massing, the attic to No. 66 should be treated as a block on its own, and a set-back provided at the junction with No. 68—as originally drawn by J. D. M. Harvey. Surely, it is obvious that the attic should not run straight through as one plane?—this is elementary stuff, gentlemen, and Grey Wornum's building is too much a fine work to be taken lightly.

JAMES B. HARRIS.

Bolton.

RIBA Not Representative

SIR,—I was interested in the Ten Durham Architects' letter (AJ, December 20, 1956) which asked what was wrong with the RIBA. The answer is simple: it does not represent the majority of its members.

I still remember the RIBA stating that the time was not ripe to do anything about unqualified practice: why not? We pay our subscriptions in order to be protected and represented as a body. We strive to pass the examinations in order to be a member of a Royal and National institution which would look after our interests, but does it?

Are unqualified doctors in practice?
Are unqualified dentists in practice?
Are unqualified lawyers in practice?

No: these professions wouldn't have it, no more should we.

There is one simple answer to the intolerable attitude of the RIBA:

Bearing in mind the fact that the subscriptions are to go up to pay for a larger Headquarters, about which we were not consulted and which we do not want anyway, it being superfluous, the Provinces through the allied societies should refuse to pay any increase, or indeed subscriptions, until we in the outbacks are acknowledged as being in existence and worth consideration. Some of the older generation, of course, would be horrified at such a step, but I am convinced that the younger members could pull off a bold manœuvre and at least we should be able to see who really pays the piper.

As professional advisers we are considered a luxury and as long as the fashionable members with the big contracts run the show, we will remain a luxury profession.

It is not what you know but who you know that counts in this hard and cruel world and I fail to see why the forgotten

should support a first class club in London for the benefit of the "boys"!

By all means have a worthy Headquarters but make the Headquarters worthy of its members, not the other way round.

J. EVANS.

Torquay.

Plato Parodied

SIR,—Might I correct a mistake in the review of "The Architect in Practice" (AJ, November 29, 1956). The reprinted preface to the first edition is not "a quotation from Plato's Republic," but in the nature of a parody—perhaps, as it was of serious intent, I should rather say mimesis. The reference to what "we were just saying" is, however, to the original argument (369B and 433A). It is one of the highest compliments one could be paid to be mistaken for the Master, and a reward for some years of wrestling with Greek texts forty or so years ago! I have been chuckling ever since I saw the review. Thank you, sir.

ARTHUR J. WILLIS.

In Father's Footsteps

SIR,—We enclose an article from a popular Sunday newspaper of December 16, 1956, advising parents on choosing a career for their sons, and quoting typical salaries at the age of 35 for various professions.

For "Architect" we read "exceptional ability: £2,500 p.a." and "average ability:

Sample Pay-Packets At Age 35

	For average ability A year	For Exceptional A year
Accountant	£1,400	£2,500
Architect	£1,500	£2,500
Bank official	£810	£900
Chemist (industrial)	£1,300	£1,850
Civil engineer	£1,500	£2,750
Civil Service		
(i) Scientific	£1,375	£1,500
(ii) Administrative	£1,650	£1,800
Doctor (G.P.)	£1,800	£1,800
Electrical engineer .	£1,250	£2,250
Insurance clerk ..	£500	£875
Mining engineer ..	£1,500	£2,000
Oil technologist ..	£1,500	£2,250
Solicitor	£1,200	£1,500

£1,500 p.a.," and we are now wondering if the author of this article ever looks at the back pages of the ARCHITECTS' JOURNAL, or can advise parents (and architects) where to find these jobs.

FIVE REGISTERED ARCHITECTS.

Chelmsford.

What To Do With Your Cigars

SIR,—Your correspondent Frederick Hill (AJ, December 27, 1956) is not alone in wondering what to do with presents of cigars, etc., at Christmas. I doubt, however, whether those who swallow their professional etiquette and their bottles of whisky will wish to expose their infamous conduct in the JOURNAL.

It would indeed be enlightening to hear from a contractor what proportion of his Christmas gifts to architects is returned.

"SPOIL SPORT."

Edinburgh.

RIBA

1957 Royal Gold Medal for Aalto

The Queen, on the recommendation of the RIBA, has awarded the Royal Gold Medal for 1957 to the Finnish architect Alvar Aalto, an honorary corresponding member of the Royal Institute. Aalto was born at Kuortane, Finland, in 1898. He holds the Diploma of Architecture of the Helsinki Polytechnic which he obtained in 1921. While still a student he built his first house, for his parents, at Alajarvi. Amongst his earliest work was a small pavilion for an exhibition of forestry and agriculture in the village of Lapua, North Finland, made of wood and with an undulating wall. The use of wood has continued as a characteristic of his work and the undulating wall is also a feature very much associated with Aalto. In 1923 he worked as an assistant in offices concerned with the Gothenburg Fair.

In 1924 he married Aino Marsio who also held the architecture diploma from the same school in Helsinki and from then onwards they worked in professional association together, their work being signed by them both.

Between the years 1924 and 1929 Aalto worked on a number of buildings including a theatre, at Jyväskylä, 1925; repairs to three churches, 1925-28; a building for the Society of Agriculture at Turku which included a bank, 1927-28; an hotel block which included a theatre and shops also at Turku, 1927-28; and an apartment house at Turku, 1929.

Before he was thirty Aalto was commissioned to execute three important buildings—the Turun Sanomat building, the Viipuri library, and the sanatorium at Paimio (for which he also designed the furniture). These commissions were the result of competitions. With the building of the headquarters office for the newspaper *Turun Sanomat* he first attracted notice outside Finland and his work became more widely known with the building of the municipal library at Viipuri, 1927-35, with its notable undulating ceiling. With his work on the Sanatorium at Paimio, 1929-33, he impressed his name more definitely on the world of art and architecture. Aalto has always been greatly interested in the design of furniture and he later formed the well-known furniture company, Societe Artek, which from 1942 was directed by his wife.

His reputation was further increased by the house which he and his wife built at Munkkiniemi in 1936, by the Finnish Pavilion at the Paris Exhibition of 1937, by the cellulose factory at Sunila, 1936-39, and by a country house built in 1939 at Noormarkku called the Villa Mairea for his friends Maire and Harry Gurlichsen.

In 1939 Aalto first went to America and was responsible for the Finnish Section of the World's Fair at New York, another commission won by competition. The success of his Pavilion at this exhibition led to an exhibition of his work at the Museum of Modern Art in New York, which later was shown at some six other centres in the States. He was subsequently invited to lecture at the Massachusetts Institute of Technology.

During the war he worked on town-planning schemes including one for Oulu, a city on a group of islands; and at Avesta in Sweden; also at Rovaniemi in Lapland. In 1947 he designed and carried out a hostel for students at Cambridge, Massachusetts, and among his other later work was the tomb of the architect Uno Ullberg at Helsinki in 1945, the industrial quarter (residential and factory) for the Societe Strömberg at Vaasa in 1944-47, the convalescent home at Noormarkku, 1945-46, and the factory at Karhula for the Societe Ahlström, 1945-47.

The Town Hall of the Civic Centre at Säynätsalo is remarkable for its unusual ceiling with its wooden trusses. This commission was also won by competition and his design included rooms for use later for municipal purposes as the town developed. At Muuratsalo he built himself an experimental house and workshops. The house is L shaped and on the walls of the courtyard are decorative panels of bricks: the floor of the patio is designed in the same way.

His other more recent work includes the Sports Centre at Otaniemi where he was asked to design a large covered space sufficiently flexible to accommodate all types of sport normally carried on out of doors; headquarters for the Institute of Engineers and Technicians, Helsinki; buildings for the Pedagogical University at Jyväskylä; the Old Age Pension Office at Helsinki, with many facilities besides offices for the employees; the cemetry and chapel, Kongers, Lyngby; the office building Rantatalo, Helsinki; and a clubhouse at Kallvik. He is building a block of flats in the Tiergarten for the Internationale Bauausstellung, Berlin, 1957.

Aalto's wife Aino died soon after the war but he has since married again.

New Legal Officer

D. R. Perrey has resigned as legal officer on the headquarters staff of the RIBA and has taken up an appointment as solicitor to John Mowlem & Co. Ltd. Walter Parkes, M.A., LL.B., at present in the legal department of the National Coal Board, has been appointed to succeed him. He is aged 38. He was educated at Clare Cambridge, Cambridge, to which he won an open scholarship in classics. He graduated with honours in the Classical Tripos Part I and the Law Tripos Part II. His course at the University was interrupted by the war, during which he served with the South Wales Borderers, later being commissioned into the Royal Hampshire Regiment, seeing active service in Italy and Greece. After qualifying as a solicitor in 1949 he served first in the Legal Departments of the St. Marylebone and Kensington Borough Councils and lately in the headquarters of the National Coal Board. Subject to arrangement with the National Coal Board, Mr. Parkes will be joining the RIBA staff at the beginning of February.

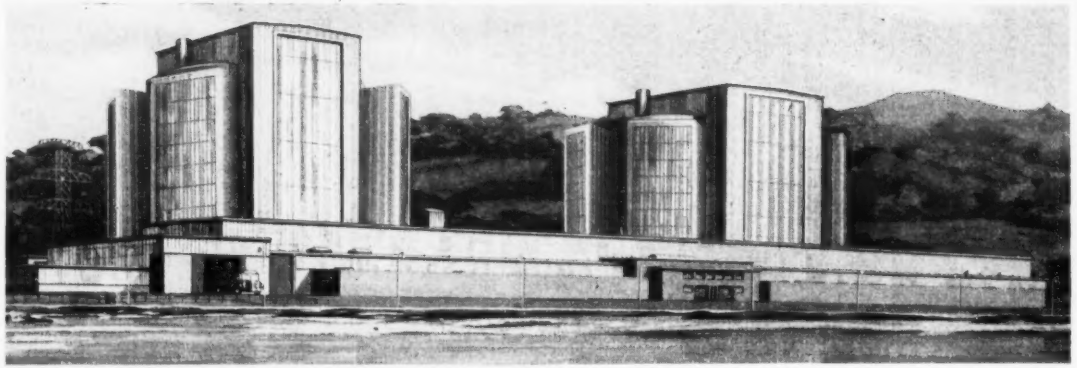
ABT

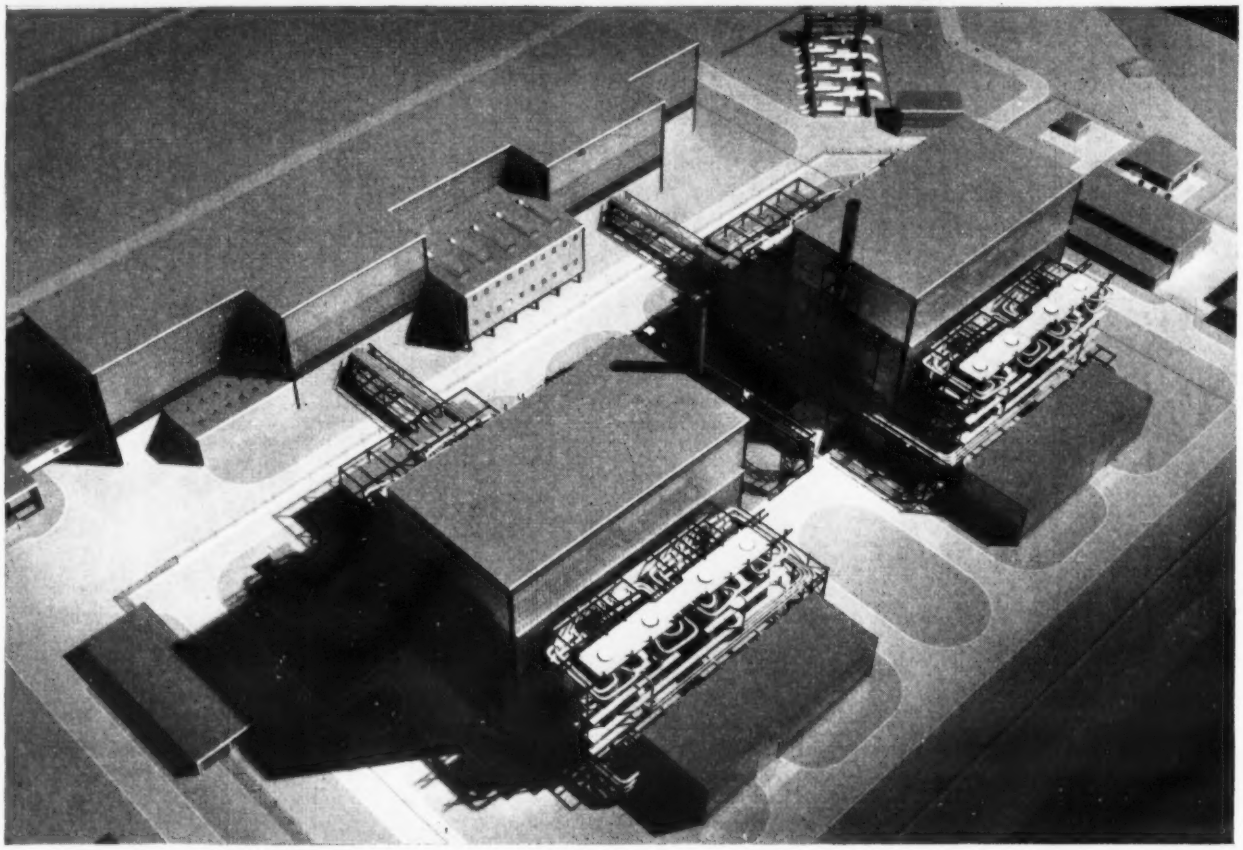
Conference on City Dwelling

The ABT are holding a conference on "Housing the City Dweller" on Thursday, January 24, at the AA, 34-36 Bedford Square. The chairman will be Arthur Ling, city architectural planning officer of Coventry. R. W. Toms will introduce a discussion memorandum in the first of the three sessions, and R. Edmonds, chairman of the LCC's Town Planning Committee, will open the discussion in the second session.

ARCHITECTS CONTRIBUTE TO DESIGN OF NUCLEAR POWER STATIONS

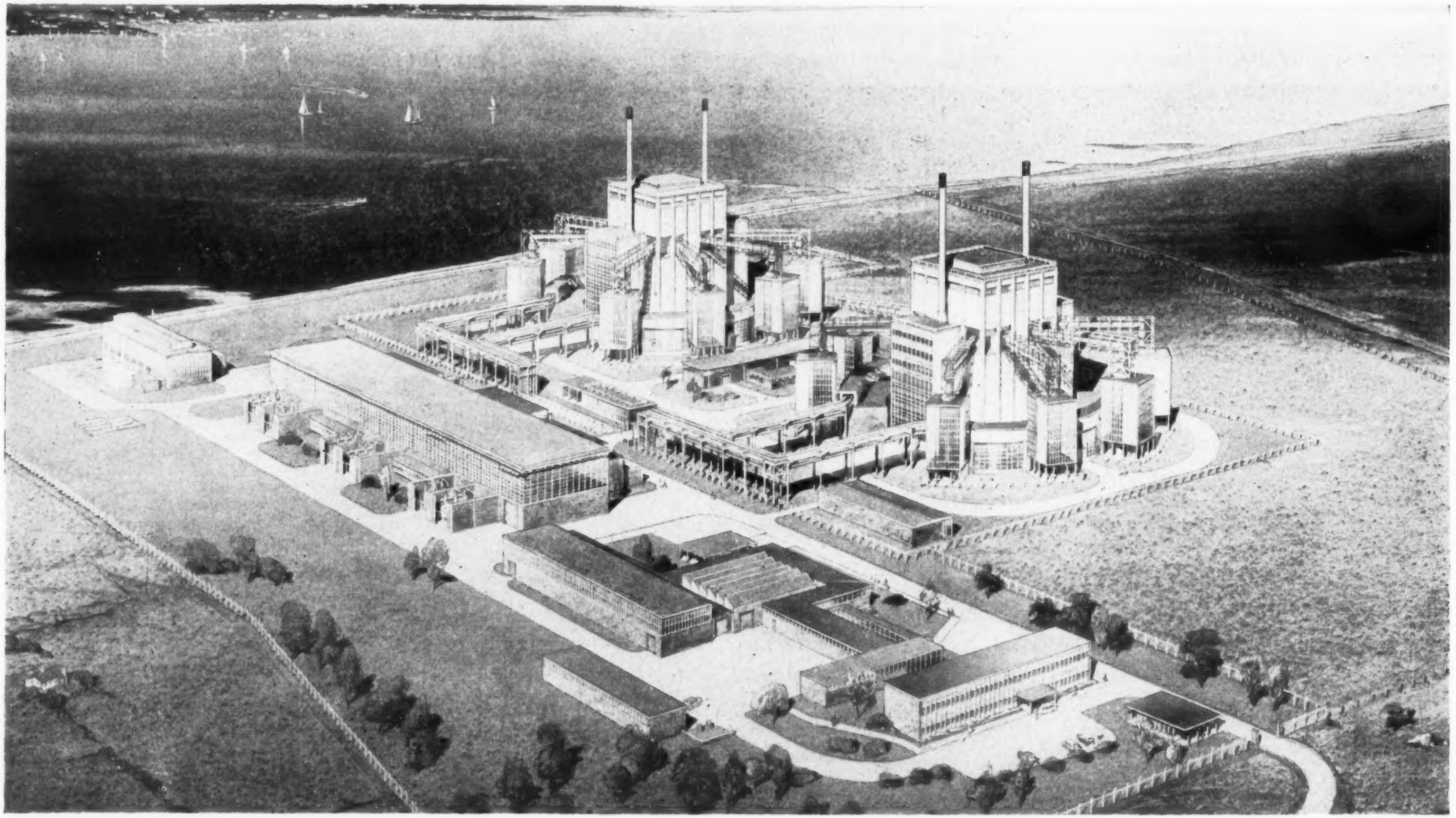
Last month the Central Electricity Authority and the South of Scotland Electricity Board announced that contracts had been let for two atomic power stations in England and one in Scotland. In addition, the Central Electricity Authority are now negotiating with the English Electric group to find an economic design which would enable the firm to start work on an atomic power station at Inkley Point in Somerset some time this year.



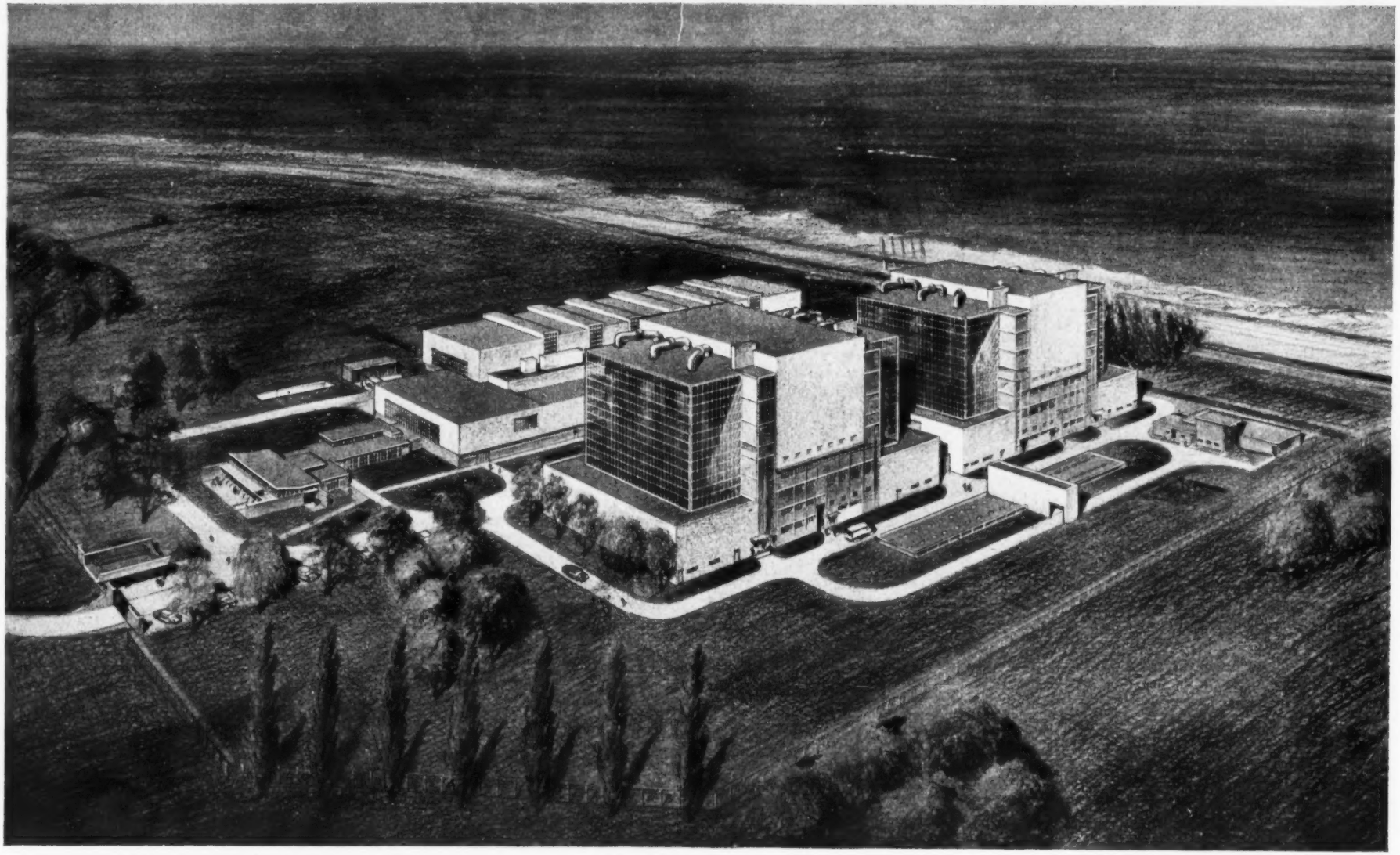


The English Electric group was the only unsuccessful tenderer for the present contracts. On this page and pages 45 and 46 are shown, by model or perspective, the four designs tendered to the CEA. It is interesting to see that so early in the development of atomic power stations there is considerable variety in the disposition of the heat exchangers in relation to the reactors, and even in the relatively orthodox turbine halls. No statement has been made as to the degree of real competition which exists in this tendering for contracts, but no doubt it is hoped by this policy to reduce costs. At the same time, it is to be hoped that the cumulative advantages of architect/engineer/scientist collaboration in working on a continuous building programme, which can be expressed in terms of standardization, the forward ordering of materials, and economy of structure, planning, method and labour will not be lost. Above is an artist's impression of the proposed nuclear power station for the South of Scotland Electricity Board which will be built by the GEC Simon-Carves Atomic Energy Group (consulting architects: Howard V. Lobb & Partners). In contrast with this, in its partial exposure of plant and trim enclosing envelopes is the model of the nuclear power station on the Berkley site,

model of the nuclear power station on the Berkley site,



submitted by the English Electric-Babcock & Wilcox-Taylor Woodrow Group (architect: Frederick Gibberd), shown left, opposite page. Above, the design by the AEI-John Thompson Nuclear Energy Co. Ltd., to be built on the Berkley site in Gloucestershire. It is estimated to cost between £30m. and £40m. The output will be 275,000 kilowatts. Two gas-cooled, graphite-moderated, natural uranium reactors will be employed, and the gas circulated through eight parallel circuits. Each reactor



with its eight heat exchangers will form a unit in combination with two turbo-alternators. The civil engineering consultants are W. S. Atkins & Partners whose Architectural Group were responsible for the design. The consulting architect is Sir Giles Gilbert Scott. Above, the last of the four designs submitted, the nuclear power station to be built at Bradwell, Essex, by the Nuclear Power Plant Company (architect: Maurice Bebb). The output will be 300,000 *kilowatts.*

BOOK REVIEW

J. M. Reid's *Glasgow* reviewed by Michael Laird

"Let Glasgow flourish" says the motto of that seamy city. A hybrid place if ever there was, of unfettered fashion, unpredictable personality, and yet of undoubted character—if somewhat ungainly architecture. And "architecture is the art that has flourished most constantly in Glasgow itself" says J. M. Reid,* yet it is in the seams, so to speak, and in the crumbling corners that one must resort to find this architecture.

This course has also been Mr. Reid's who, during his fascinating resumé of Glasgow's growth, finds time to remark on the desecration of Adam façades, Georgian terraces, and Rennie Mackintosh work even within the last two decades. His book could hardly have been better timed since recent events suggest that the City fathers are keen to continue the "sweeping up"—or rather "sweeping away" of historical landmarks—while encouraging little or nothing that amounts to architecture in these or any other places.

In itself, Mr. Reid's *Glasgow* is an admirable short history of the social and physical development of the city: first, as a cathedral settlement, then as a university town, and finally as the great industrial complex of today. This emphasis on the interdependence of things social and physical is, architecturally speaking, perhaps the most useful aspect of his book. However, his book is surely written to delight and stimulate, rather than merely to be useful, and in this it is extraordinarily successful.

It is not simply "Greek" Thompson and Charles Rennie Mackintosh who make up the author's visiting list in "cultural" Glasgow; they are responsible for comparatively few of the remarkable number of buildings he has "appreciated"—*par exemple*—and which have been searched out with discrimination and regard for more demanding standards than the usual ones of sentiment or mere association. The book is well produced and the jacket design (adapted from an early 19th century print) is excellently appropriate in capturing "the faint mist of romance that hangs about Glasgow's origins." Mr. Reid has done likewise and we should be grateful to him for so keenly penetrating the chaotic scene that has since arisen.

* *Glasgow*, by J. M. Reid. (Batsford 25s.)

DIARY

A Visit to Mexico City and Yucatan. Talk by Eugene Rosenberg. At the AA, 34, Bedford Square, W.C.1. 6.15 p.m.

JANUARY 16

The Socialism of William Morris. Talk by G. D. H. Cole. William Morris Society meeting. At the Art Workers' Guild, 6, Queen Square, W.C.1. 7.30 p.m.

JANUARY 16

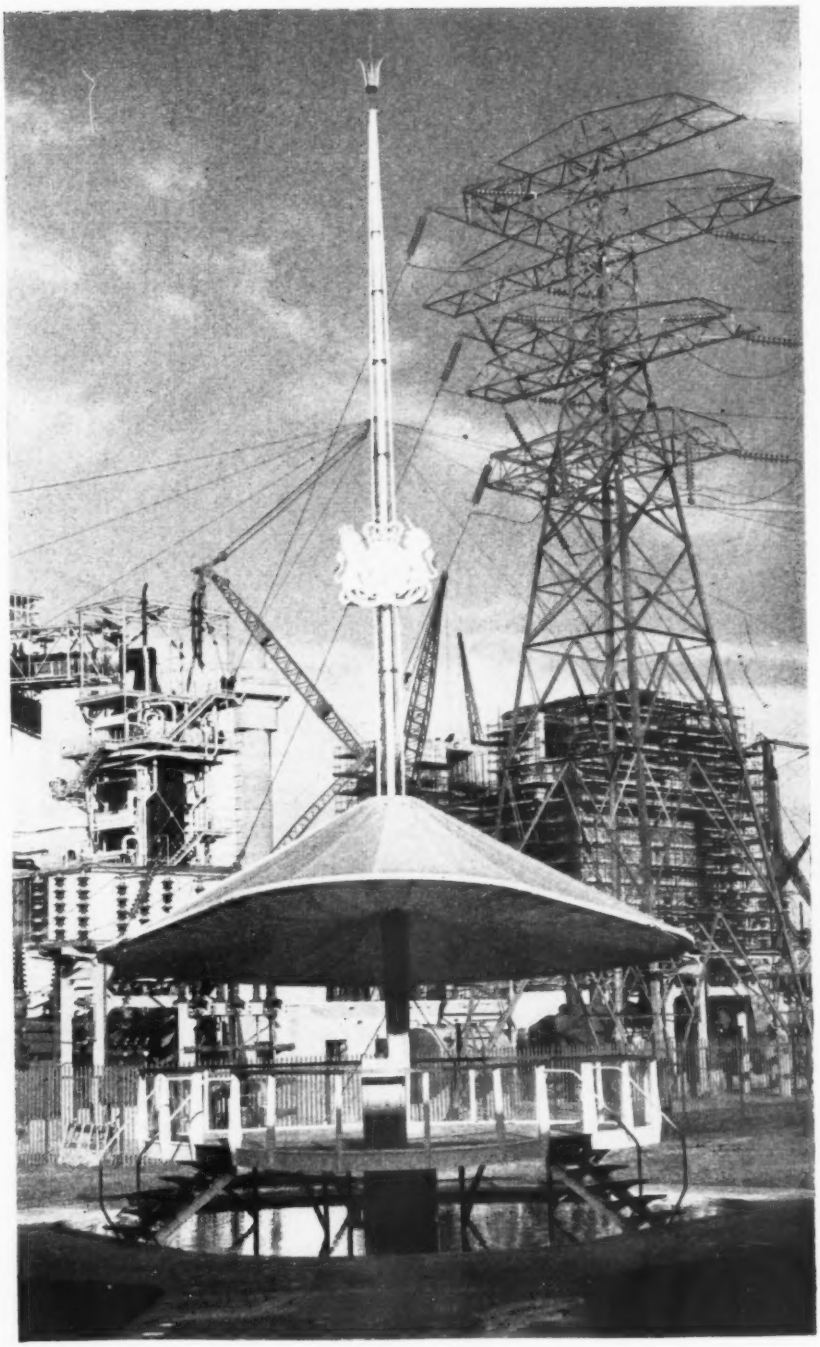
The Life and Work of William Lethaby. Peter Le Neve Foster Lecture by A. R. N. Roberts. Chairman: William Johnstone, Principal, LCC Central School of Arts and Crafts. At the RSA, John Adam Street, W.C.2. 2.30 p.m.

JANUARY 16

Some further aspects of the London Building Acts. By B. C. Deavin. *Modular Co-ordination and International Work on Standards.* By W. R. Cubitt. *Cost Surveying.* By F. L. Howe. *Design in Dwellings.* By G. C. Cox. Four papers at the FAAS (London Branch), 68, Gloucester Place, W.1. 6.30 p.m.

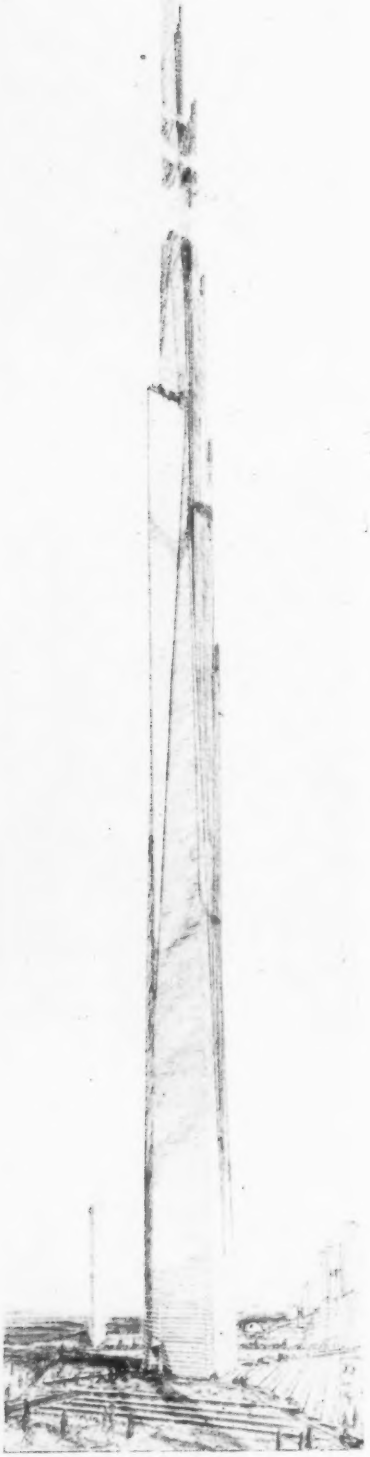
JANUARY 16

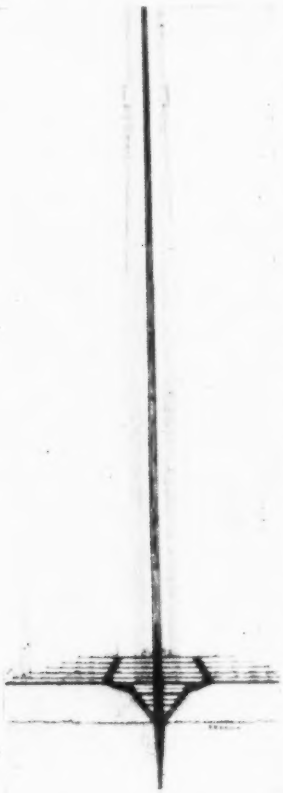
MODERN DESIGN FOR ROYAL DAIS



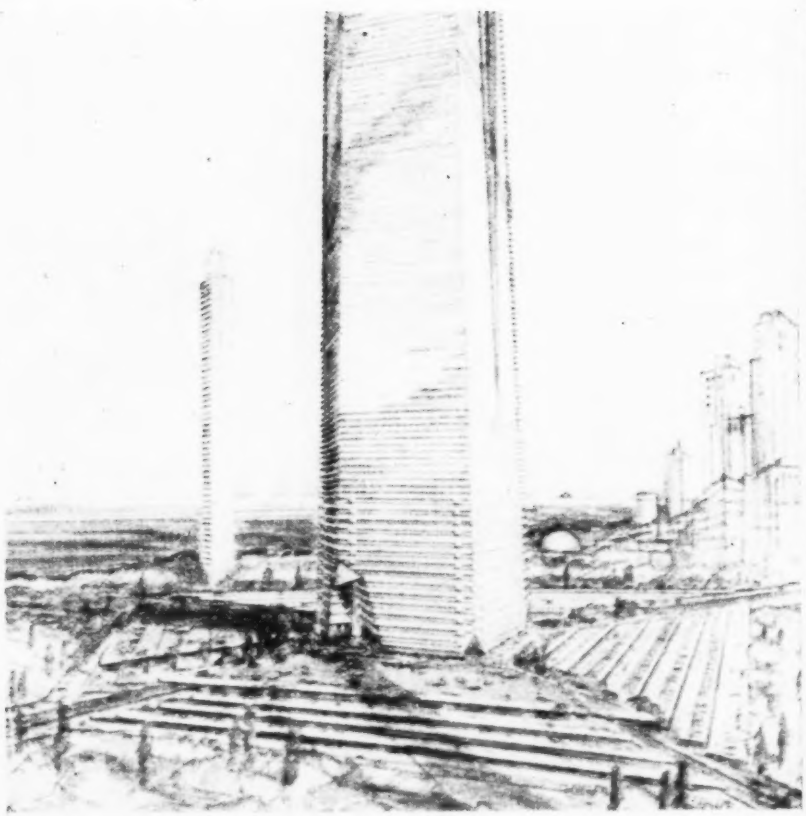
The design of the dais provided on public occasions for visiting royalty has rarely been attempted in a contemporary manner. The rare exception was that provided at the opening of the atomic power station at Calder Hall, above. Designed by Hulme Chadwick, it was executed by the architects' department of the U.K. Atomic Energy Authority Industrial Group, Risley. The crimson-carpeted floor deck stood over a 6-in. deep pool, lined with cerulean blue, which, it was hoped, would aid T.V. cameras by reflecting light upwards during the opening ceremony. The canopy was of terylene, white on top, lemon yellow below, over steel trusses. It was held up by a single steel column stayed by three guys, thus giving maximum visibility to onlookers. The railing had ¼-in. plate glass infill. All metal-work was white. The coat of arms was picked out in gold.

MILE-HIGH OFFICES FOR CHICAGO



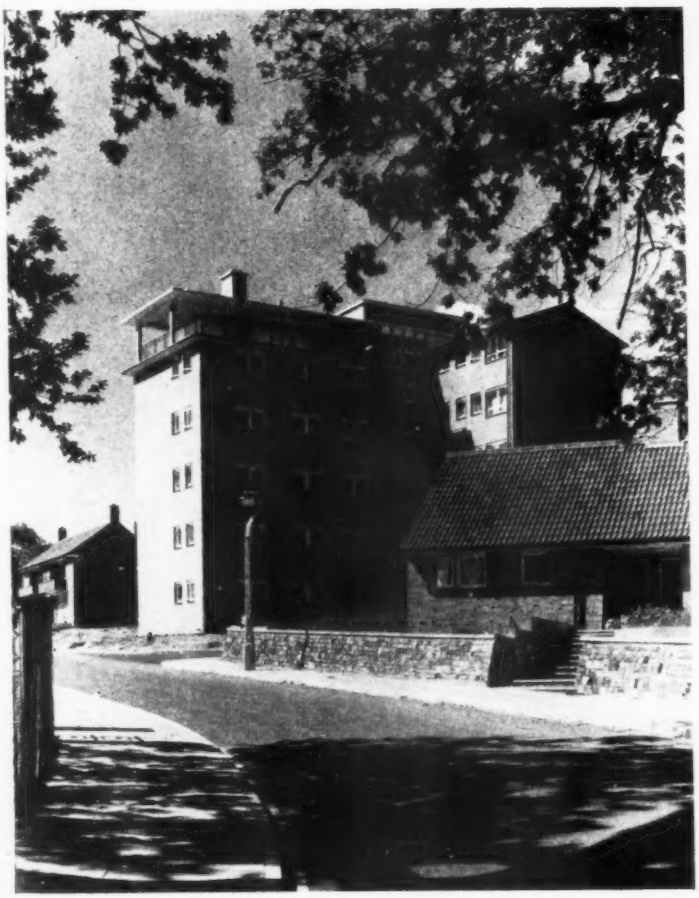


Frank Lloyd Wright has designed a 528 storey office tower which will stand a mile high and, he estimates, will cost one hundred million dollars to build. Extreme left is a general view of this project, with a detail of the foot of the tower below. Left, is part of a section through the lower two thirds indicating the foundation treatment. Writing in the Architectural Forum, *Wright states that the structure is " more aeroplane in character than the usual heavy building construction." The structure proposed is a steel and concrete core from which is suspended by steel wires a metal-faced exterior. He claims that " typical weights are little more than half those in customary building practice." The floor slabs are " tapered hollow from the core to carry air-conditioning, lighting and appurtenance systems. These cantilevers are formed by special high tension steel, diamond mesh reinforcement cast into light concrete slabs . . . serving the five divisions of 100 floor heights each, 56 tandem-cab elevators five units high begin to load at the fifth floor, where the escalators leave off . . ." The editor of the* Forum *comments that the cost is " a record five dollars a square foot ! "*



WEST HILL HOUSING ESTATE, WANDSWORTH, LONDON, S.W.19

The West Hill Housing Estate, London, S.W.19, for the Borough of Wandsworth, has been designed by Sir Lancelot Keay, Basil G. Duckett and Partners. The site



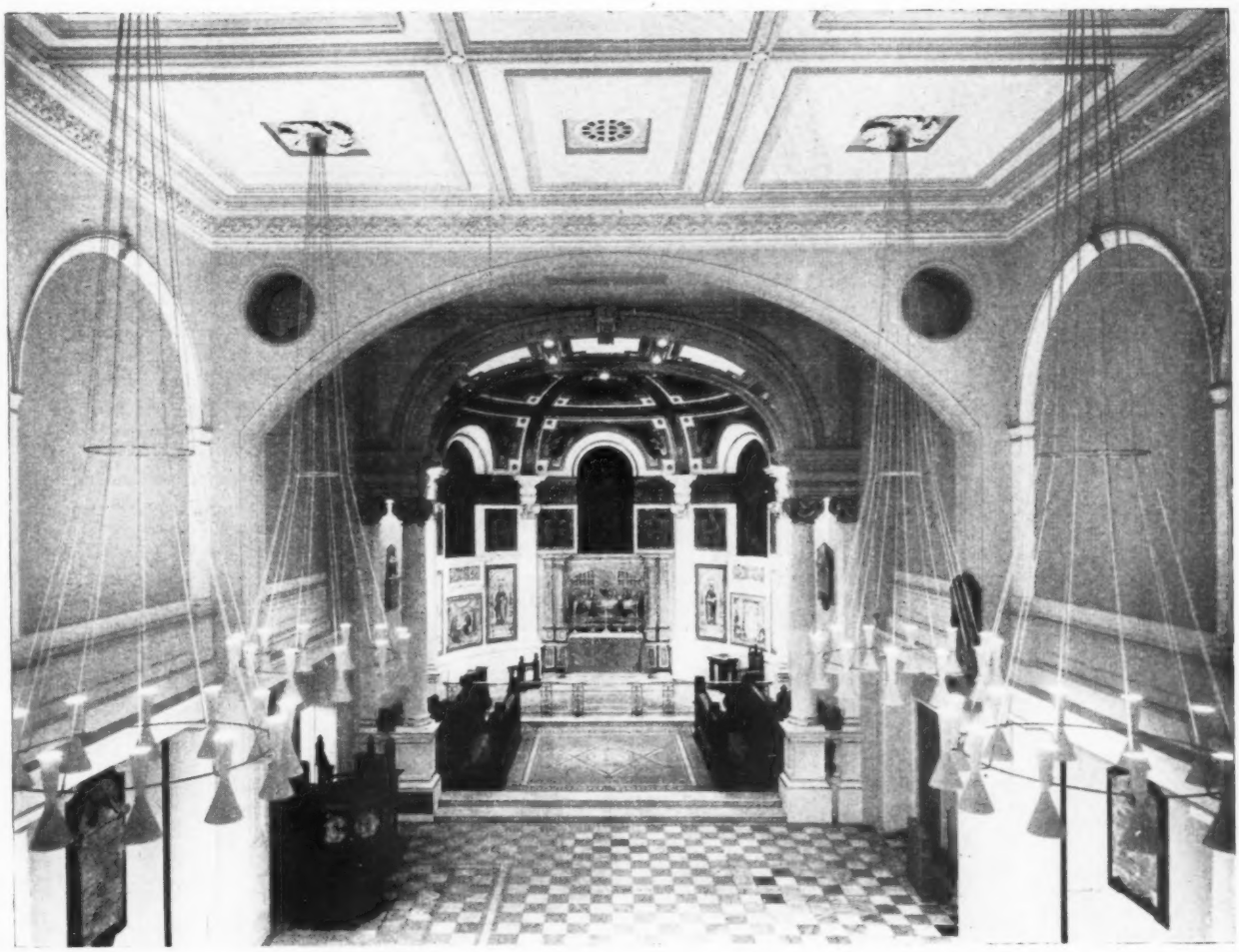
is bounded on the north by West Hill, on the east by Beaumont Road, on the south by Southmead Road and on the west by Princes Way. When completed the scheme will provide 580 dwellings, of which over 100 are now occupied. There will be nine 8-storey blocks of flats, six 5-storey blocks of flats with balconies, five 4-storey blocks of maisonettes, eight 3-storey blocks of flats and the remainder of the development is made up of houses, semi-detached and in terraces. There are also within

WEST HILL HOUSING ESTATE, WANDSWORTH, LONDON, S.W.19 continued

the perimeter of the site, an LCC school and blocks of garages. The model photograph, top (previous page), the centre portion of the estate is seen from the north-east, on the left are the 8-storey flats, which have a star-shaped plan, and right the 5-storey flats and maisonettes. These 5-storey blocks are also seen centre and bottom left on the previous page. Left and below, some of the 2-storey terrace housing in the north-east corner of the site. The 5-storey blocks have a r.c. frame and brick-faced external walls. On the roof of each block is a covered area designed for clothes drying. The consulting engineers (8-storey only) are Ove Arup and Partners. The quantity surveyors are A. E. Thornton Fiskin and Partners.

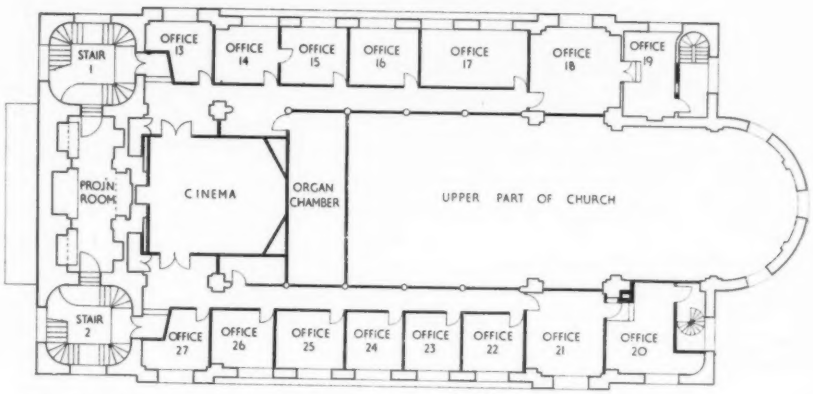
CONVERSION, HOLY TRINITY CHURCH, MARYLEBONE.

The Society for Promoting Christian Knowledge has moved its headquarters to Holy Trinity Church, Marylebone Road, N.W.1. The church, which had become redundant as a parish church, was designed by Sir John Soane. Permission was obtained from the Bishop of London to convert the church into an office building. The architects for the conversion were Handisyde and Taylor (architect-in-charge, John Reed). The clients have a head office staff of about 100. Holy Trinity was built to accommodate a congregation of 2,000 and was consecrated in 1829. The importance of the church dwindled after the last war and after the last vicar left in 1951, the church was entrusted to the care of the rector of St. Marylebone. The two parishes were later united by an Order in Council. In recent years, when many churches have had to be demolished or turned to secular use, the retention of Holy Trinity in the service of the church is a welcome solution to a difficult problem. The church was closed in November, 1955, and work began on its conversion soon afterwards. Wide aisles with galleries at clerestory level have now been transformed into corridors and offices, as seen top left and bottom right, page 52, on both sides of the church. Most of the nave, below, has been retained and will remain in use as a church. The southern bays of the nave have provided space for a large "ante-church," used for meetings and exhibitions and for the library. On the first floor is a sound-proof cinema for the showing of religious films. Above right, the church tower. Centre, opposite page, the crypt, which is thought to be the only air-conditioned crypt in Britain. This vast area is now used as the Society's London store room and has space for 75,000 volumes. Books are carried to street level by lift, for

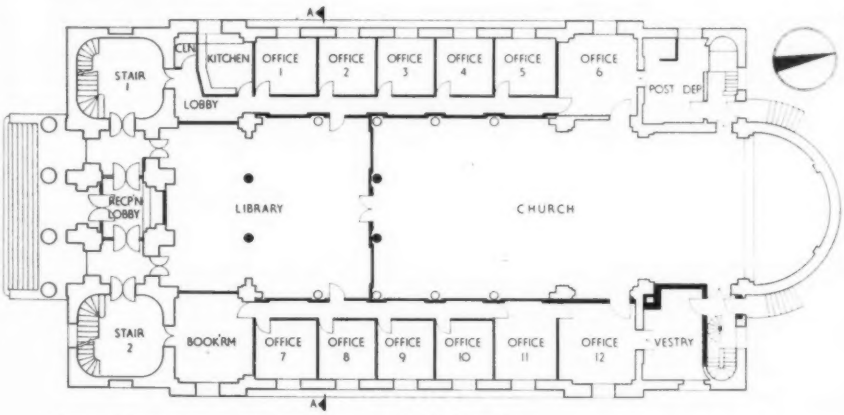


CONVERSION, HOLY TRINITY CHURCH, MARYLEBONE (continued)

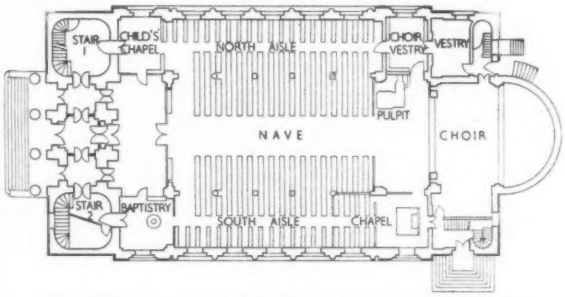
loading on to vans. The original organ has been rebuilt and monuments for past parishioners have been preserved. The approximate cost of the conversion was £65,000. The clients, who are the biggest distributors of religious literature in the world, have an annual turnover exceeding £750,000. Shortage of space due to the expanding activities of the society, particularly in publishing, caused the decision to dispose of the valuable, but less suitable former headquarters in Northumberland Avenue. The consulting engineers were Clarke, Nicholls and Marcel; quantity surveyors, Cameron and Middleton; general contractors, Griggs and Son Ltd.



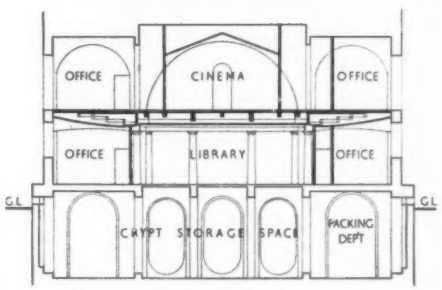
First floor plan



Ground floor plan, after conversion [Scale: $\frac{1}{32}$" = 1' 0"]



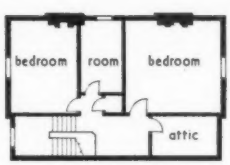
Ground floor plan, before conversion [Scale: $\frac{1}{32}$" = 1' 0"]



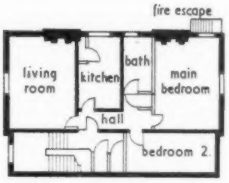
Right: section A-A

HOUSE CONVERSION AT SCARBOROUGH, YORKSHIRE

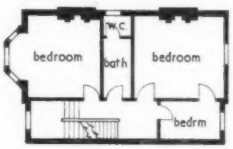
The house conversion illustrated on this page and on page 54 was carried out by the North Eastern Gas Board, in association with Ascot Gas Water Heaters, Ltd. The architect was J. G. L. Poulson. The conversion was undertaken firstly, to demonstrate by actual example how effectively and economically many old and unwieldy houses could be improved to give them a new lease of life, and at the same time provide additional living accommodation; secondly, to demonstrate the most advantageous method of providing modern heat services in property at present lacking such amenities. Work on the four flats was completed in time to enable delegates at the 1956 Annual Conference of the Institute of Housing, held at Scarborough, to inspect the property, after which it was opened to the public. The photographs show, left, the front facade from Grosvenor Road, below, the old ground floor scullery, and the same room, now the flat 2 kitchen. On the following page, top, left and right, the old semi-basement scullery, now used as the bathroom in flat 1. Centre, the ground floor living room and, bottom, the main bedroom in flat 3 on the first floor, after conversion.



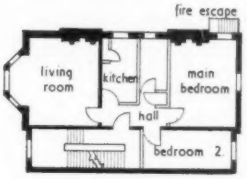
Second floor plan before



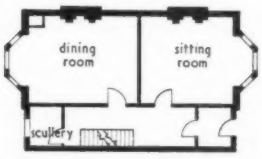
Second floor plan after



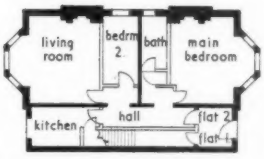
First floor plan before



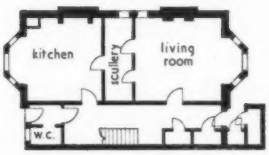
First floor plan after



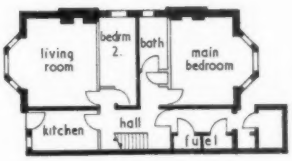
Ground floor plan before



Ground floor plan after



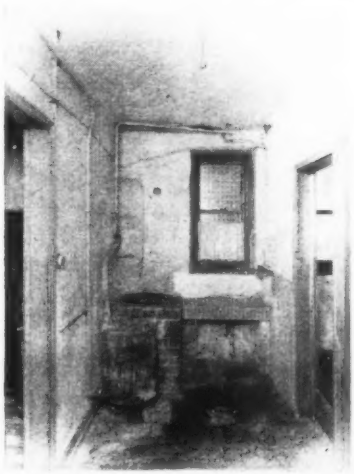
Semi-basement plan before conversion [Scale: $\frac{1}{8}$" = 1' 0"]

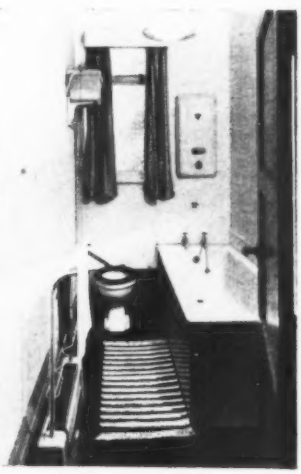


Semi-basement plan after

HOUSE CONVERSION AT SCARBOROUGH, YORKS. continued

Internally the planning of each floor was governed by the position of the load bearing, spine and cross walls and the necessity to interfere as little as possible with these walls. Flats 3 and 4, on the upper floors, are similar in plan, with kitchens and bathrooms adjacent, allowing the existing plumbing to be re-used. In the case of flats 1 and 2, semi-basement and ground floor, it was necessary to separate kitchens and bathrooms in order to make the best





use of available space, but as the house already had a water supply and drainage to the rear of the property, only short extensions were required to serve the new kitchens. Externally the front and rear elevations are unaltered, but new windows serving bathroom and kitchens have been made at the side of the house. Although the house originally had gas and electricity laid on, it was considered advisable to instal an entirely new service in both cases to cater for the extra load imposed by four flats. Existing stores in the basement have been retained to provide each flat with a fuel store. Each flat has been provided with its own independent hot water installation and instantaneous gas water heaters have been installed in each flat to avoid the need for storage tanks and cisterns for both hot and cold water. Space heating for each living room is provided by coke-burning appliances, each having a built-in gas burner for ignition. The main cost breakdown, below, affords a comparison with the cost of newly-constructed houses or flats, which would provide similar accommodation. The flats have been sold for the following sums, semi-basement, £1,275, ground floor, £1,725, first floor, £1,625 and second floor, £1,375.

SUMMARY OF COSTS

	£
Main contractor and plasterer	1,318
Roof repairs	50
Fire escapes—flats 3 and 4	166
New water services	52
Gas services and internal carcassing	156
Electric services and internal wiring	208
Sanitary fittings	145
Fireplaces	83
Gas and coke appliances including installation	505
Painting and decorating	497
Floor covering for common hall and staircase	110
Preliminaries—insurance and contingencies	402
	£3,692
Architect's fees, etc.	400
	£4,092
Average cost per flat (or dwelling)	£1,023

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technical section

INFORMATION CENTRE

7.56 practice
BOXWOOD SCALES

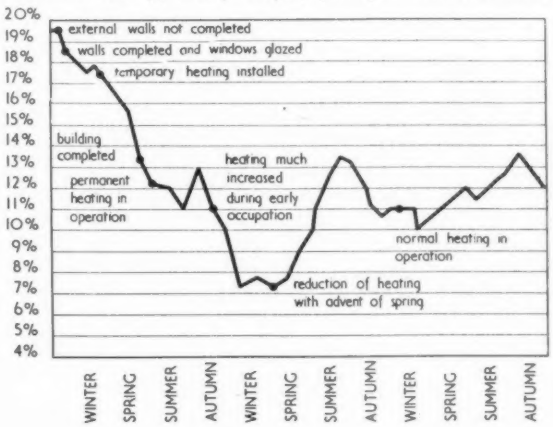
Architects', Engineers' and Surveyors' Boxwood Scales. BS. 1347:1956. (BSI. 5s.)
This is a revision of a standard which was formerly published in two parts: Part I (1947) being Architects' and Engineers' Scales, and Part II (1951) Quantity Surveyors' Scales. Though fascinating for anyone with a special interest in scales, the only point about the revision to be noted by the busy architect is that the manufacturers have agreed to make scales a little longer so that the figuring of such scales as ½ in., ¼ in. and ⅛ in. = 1 ft. can read up to 100 ft., 50 ft., and 25 ft. respectively instead of 96 ft., 48 ft. and 24 ft. as at present. This seems a good thing.

13.136 materials: timber
MOISTURE CONTENT

The Intelligent Use of Timber. (The Kiln Owners' Association, 15 New Bridge Street, E.C.4).
This brochure contains a useful article by B. Alwyn Jay, Deputy Director of TDA, on Moisture Content, and another by George A. Keer Deputy Chairman, the Kiln Owners' Association but adds little to the information given in the Eastwick-Field/Stillman article *Movement in Timber* published in the JOURNAL, November 25, 1954. Below however is an interesting new graph which shows the wide variations in moisture content of timber installed in a new building. Author advises that if kiln-dried timber *must* be delivered to site much before use it must be close piled and covered with tarpaulins.

6.57 planning: social and recreational
GARDENS

English Gardens Open to the Public. A. G. L. Hellyer. (Country Life. 30s.)
This is a Country Life picture book of gardens, a companion to the volume on country houses recently prepared by Christopher Hussey. Photographs form the bulk of the book; but Mr. Hellyer gives a brief comment, part informative part appreciative, on each garden. He has, however, too little space to say much that is worthwhile, and the value of the book lies in its illustrations.
160 gardens are included; a few continually open to the public, some only occasionally, but all sufficiently frequently for those who really want to visit them to have the chance of doing so. This is, of course, by no means all that are open to visitors or are worth seeing. The scope and price of this book have enforced selection. Any anthology is a personal affair, and Mr. Hellyer in his foreword disarms criticism; but his selection is in various ways unsatisfactory. Most of the gardens are shown by not more than three views. For some this is more than they deserve; but for the best of them it is too few to build up a full picture of the place as a whole, and only Packwood is given an all revealing air view. Doubtless, though, the book is intended to be an incentive rather than an alternative to going out to see the places themselves; but, if it is, the space allowed to the gardens selected might have been reduced and other places included. There are many notable omissions, and not merely of those that would appeal more to the architect than the horticulturally minded layman; and many of which do draw their crowds of summer visitors. Castle Howard and Harewood, for example, which might be considered on too grand a scale for the purpose of the book, yet Blenheim is included: Rousham and Fountains Abbey/Studley Royal, perhaps too flowerless, yet Bramham finds a place: no Oxford college gardens, though Cambridge is represented by Clare and Emmanuel.
An architect turning over the pages will find something, but not a great deal, to catch his eye and make him pause. This is in part due to the inevitable inadequacy of photographs to do justice to the full reality of garden and landscape: many of the places have greater character than the views of them reveal. But there is nothing in the book of contemporary interest that could be compared with recent landscaping in Scandinavia, Switzerland, U.S.A. or Brazil, for the very good reason that there is still in this country so little design in a contemporary idiom. What there is deals with public rather than private gardens and is still for the most part immature. Moreover the gardening public prefers the gardens with which it is familiar, and those that break with tradition suffer more easily than buildings: two of Christopher Tunnard's pre-war designs have in recent years been altered out of all recognition.
The book, therefore, though it has its glimpses of survivals from the past, is on the whole an illustration of the taste and achievements of English gardening in the fifty years or so before the war. There is revealed the familiar love of plants, great skill in gardening, much good taste in the manner of the time but only occasional artistry. The unfortunate thing is that, for lack of any alternative which they can so readily see as these, the people of today must perforce admire them as the ideal for our own times.



Graph showing moisture content variations during and after erection of a new building. Taken from 'The intelligent use of timber,' reviewed on the left.

This pine and mahogany reredos was carved and decorated (with the exception of the figures) by Green & Vardy Ltd. under the direction of the architect, Adrian Gilbert Scott, C.B.E., M.C., F.R.I.B.A., for Upholland College, Wigan. The work is a typical example of the craftsmanship for which Green & Vardy have become noted over the last decades.

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technical section

7 PRACTICE

drawing office equipment

1. drawing materials

Though the separate changes in drawing office equipment which have been taking place in the last ten years or so are not so spectacular as their commercial sponsors would like us to think, yet, in the aggregate, these changes are considerable and we feel that the time has come to review them for our readers. We have therefore asked John Read, A.R.I.B.A., to make a brief enquiry in the trade and in a number of architects' offices and to present his findings. This week he makes a beginning with the least spectacular part of the field, that of drawing materials. Under this heading he includes materials *on* which you draw, materials *with* which you draw (excluding pens and inks—they come later) and all the more interesting gadgets for fixing papers to boards, for binding drawings, for erasing and for pencil sharpening. At the same time he is emphatic that he has not been able to hunt up everything and would be glad to hear of other readers' discoveries.

The choice of drawing medium depends to a large extent on drawing office procedure. In general, a distinction could be made between "working out" drawings (roughs) and final drawings. In many offices the amount of paper used up in roughs far exceeds that used for the final drawings, and two separate media—one cheap and the other more expensive and durable—are often used. This, however, presupposes a type of organization where there is a fairly clean-cut division between "working out" and the start of a final drawing. In some offices (notably those where assistants are given more personal responsibility) there is a tendency to short-cut the procedure, especially in the sketch-design stage; a drawing which began as an advanced stage of "working out" may be suitable for direct conversion into a final drawing. In such a case it may be of advantage to use a general-purpose medium such as medium-grade tracing paper, in conjunction with tracing pads for free-hand working out.

From the following descriptions of the various types of medium at present available, it will be seen that the needs of most types of office can be met.

Tracing paper: tracing papers may be obtained in several weight grades, from 40/45 gramme to 140/150 gramme, and are normally supplied in rolls 25 yards long and 30, 40 and 60 inches wide. As a 30 in. roll gives both Imperial and Double Elephant sheets without wastage, it is the one most commonly used. It produces 40 Imperial and 22 Double Elephant sheets; reference should also be made to BS 1192 (*Drawing Office Practice*) for the most economical ways of obtaining sheets from rolls.

The heavier the paper the denser it is, and consequently the faster the pencil will blunt. This can to some extent be overcome by using a harder pencil, but this in turn will produce a fainter photo-print unless excessive pressure is brought to bear on the paper. However, one must weigh against this the fact that the lighter papers are less likely to stand up to the customary rough handling. In fact, about 80 per cent. of tracing paper sold is 85/90 gramme.

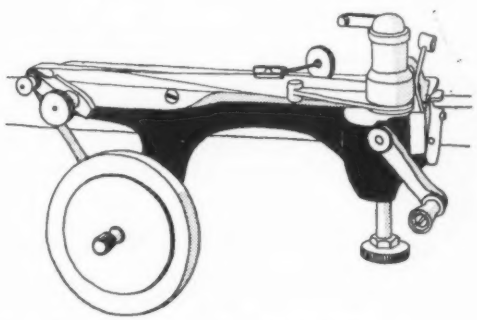


Fig. 1. "Admel" edge-binding machine.

Most manufacturers produce different surfaces for ink and pencil work, *i.e.*, smooth and matt. The pencil surface consists of a series of microscopic ridges in two directions, through which the pencil cuts, producing a sharper line.

The life of a drawing on tracing paper can be greatly extended by edge-binding with paper, cloth or film binding tape. These are available $\frac{3}{8}$ in. or $\frac{1}{2}$ in. wide and in 36 yard rolls. The cost of $\frac{1}{2}$ in. paper tape is 3s. to 3s. 5½d. a roll, and of $\frac{1}{2}$ in. cloth tape, 4s. 6d. to 5s. 3d. A 36 yard roll will bind nine Double Elephant sheets at 4½d. per sheet for paper tape and 7d. per sheet for cloth. The cost of binding Imperial sheets is 3½d. and 5½d. for the two tapes.

If paper tape is chosen, the Perlon thread reinforced variety should be considered as it minimizes the chance of the tape breaking while binding. Nevertheless, if any amount of binding is done, it is always advisable to use a binding machine. The example illustrated in Fig. 1 costs £6 5s. Cloth tape is available in six colours. Some plastic tapes are not very popular with photoprint operators as the heat of the process tends to soften them, causing the tape to adhere to the machine. Similar trouble is experienced with tapes

technical section

which are not made specially for edge-binding, and it is important when ordering to specify a "coated" tape, *i.e.*, one in which the adhesive extends to only $\frac{1}{32}$ in. of each edge.

Detail paper: the standard medium matt detail paper is about half the price of tracing paper. For this reason—and as its name implies—it is used extensively for the roughs of details which are often finally traced off on to tracing paper. However, although it is semi-opaque, it produces fairly good photoprints and so there is no reason why the final drawings of large-scale details should not be drawn on it. It has the added advantage of being more durable than tracing paper. If the detail paper is very dense and the drawing is done in ink, the photoprint operator will apply a dressing to the drawing which makes it temporarily more transparent, producing a clearer print. This preparation is also available in permanent form and should be useful in an office running its own printing machine. The temporary dressing costs 4s. 6d. a 10 oz. tin and the permanent dressing 5s. 6d.

Detail paper is available in rolls twice the length of those of tracing paper but of the same widths; there are medium or thin grades and smooth and matt surfaces. The smooth is more expensive than the matt, and the thin more costly than the medium.

Butter paper: this is a most useful and inexpensive medium which is manufactured for quite a different industry—the dairy trade—but which seems to be gaining in popularity in architects' offices for rough work. It is available in sheets 20 in. by 30 in. (slightly smaller than Imperial) and costs just under a 1d. a sheet (39s. a ream). It is more transparent than detail paper, and takes a pencil line well. It may be obtained from F. G. Kettle, 23, New Oxford Street, W.C.1.

Tracing cloth: tracing cloth, often erroneously called "linen," is used chiefly for key drawings on large jobs, which will be handled and reproduced often over a long period. It is also useful for record drawings and for those attached to legal documents. Manufactured in 20 yd. rolls, white or blue, it is available in different surfaces for pencil and ink work. The average price is £4 15s. per roll; pencil tracing cloth costs about 5s. per roll more. The ink surface should be dusted with flux before use or the ink will not "take." The pencil cloth can also be used for ink work, without special preparation, but printed copies will lack the sharpness of those taken from ink cloth. Conversely it pays to use only ink on the ink surface as reproduction from pencil will be grainy and indistinct. It is unnecessary to bind cloth drawings.

Ordinary tracing cloth is not waterproof, and any contact with damp will destroy the surface. "Imperial five-point," which costs about 30s. per roll more, *is* waterproof and has also greater dimensional stability.

Tracing film (ethulon and ethyl cellulose plastics): there are two brands of plastic film on the market, and both are manufactured in two grades; PM and PMC, the latter having a matt surface suited to pencil work and a 20 deg. higher softening point, which makes it more suitable for high temperature copying machines. Plastic film has a very high degree of transparency and consequently gives a very clear reproduction. It is durable and pleasant to work on, and errors are easy to erase and may be worked over without the surface deteriorating or the ink spreading. Ethulon plastic has the smaller dimensional stability but costs much less.

When storing drawings on plastic film in plan chests it helps to dust them with talc to ease withdrawal, especially from the bottom of the pile. Edge binding is not advisable because of the danger of cockling.

Tracing film should be used in preference to cloth or paper where intricate detailing demands the highest degree of contrast and clarity in the photo-print. However, when drawings are likely to be stored and possibly folded for reference at a much later date, tracing cloth should be used. The cheaper tracing film is comparable in price to good quality tracing cloth.

It is extremely important that with plastic, paper or cloth drawings, where possible, sheets should be cut at least a day in advance of use in order that the movement in the material may become adjusted to the temperature and humidity of the room.

Comparative prices: Table I gives a comparison of prices for different types of drawing surface 30 in. wide. For a job needing 50 finished drawings on Double Elephant sheets, a comparison of cost of the original drawings (but excluding prints) would be as given in Table 2.

Summary: to summarize the comparative properties and uses of the above drawing mediums, it can be said that they all may be used with varying degrees of efficiency for any type of drawing and consequent reproduction, but that each has peculiar properties which make it particularly useful in certain cases.

Detail (or butter) paper, due to their opacity, should

TABLE 1: COMPARATIVE COSTS OF DRAWING MEDIA

		100 *yards* £ s. d.	*Double Elephant sheet* s. d.
DETAIL PAPER (2 rolls at 50 yards = 100 yards)	Medium matt	1 7 4	3·7
	Medium smooth	1 16 0	4·8
	Thin matt	2 7 0	6·3
BUTTER PAPER at 39s. per ream sold in sheets 20 in. by 30 in.		13 7	equivalent area 1·8
TRACING PAPER (4 rolls at 25 yards = 100 yards) Matt or smooth	45 grammes	2 1 4	5·5
	60 grammes	3 0 0	8·0
	70/75 grammes	3 10 0	9·3
	85/90 grammes	4 4 0	11·2
	105/110 grammes	5 5 4	1 2
TRACING CLOTH (5 rolls at 20 yards = 100 yards)	Standard ink	23 1 3	5 1½
	Average ink	23 16 3	5 3½
	Superior ink	25 2 1	5 7
	Pencil	26 5 0	5 10
TRACING FILM	Ethulon (10 rolls at 10 yards = 100 yards)	25 0 0	5 6½
	Ethulon PMC	29 0 0	6 5
	Kodatrace (5 rolls at 20 yards = 100 yards)	35 0 0	7 9½

N.B.—100 yards produce 90 double elephant sheets or 163 Imperial sheets.

technical section

TABLE 2: COMPARATIVE COSTS OF 50 FINISHED DOUBLE ELEPHANT DRAWINGS

		£ s. d.
85/90 GRAMME TRACING PAPER	Unbound	2 8 0
	½-in. paper bound	3 6 9
	½-in. cloth bound	3 17 2
TRACING CLOTH	Ink	12 16 3
	Pencil	14 11 8
TRACING FILM	Ethulon PM	13 17 1
	Ethulon PMC	16 0 10
	Kodatrace	19 8 0

be used for initial roughs, expendable drawings, and for schedules and details executed in ink where the clarity of line is not so important as on other drawings. The use of a "transparentizer" certainly produces clearer prints than otherwise, but not as sharp as those from tracing paper.

Tracing paper, of a medium weight, may adequately be used for most work and particularly in smaller offices where financial economy is of greater importance. For the little extra that it costs, tracing paper drawings should normally be bound either with a good, preferably reinforced, paper tape, or a cloth tape.

Bound paper drawings will take a lot of punishment but will nevertheless deteriorate faster than those on tracing cloth or tracing film, either of which should be used when a drawing is to be constantly in use for a long time. Tracing film gives the best reproduction of any medium and will stand up to considerable wear and tear. It is probably also the best choice where the drawing, particularly if in ink, is likely to be considerably amended during the progress of a job. However, when durability is the first priority, tracing cloth would probably be preferred.

The point should finally be made that whatever the medium used, if the drawing is to be reproduced it is vitally important to cut the sheet to a standard size, bearing in mind that economy in printing is much more important than economy in drawing paper. This is a matter which is discussed in a later article.

Backing sheets

To most draughtsmen a backing sheet is a piece of stiff, white cartridge paper which is pinned, taped or clipped to the drawing board and which is periodically replaced. A product recently marketed, "Stabak," is a roll of backing similar in consistency to shelf paper and having a shiny, "restful" green surface. It soils less quickly than cartridge paper, and is easily cleaned with a damp rag, but its chief advantage is probably visual. It is obtained from L. Stace Ltd., of Cheltenham, in 20 yd. rolls, 32 in. wide, at 37s. a roll.

Some offices use purpose-made opaque p.v.c. sheaths which cover the boards, leaving the ebony ruling edge exposed. This discourages the use of drawing pins because of the high cost of the backing, but would be suitable for offices accustomed to using draughting tape or board clips for fixing drawings.

For those who like a hard backing surface, a sheet of transparent cellulose acetate with an underlay of white cartridge gives a hard-wearing, washable surface.

Drawing boards may be obtained which incorporate special backings; these will be described in a later article.

Repairs to drawings and adhesives

Damaged tracings or photoprints are usually repaired with the normal transparent adhesive tapes, but occasionally it is necessary to fix the tape to the upper surface of the paper, consequently giving an impossible drawing surface. There are products available which cope with this emergency, including a British product in the form of a completely transparent 15 in. by 9½ in. matt sheet, part of the Plastitone shading film range. A similar sheet may also be found in the Zipatone range. A German adhesive tape now imported to this country—Tesafilm—may be drawn on in ink and pencil, and is transparent.

For jointing opaque drawings and photoprints an adhesive should be used which is clean to apply. Cow gum (3s. 9d. per ½ lb. tin, and other sizes) has the advantage that surplus may be rubbed off with a rag, leaving an unspoilt surface. Flexible plastic spreaders may be obtained for its application.

Paper fixing

Pins: brass or alloy single-point drawing pins are the most popular due to their reliability, the chief drawback being their obstruction to T-squares moving up and down the drawing board. If pins must be used the three-pronged variety partially obviates this problem, but although each box of pins contains an extractor no really efficient and inexpensive means has yet been devised to prevent the odd prong being left in the board at the cost of grazed hands, scored instruments and chipped finger nails.

There is, however, now available in this country from Switzerland a drawing pin injector and withdrawer (Fig. 2) costing 42s., called the Colorfix Automatic Tacker. It takes special three-pronged pins and injects them into the drawing board on the stapler principle, withdrawing them into the barrel of the machine for re-use. Special refills are necessary.

Metal clips: these hold the drawing down without damage to board or paper, but as they fix to the edges of the board they are useful only for fixing backing sheets, and tracing paper, etc., where the drawing is approximately the size of the board, or detail paper when wastage is not so important. The cost is 2s. 2d. for four.

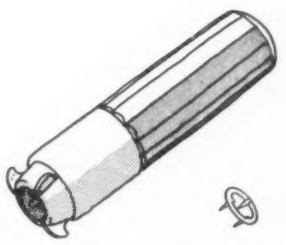


Fig. 2. "Colorfix" automatic tacker with three-pronged steel tack.

technical section

Adhesive tapes: as it is important to keep the number of drawing pins on a board to a minimum, adhesive tapes are particularly useful for backing sheets, and drafting (or masking) tape is becoming increasingly popular for fixing drawings, as it does not impede instruments, is easily removed without affecting the drawing and may be re-used. It is opaque brown in colour and available in 10 yd. rolls 1 in. wide at 2s. 2d. per roll. Ordinary paper tapes should not be used as the adhesive is too strong, removing the surface of the paper on withdrawal.

For fixing opaque drawings temporarily to the wall there is a double-sided adhesive tape, Speedfix DSP/2, which can be used in small patches concealed behind the drawing.

Erasing

The quality of pencil and ink erasers has improved considerably in the last few years. Many draughtsmen

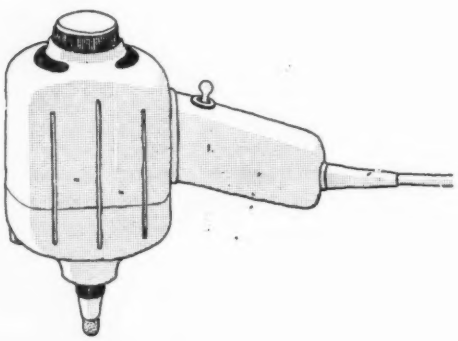


Fig. 3. "Ariel" electric erasing machine.

consistently use hard pencils "stylus" fashion and for them an ink eraser is often the solution, while flexible razor blades appear to be most commonly used for eradicating mistakes in ink. However, in both these cases, an electric erasing machine should prove useful, particularly on tracing cloth when the heavy handed are less likely to penetrate to the board and where the majority of drawings are executed in ink. Although architects controlling small offices may doubt the economics of the proposition, it should certainly be worth considering.

The machine, the "Ariel" (Fig. 3), resembles a hand power drill in appearance and replacement erasing plugs are fixed in a screw chuck head. The cost is £7 10s. including spare erasers and erasing shield. On a more modest level the glass eraser should find a more general employment for ink work. The principle is that of the chuck pencil with projecting glass fibres doing the work. It costs 5s. 9d., plus purchase tax, and the refills are 1s. 1d. each. Having a rounded head, it needs to be used with a metal erasing shield.

Pencils

For some unaccountable reason, similarly named grades in different makes of pencil often bear no relation to each other, so that it is a matter of trying

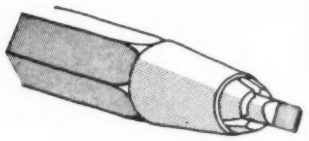


Fig. 4. Continuous flat-lead type clutch pencil.

several makes to find one with a properly regulated range—particularly in the "hard" end of the scale. Even this may not be satisfactory as the quality of a single manufacturer's leads changes from time to time. Now that the initial prejudice is disappearing, more and more draughtsmen are turning from wooden pencils to the "clutch" type (which range in price from 4s. 6d. to 16s. 8d. each). The latter are certainly time savers since there is no wood to cut away. An initial difficulty with them was that since the thickness of the lead increased with the softness, pencils with different shaft widths had to be bought. Now, however, it is possible to buy a clutch pencil catering for all thicknesses between 6H and 4B. It would help those possessing the older type of pencil, nevertheless, if manufacturers would standardize the grading of lead thicknesses.

Some clutch pencils incorporate a neat sharpener in the top, and special inexpensive sharpeners may be purchased separately, but the most effective means of sharpening seems to be the sandpaper block.

An important development of the clutch pencil recently made is the continuous flat-lead type, Fig. 4, which has a fine chisel point and requires no sharpening. It can only be used, of course, for drawing straight lines and may take a little getting used to for the inexperienced. It gives a line of constant thickness (about 0·017 in.) until each lead is finished. The cost ranges from 8s. 6d. to 16s. 8d. depending on refinements, and the makers include Mifa, Fedra and Castell.

Desk sharpeners

Desk sharpeners for wooden pencils, Fig. 5, now have several refinements including automatic feed (which grips the pencil and pulls it in), adjustable jaws for pencils of all thicknesses, and an adjustment for varying the length of the point. Most models stop cutting when the perfect point is obtained. They are manufactured by Velos, Staedtler, Faber, Castell and others; the prices range from 24s. to 57s. 6d.

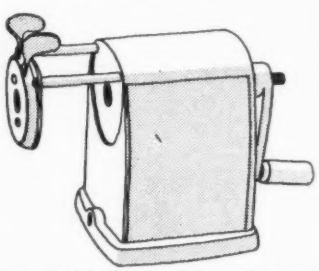


Fig. 5. Velos "New Victory" pencil sharpener which can be adjusted to take all thicknesses of pencil.

building illustrated

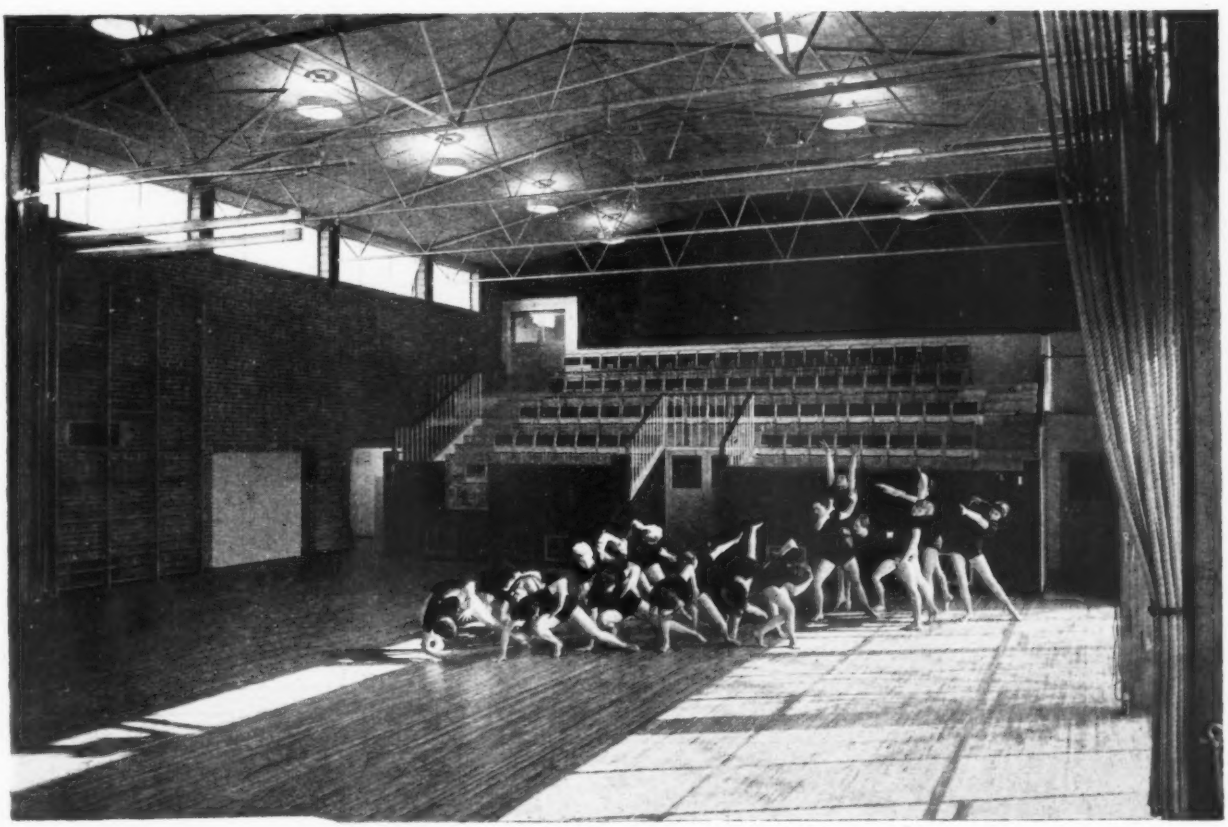
Gymnasium at Warwick Avenue, Bedford

GYMNASIUM

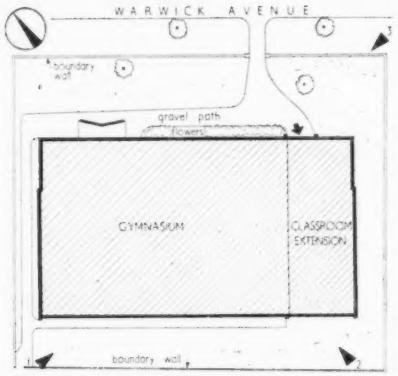
at BEDFORD COLLEGE OF PHYSICAL EDUCATION, WARWICK AVENUE, BEDFORD
for the Ministry of Education; designed by S. VINCENT GOODMAN, county architect
W. G. WALMESLEY, deputy county architect; assistant architect E. W. COLLINS
heating and electrical consultant R. F. HARROW
quantity surveyors J. BEBBINGTON and D. A. TINLEY (assistant quantity surveyor)

The Bedford College of Physical Education is concerned with Further Education and provides a diploma course for women teachers. The course involves art, human biology and a range of physical activities all of which have been catered for within this new teaching block. As the exercises are done in the gymnasium in bare feet, the floor is heated by hot air circulated under the wood strips. The building, which is the first of its kind to be analysed in the JOURNAL, is located within the college campus and was built for a total cost of £23,500.

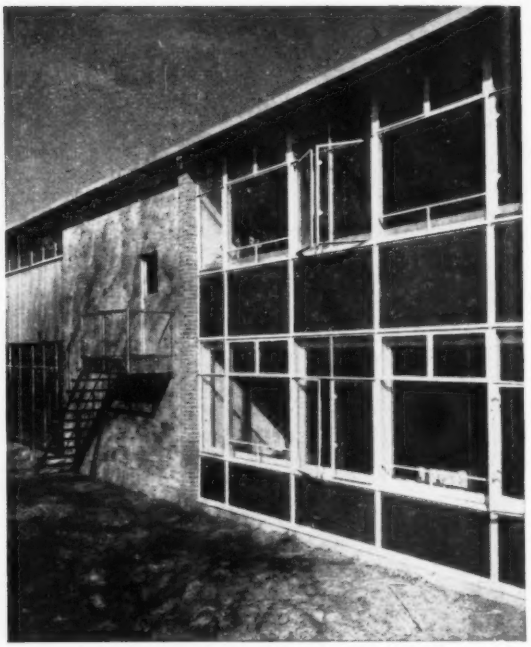
The gymnasium and spectators' gallery.



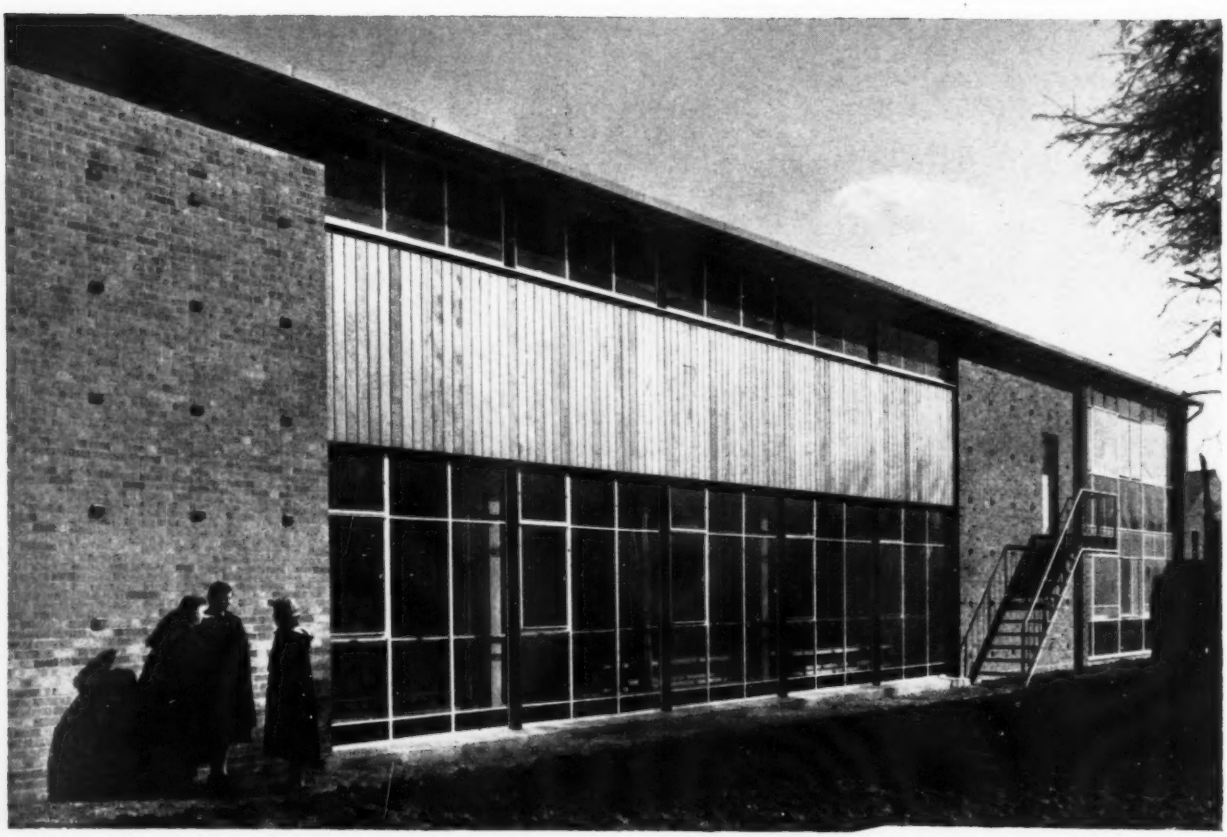
building illustrated



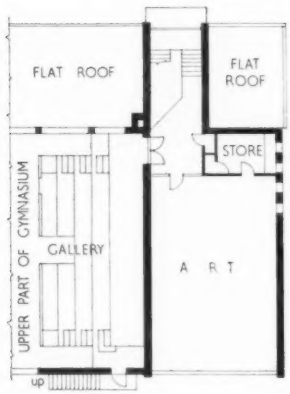
Key plan showing photographic viewpoints



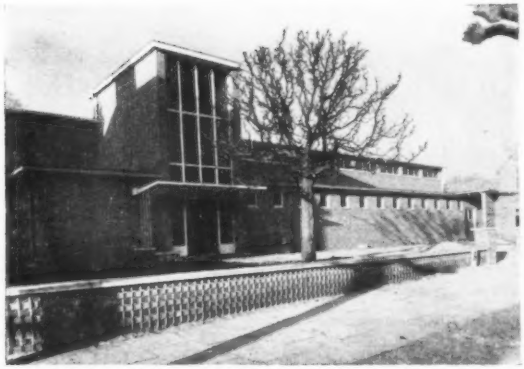
Viewpoint 1 (below): looking from the south-west with the window wall to the gymnasium in the centre and the emergency staircase from the balcony to the right. The metal window spiders are fixed between circular steel columns with a western red cedar vertical weatherboarded strip dividing the top ventilating strip from the lower polished wired plate glazing. The opening lights are pivot hung on friction hinges with the top ventilators operated by a patent remote control apparatus. Above the main hall glazing the steel box gutter is fixed directly to the upper booms of the steel trusses which project beyond the face of the building. Viewpoint 2 (above): a detail of the south-west wall to the art room and biology laboratory, with the escape staircase from the balcony on the left. The infil panels are painted sheet metal contained within the metal window spider. The ground floor windows have an internal plywood lining, which houses the blackout blinds.



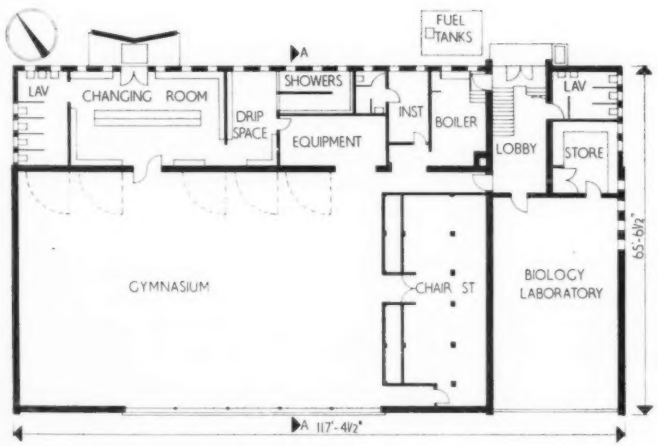
building illustrated



First floor plan



Viewpoint 3: the main entrance faces north-east and provides direct access to all sections of the building with the exception of the students changing room, the entrance to which appears extreme right. The low boundary wall in the foreground has been given an interesting texture by being laid in a series of diagonally bonded header courses set at an acute angle to one another.

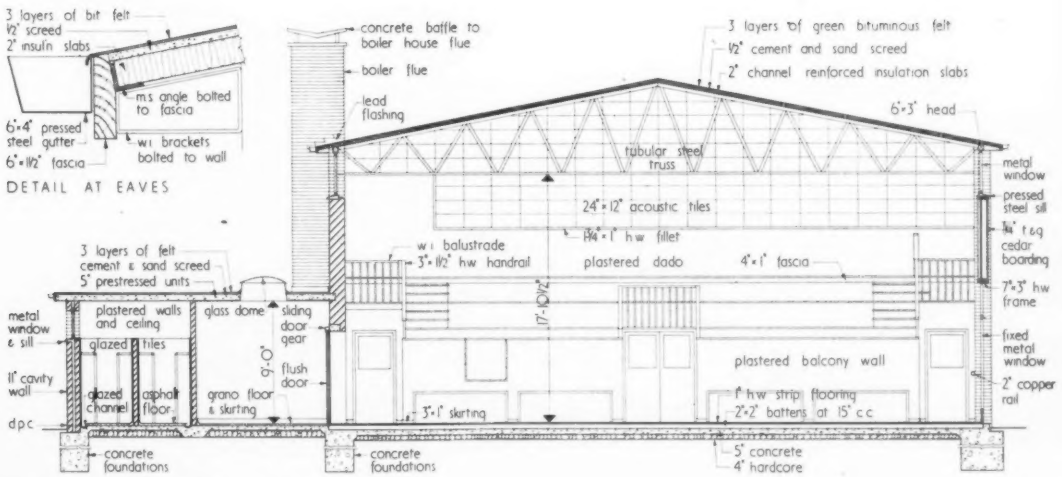


Ground floor plan [Scale: $\frac{1}{32}$" = 1' 0"]

GYMNASIUM

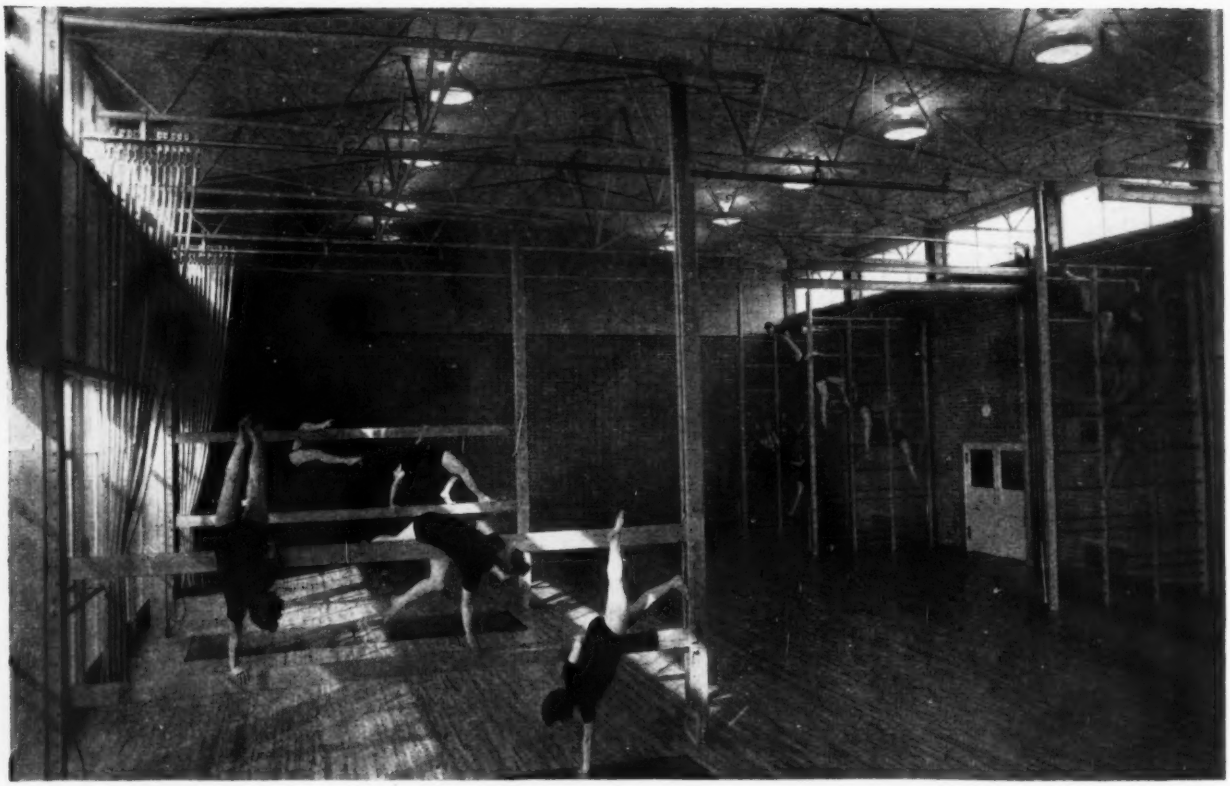
at WARWICK AVENUE, BEDFORD

designed by VINCENT GOODMAN, county architect

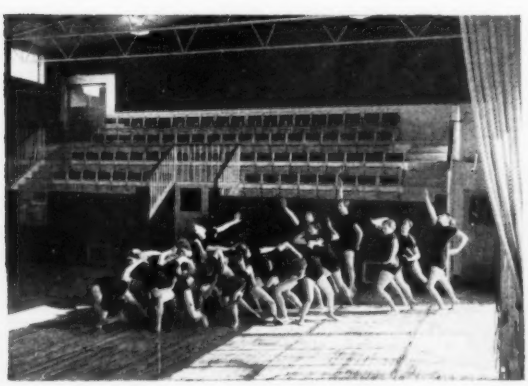


Section A-A [Scale: $\frac{1}{16}$" and 1" = 1' 0"]

building illustrated



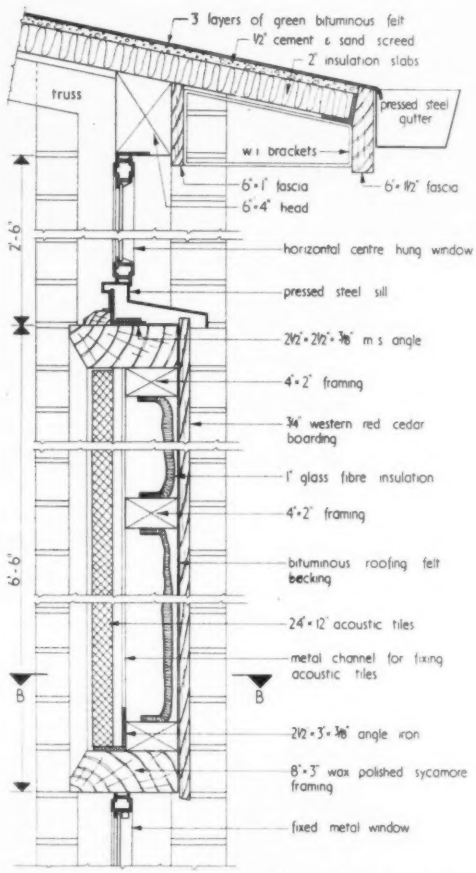
Above: a general view of the gymnasium as seen from the gallery. The walls are finished in grey sand-lime facing bricks, with perforated acoustic tiles at high level on the gable wall. Of particular interest are the hinged wall bar units seen on the right which can be wheeled into position at right angles to the wall allowing both sides of the unit to be used. Shoot bolts at the top and bottom of the outside upright engage in corresponding holes at beam and floor level thus ensuring adequate rigidity. Exposed woodwool roof slabs have been colour washed and from them are suspended the metal light fittings. The fittings are designed to offer maximum resistance to impact by virtue of a number of deep baffles following a pattern of concentric circles. Below left: the gallery is used by students under instruction and for visitors when gymnastic displays are given. The treads and risers are softwood supported on a timber framework with loads transferred through *in-situ* concrete lintols and brick piers. The space beneath the balcony houses heater cabinets and miscellaneous equipment. The chairs are tubular steel framed with canvas backs and seats. The hardwood floor is laid in narrow strips on a sub-structure consisting of softwood counter-battening through which warmed air is passed raising the floor temperature to that of the foot. The end wall is faced with rectangular perforated acoustic tiles. Below right: the laboratory is on the ground floor and is equipped with a proportion of standard metal storage units that are interchangeable and can be added to. These units occur beneath the continuous hardwood work tops forming two rows of students' benches. Sink wastes from the benches discharge into open glazed channels running down the length of the benches. The floor is finished with loliondo wood blocks which have also been used within duct rims over service trenches within the room. Full blackout is achieved by blinds set within a surrounding plywood baffle box, both faces fixed to the inside return edges of the window openings, or set on mullion lines in the case of the window wall end of the room.



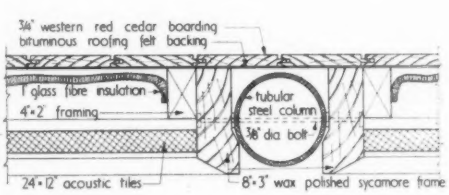
building illustrated

The art room, on the first floor, overlooks the college gardens and lawn to the south-west of the gymnasium. A large area of pin-up is dispered around the room and is fully used and appreciated by staff and students alike. The roof cladding of edge reinforced woodwool slabs is exposed within the room with the slab soffits skim rendered. A cork tile floor sealed and polished has been used and although a limited amount of clay modelling is undertaken, the floor has not suffered any apparent damage. All wall benching and loose storage fittings have been designed by the architect. One could describe the room when empty as colourless but it provides a most satisfactory background to students' work, when in use. The wall on the right consists of glazing and panels of compressed strawboard with a new woven-type of finish. These panels do not show pin marks and can be used for display.

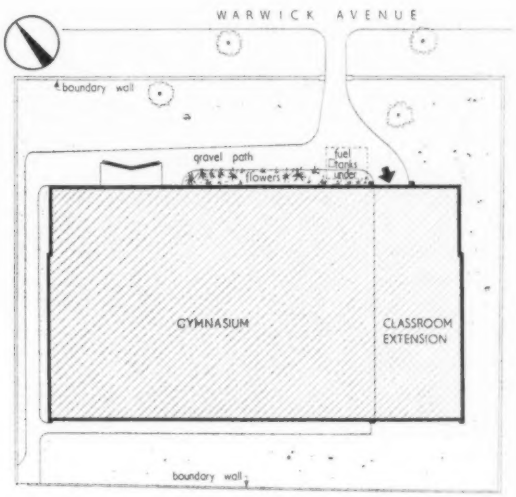
analysis



Part section through s.w. wall [Scale: 1" = 1' 0"]



Plan at level B-B [Scale: 1" = 1' 0"]



Site plan

GYMNASIUM

at WARWICK AVENUE, BEDFORD

designed by VINCENT GOODMAN, county architect

CLIENT'S BRIEF: his stated requirements

To provide a new gymnasium to replace the existing building, which was structurally unsound. The new gymnasium was to be designed basically for instruction, and to include an art room and biology laboratory. Particular attention was to be given to the acoustical treatment within the gymnasium.

SITE: topography, surroundings, access and planting

Area of site, 37 acres. Topography, level. Domestic property of various styles and periods. Access from main road (Warwick Avenue). Four existing trees on the site of which two were removed. Existing cordon fruit trees were retained around the existing boundary wall.

PLAN: general appreciation and relation of units

The gymnasium, art room and biology laboratory were sited to overlook the college garden with its sunny aspect. Changing rooms, lavatories, showers, boiler house and stores, all located on the north flank with high-level windows to ensure privacy. Direct access from gymnasium to changing room and instructors' room only. All work in the gymnasium is carried out in bare feet and therefore entrance direct on to gymnasium floor is not encouraged. Art room and biology laboratory designed to form a complete and separate unit with its own access and lavatory block.

MAIN CONSTRUCTION: general appreciation

Load-bearing brickwork calculated to take all live and dead loads with tubular steel columns to south wall of gymnasium, tubular steel trusses supporting roof slabs and covering.

analysis

	s	d
cost per sq. ft.		
preliminaries and insurances		2
contingencies	1	6

STRUCTURAL ELEMENTS

Work below ground floor level: foundation type, basement	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Strip	All main walls	Mass concrete		Heavy clay subsoil		
Pad	Columns in hall					
				work below ground floor level	4	8

External walls and facings	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Load-bearing walls	Generally	Purple-dusted rustic facing bricks generally, with buffs to south-west only				
Non-load-bearing	South-west elevation	Metal window sections and light r.s.s. glazed generally with spandril infill of clap boarding on sheet metal	Western red cedar boarding untreated. Exposed metal sections and sheet painted			
				external walls and facings	5	0

Frame or load-bearing element	*Location*	*Materials*	*Beam spans*	*Column grid*	*Reasons and comments*		
Steelwork	Gymnasium and art room	Tubular steel throughout. Ends of roof trusses continue through walls and support gutters, thus eliminating all gutter brackets	45 ft.	10 ft.	Tubular steelwork chosen to reduce dust collection on trusses at high level		
					frame or load bearing element	2	11

Upper floor construction	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Two-storey block	Over biology laboratory	Prestressed concrete beams		Gives flat ceiling with no exposed beams to biology laboratory		
Balcony	Gymnasium	Timber frame on brick piers		A cheap method of forming a tiered balcony		
				two storey block		10
				balcony		7

Staircases	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Two-storey block	Main entrance	Reinforced concrete	Non-slip tiles and risers	Both staircases designed to conform with fire regulations. Staircase from gymnasium gallery necessary as a secondary escape		
Gymnasium	Gymnasium gallery	Tubular steel balustrade with teak treads and landing				
				staircases		7

Roof construction	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Main roof	Gymnasium and two-storey block	2-in. channel reinforced wood-wool slabs	3-layer green bituminous felt throughout	Exposed wood-wool slabs in gymnasium used to assist in sound absorption		
Low level	Changing room block	Prestressed concrete beams				
				roof construction	4	10

Roof lights	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Rectangular	Changing room block	Rough-cast glass domes on galvanized steel curbs		Steel curbs galvanized to prevent rust formation over showers		
				roof lights		4

Windows	*Location*	*Materials*	*Finish*	*Reasons and comments*		
External	Throughout	Metal specially made to south-west elevation and main entrance. Standard elsewhere	Galvanized, painted			
				windows	2	6

External doors	*Location*	*Materials*	*Finish*	*Reasons and comments*		
North-east elevation	Main entrance	Metal and glass	Galvanized, painted	Designed with main entrance window as one unit		
	Changing room	1⅜-in. standard plywood flush doors with glazed panel	Painted			
				external doors		1

analysis

					s	d
Glazing	*Location*	*Materials*	*Finish*	*Reasons and comments*		
General	Art room and biology laboratory	32-oz. clear				
	Gymnasium	¼-in. plate Georgian wired		To prevent impact accidents		
	Changing room block	Spot-pattern, obscured				
				glazing		**6**

PARTITIONING

Internal partitions	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Solid	Generally	Brick	Fair-faced and plastered			
				internal partitions		**4**
Screens	*Location*	*Materials*	*Finish*	*Reasons and comments*		
	Art room	Glazed panels in soft-wood framing with 2-in. straw-board, fabric lined panels to store and heater surround	Soft wood painted	Lightweight screen required to reduce weight on prestressed concrete floor beams		
				screens		**1**
W.c. doors and partitions	*Location*	*Materials*	*Finish*	*Reasons and comments*		
	Throughout	Resin-bonded metal-faced plywood	Painted	Partitions raised off floor to assist in sweeping		
				w.c. doors and partitions		**4**
Internal doors	*Location*	*Materials*	*Finish*	*Reasons and comments*		
	Throughout	1¾-in. standard flush doors	Painted	Glazed upper panels with beads where required		
				internal doors		**3½**
Ironmongery to interna doors	*Loctiona*	*Materials*	*Finish*	*Reasons and comments*		
	Throughout	Metal	Satin chrome	Ironmongery now standard throughout college buildings		
				ironmongery to internal doors		**2**

FINISHINGS

Floor finishes	*Location*	*Materials*	*Finish*	*Reasons and comments*	s.	d.	
	Gymnasium	Loliondo hardwood narrow strip	Sealed		65	0	Gymnasium floor specially designed to predetermined moisture content for under floor heating
	Biology laboratory	Loliondo wood block	Sealed and polished		38	3	
	Art room	12-in. × 12-in. cork tiles	Polished		38	10	
	Elsewhere	Thermoplastic tiles			19	6	

The under-floor heating to the gymnasium is believed to be the first of its kind and as such was regarded as an experimental prototype. After consultation with both the "Forest Products Research Laboratory" and the flooring contractors, it was resolved that the following points would have to be co-related in order to ensure success. Moisture content of timber would have to be reduced to 9%. Careful balance would have to be maintained between summer and winter use. Timber would require to be of an extremely stable type, should be laid in narrow widths, and should be splinter proof. Narrow width loliondo was finally chosen, laid on softwood cross battens on rubber pads. Special precautions were taken to prevent hot spots where blown air is introduced below the floor, and since the installation, a careful watch has been kept for any undue movement of the floor, but none has occurred and to all intents the floor has proved a successful innovation.

				floor finishes	**5**	**1**
Wall finishes	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Internally	Gymnasium	Lilac grey sand-lime bricks	Fair-faced	Preferable to plaster where impact from balls is likely		
	Elsewhere	Plaster with glazed tile areas	Painted			
				wall finishes	**1**	**9**

analysis

					s	d
Ceiling finishes	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Roof slabs	Gymnasium and art room	2-in. woodwool slabs	Painted	Slabs in art room plaster skimmed		
Direct	Showers	Asbestos panels		To counter condensation		
Suspended	Elsewhere	Fibreboard	Painted			
				ceiling finishes		**4**
Decorations	*Location*	*Paint types*	*Munsell or other ref.*	*Colour scheme and comments*		
Gymnasium	Acoustic panels	Flat oil	Archrome jasmine yellow			
	Balcony	Flat oil	Black			
	Ceiling	Emulsion	Moonstone blue			
Art room and biology laboratory	Ceiling	Suede finish	Cream			
	Walls	Suede finish	Off-white			
	Doors	Suede finish	Pale blue			
				decorations	**1**	**3**

FITTINGS

Cloakrooms	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Cloak fitting	Changing room	Steel tubular welded for 150 cloaks	Painted	Cloak fitting designed to accommodate students cloaks only (residential quarters adjoin gymnasium)		
				cloak rooms		**2**
Other Fittings	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Laboratory benching	Biology laboratory	Metal	Stove enamelled	Hardwood tops		
Wall benching	Art room	Hardwood	Wax polished	Linoleum tops		
				other fittings	**5**	**0**
Gym. kit lockers and changing benches	*Location*	*Materials*	*Finish*	*Reasons and comments*		
	Changing room and drip space	Hardwood teak seats on cantilever wall brackets	Oiled			
				gym. kit lockers and changing benches		**3**

SERVICES

Plumbing: external	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Vent pipe	North-west elevation	Cast iron, LCC	Painted			
Rain water disposal	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Gutters and downpipes	Throughout	Pressed steel	Painted			
				plumbing: external rain water disposal		**5**
Plumbing internal: waste disposal	*Location*	*Materials*	*Finish*	*Reasons and comments*		
	Throughout	Copper	Burnished			
Hot water storage	*Location*	*Materials*	*Capacity*	*Reasons and comments*		
One indirect cylinder	Boiler room	Galvanized steel	200 galls.	Storage for lavatories and special shower equipment		
Cold water storage	*Location*	*Materials*	*Capacity*	*Reasons and comments*		
Open top cistern	Tank room high level over staircase	Galvanized steel	500 galls.			
Plumbing: sanitary fittings	*Location*	*Materials*	*Finish*	*Reasons and comments*		
	Lavatories	Low level w.c. suites with lavatory basins	White glazed			
	Showers	Run through showers comprising a framework of heavy gauge pierced copper tube providing jets at close centres at shoulder and calf level. Students pass between the shower tubes on a raised walkway covered with loose rubber spiked mats				
				plumbing internal, hot water storage, cold water storage, plumbing: sanitary fittings		**11**

analysis

Heating installation: heat exchanger type	*Location*	*Criteria temp.*	*Air change rate*	*Reasons and comments*	s	d
Forced air convectors Balanced louvres under convectors, control flow of hot air under floor	Throughout Gymnasium	55°-60°	3 air changes per hour	Thermostatically controlled to ensure correct temperature as required, and being thus controlled results in fuel economy		
Boiler type and capacity	*Location*	*Heat load and fuel type*	*Stoking method*	*Reasons and comments*		
Cast iron sectional	Boiler house	811,000 BTU per hour, 220 seconds viscosity oil	Fully automatic oil burners of pre-heating type	Boilers suitable for conversion to solid fuel oil burning, giving minimum labour costs and smokeless combustion		
				heating installation	5	11
Drainage: type of system	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Separate soil and rain-water to public sewers	General from building to sewers in Warwick Avenue	Salt glazed earthenware				
				drainage	1	4
Gas installation	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Metered from public supply	Preparation room	Black mild steel	Painted	To serve Bunsen burners on benches in biology laboratory		
				gas installation		1
Electrical installation: source and fitting type	*Location*	*Illumination level*	*Quality*	*Reasons and comments*		
Tungsten	High level in gymnasium buried in carcase of building elsewhere	Designed to comply with statutory requirements		Building designed for day and night use. Emphasis on protection of gymnasium electrical fittings		
Wiring and switching types	*Location*	*Materials*	*Finish*	*Reasons and comments*		
VIR cables in screwed conduit	Throughout	Flush MK plastic switches				
Power supply type	*Location*	*How distributed*		*Reasons and comments*		
230 volt single phase from local authority		To main switch panel in equipment store, thence to local fuse boards. Switchgear and distribution boards totally enclosed iron clad type				
				electrical installation	1	8
Paved areas	*Location*	*Materials*		*Reasons and comments*		
	Main entrance and surround paths, including front boundary wall	Tarmacadam and precast concrete edging				
				paved areas		10
				total net cost per sq. ft. of floor	50	8½

THERMAL INSULATION

Type	*Location*	*U-value*	*Reasons and comments*
Woodwool slabs	Roofs	0·2	

SPECIAL ACOUSTICAL TREATMENT

Sound absorption material	*Location*	*Absorption coefficient*	*Reasons and comments*
Perforated acoustic tiles	Panels to walls	0·76 at 500 cycles per second	Based on assumption of 100 persons in gymnasium, including spectators

FIRE

Structural precautions	*Grade of protection apparatus*	*Sprinklers*	*Reasons and comments*
	One hour		100-ft. hose reel on swivel bracket sited centrally
Planning precautions	*Access for fighting*	*Means of escape*	*Reasons and comments*
	Adjoining main road hydrant	External steel staircase from balcony	

analysis

TIME SCHEDULE

Drawings	*Tender date*	*Contract signed*	*Work commenced*	*Work completed*	*Type of contract*
June, 1953-February, 1954	January 24, 1954	March 17, 1954	June, 1954	December, 1955	RIBA with quantities

RATIOS

Area of enclosing walls / Total floor area	= 0·956 / 1	Area of windows (including external doors) / Total floor area	= 0·242 / 1
Area of solid wall / Total floor area	= 0·713 / 1	Total roof area / Total floor area	= 1·021 / 1

COST SUMMARY

Total ground floor area of superstructure	*Total floor area (excluding basement)*	*Tender cost of superstructure installations and finishings*	*Tender cost of foundations and basement tanking and duct covers*
7,314 sq. ft.	9,306 sq. ft.	£21,030	£1,450
Tender cost of ancillary buildings and external works drainage and gas supply	*Gross total cost*	*Cost per ft. super of floor area including basement*	*Cost per ft. cube including basement*
£1,100	£23,580	£2 10s. 8½d.	3s. 5d.

COST COMMENTS

The cost analysis shown indicates a low cost per foot superficial of floor area but this naturally results from the nature of the project which basically gives large areas with minimum complications occasioned by partitioning and service requirements, normally encountered in other and more elaborate schemes.

Points of especial interest are:

(*a*) The rate of 2d. per sq. ft. for preliminaries would indicate that these costs are partly distributed among the elements.

(*b*) The external carcassing including external solid walling, external windows, door and glazing results in a total of approximately 8s. per sq. ft. which, considering the high wall to floor ratio (nearly 1:1) produces overall, an extremely low cost of approximately 72s. per sq. yd.

(*c*) The floor finishes include an unusual construction in the timber selected for the gymnasium area for heating requirements. This reflects a higher cost than normal.

(*d*) The ceiling costs appear suspect on first inspection but considerable use has been made of dual purpose ceiling and roof construction, the roof in this instance bearing a high proportion of cost.

(*e*) The fittings to the laboratory block and art room are expensive in construction and finish in relation to the rest of the scheme. More detailed information would be required as to the number and types of fittings before these costs could be used even as a guide to any future schemes incorporating laboratories.

(*f*) In conclusion the accent upon neat clean detailing and simplicity in design has provided a building which, as reflected in the overall cost, gives "value for money."

SITE ORGANIZATION

Site labour and equipment: General foreman in charge of all trades, under supervision of contract manager. Site limitations did not allow for use of any large mechanical equipment, apart from small winch and brick hoist, concrete mixers, etc.

Sub-letting: Asphalt tanking (owing to specialist nature of work), and glazing (convenience, owing to large amount of plate glass of substantial area involved).

Job management: Incentive bonus paid on selected trades only, i.e., excavation, concrete, brickwork, steel erection and roofing. Direct liaison between contract manager and general foreman, involving approximately three visits per week.

CONTRACTORS

Clerk of Works: E. Murwood. *General contractors:* Lindum (Lincoln) Ltd. *Sub-contractors—*

Asphalt: Cambridge Asphalt Co. Ltd. *Reinforced concrete:* Twisteel Reinforcement Ltd., Concrete Ltd., and Dowmac Products Ltd. *Roofing felt:* Bedford Asphalt Co. Ltd. *Partitions:* Venesta Ltd. *Glass:* Ogden & Cleaver Ltd. *Patent glazing:* T. & W. Ide Ltd. *Wood-block flooring:* Horsley Smith & Co. *Artificial stone:* Leighton Buzzard Concrete Co. (1933) Ltd. *Structural steel:* Tubewrights Ltd. *Patent flooring:* Rowan & Bowden Ltd. *Central heating:* C. S. Thompson (Letchworth) Ltd. *Gas fitting:* Eastern Gas Board. *Electric wiring:* R. Clark. *Boilers:* Ideal Boilers & Radiators Ltd. *Oil-burning equipment:* Nu-Way Heating Plants Ltd. *Joinery:* R. V. Yoxen. *Tiling:* Carter & Co. Ltd. *Suspended ceilings:* Roof & Lining Construction Ltd. *Door furniture:* Dryad Metal Works Ltd. *Casements:* Crittall Manufacturing Co. Ltd. *Sanitary fittings:* Adamsez Ltd. *Forced-air convectors:* Fenton Byrn & Co. Ltd. *Gymnasium equipment:* Olympic Gymnasium Co. Ltd. *Sun blinds:* Northampton Sun Blind Co. Ltd. *Laboratory fittings:* Baird & Tatlock (London) Ltd. *Cloakroom fittings:* Parker, Winder & Achurch Ltd. *Acoustic treatment:* Horace W. Cullum & Co. Ltd. *Electric light fixtures:* Hume Atkins & Co. Ltd., and Courtney Pope (Electrical) Ltd.

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·WALPAMUR· OIL-BOUND WATER PAINT: PAINTING SPECIFICATIONS FOR VARIOUS SURFACES

For the preparation of Walpamur and Petrifying Liquid (or water) mixes see the reverse of this Sheet.

Surface	Preparation	Treatment
New surfaces not dry: lime plaster,* hardwall plasters, Portland cement rendering, brickwork.*	Remove plaster nibs, efflorescence and all loose material.	1st coat: Walpamur thinned with water. 2nd coat: Walpamur thinned with water. *This treatment applied when surface is dry but still alkaline.
New surfaces dry and chemically neutral: lime plaster, hardwall plasters, Portland cement rendering, brickwork, masonry, rough-cast mortar, asbestos-cement sheets.		1st coat: Walpamur thinned with Walpamur Petrifying Liquid 2nd coat: Walpamur thinned with Walpamur Petrifying Liquid. If surface is very porous specify one coat Walpamur Primer and two coats Walpamur thinned with Walpamur Petrifying Liquid. If two-coat work on a porous surface is required omit third coat and specify Walpamur Tinted Primer for 1st coat.
New surfaces dry but still alkaline: Portland cement rendering, asbestos-cement sheets.		1st coat: Alkali-resisting Primer. Allow to dry thoroughly. 2nd coat: Walpamur thinned with Walpamur Petrifying Liquid. 3rd coat: Walpamur thinned with Walpamur Petrifying Liquid.
New surfaces dry and chemically neutral: Keene's cement, Parian cement, fibrous plaster.		1st coat: Walpamur Primer. 2nd coat: Walpamur thinned with Walpamur Petrifying Liquid. 3rd coat: Walpamur thinned with Walpamur Petrifying Liquid. On Keene's and Parian cement the Walpamur Primer should be reduced to a very thin consistency with white spirit (approximately 1 to 1½ pints white spirit to 1 gallon of Primer).
Water-painted surfaces (all types) in bad condition.	Wash down with warm water. Scrape to remove loose material. Remove grease. Allow to dry. Glass-paper where flaking has occurred to merge edges and dust down.	1st coat: Walpamur Primer. 2nd coat: Walpamur thinned with Walpamur Petrifying Liquid. 3rd coat: Walpamur thinned with Walpamur Petrifying Liquid.
Water-painted surfaces (all types) in good condition.	Wash down with warm water. Remove grease. Allow to dry.	1st coat: Walpamur thinned with Walpamur Petrifying Liquid. 2nd coat: Walpamur thinned with Walpamur Petrifying Liquid.
Size-bound distempered or limewashed surfaces (all types).	Scrape thoroughly and wash off with warm water to remove loose material. Remove grease. Allow to dry.	1st coat: Walpamur Primer. 2nd coat: Walpamur thinned with Walpamur Petrifying Liquid. 3rd coat: Walpamur thinned with Walpamur Petrifying Liquid.
Oil-painted surfaces (all types) old and without elasticity.	Wash down with warm water and rub down wet. Remove grease. Allow to dry.	1st coat: Walpamur thinned with Walpamur Petrifying Liquid. 2nd coat: Walpamur thinned with Walpamur Petrifying Liquid.
Papered surfaces with paper firmly adhering. Colour of paper not likely to bleed.	Brush down to remove dust.	1st coat: Walpamur thinned with Walpamur Petrifying Liquid. 2nd coat: Walpamur thinned with Walpamur Petrifying Liquid. If very absorbent, prime with Walpamur Tinted Primer and follow with one or two coats of Walpamur thinned as above.
Papered surfaces with paper firmly adhering. Colours liable to bleed, *e.g.*, red, green, mica, gold, etc.	Brush down to remove dust. Treat bleeding colours with one thin coat Stop Tar Knotting No. 5075. Allow to harden.	1st coat: Walpamur Tinted Primer. 2nd coat: Walpamur thinned with Walpamur Petrifying Liquid. If the whole of the surface is coated with Stop Tar Knotting omit Walpamur Primer and apply two coats of Walpamur thinned as above.
Woodwork and/or wallboards: unpainted.	Glass-paper to remove loose particles. Treat knots one coat No. 5014 genuine shellac knotting. Allow to harden.	1st coat: Walpamur Primer. 2nd coat: Walpamur thinned with Walpamur Petrifying Liquid. 3rd coat: Walpamur thinned with Walpamur Petrifying Liquid. If two coats only are required omit third coat and specify Walpamur Tinted Primer for priming coat.

38.B1 ·WALPAMUR· OIL-BOUND WATER PAINT

This Sheet describes Walpamur Oil-Bound Water Paint and ancillary materials and sets out in tabular form the appropriate specifications for treating a number of types of surface.

General

Walpamur Oil-Bound Water Paint is prepared for use by thinning with Walpamur Petrifying Liquid or water. Correctly thinned and applied it produces a smooth matt finish, which is hygienic, durable and fire-retarding. Walpamur is generally used for interior work but a special quality is made in suitable colours for exterior use. Exterior quality Walpamur must be specified to be thinned with Walpamur Petrifying Liquid. It should not be applied during damp or frosty weather.
Walpamur Oil-Bound Water Paint has been awarded the Blue Sealed Certificate of the Royal Institute of Public Health and Hygiene.

Materials

Walpamur: The basic material, in paste form, is supplied in a wide range of colours all of which are intermixable. It should be protected from frost and extreme heat during storage.

Walpamur Petrifying Liquid: Used as a thinner for Walpamur this liquid adds to its durability and tends to improve its appearance by checking surface porosity. It also increases smoothness of working and thus enables greater spreading capacity to be obtained than when water is used for thinning. Walpamur Petrifying Liquid is intended only as a thinner for Walpamur and not as a preparatory or priming coat to be used alone.

Walpamur Primer: This is a specially prepared oil medium possessing properties which enable it to penetrate porous surfaces and seal loosely-bound particles remaining after removal of lime-wash, size-bound distempers, etc. It stops surface porosity and provides a satisfactory foundation for Walpamur.
It is supplied in transparent form and also in a range of tints suitable for use with standard tints of Walpamur.

Walpamur Stainers: These are manufactured for producing special tints which cannot conveniently be obtained by intermixing standard tints of Walpamur. No other form of stainer should be used. These stainers possess powerful staining properties and can be used alone for decorative work, such as picking out, stencilling, etc.

Preparation and Application

Brushing: Coats should be liberally applied and laid off evenly; a 7-in. flat distemper brush is most suitable for general use. At least 24 hours should be allowed between coats. The Walpamur paste should first be beaten up and stirred until it is reduced to a smooth, thick, creamy consistency and then thinned slowly with Petrifying Liquid or water in the proportion of approximately 2½ gallons to 1 cwt. of Walpamur (overthinning should be avoided).

Spraying: Coats should be liberally applied, and the first coat allowed to dry before the next is applied. The Walpamur paste should be thinned as above with Petrifying Liquid or water in the proportion of approximately 3 to 3½ gallons to 1 cwt. of Walpamur (avoid overthinning). It is advisable then to strain the Walpamur to ensure freedom from particles which might block the spray-gun nozzle.

Stippling: For general work, Walpamur does not require stippling but the finishing coat may be so treated if desired.

On no account should any surface be sized prior to the application of Walpamur

Spreading capacity: On normal smooth surfaces 1 cwt. of Walpamur thinned with Walpamur Petrifying Liquid will cover approximately 350 sq. yards, in two coats, by brushing process. Considerable porosity or roughness of surface naturally decreases the spreading capacity.

Further Information

The manufacturer maintains Advisory and Interior Design Departments which are available for advice on technical problems relating to paints and painting and the preparation of specifications and colour schemes. *Paint Specifications*, a booklet containing fully detailed specifications and useful technical information is available from the manufacturer.

Compiled from information supplied by:
The Walpamur Company, Ltd.
Head Office, Works and Advisory Department: Darwen, Lancs.
Telephone : Darwen 662.
London Office : 125, High Holborn, London, W.C.1.
Telephone : Holborn 4615.

WATER HEATING | UNITS GAS

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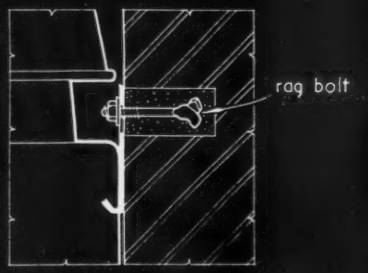
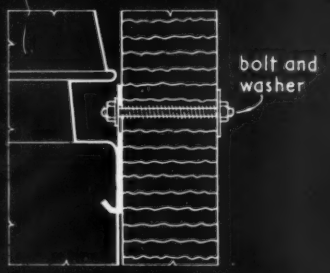
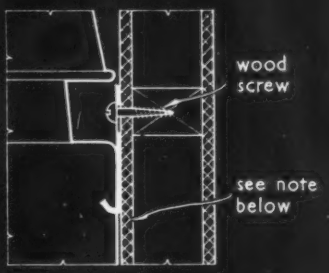


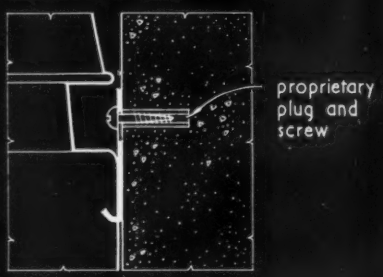
BRICK OR CONCRETE.



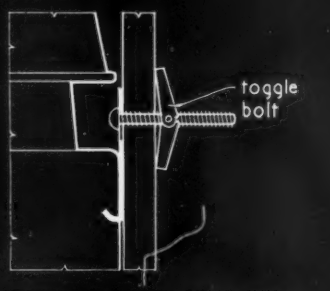
HOLLOW TILE OR PROPRIETARY BLOCKS



TIMBER-FRAMED PARTITION.



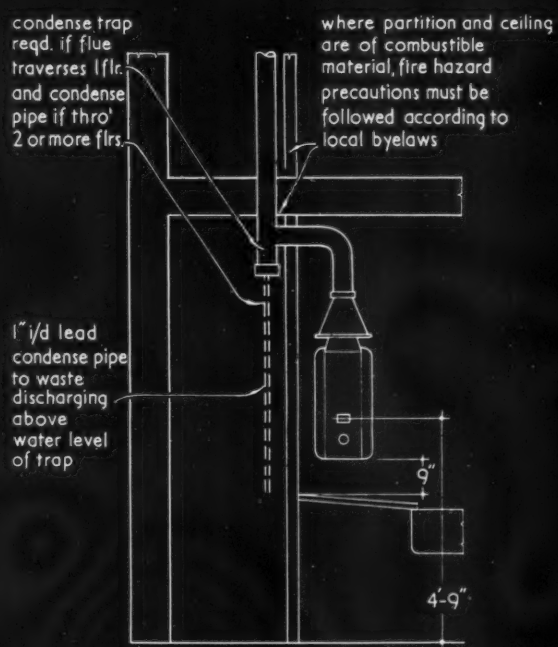
BRICK OR CONCRETE.



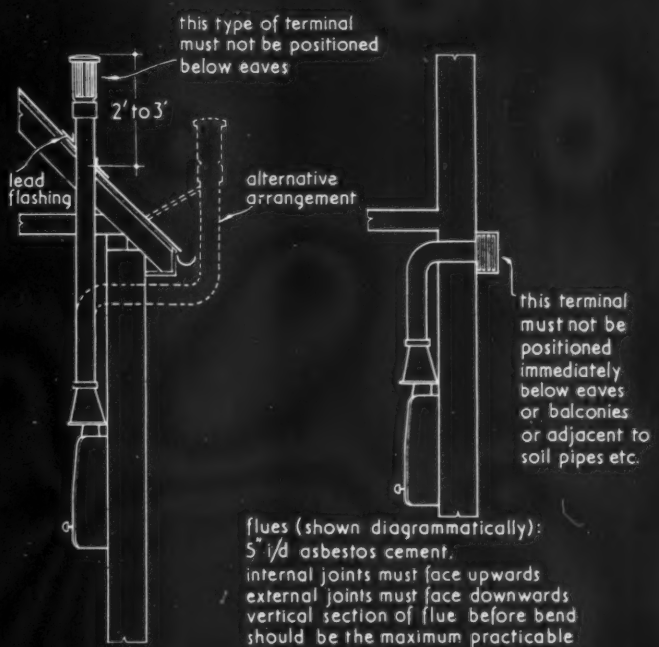
PREFABRICATED PARTITION.

note: the covering to a timber-framed partition should be fire-resisting e.g. asbestos cement, flame-proofed fibreboard, plasterboard or metal panelling

METHODS OF FIXING HEATERS TYPE 709, 709B AND SG32/1.



FLUE BUILT INTO CUPBOARD.



FLUE WITH G.L.C. UPRIGHT TERMINAL.

FLUE WITH VENTILE OR AEROLETE TERMINAL.

SINGLE FLUE ARRANGEMENTS FOR HEATERS TYPE 709, 709B AND SG32/1.

'ASCOT' INSTANTANEOUS GAS WATER HEATERS: INSTALLATION DATA 1.

Manufacturer: Ascot Gas Water Heaters Ltd.

32.C27 ·ASCOT· INSTANTANEOUS GAS WATER HEATERS: INSTALLATION DATA 1

This Sheet gives installation data for Ascot instantaneous gas water heaters, where individual gas, water and flue services have to be provided for each heater. Sheet 32.C28 describes installations where gas, water and flue services can be grouped. For general particulars of Ascot heaters see Sheets 32.C20, 32.C21, 32.C22, 32.C24, 32.C31 and 32.C32.

Houses

Multi-point services can be provided by types 709 and 709B, either as the sole source of hot water supply or connected as an alternative system—see Sheets 32.C23 and 32.C25. Single points can be supplied by a sink heater selected from the 503 range, boiling water heater type 509 or bath heater type SG32/1, again as the only source of hot water supply, or used as an auxiliary to a boiler system.

Flat Conversions

The existing layout usually controls the arrangement of the services and the grouping of points for supply from a central source becomes difficult, and is often undesirable since separate metering may be required for each flat. The available space for the provision of hot water storage may also be limited. Ascot gas water heaters, however, are of compact design, require no floor space, and can be effectively employed either for single or multi-point hot water supply to individual flats. Installation is simple, as existing pipework can often be used, provided this is in good condition, and that any dead lengths of piping, etc., are sealed off. Reference should be made to Sheet 32.C25 for calculating whether the head available for a multi-point heater type 709 is adequate in respect of pipe sizes and runs.

If the existing piping is in lead, and the heater is to be supplied from the cold water mains, it should first be determined that the piping is of sufficient weight to withstand the mains pressure.

Office Buildings, Factory Ablutions, Shops, etc.

Where it is desirable to supply fitments by independent means rather than from a central plant, then Ascot gas water heaters can be installed to provide hot water to satisfy the requirements of the Factory Acts and The Food and Drug Acts.

Installation

The respective local authorities or gas undertakings should be consulted at an early stage, and the requirements of any local bye-laws should be noted.
Position: All heaters should be installed with the burner level approximately 4 ft. 9 in. above the floor to facilitate regulation and maintenance, at least 9 in. being allowed between the base of the heater and any draining board. Heaters must not be installed above cookers or boilers.

Fixing

Types 709, 709*B and SG*32/1.—See diagrams.
Types 503 *range and* 509.—These heaters should be supported by the gas and water piping which should be firmly secured, provision being made for a steadying clip at the back of the outer shell. The use of elbow union and wall plates assists rigidity. Ascot fixing clips and wall plates are available or the jigged wall fitting described on Sheet 32.C34.

Gas Services

Piping of the sizes given below is normally required:

Length of run from meter to heater	Heater Type	
	503 range 509	SG32/1 709 and 709B
Up to 15 ft.	½ in. i.d.	¾ in. i.d.
15 ft.-30 ft.	¾ in. i.d.	1 in. i.d.
Over 30 ft.	1 in. i.d	1¼ in. i.d.

Heaters should preferably be supplied from an independent service, but any piping serving other appliances should be graded correspondingly larger.

Water Services

Piping of the sizes given below is normally required:

Heater type	Length of pipe run	Minimum constant water pressure available.				
		Tank supply (ft./head)		Mains supply (lb./sq. in.)		
		Up to 25	25-40	10-30	30-50	Over 50
709 and SG32/1	Up to 25 ft.	¾ in.	—	¾ in.	½ in.	½ in.
	25-50 ft. ..	1 in.	¾ in.	¾ in.	¾ in.	½ in.
709B ..	Up to 25 ft.	—	—	¾ in.	½ in.	½ in.
	25-50 ft. ..	—	—	¾ in.	—	—
503 range and 509	Up to 25 ft.	½ in.	—	½ in.	½ in.	½ in.
	25-50 ft. ..	¾ in.	½ in.	½ in.	½ in.	½ in.

Type 709 and 709B—pipe runs include both cold supply and hot draw-off piping. Branches to basin and sink (max. total 10 ft.)—½-in. piping.
Types 503 range, 509 and SG32/1—pipe sizes refer to cold supply only.

Flues

Types 709, 709*B and SG*32/1.—These heaters require a 5-in. i.d. flue of acid-resisting material to discharge the products of combustion to the open air. British Standard Codes of Practice recommend that flues for instantaneous gas water heaters in new buildings should be integral with the structure—see Sheet 32.C28—or, alternatively, carried up inside the building, but where neither of these methods is possible, an independent asbestos-cement flue may be fitted, the flue being terminated with an external terminal of approved pattern (see diagrams on the face of the Sheet).

Galvanised iron, or unglazed brick flues should not be used.

Types 503 *range and* 509.—These heaters do not normally require a flue installation, but where the duration of a single operation is likely to exceed 10 minutes, or where ventilation is inadequate, a flue should be fitted. A draught diverter for 3-in. internal diameter flue piping is available.

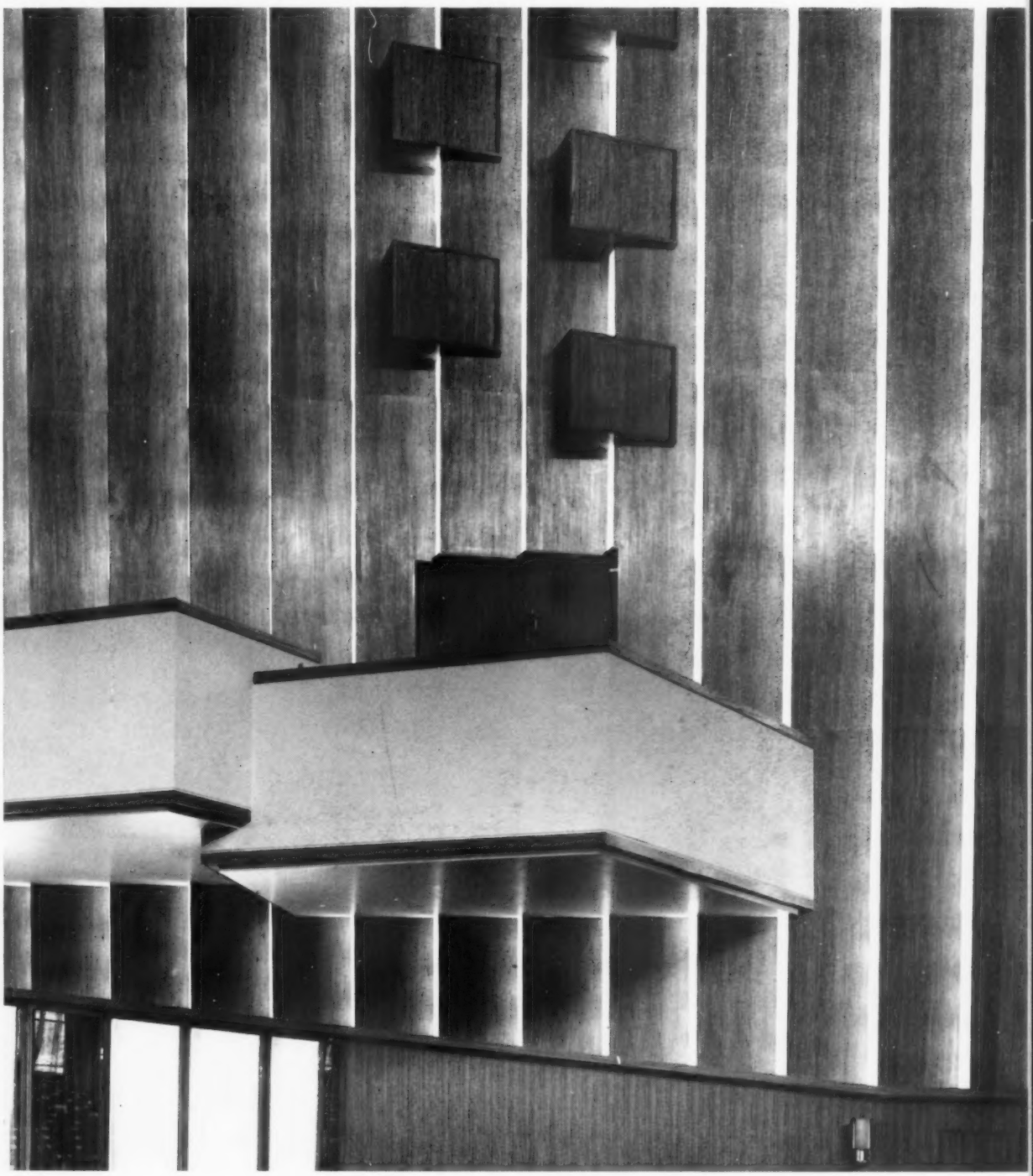
Compiled from information supplied by:

Ascot Gas Water Heaters, Ltd.
Head Office and Works: 255, North Circular Road, Neasden, London, N.W.10.
Telephone: Willesden 1234.
Telegrams: Gascot, Phone, London.
Branch Offices and Service Depots: Birmingham, Bournemouth and Glasgow.
Service Depots: Belfast, Bristol, Cambridge, Manchester, Oxford, Reading, Southampton, Sunderland, Stoke-on-Trent and Jersey.

working detail

SIDE LIGHTING: CONCERT HALL IN COPENHAGEN

Frits Schlegel and Hans Hansen, architects (material supplied by D. J. Leadbetter)

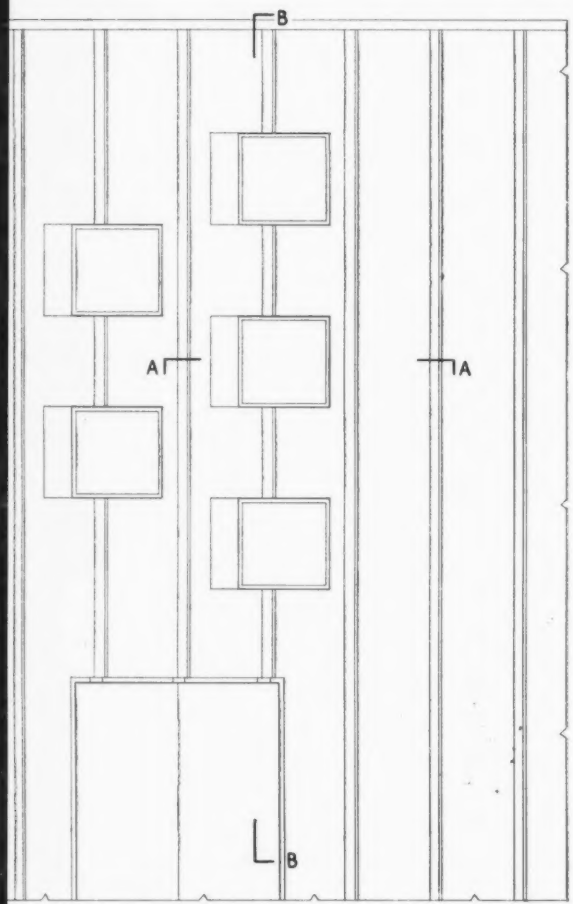


The interior of this concert hall was built inside a pre-existing concrete shell. The zigzag profile of the walling on plan and the forward tilt of the inner surface of the wall are for acoustic reasons. The vertical lighting troughs are glazed with translucent plastic panels each about 4 ft. high. These panels overlap one another and each can be slid sideways and lifted out to give access to the bulbs. Ventilation holes at the foot of the false wall ensure that a current of air passes over the lamps and thus ensure long life.

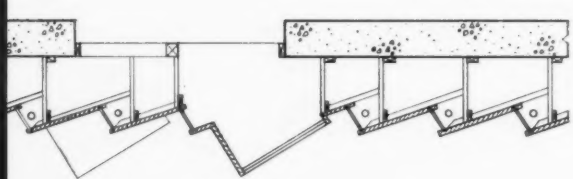
working detail

SIDE LIGHTING: CONCERT HALL IN COPENHAGEN

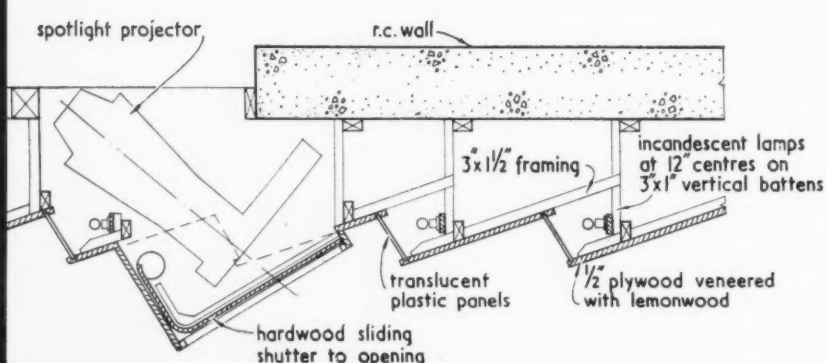
Frits Schlegel and Hans Hansen, architects (material supplied by D. J. Leadbetter)



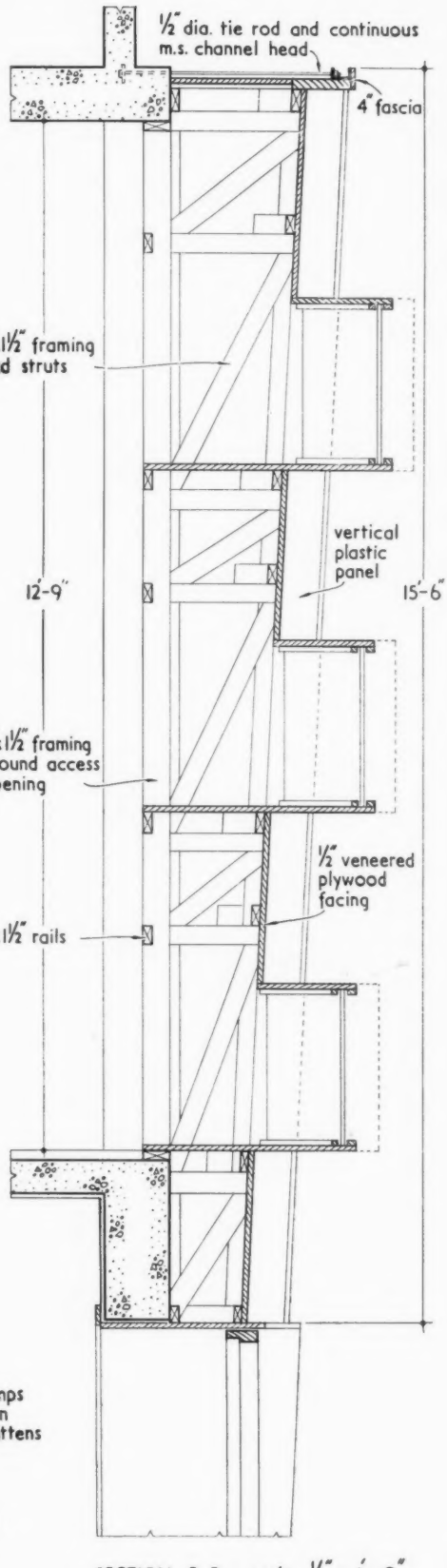
ELEVATION. scale ¼" = 1'-0"



PLAN. scale ¼" 1'-0"



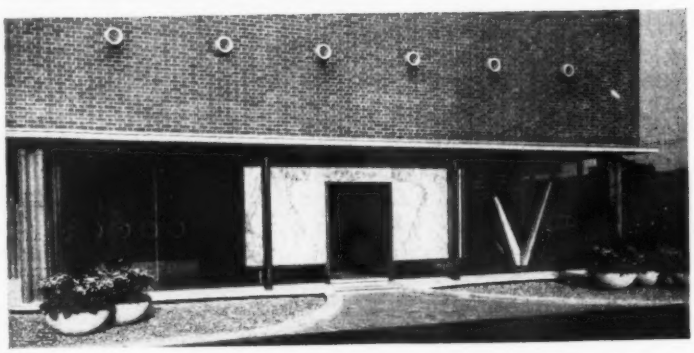
PLAN AT A-A.
scale ½" = 1'-0"



SECTION B-B. scale ½" = 1'-0"

note: dimensions figured in feet and inches are approximate

OFFICES, CANTEEN AND FACTORY AT BRISTOL



An extension was required to Messrs. Carson's premises at Shortwood, Bristol, to provide offices, canteen and production space for the manufacture of chocolates and confectionery. The four-storey block, left, is linked to the existing premises by three bridges, clad with corrugated aluminium on timber framing and supported by wide steel girders. The building, which was designed by Angus McDonald and Partners, contains, on the ground floor a production area for the manufacture of pastilles, with cloakrooms and main entrance, below left; on the first floor, further production space and storage; on the second floor, canteens and kitchens, and on the third floor, offices and executives' canteen. The entire building is steel framed, with clear floor areas, so that changes in production or administration can be catered for by moving light demountable partitions. Externally the two long façades are entirely clad with curtain walling. Inside the main entrance there is a large hall used for display and also containing a prefabricated staircase with tubular steel strings, hardwood treads, and a V-shaped tubular steel landing support, seen on the right in both photographs. The production floors are finished with quarry tiles.

SHOP AT BRIGGATE LEEDS, YORKSHIRE

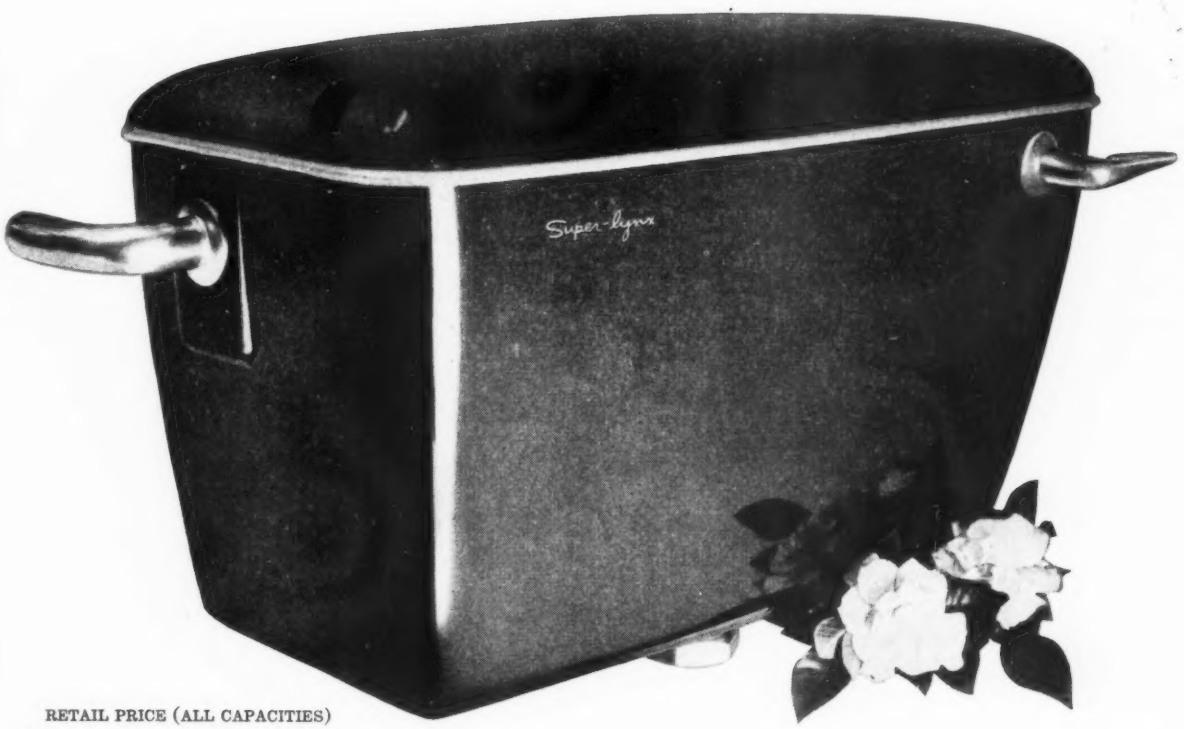
In the issue of the JOURNAL *for December 27, 1956, photographs and a brief description of the new shoe shop at 56 Briggate, Leeds, were illustrated on page 928. Left, a view of the main façade of this building, which was designed by J. G. L. Poulson. The internal finishings, furnishings and shopfitting were designed by T. H. M. Partners, with B. G. Nichclass (staff architect to the clients, William Timpson Ltd.) as consulting architect. Existing premises on the site, dating from the 16th century, were demolished and a new basement was excavated. The new building is steel framed with all steelwork encased in concrete and with precast concrete floor construction. The front façade is faced with Portland stone on the upper floors and dark red Rosso Levanto marble on the ground and first floors. The general contractors were Wm. Irwin & Co. Ltd.*

Now – by Shires

the super-efficient super-smart

Super-lynx

A cistern has to be good for its manufacturer to guarantee it for five years. Which is precisely what Shires do with their new 'Super-lynx'.
Inside and out the 'Super-lynx' really is an outstanding job—one which you will be pleased to specify for initial installation or for replacement. High and low level models are available in extra-high gloss black Duranite and white Keramic ware. The low level model has gold-lustre beading, operating lever and flush pipe. The high level model has a gold-lustre lever mechanism and chain with coloured acrylic handle. Matching flush pipe for the high level model can be supplied at extra cost.
The 'Super-lynx' is fitted with the rustless, unbreakable, silent flush-at-a-touch 'Kingfisher' syphon mechanism. Powerful flush syphon to B.S.S. 1125 and water works specifications.
Capacities 2, 2½ and 3 gallons.



RETAIL PRICE (ALL CAPACITIES)
Low Level 187/- High Level 140/-

made by **Shires** *for your convenience*

Shires are the largest manufacturers of flushing cisterns in the world. They also make W.C. pans and seats, pipes, wash-basins and complete W.C. suites. Full details and trade terms from: **Division A, Shires & Co. (London) Limited, Greenbottom Works, Guiseley, Yorks.** (Also at London, Stoke, Birmingham & Glasgow.

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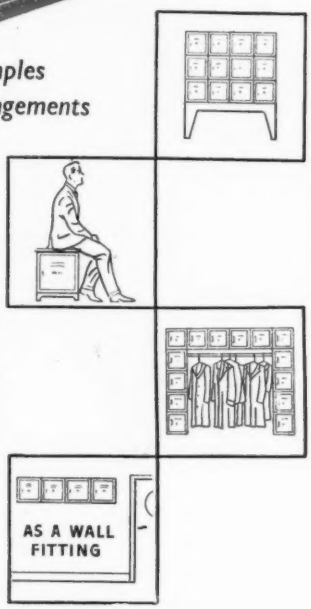
The NEW "SQUARE DEAL"

INTERLOCKER

PATENT NO. 763504

will save you valuable production space

Here are a few examples showing various arrangements that can be achieved by INTERLOCKER



Rigidly interlocking by patented device, these sturdy steel cube lockers offer endless possibilities for space saving. Stove enamelled in choice of attractive colours. Firmly closing door, fitted with either chromium plated finger pull and ball catch or English 6 lever lock. Extra parts provide for coat hanging and seating. Made in two sizes 12in. or 15in.

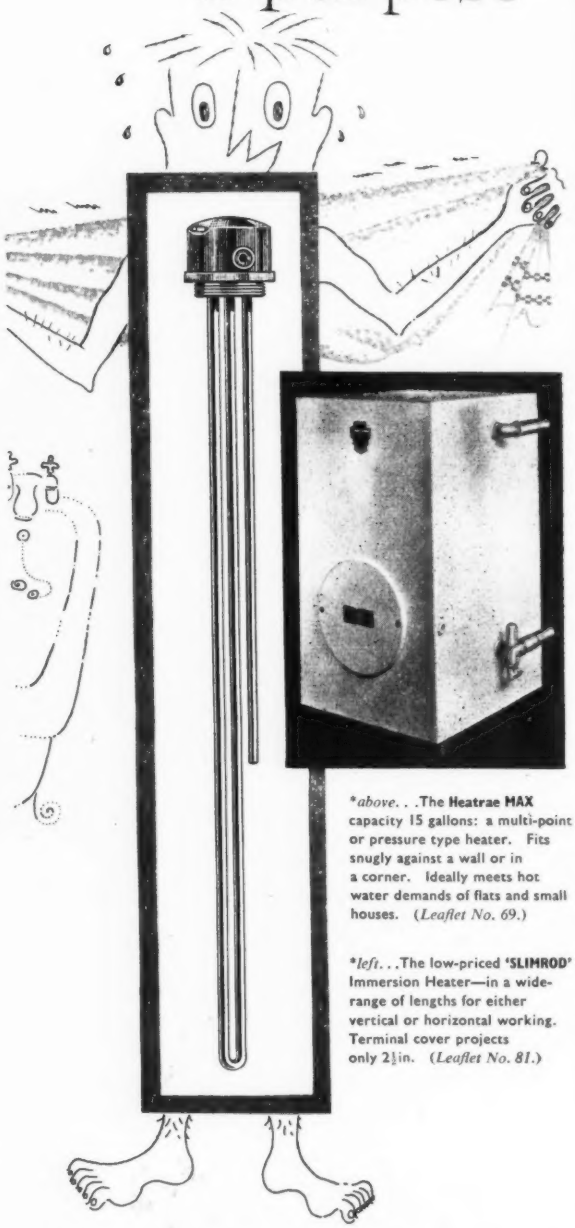
HELMSMAN PRODUCTS

W·B·BAWN

& COMPANY LIMITED

Blackhorse Lane, London, E.17. **Telephone: LARkswood 4411/4**

planned for a purpose



above. . .The **Heatrae MAX capacity 15 gallons: a multi-point or pressure type heater. Fits snugly against a wall or in a corner. Ideally meets hot water demands of flats and small houses. (*Leaflet No. 69.*)*

left. . .The low-priced **'SLIMROD' Immersion Heater—in a wide-range of lengths for either vertical or horizontal working. Terminal cover projects only 2½in. (*Leaflet No. 81.*)*

Like all **Heatrae** products, those shown here will give years and years of faithful, trouble-free service in the job for which they were designed. The **MAX** is only one of an extensive range of **Heatrae** electric water heaters, each planned to meet a specific requirement.

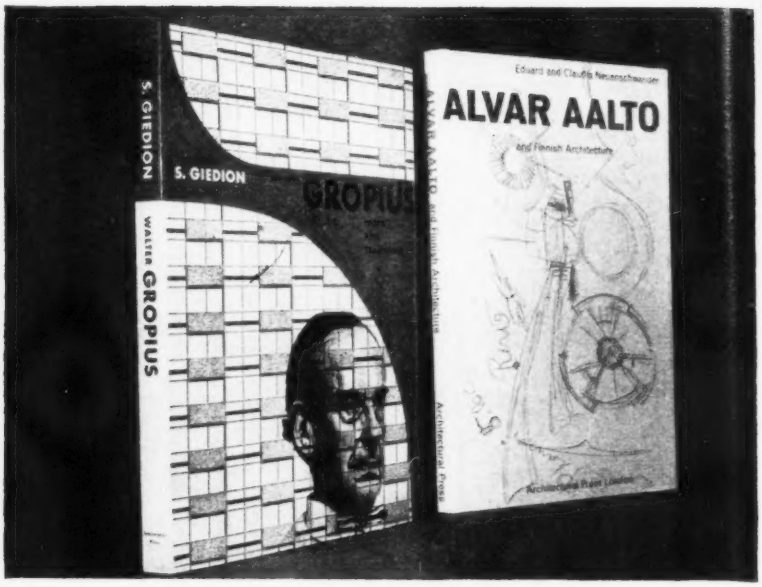
Ask us to send you Leaflets giving fullest details.

Heatrae

HEATRAE LIMITED NORWICH

Established in 1920. Pioneers in All-British Electric Water Heaters.

Manufacturers of: Electric Water Heaters, Immersion Heaters, Oil Heaters, Urns, Towel Rails, Electric Fires, Breakfast Cookers, Flameproof Heating Apparatus, Airing Cupboard Heaters, Food Trolleys, Warming Plates, Air Heaters, etc.



BOOKS ABOUT TWO GREAT ARCHITECTS

WALTER GROPIUS: WORK AND TEAM-WORK

by Dr. S. Giedion

THE MOST IMPORTANT BOOK yet written about one of the greatest living architects, by one of the most widely-read writers on architects and architecure. The author of *Space, Time and Architecture* pays tribute to the creative genius of a world-renowned pioneer of the modern movement, his friend Walter Gropius—who, in January, 1954, was awarded the first São Paulo Prize for Architecture in recognition of his work as an innovator and educator during the past half-century. Dr. S. Giedion, at the instigation of the Matarazzo Foundation of São Paulo (donor of the prize) writes a detailed, authoritative study of Gropius' development as designer, teacher and leader and illustrates his account with over 300 photographs and plans of buildings and projects for which Gropius has been responsible, either alone or—practising one of the principles he has so vigorously preached for many years—as a leading member of a creative team of designers.

Chapters on Gropius' background, heritage and personality are followed by appreciations from two of his greatest contemporaries, Mies van der Rohe and Le Corbusier. The 11 chapters on his life and work include Gropius and the Bauhaus, Buildings for Education, Buildings for Industry, the Modern Theatre, Prefabricated Houses, Development of the Slab Apartment Block, the Changing Structure of the City. Then follow over 140 pages of illustrations of Gropius' work, by far the most comprehensive collection ever published. The book ends with a complete list of Gropius' works, bibliographies of all his books and other writings, and of books and critical articles about him and his work: and an index. Size 10¼ ins. by 7⅞ ins. 248 pages with over 300 line and halftone illustrations, and a full list of Gropius' works and projects, bibliographies of works by and about Gropius. Price 42s. net, postage 1s. 5d.

ALVAR AALTO AND FINNISH ARCHITECTURE

by E. and C. Neuenschwander

THIS WORK by Eduard and Claudia Neuenschwander gives an insight into a frontier of Western civilization where some of the most interesting works of the modern movement have been created, and where today an entirely new architectural generation, inspired by Alvar Aalto, receives professional training and stimulation probably unequalled elsewhere. First place in Finnish society belongs not to the manager or the politician but to the intellectual and the creative genius. And the architect shaping the environment and many of the accessories of modern living is held in particularly high esteem. Without many words, through careful choice of photographs, sketches and detailed plans, the authors clearly show how Aalto's creative power impresses itself on the landscape and way of life of Finland, and how this creative power organically evolves from the country's peculiar regional characteristics.

Eduard Neuenschwander worked in Alvar Aalto's office for three decisive years, decisive because during these years Aalto became absorbed with the design of large-scale projects. Aalto had, of course, worked on large-scale projects before: but now realization immediately followed the drafting stage. Aalto almost deliberately destroyed his sketches and plans. Even photographs of his major works are extremely rare. This book—possible only because Neuenschwander, in daily working contact with Aalto, succeeded in collecting and preserving original material—shows the great works and projects completed from 1950 to 1952 as well as numerous earlier buildings, and is thus a unique document and a standard work for every architect. Text and captions are printed in English, French and German simultaneously. Size 10⅞ ins. by 7⅛ ins., 192 pages with approximately 300 photographs, plans and detailed layouts. Price 50s. net, postage 1s. 3d.

THE ARCHITECTURAL PRESS, 9-13, QUEEN ANNE'S GATE, LONDON, SWI

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 CORPORATION OF GLASGOW ARCHITECTURAL AND PLANNING DEPARTMENT ASSISTANT ARCHITECTS ASSISTANT PLANNERS ASSISTANT QUANTITY SURVEYORS

Vacancies exist for a number of Assistants as above and for Architectural Assistants. Minimum qualification, Intermediate Examination of the appropriate professional body. Salary scale £580—£1,100 per annum, with placing according to age, experience and qualifications.

Form of application may be obtained from the Principal Administrative Officer, 20, Trongate, Glasgow, C.1. 4745

COUNTY BOROUGH OF WEST HAM BOROUGH ARCHITECT AND PLANNING OFFICER'S DEPARTMENT.

Applications are invited from Architects and Planners for the following permanent appointments at salaries shown (including maximum London allowance):—

DEPUTY GROUP ARCHITECT (3 posts), Grade V (£844 17s. 6d.—£1,024 5s. p.a.).

ASSISTANT ARCHITECT (2 posts), Grade IV (£757 15s.—£937 2s. 6d. p.a.).

ASSISTANT PLANNING OFFICER, Grade V (£844 17s. 6d.—£1,024 5s. p.a.).

The County Borough has an extensive reconstruction and slum clearance programme, and offers varied and interesting work.

Application forms and details from the Borough Architect and Planning Officer, Thomas E. North, O.B.E., F.R.I.B.A., Dist.T.P., M.T.P.I., 70, West Ham Lane, Stratford, E.15, to be returned by 22nd January, 1957. 4849

CAERNARVONSHIRE COUNTY COUNCIL

Applications invited for posts of ASSISTANT ARCHITECTS in the County Architect's Department at a commencing salary of £922 per annum, in A.P.T. V (£814—£994).

Further particulars and application forms from Clerk of County Council, Caernarvon. Closing date: 16th January, 1957. 4837

GOVERNMENT OF WESTERN NIGERIA ARCHITECT, PUBLIC WORKS DEPARTMENT

To prepare sketch plans, working drawings and detailed specifications for various types of buildings and carry out the general work of a busy Architectural Office.

Contract appointment. Salary range £1,410—£2,076 p.a. Gratuity £37 10s. for each completed three months' resident service.

Free passages for officer, wife and up to 3 children under 13. Government quarters, if available, at low rent. Generous leave. Low income tax.

Candidates must be A.R.I.B.A. with two years' experience since qualification.

Write Director of Recruitment, Colonial Office, London, S.W.1, giving age, qualifications and experience, quoting BCD.112/410/08. 4889

LONDON COUNTY COUNCIL

Brixton School of Building, Department of Architecture and Surveying. SENIOR LECTURER in Architecture with good academic qualifications, good industrial and some teaching experience; for courses in Architecture especially Design for full, part-time day and evening students, including lecturing on appropriate professional subjects. Should have specialised knowledge or interest in some aspect of architectural practice. Must be members of R.I.B.A. with degree or diploma of recognised School of Architecture. Burnham F. E. salary scale of £1,350 × £50—£1,550 plus London allowance of either £36 or £48 p.a. Application forms from Secretary at School, Ferndale Road, S.W.4, returnable by 25th January, 1957. (2350) 4884

GOVERNMENT OF NORTHERN IRELAND ASSISTANT ARCHITECT

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

The consolidated salary scale is £790 × £25—£840 × £30—£990 × £40—£1,190. Minimum of scale is linked to entry at age 26 plus or minus one increment for each year above or below that age. Maximum entry point £1,030.

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 1914-1918 or 1939-1945 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, together with copies of two recent testimonials. 4910

COUNTY BOROUGH OF SOUTHAMPTON BOROUGH ARCHITECT'S DEPARTMENT

Applications are invited for the following permanent appointments:—

(*a*) SENIOR ASSISTANT PLANNING OFFICER, Grade V-VI (£814—£1,107). Applicants should be members of the Town Planning Institute and hold a qualification in landscape architecture. Duties offer considerable scope for preparing and executing schemes of urban landscaping in addition to normal planning work.

(*b*) SENIOR ASSISTANT PLANNING OFFICER, Grade V (£814—£994). Applicants should be members of the Town Planning Institute, and hold an architectural qualification. Duties will include architectural aspects of planning, particularly in connection with Central Area reconstruction.

(*c*) SENIOR ASSISTANT PLANNING OFFICER, Grade IV (£727—£907).

(*d*) ASSISTANT PLANNING OFFICER, Special Grade (£707—£861)

(*e*) PLANNING ASSISTANT, Grade II (£609—£691).

Candidates should possess appropriate qualifications, and for senior posts state housing needs.

Application forms from the Borough Architect, Civic Centre, Southampton. Closing date 14th January, 1957. 4891

BOROUGH OF MANSFIELD APPOINTMENT OF ARCHITECTURAL ASSISTANTS

Applications are invited for the following appointments in the Department of the Borough Engineer and Surveyor:—

(*a*) ARCHITECTURAL ASSISTANT—Special Grade. £690 × £30—£840.

(*b*) ARCHITECTURAL ASSISTANT—Grade II. £595 × £20—£675.

Applicants for (*a*) must have passed parts I and II of the R.I.B.A. final or equivalent and had at least 5 years' experience (including training); and for (*b*) must have had "recognised" training and have passed the R.I.B.A. intermediate examination.

These appointments are subject to the provisions of the Superannuation Acts; the passing of a medical examination and the N.J.C. conditions of service. Service tenancy houses are available.

Applications giving details of present and previous appointments, age, experience and names and addresses of three referees, should be sent to the Borough Engineer and Surveyor, Carr Bank, Mansfield, to arrive not later than Tuesday, 22nd January, 1957.

A. C. SHEPHERD,
Town Clerk.

Carr Bank,
Mansfield. 4900

COUNTY BOROUGH OF DONCASTER APPOINTMENT OF PLANNING STAFF

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

ASSISTANT PLANNING OFFICERS (2), A.P.T. V, £814 17s. 6d.—£994 5s.

Candidates should be A.M.T.P.I. and have had wide town planning experience; in the case of one appointment architectural training will be an advantage. The successful candidates will be engaged primarily in dealing with redevelopment schemes.

The posts are superannuated, subject to N.J.C. conditions of service, the successful candidates passing a medical examination and terminable by one month's notice on either side.

Candidates should state whether to their knowledge they are related to any Member or Senior Officer of the Council.

Applications, with details of qualifications and experience, accompanied by the names of two persons to whom reference may be made should reach the Borough Surveyor and Planning Officer not later than 21st January, 1957.

H. R. WORMALD,
Town Clerk.

1, Priory Place,
Doncaster.
1st January, 1957. 4896

METROPOLITAN BOROUGH OF WOOLWICH BOROUGH ENGINEER'S DEPARTMENT

ASSISTANT ARCHITECT required, Grade A.P.T. V (£815—£995 plus London weighting). A.R.I.B.A. or equivalent essential. Superannuation Scheme. Medical examination.

Applications (stating age, qualifications and experience, and giving two referees) to Town Clerk, Woolwich, S.E.18, by 21st January, 1957.

Canvassing disqualifies. 4894

CITY OF PETERBOROUGH APPOINTMENT OF ARCHITECTURAL ASSISTANTS, Grade I and II

Applications are invited for the above appointment on the staff of the City Engineer and Surveyor. Applicants must possess sound knowledge of building construction and be capable of preparing working and detail drawings under supervision. Experience on school buildings an advantage.

Applications, stating age, experience, qualifications, with copies of three recent testimonials, to be sent in envelopes endorsed "Architectural Assistant, Grade —," to L. H. Robjohn, M.B.E., A.M.I.C.E., City Engineer & Surveyor, Town Hall, Peterborough, by 25th January, 1957.

Council housing accommodation offered in suitable cases.

C. PETER CLARKE.
Town Clerk.

Town Hall
Peterborough.
January, 1957. 4918

CITY OF LEICESTER CITY ARCHITECT'S DEPARTMENT

A vacancy exists for the following appointment in the City Architect's Department.

ASSISTANT ARCHITECT, salary Grade A.P.T. IV, £727 15s.—£907 2s. 6d. p.a.

The post will be in the General Section which covers all new building work other than schools and housing.

Applications with full particulars together with copies of two recent testimonials to be sent to the undersigned not later than Wednesday, 23rd January, 1957.

J. H. LLOYD OWEN,
City Architect.

10, Loseby Lane,
Leicester. 4913

CITY OF BELFAST

Applications are invited for the following positions in the Housing Architect's Department.

ARCHITECT, Class I

Candidates should be Registered Architects, qualified by examination, experienced in the design and planning of housing estates, particularly flats, and ancillary buildings and possess administrative ability. The successful applicant will be required to take charge of an Architectural Section.

Salary £855 × £35—£1,100 per annum (under review).

ARCHITECT, Class II

Candidates should have had satisfactory experience in the design and construction of flats, houses, shops and other communal buildings, and should be Registered Architects. Preference will be given to those who have appropriate professional qualifications.

Salary £550 × £30—£940 per annum (under review).

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

Superannuation contributions of approximately 6 per cent. of remuneration will be payable. Reciprocal pension arrangements exist between the Corporation and other public authorities.

Favourable consideration will be given to the recoupment up to a limit of 50 per cent. of the removal expenses of a newly appointed officer coming to reside in Belfast.

Canvassing will disqualify.

Forms of application, etc., are obtainable from the Housing Architect, 94, Chichester Street, Belfast. Completed applications must reach the undersigned by 31st January, 1957.

JOHN DUNLOP,
Town Clerk.

City Hall, Belfast, P.O. Box 234.
1st January, 1957. 4926

BOROUGH OF WORTHING APPOINTMENT OF ASSISTANT ARCHITECT

Applications are invited for the appointment of an Assistant Architect in the Architectural Section of the Borough Engineer's Department at a salary in accordance with the Special grade for architectural staff, i.e., £707—£861 per annum.

Candidates must have passed the Final Examination of the R.I.B.A. or its equivalent at a recognised school of architecture, and must have at least five years' experience including the period spent on theoretical training.

Candidates must be experienced in the preparation of working drawings for work carried out by Local Authorities, and experience in school building will be an advantage.

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

Applications, endorsed "Assistant Architect," stating age, qualifications, experience, present and past appointments, with dates, and accompanied by copies of two recent testimonials should be submitted to the Borough Engineer and Surveyor, Town Hall, Worthing, not later than noon on Wednesday, 30th January, 1957.

ERNEST G. TOWNSEND,
Town Clerk.

Town Hall,
Worthing.
31.12.56. 4936

CITY OF BIRMINGHAM EDUCATION COMMITTEE COLLEGE OF ART AND CRAFTS

Principal: MEREDITH W. HAWES, A.R.C.A., A.R.W.S., N.R.D.

School of Industrial Design

Re-advertisement

Applications are invited for the post of Head of the School of Industrial Design. The post is an important one in the College and candidates, who should be practising designers, are expected to hold high professional qualifications in industrial design or architecture. Teaching experience is also desirable. Salary in accordance with Burnham (Further Education) Scale for Heads of Departments, Grade II: Men £1,400 × £50—£1,600. Forms of application and further particulars may be obtained from the Principal, College of Art and Crafts, Margaret Street, Birmingham, 3. (s.a.e.) Closing date 31st January, 1957.

The successful candidate will be required to take up duty on either 1st May or 1st September, 1957.

E. L. RUSSELL,
Chief Education Officer.

November, 1956. 4920

CITY OF LEEDS
CITY ARCHITECT'S DEPARTMENT

Applications are invited for the following appointments:—

ASSISTANT ARCHITECT, A.P.T. V, £814 17s. 6d.—£994 5s.

ASSISTANT ARCHITECT, A.P.T. IV, £727 15s.—£907 2s. 6d.

ASSISTANT ARCHITECTS, A.P.T. III, £656—£784 2s. 6d.

ARCHITECTURAL ASSISTANTS, A.P.T. II, £609 17s. 6d.—£691 17s. 6d.

ARCHITECTURAL ASSISTANTS, A.P.T. I, £543 5s.—£625 5s.

ASSISTANT SURVEYORS, A.P.T. IV, £727 15s.—£907 2s. 6d.

ASSISTANT SURVEYOR, A.P.T. II, £609 17s. 6d.—£691 17s. 6d.

ASSISTANT SURVEYOR, A.P.T. I, £543 5s.—£625 5s.

SENIOR ASSISTANT QUANTITY SURVEYOR, A.P.T. VI, £902—£1,107.

The successful candidate will be next in seniority to the Chief Quantity Surveyor. Duties include the preparation of Bills of Quantities for Schools, Public Buildings and other major works.

ASSISTANT QUANTITY SURVEYORS, A.P.T. IV, £727 15s.—£907 2s. 6d.

ASSISTANT QUANTITY SURVEYORS, A.P.T. II, £609 17s. 6d.—£691 17s. 6d.

The payment of salary increments will be subject to satisfactory service and will be granted normally with effect from the 1st April following the completion of six months' service.

The appointments are subject to the Local Government Superannuation Acts 1937-1953 and the successful applicants will be required to pass a medical examination.

Application forms may be obtained from the City Architect, Priestley House, Quarry Hill, Leeds 9, to whom they should be returned together with copies of three recent testimonials, by 12 noon on Saturday 19th January, 1957.

Canvassing in any form, either directly or indirectly, will be a disqualification.

R. A. H. LIVETT,
City Architect.

Priestley House,
Quarry Hill,
Leeds, 9.
28th December, 1956. 4905

CITY OF PLYMOUTH

Applications are invited for the appointment of (*a*) ASSISTANT ENGINEER Special Grade (£707.5.0—£861; (*b*) SENIOR PLANNING ASSISTANT Grade IV (£727.15.0—£907.2.6); and (*c*) PLANNING ASSISTANT Grade II (£609.17.6—£691.17.6).

Applicants for (*a*) should have a good general experience in Civil Engineering, for (*b*) should hold recognised qualifications and have experience in Urban Planning, and for (*c*) some planning experience.

Age limit 40 or 45 if serving with L.A.

Positions pensionable, subject to medical examination.

Housing accommodation may be made available, and part of removal expenses refunded.

Applications returnable by 28.1.57 on forms obtainable from me.

J. PATON WATSON, C.B.E., M.I.C.E.,
Guildhall, *City Engineer and Surveyor.*
Plymouth. 4932

COUNTY BOROUGH OF GREAT YARMOUTH
SCHOOLS ARCHITECT'S DEPARTMENT

Applications are invited from Associate Members of the R.I.B.A. to fill the vacancy for a SENIOR ASSISTANT ARCHITECT, within A.P.T. Grade V (£814 17s. 6d. to £994 5s.).

Candidates should have knowledge of modern school design and construction.

Housing accommodation will be made available if required.

Applications stating age, qualifications, experience, details of past and present appointments, together with the names of two referees, should reach the Schools Architect, 22, Euston Road, Great Yarmouth, by 17th January, 1957.

D. G. FARROW,
Chief Education Officer.

22, Euston Road,
Great Yarmouth. 4895

STAFFORDSHIRE COUNTY COUNCIL
APPOINTMENT OF AREA PLANNING OFFICER

Applications are invited for an appointment as an Area Planning Officer in the Northern Area Office of the County Planning Department at Newcastle under Lyme on J.N.C. Scale "B" (£1,175 to £1,405 per annum).

Applicants must be corporate members of the Town Planning Institute and should hold in addition a recognised qualification in architecture, engineering or surveying.

The person appointed will be required to assist in work on the Development Plan and Town Maps and will be responsible for the control of development in the Northern Area.

Applicants should give details of age, education, technical training, qualifications, present and previous appointments and experience, and the names of two persons to whom reference can be made. Applications, in which relationship to any member or senior officer of the County Council should be disclosed, should be sent to D. W. Riley, County Planning and Development Officer, 41a, Eastgate Street, Stafford, not later than 23rd January, 1957.

T. H. EVANS,
Clerk of the County Council.
4916

AIR MINISTRY Works Designs Branch requires in London and Provinces ARCHITECTURAL ASSISTANTS experienced in planning/preparation of working drawings and details for permanent and semi-permanent buildings. Salaries in London up to £790 p.a. for men and £735 for women. Somewhat lower in Provinces. Starting pay dependent on age, qualifications and experience. Long term possibilities with promotion and pensionable prospects. Five-day week, 3 weeks 3 days leave a year. Liability for overseas service. Normally natural born British subjects. Write stating age, qualifications, employment details including type of work done, to any Employment Exchange, quoting Order No. Borough 1000. 4927

SHEFFIELD REGIONAL HOSPITAL BOARD

Applications are invited from Registered Architects for the post of ASSISTANT ARCHITECT in the Architectural Division of the Board's headquarters staff. Salary £680—£985. The appointment is subject to the Whitley Council terms and conditions of service, to the National Health Service (Superannuation) Regulations, and to one month's notice on either side. Applications, together with the names of three referees, should be sent by 26th January, 1957, to the Secretary to the Board, Fulwood House, Old Fulwood Road, Sheffield, 10. 4909

COUNTY BOROUGH OF DERBY
BOROUGH ARCHITECT'S DEPARTMENT
ONE SENIOR QUANTITY SURVEYOR, A.P.T. Grade IV, £727—£907 per annum.

Commencing salary according to qualifications and experience.

Permanent superannuable appointment, subject to one month's notice and to medical examination. National Conditions of Service.

Application forms obtainable from and to be returned to the Borough Architect, The Council House, Corporation Street, Derby, not later than Monday, 28th January, 1957.

G. H. EMLYN JONES,
Town Clerk.
1st January, 1957. 4917

SURREY COUNTY COUNCIL

Applications invited for following appointments:—

1. ASSISTANT ARCHITECT GRADE IV, £727.15.0—£907.2.6 p.a. plus £30 London Allowance. Must be Associate Member R.I.B.A.
2. ARCHITECTURAL ASSISTANT GRADE II, £609.17.6—£691.17.6 p.a. plus L.A. up to £30 p.a. Must be of good general training and preference given those who have passed Inter. R.I.B.A.

Full details, present salary and 3 copy testimonials to County Architect, County Hall, Kingston, as soon as possible. 4934

CITY OF BELFAST

Applications are invited for positions of (*a*) ARCHITECTS and (*b*) ARCHITECTURAL ASSISTANTS in the Architectural Section of the City Surveyor's Department.

Candidates for (*a*) must be registered Architects by examination, and for (*b*) must have passed the Intermediate R.I.B.A. or a recognised equivalent examination.

The Architectural Section is a self-contained unit under a Principal Architect within the City Surveyor's Department, and the work includes Public Baths, Libraries, Clinics, Sports Pavilions and other Park buildings, Welfare Homes, etc., in the form of new structures and alterations to existing buildings.

The scale for (*a*) will range from £550—£1,100 per annum (under review), and for (*b*) from £480—£730 per annum (under review). The commencing point within any of the scales may be fixed at a figure above the minimum having regard to the qualifications and experience of the successful applicant. Superannuation contributions of approximately 6 per cent. of remuneration will be payable. Reciprocal pension arrangements exist between the Corporation and other public authorities.

Favourable consideration will be given in suitable cases to the recoupment up to a limit of 50 per cent. of the removal expenses of newly appointed officers.

Canvassing will disqualify.

Application forms, etc., are obtainable from the City Surveyor, Room 39, City Hall, Belfast. Completed applications must reach the undersigned by the 25th January, 1957.

JOHN DUNLOP,
Town Clerk.

City Hall, Belfast, P.O. Box 234.
2nd January, 1957. 4938

BOROUGH OF ROMFORD

Applications are invited for the undermentioned posts in the Architectural Section of the Borough Engineer and Surveyor's Department.

(*a*) PRINCIPAL ASSISTANT ARCHITECTS, Grade A.P.T. VI (£902 to £1,107 p.a.).

(*b*) SENIOR ASSISTANT ARCHITECTS, Grade A.P.T. V (£814 17s. 6d. to £994 5s. p.a.).

(*c*) TECHNICAL ASSISTANT, Grade A.P.T. III (£656 to £784 2s. 6d. p.a.).

Commencing salary in each case according to qualifications and experience.

Housing accommodation available if necessary.

Particulars and conditions of these appointments can be obtained from the Town Clerk, Town Hall, Romford, Essex, to whom completed applications should be sent not later than 21st January, 1957. 4937

CITY ARCHITECT'S DEPARTMENT, MANCHESTER

Applications invited for:—

Permanent Staff.

SENIOR ASSISTANT ARCHITECT. Salary APT Grade IV £727.15.0 to £907.2.6 per annum.

ASSISTANT ARCHITECT or ARCHITECTURAL ASSISTANT. Salary Basic Grade £707.5.0 to £861.0.0 per annum.

ARCHITECTURAL ASSISTANT. Salary APT. I/II £543.5.0 to £691.17.6 per annum.

STRUCTURAL ENGINEERING ASSISTANT. Salary Basic Grade £707.5.0 to £861.0.0 per annum.

Temporary Staff. Appointments for a period of not less than two years.

SENIOR ASSISTANT ARCHITECT. Salary APT.V £814.17.6 to £994.5.0 per annum.

SENIOR ASSISTANT ARCHITECT. Salary A.P.T.IV £727.15.0 to £907.2.6 per annum.

Particulars and form from City Architect, P.O. Box 488, Town Hall, Manchester, 2. Closing date January 25th. 4935

URBAN DISTRICT COUNCIL OF HARLOW
APPOINTMENT OF GENERAL ENGINEERING ASSISTANT

Applications are invited for the above appointment at a salary within the Special Grade (£690 × £30—£840 per annum) of the National Joint Council Conditions of Service.

Candidates must have passed final examination of a recognised Institution and have previous experience of municipal work. Duties will include the normal engineering projects of a local authority with a population of 32,000 increasing to an ultimate 80,000 population within 10 years. The post is superannuable and housing accommodation will be available and removal expenses paid.

Applications in writing, giving names of two referees to be made to the Engineer and Surveyor, A. W. R. Webb, A.M.I.C.E., M.I.Mun.E., at Netteswell Hall, Harlow, not later than fourteen days after the date of publication of this advertisement. 4919

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