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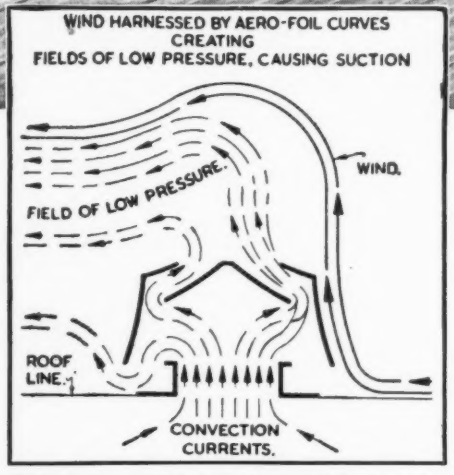
★ A glossary of abbreviations of Government Departments and Societies and Committees of all kinds, together with their full address and telephone numbers. The glossary is published in two parts—A to Ig one week, Ih to Z the next. In all cases where the town is not mentioned the word LONDON is implicit 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.	ance 7611, Ext. 1706
BC	Building Centre. 26, Store Street, Tottenham Court Road, C.1.	Museum 5400
BCC	British Colour Council. 13, Portland Square, W.1.	Welbeck 4185
BCCF	British Cast Concrete Federation. 105, Uxbridge Road, Ealing, W.5.	Ealing 9621
BCIRA	British Cast Iron Research Association. Alvechurch, Birmingham.	Redditch 716
BDA	British Door Association. 10, The Boltons, S.W.10.	Fremantle 8494
BEDA	British Electrical Development Association. 2, Savoy Hill, W.C.2.	Temple Bar 9434
BIA	British Ironfounders' Association. 145, Vincent Street, Glasgow, C.2.	Glasgow Central 2891
BID	Building Industries Distributors. 52, High Holborn, W.C.1.	Chancery 7772
BINC	Building Industries National Council. 11, Weymouth Street, W.1.	Langham 2785
BOT	Board of Trade. Whitehall Gardens, Horseguards' Avenue, Whitehall, S.W.1.	Trafalgar 8855
BRS	Building Research Station. Bucknalls Lane, Watford.	Garston 4040
BSA	Building Societies Association. 14, Park Street, W.1.	Mayfair 0515
BSI	British Standards Institution. British Standards House, 2, Park St., W.1.	Mayfair 9000
BTE	Building Trades Exhibition. 32, Millbank, S.W.1.	Tate Gallery 8134
CABAS	City and Borough Architects Society. C/o Johnson Blackett, F.R.I.B.A., Civic Centre, Newport, Mon.	Newport 65491
CAS	County Architects' Society. C/o S. Vincent Goodman, F.R.I.B.A., Shire Hall, Bedford.	Bedford: 67444
CCA	Cement and Concrete Association. 52, Grosvenor Gardens, S.W.1.	Belgravia 6661
CCP	Council for Codes of Practice. Lambeth Bridge House, S.E.1.	Reliance 7611 Ext. 1284
CDA	Copper Development Association. 55, South Audley Street, W.1.	Grosvenor 8811
CIAM	Congrès Internationaux d'Architecture Moderne. Doldertal, 7, Zurich, Switzerland	
COID	Council of Industrial Design. 28, Haymarket, S.W.1.	Trafalgar 8000
CPRE	Council for the Preservation of Rural England. 4, Hobart Place, S.W.1.	Sloane 4280
CUC	Coal Utilization Council. 3, Upper Belgrave Street, S.W.1.	Sloane 9116
CVE	Council for Visual Education. 13, Suffolk Street, Haymarket, S.W.1.	Reading 72255
DGW	Directorate General of Works, Ministry of Works, Lambeth Bridge House, S.E.1.	Reliance 7611
DIA	Design and Industries Association. 13, Suffolk Street, S.W.1.	Whitehall 0540
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

Picture of a PROBLEM solved



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Architects: Messrs. R. Fielding, Dodd and Stevens

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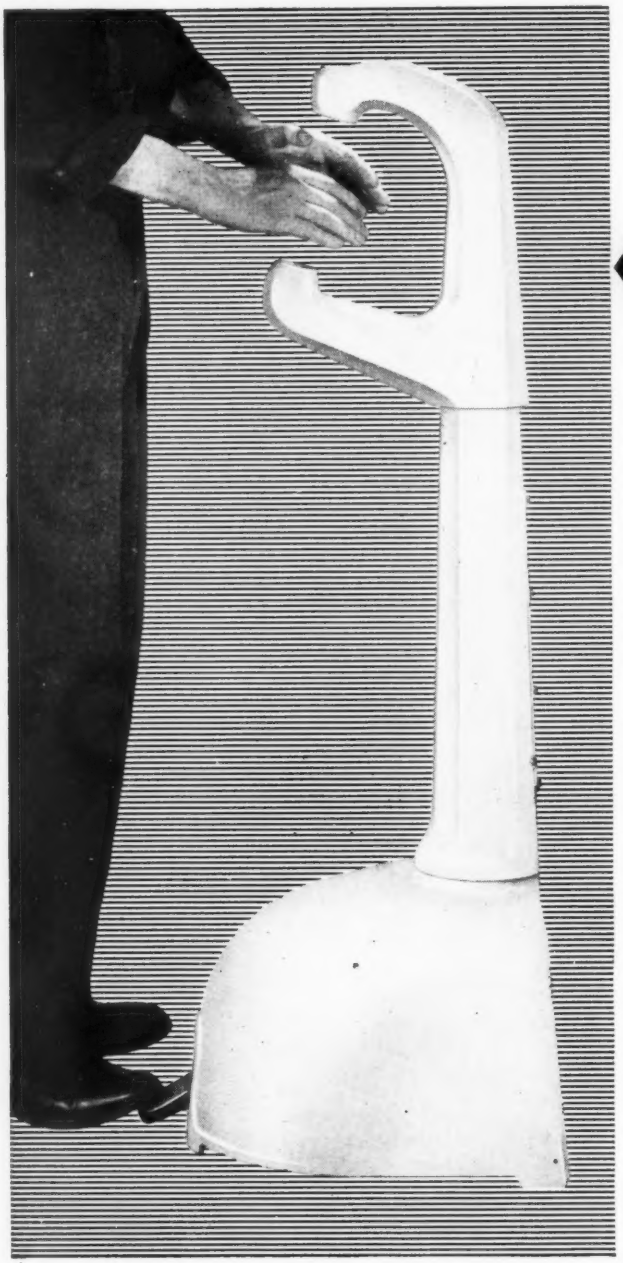

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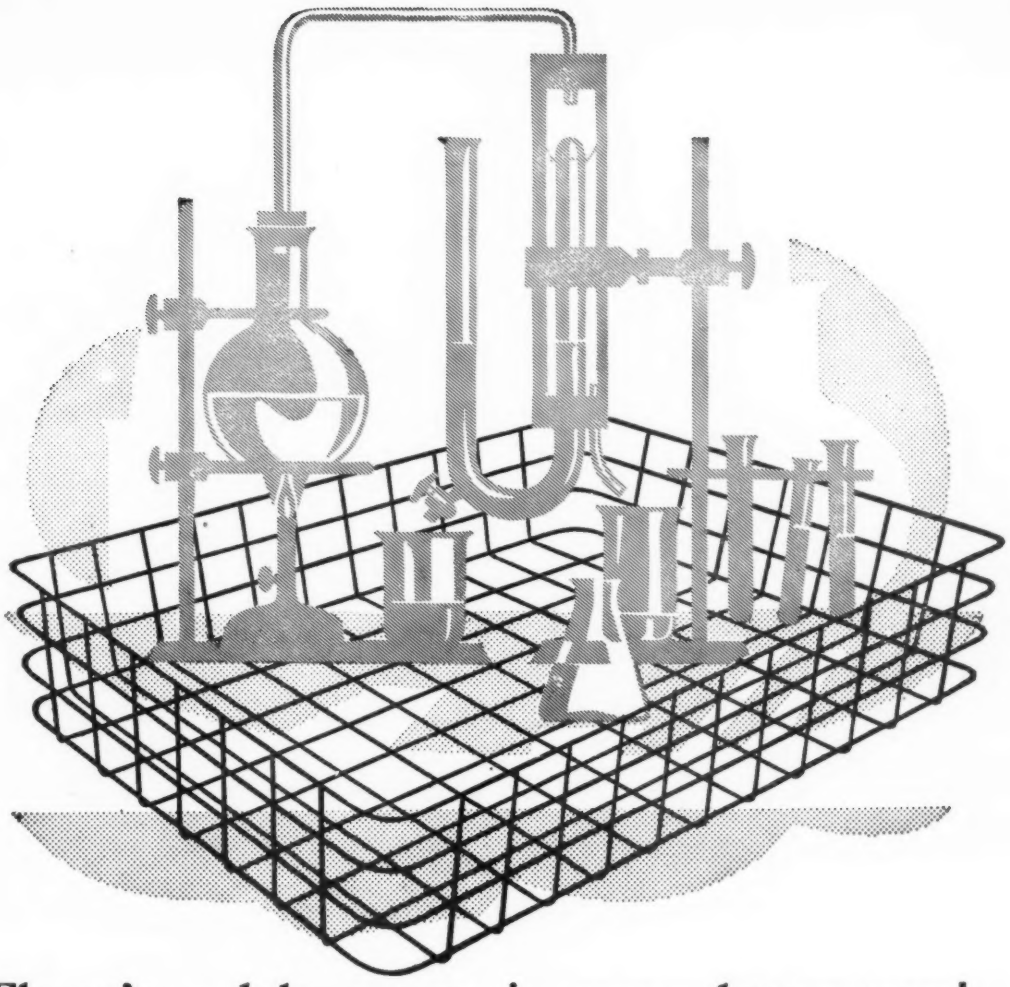

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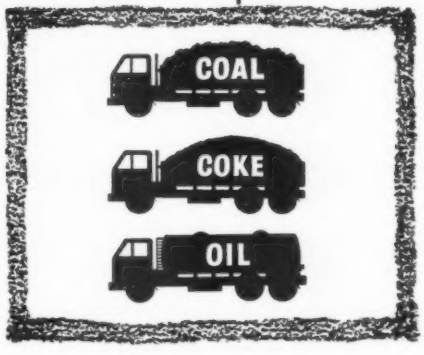

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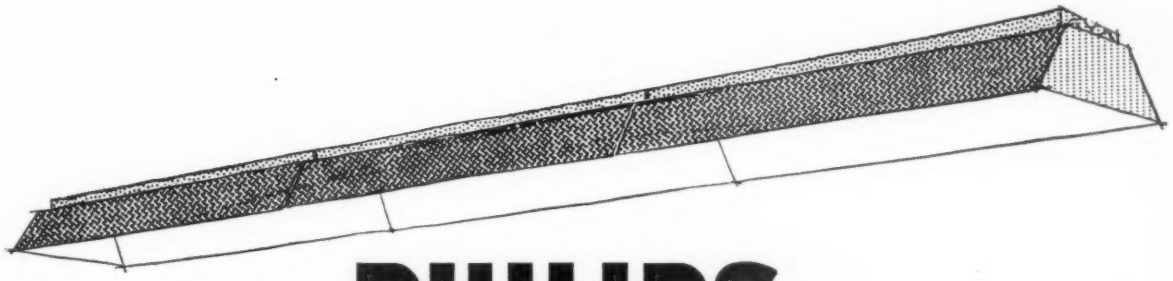

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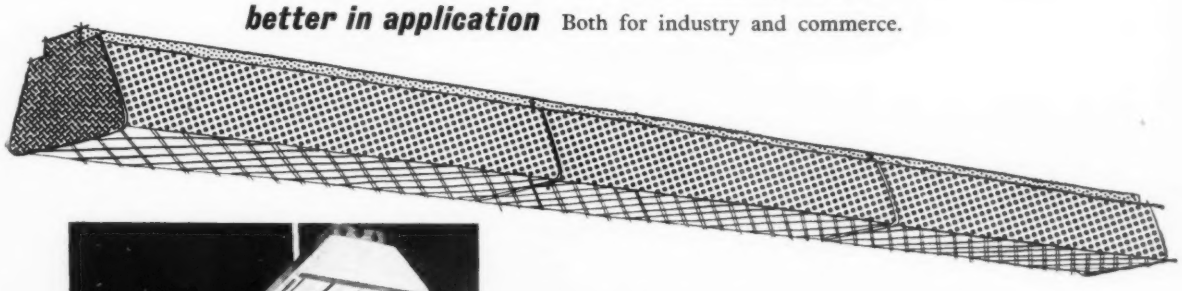

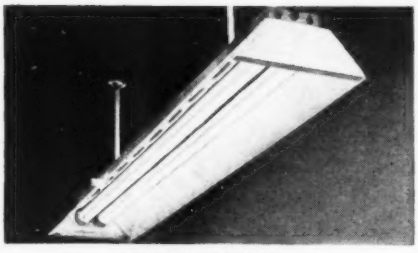

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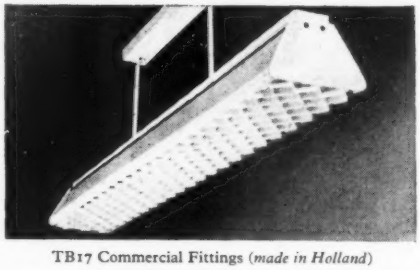

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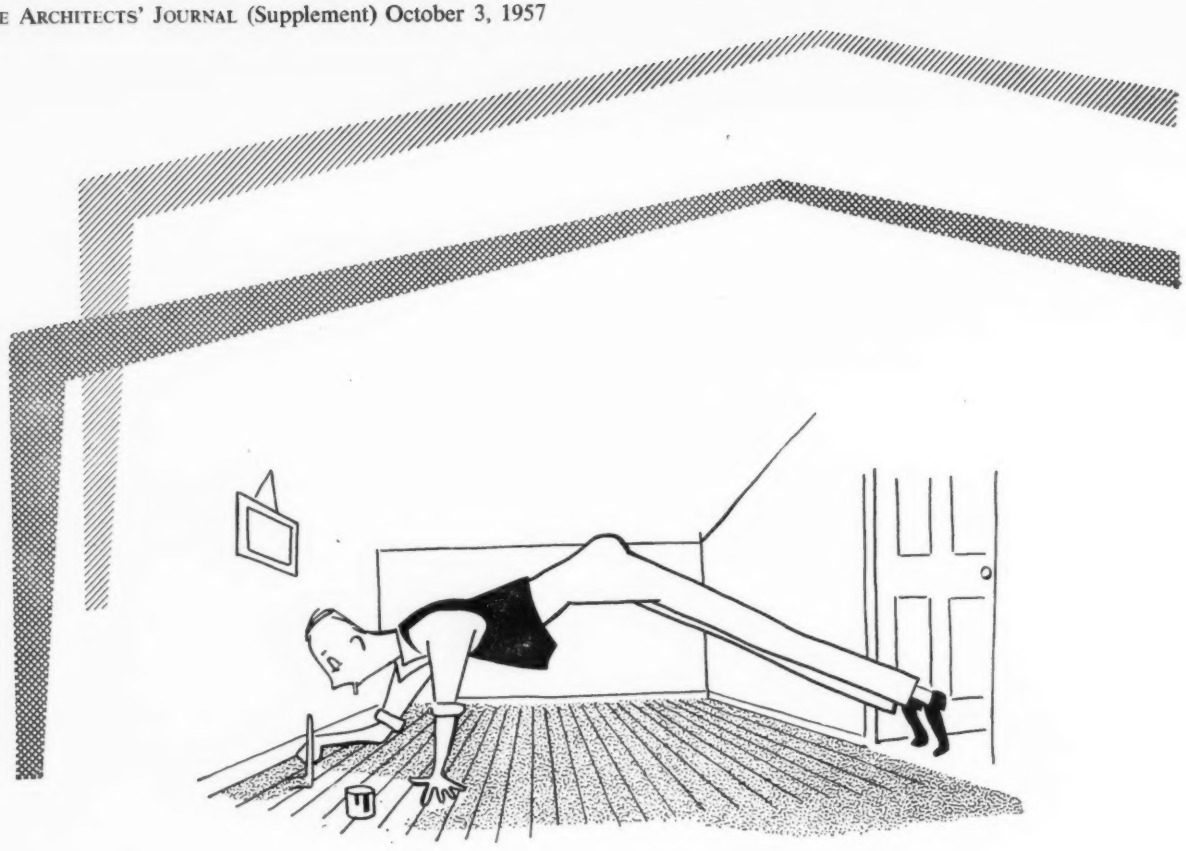

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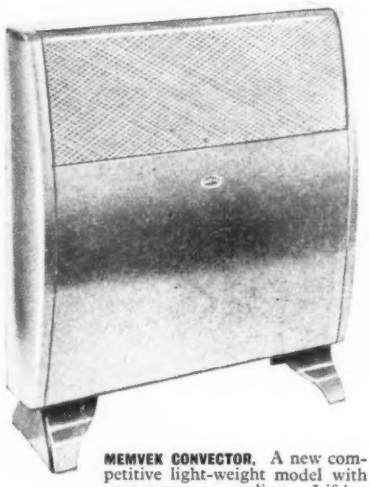

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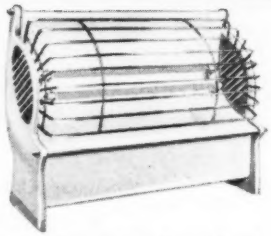
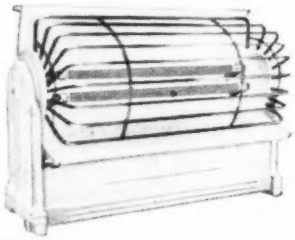
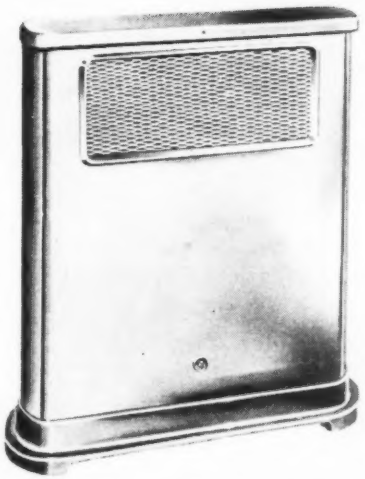


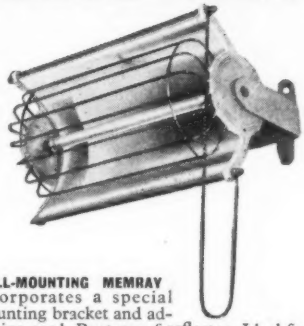
REFLEX offers outstanding value in a simple well-designed reflector fire. Chromium plated brass reflector. Made in 1 and 2 kW sizes.



MEMRAY is the attractive swivel reflector fire. First-class workmanship including chromium plated brass reflector. 1 and 2 kW sizes.



MEMVAIR CONVECTORS have attractive modern design and lovely bronze finish. Completely safe even with unattended children. Warm glow can be seen through grille. Made in 3 ratings, 1, 1½ and 2 kW.



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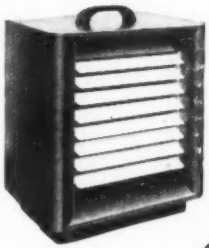

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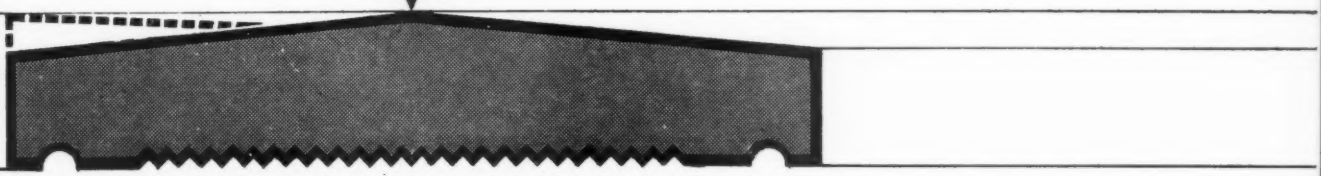

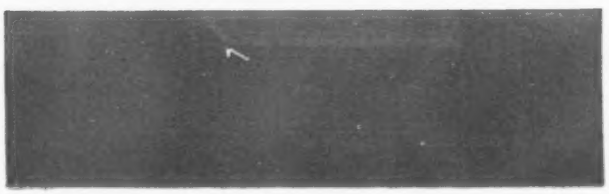

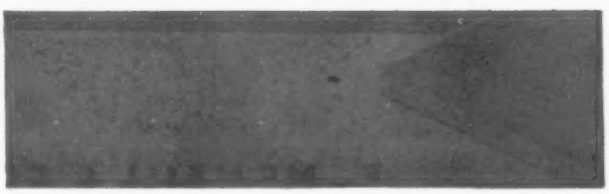

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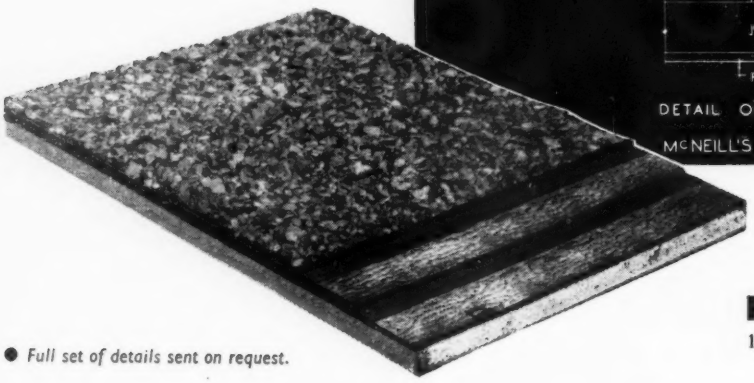

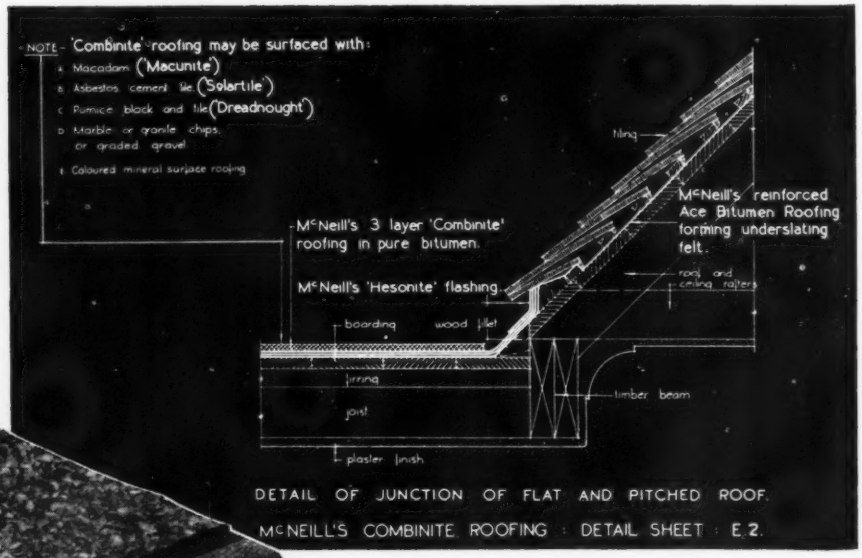

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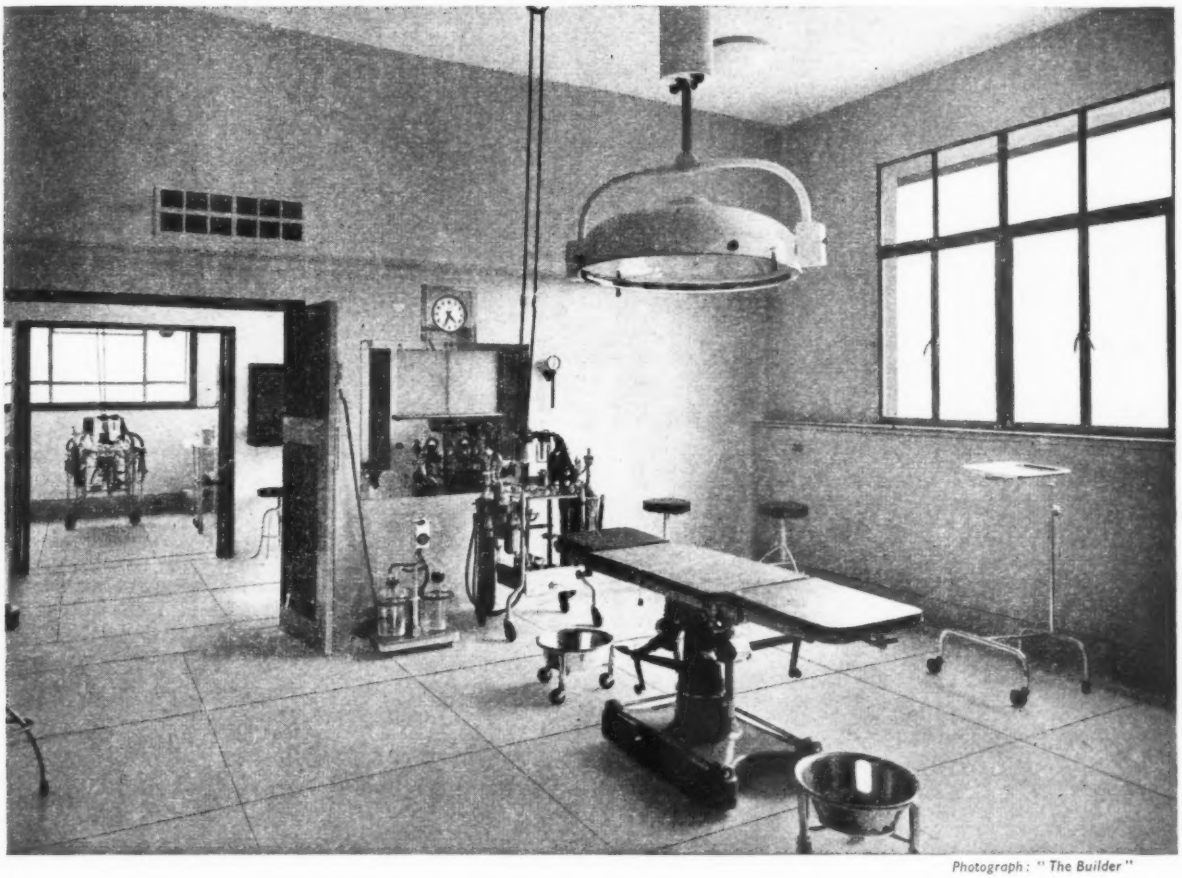

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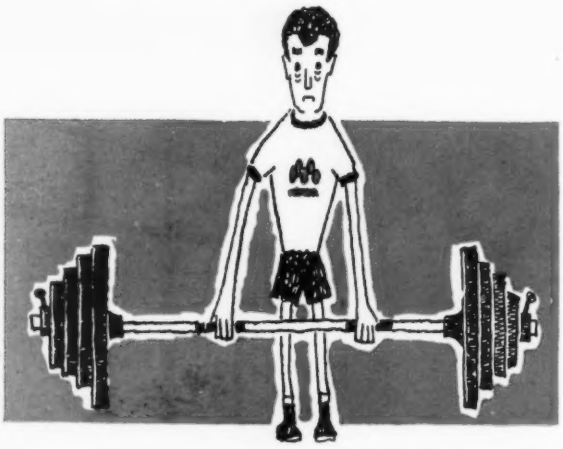

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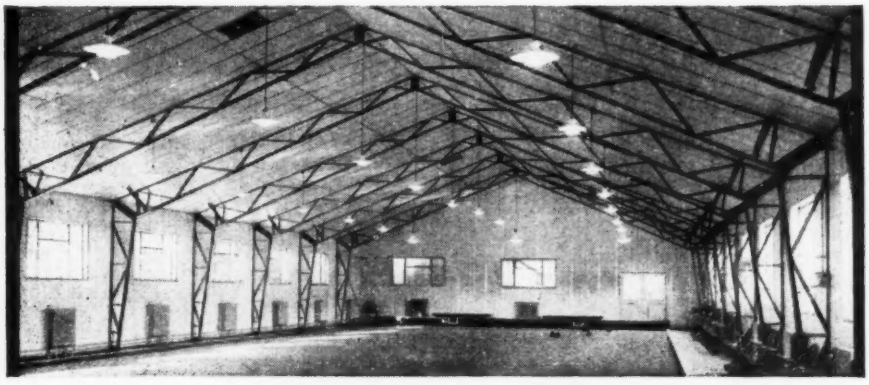

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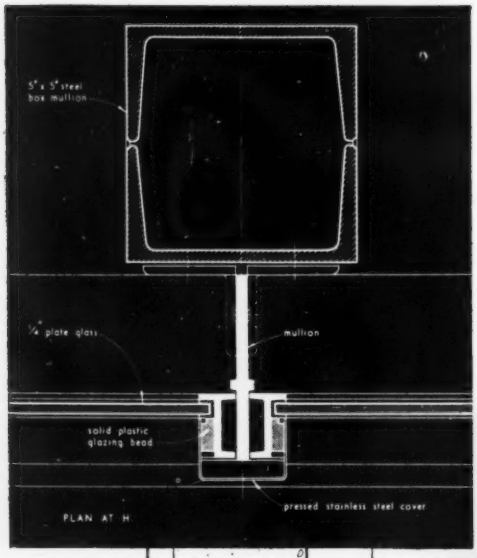

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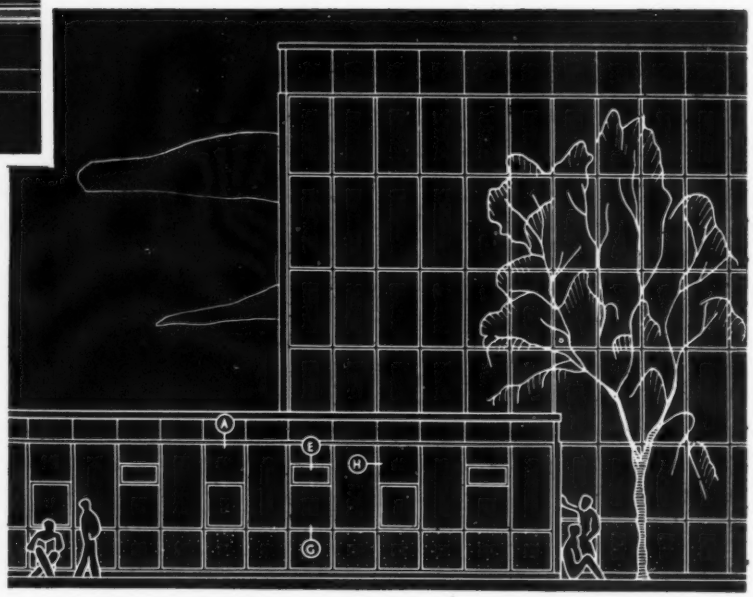

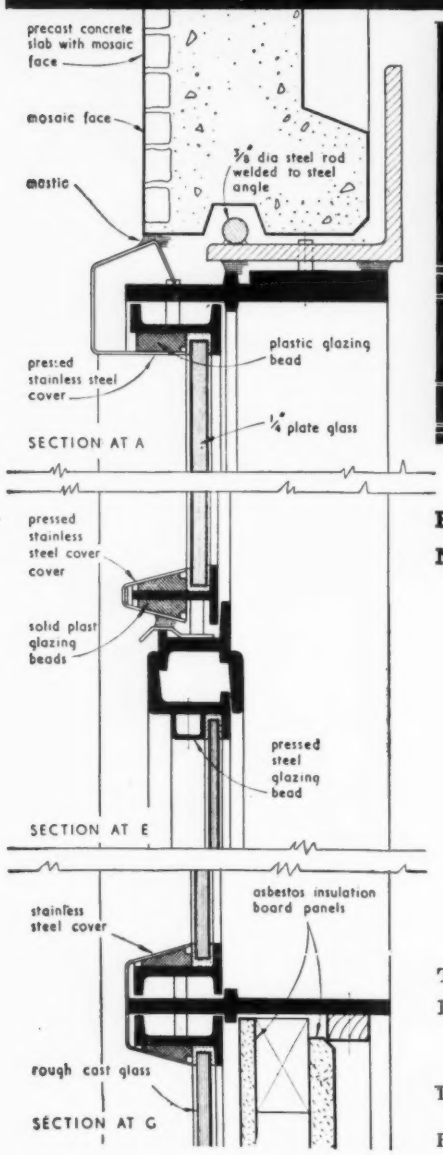

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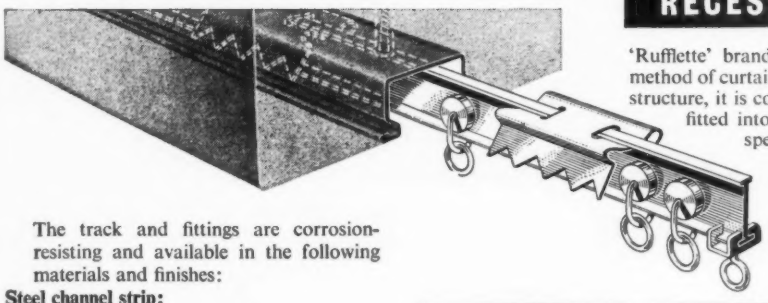

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Runners:
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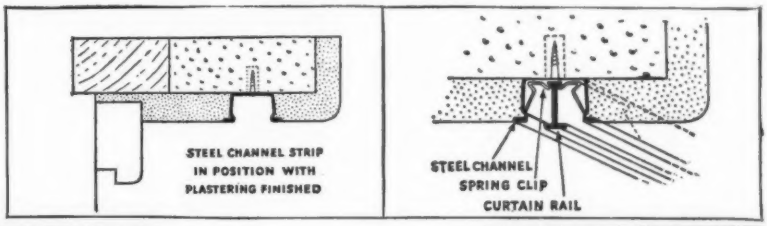
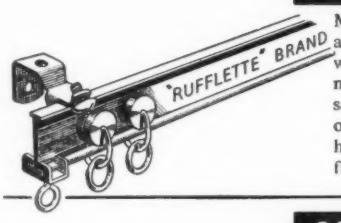


CURTAIN TRACK



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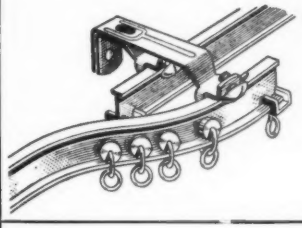

When cord-control is not used, curtain track can be cut and overlapped in the centre using the special BL7 bracket. This bracket fits over the standard fixing bracket, both being held in position by a single screw.

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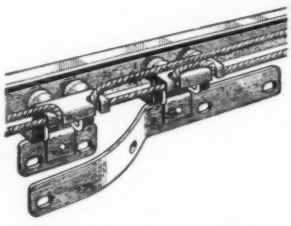

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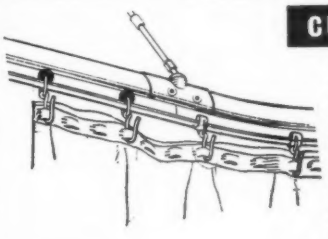

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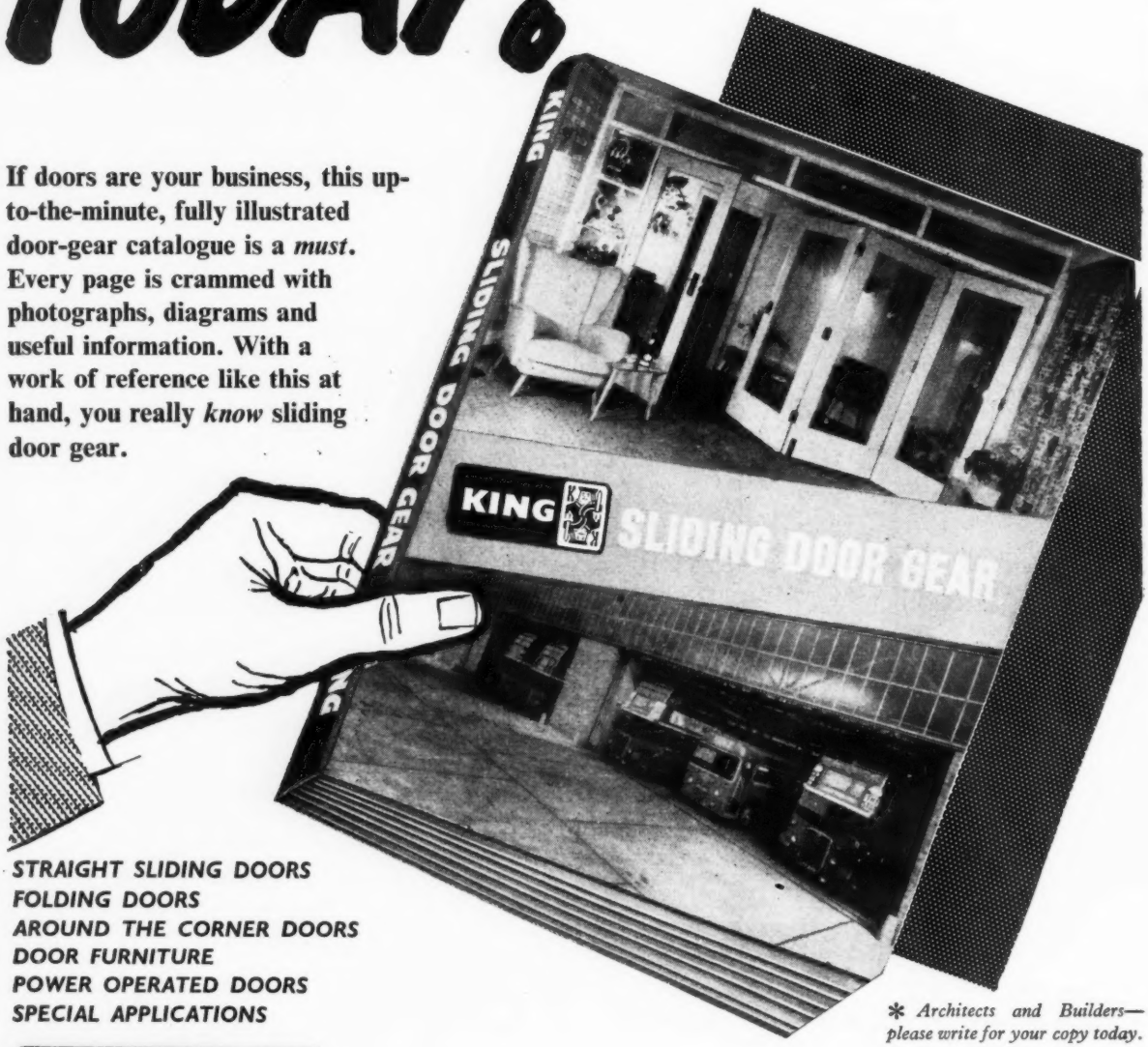

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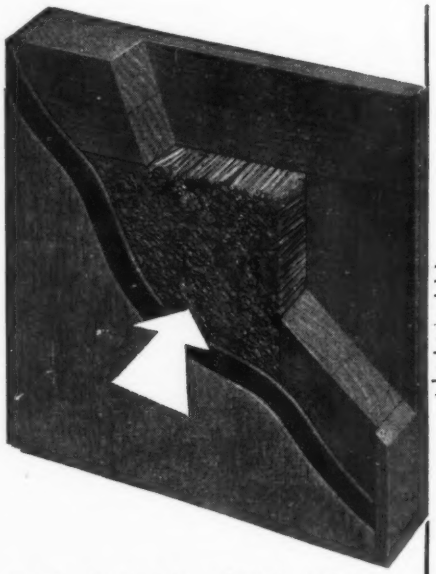

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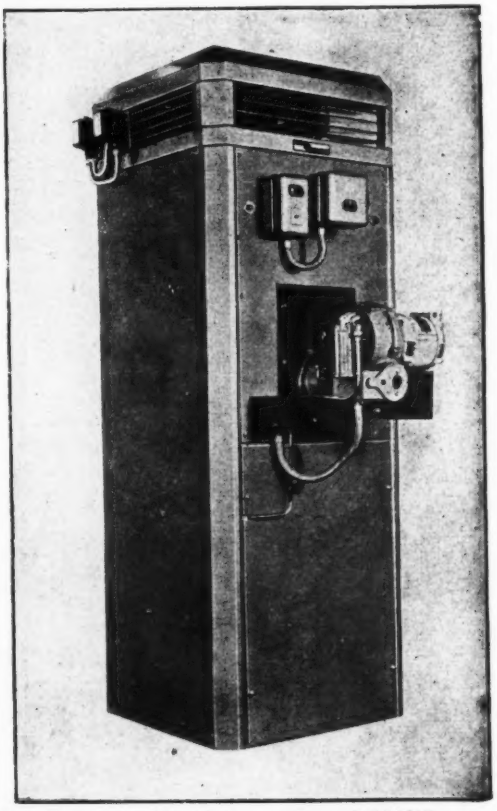

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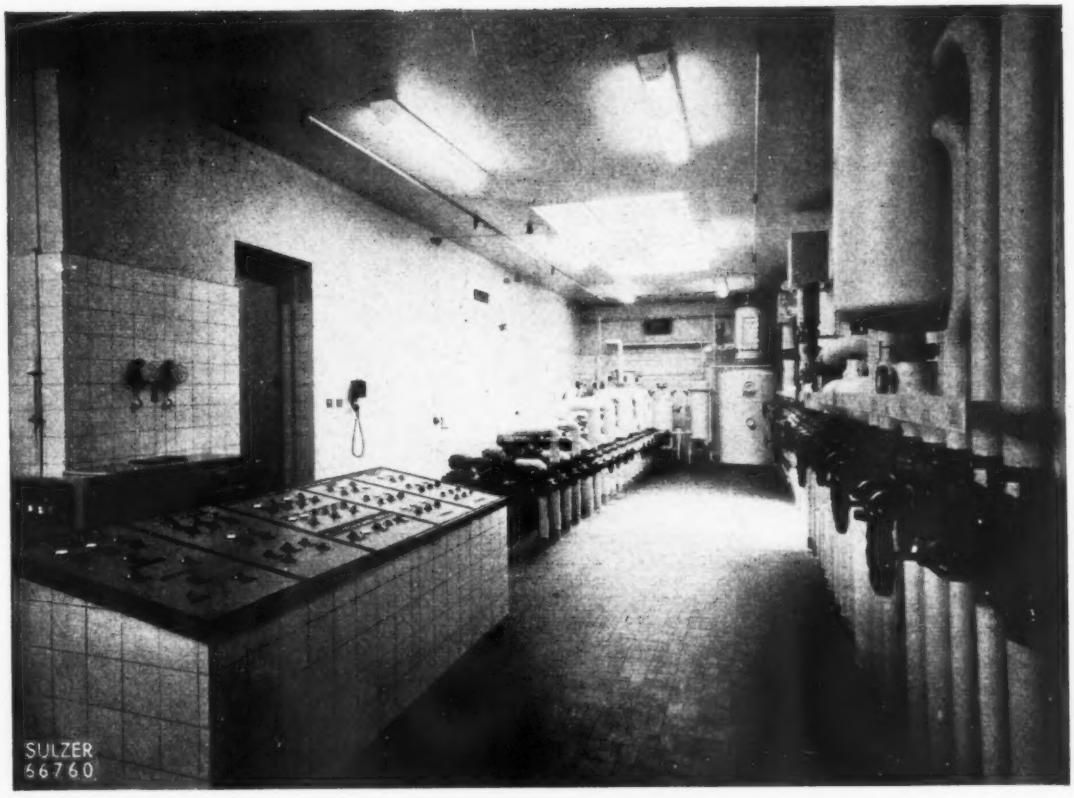

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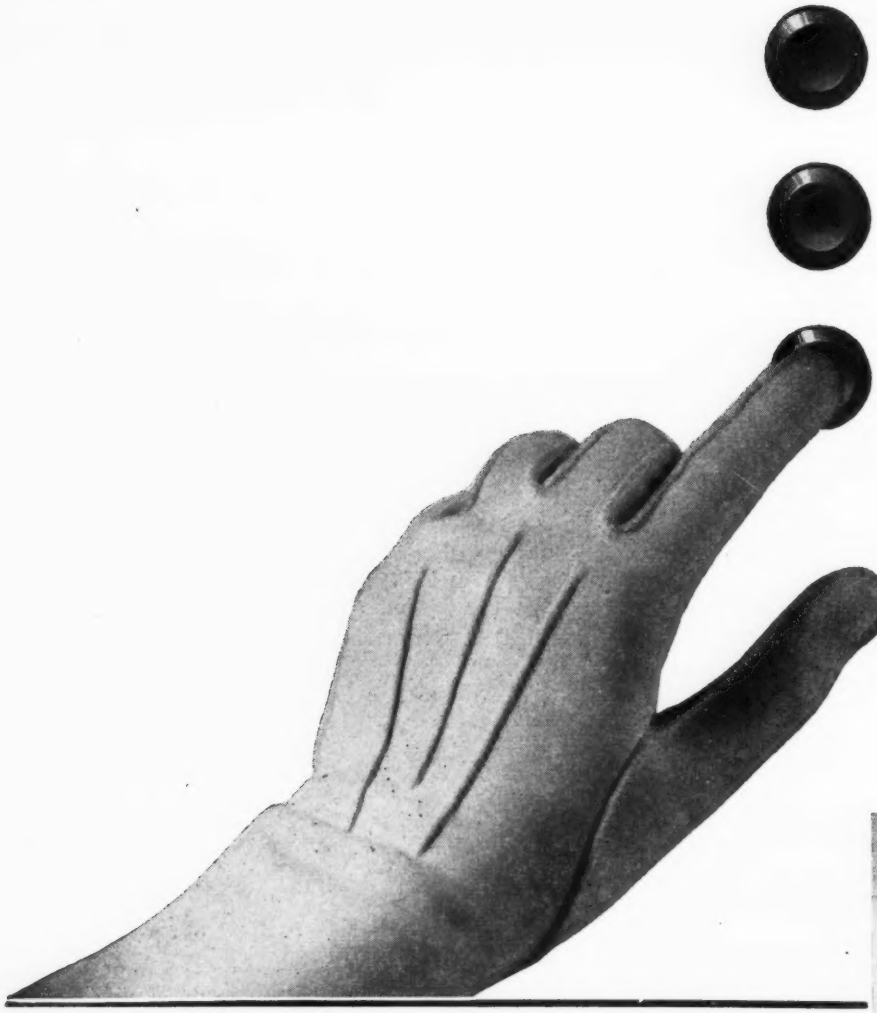

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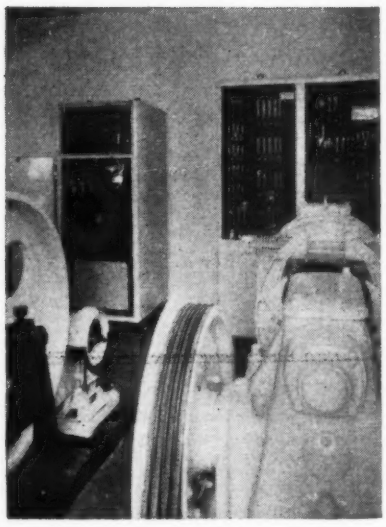

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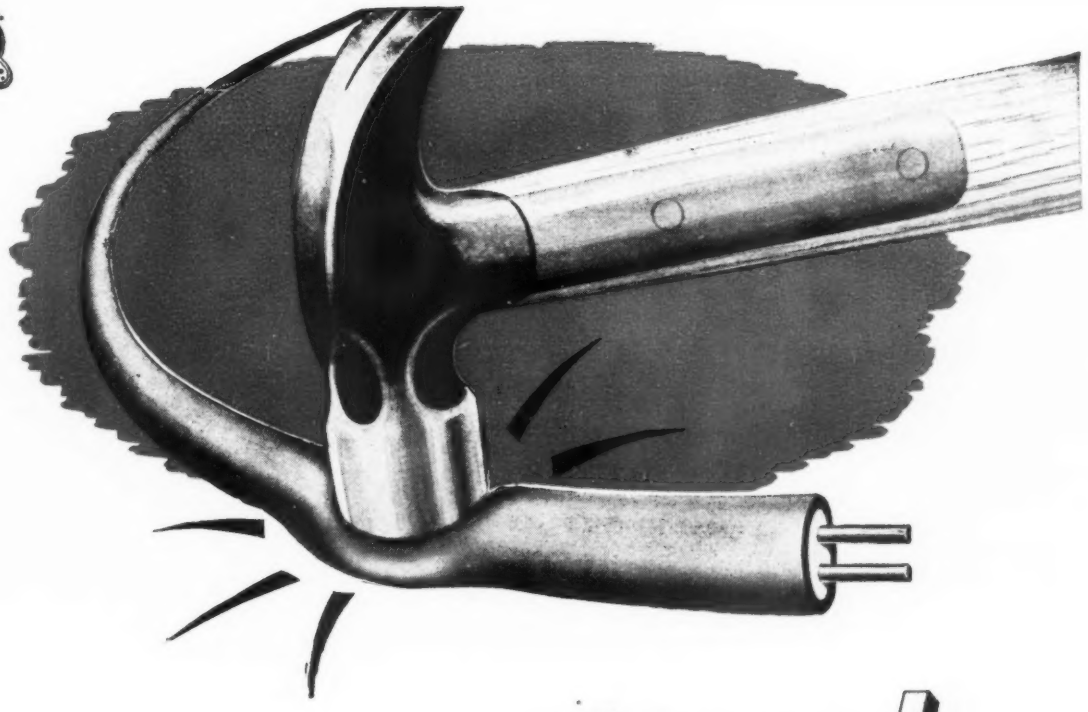

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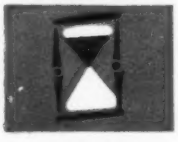

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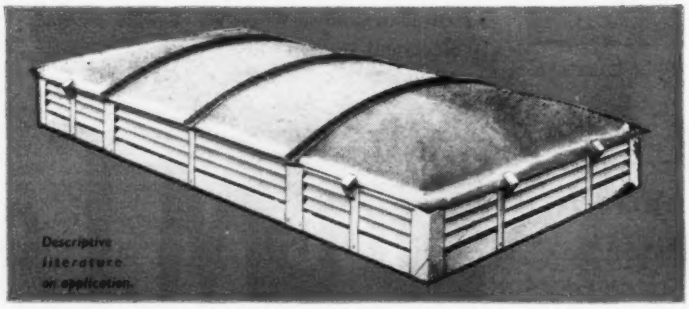

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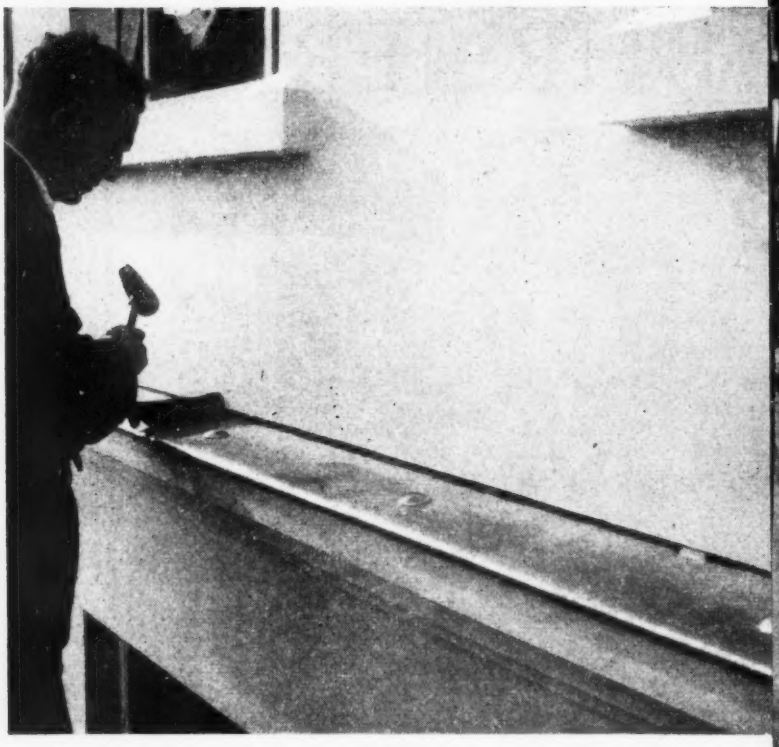
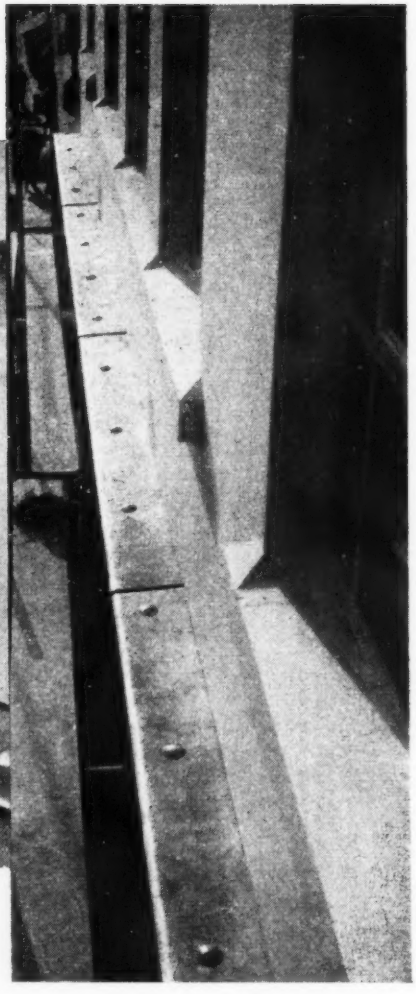
Lead weatherings...





A typical example of lead weatherings for stone-faced buildings.
New office building, London W.1 *Architect:* H. G. Sumner, L.R.I.B.A.

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B. 153

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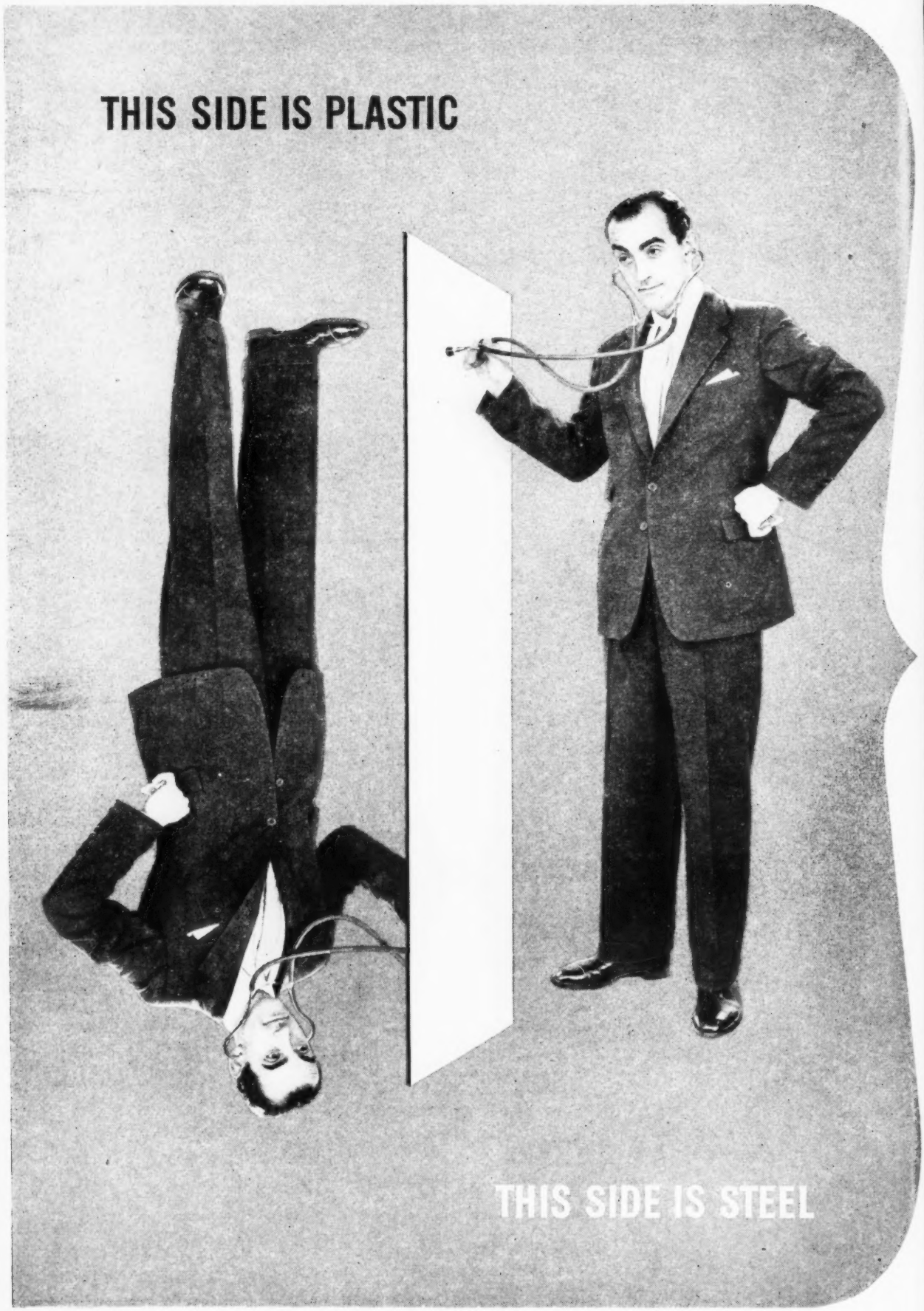
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Modern Doors for Modern Projects

'No Fines' houses at Half Hyde, Shephall Neighbourhood. Contractors: George Wimpey & Co., Ltd.; Photograph by kind permission of the Stevenage Development Corporation.

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6'6" x 2'3" 6'6" x 1'6"
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Finished thickness — 1.5/8"

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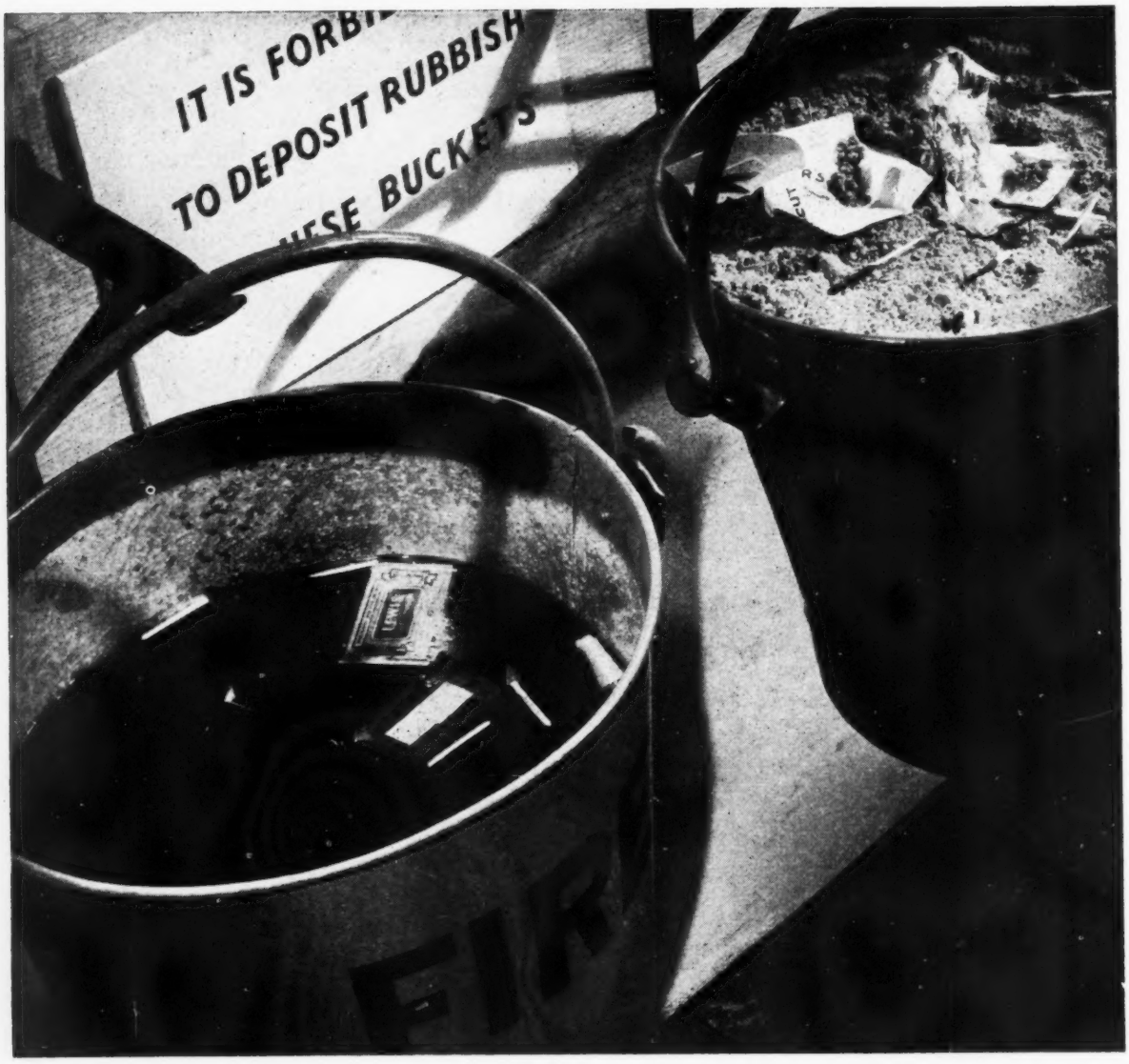

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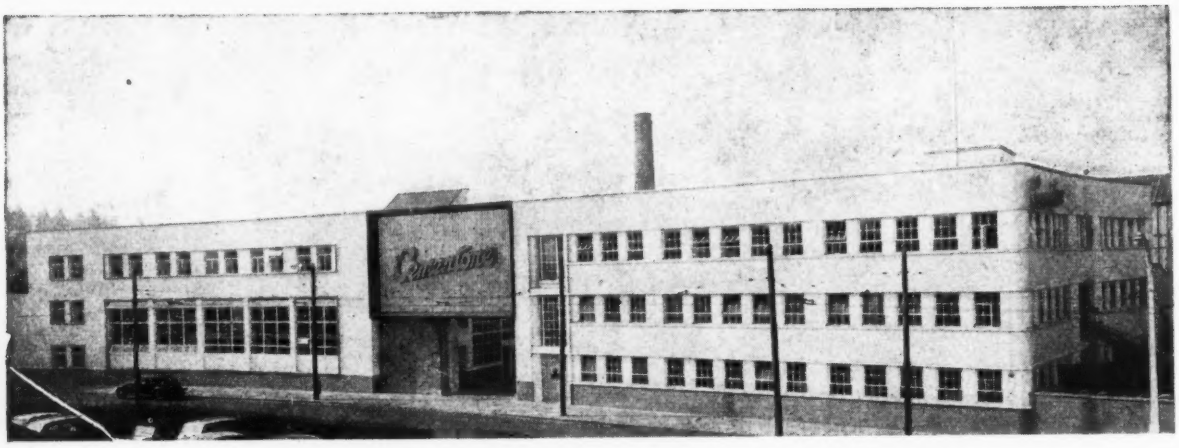

Architects for the complete buildings: P. A. W. Roffey, F.R.I.B.A., F.R.I.C.S., and Eldred J. Stevens, A.R.I.B.A.

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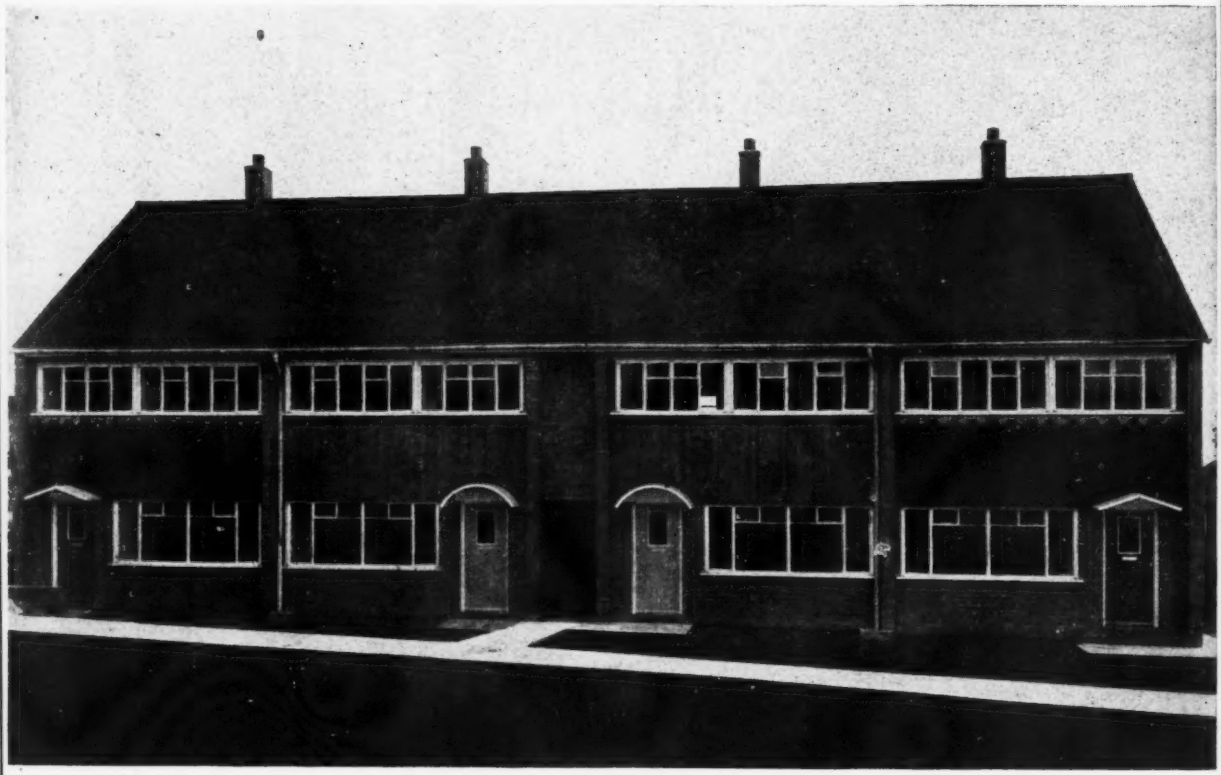
Facia Soffitt : takes two men only one hour to fit an average pair of houses—no special skill required—hammer is the only tool necessary—no scaffold required.

Alicanopies, Aluminium Facia Soffitt and Barge Boards, are fitted to the Houses illustrated.



CITY OF STOKE-ON-TRENT HOUSING
BY PERMISSION OF J. R. PIGGOTT, ESQ., T.D., F.R.I.B.A.
CITY ARCHITECT

We much regret that our advertisement in The Architects' Journal *for September 26 incorrectly referred to the City Architect and Surveyor instead of to the City Architect.*

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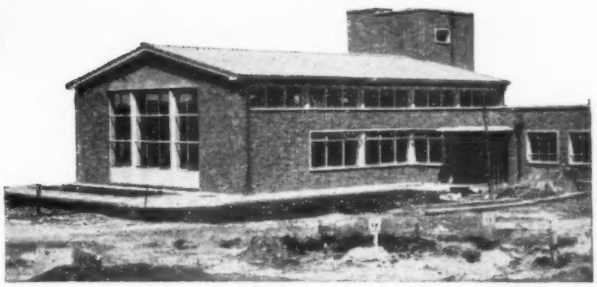
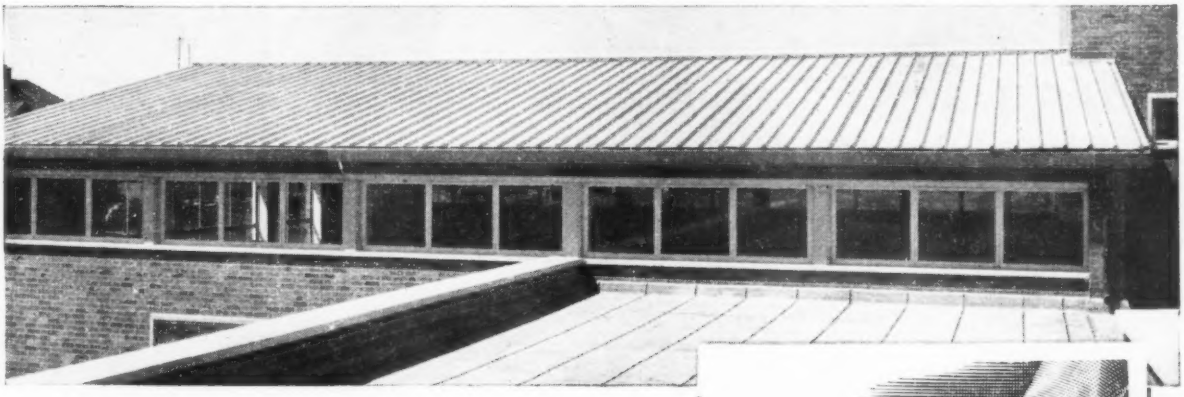
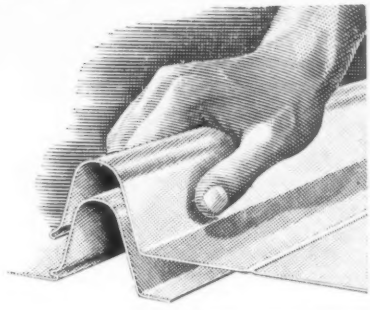
SNAPRIB

goes to school

Assembly hall of Wiltshire County Primary Infants' School, Swindon, roofed with Noral Snaprib Sheet Architect: F. I. Bowden, A.R.I.B.A. of Wiltshire County Council. Roofing Contractor: W.E. Humphries, Swindon. General Contractor: R. J. Leighfield & Sons Ltd., Swindon.







Noral Snaprib aluminium sheet has many substantial advantages: its laying technique is simple and rapid, no external fastenings mar its appearance and, because there are no bolt holes, it is completely leakproof. Aluminium's durability ensures a long-lived, maintenance-free roof.
If you would like to learn more about Noral Snaprib, why not write to the nearest of the listed roofing contractors for our descriptive brochure

The Snaprib system is fully covered by patents held by Cookson Sheet Metal Developments Ltd.

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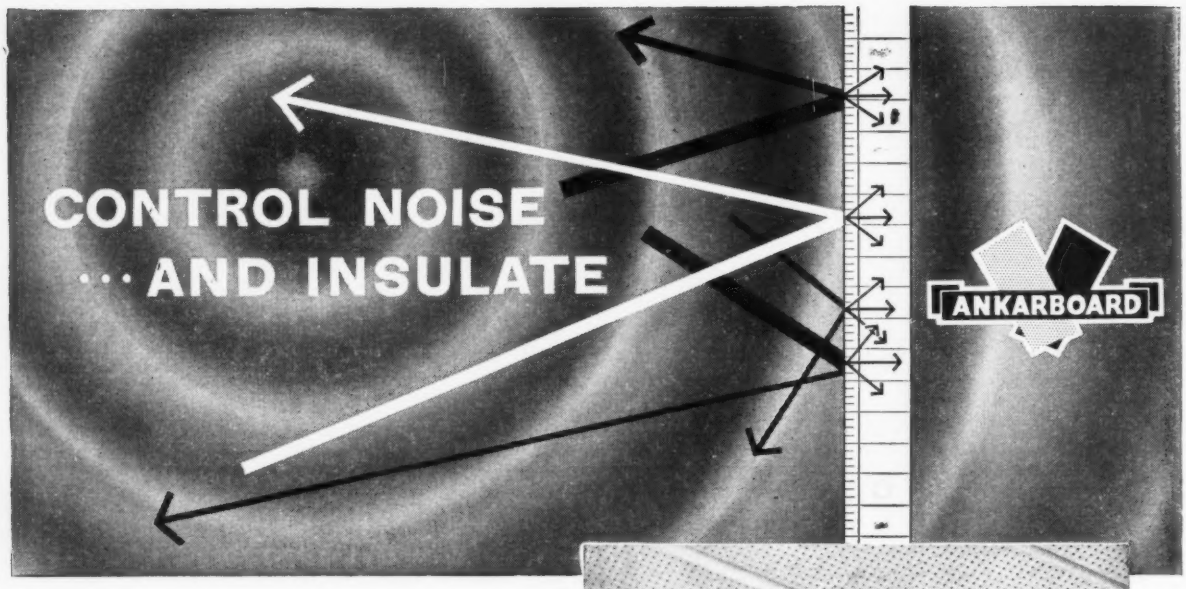

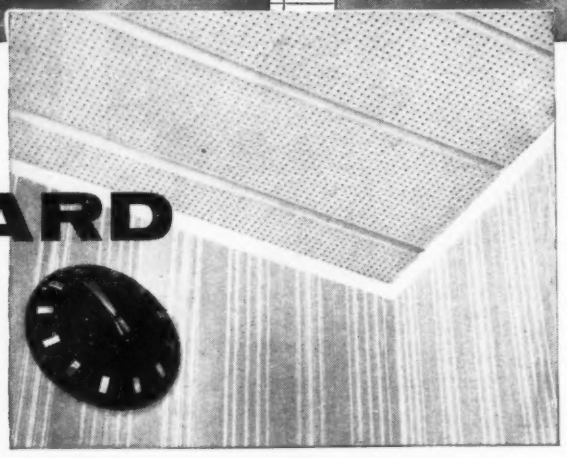

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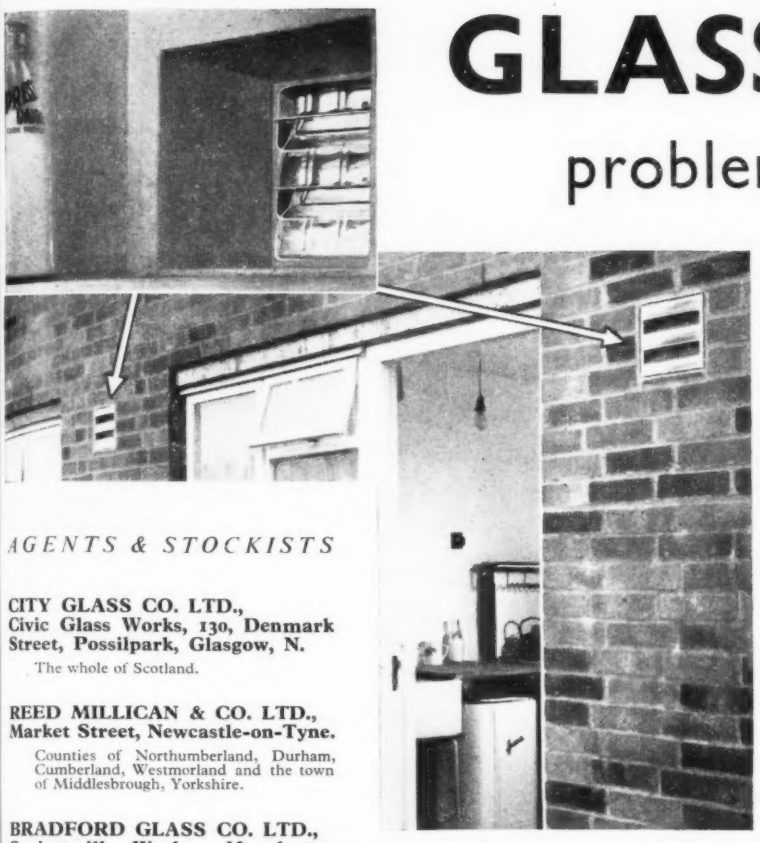

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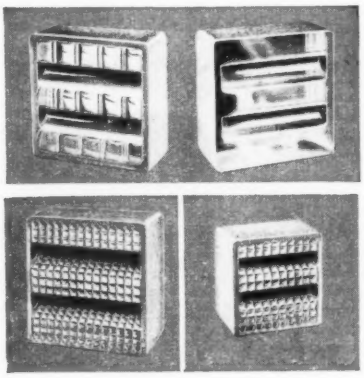

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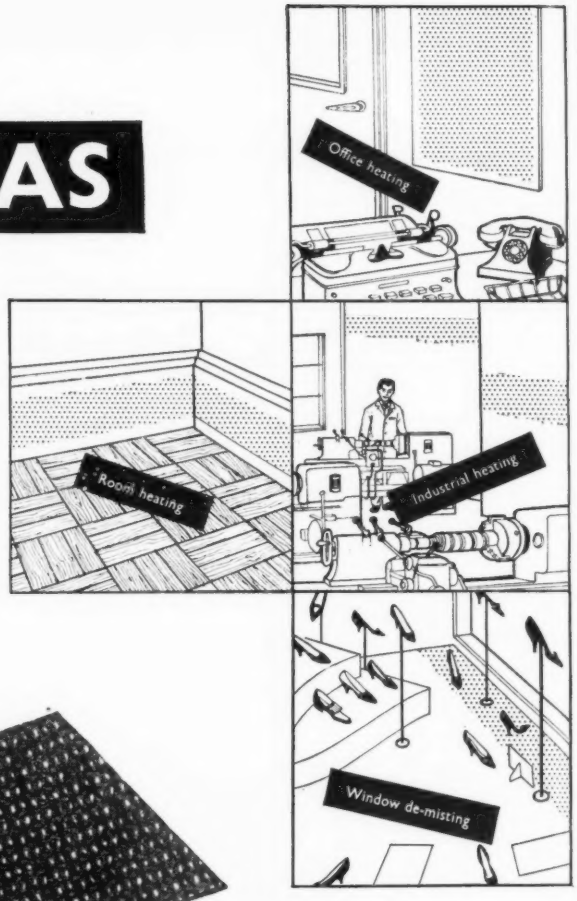

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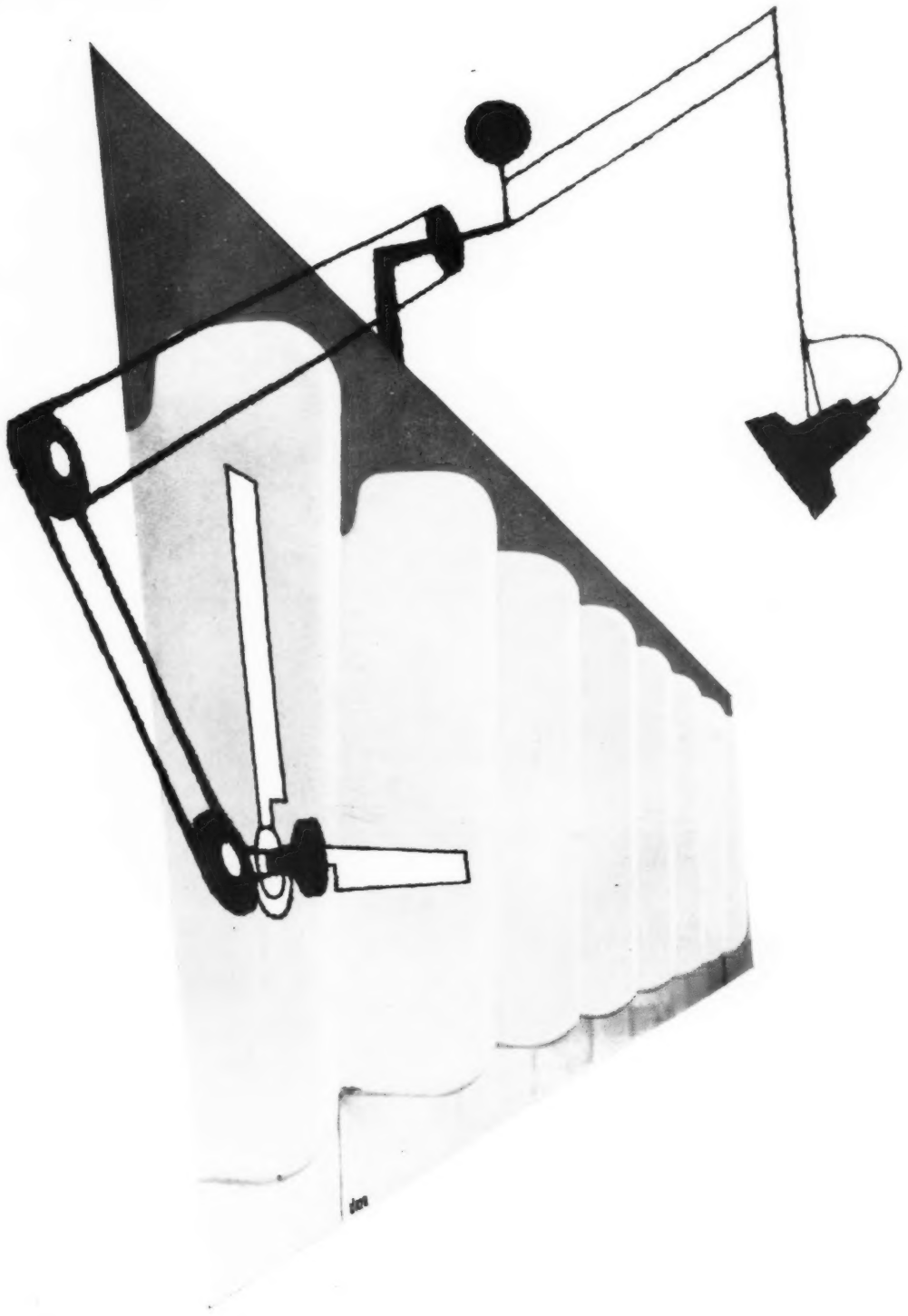

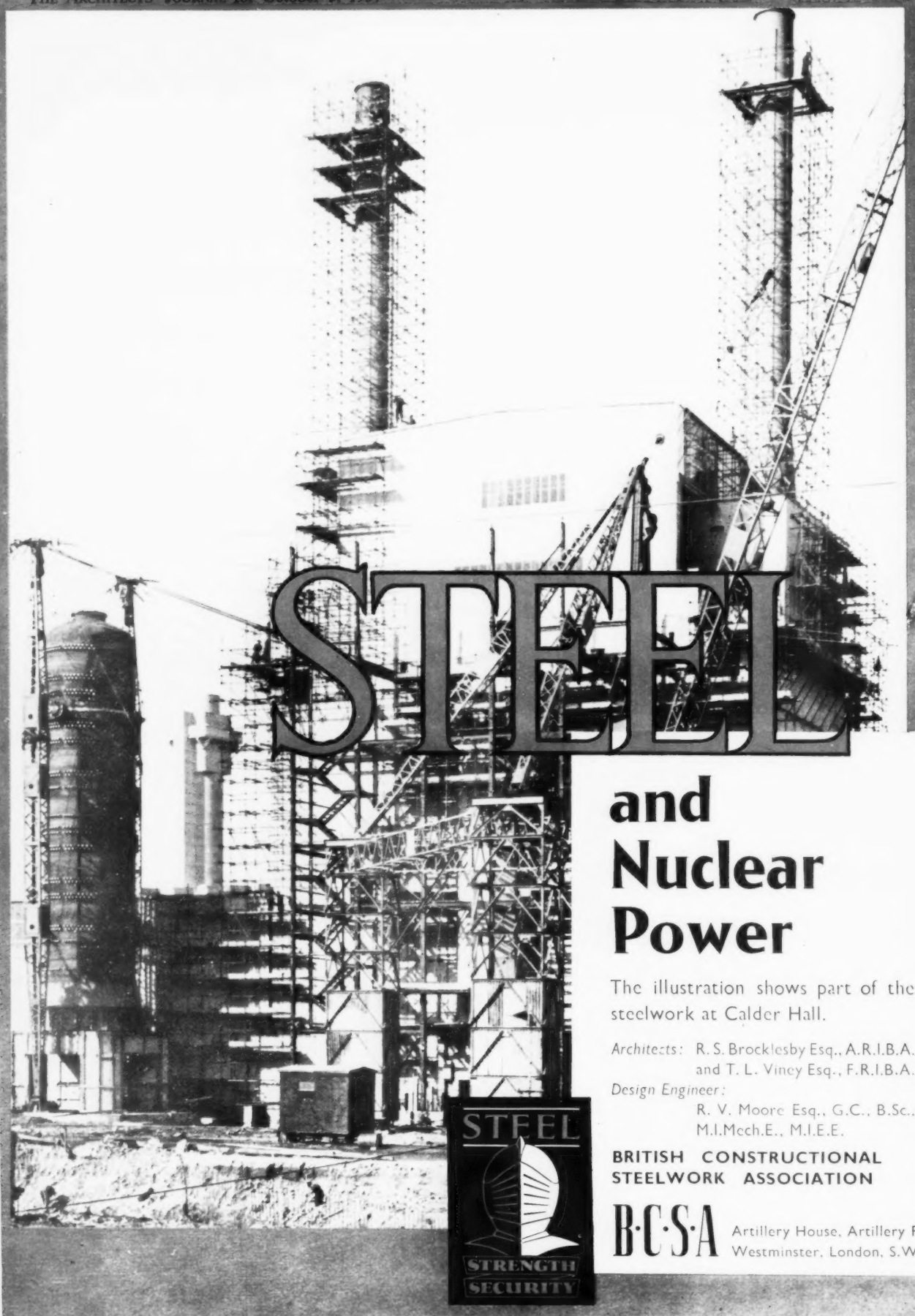

STEEL and Nuclear Power

The illustration shows part of the steelwork at Calder Hall.

Architects: R. S. Brocklesby Esq., A.R.I.B.A. and T. L. Viney Esq., F.R.I.B.A.

Design Engineer: R. V. Moore Esq., G.C., B.Sc., M.I.Mech.E., M.I.E.E.

BRITISH CONSTRUCTIONAL STEELWORK ASSOCIATION

B·C·S·A Artillery House, Artillery Row, Westminster, London, S.W.1.

AJ

THE ARCHITECTS' JOURNAL

No. 3266 Vol. 126 October 3, 1957

9-13 Queen Anne's Gate, London, S.W.1. Tel. WHI 0611.

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NOT QUITE ARCHITECTURE

A COWPAT FOR A CAMELLIA

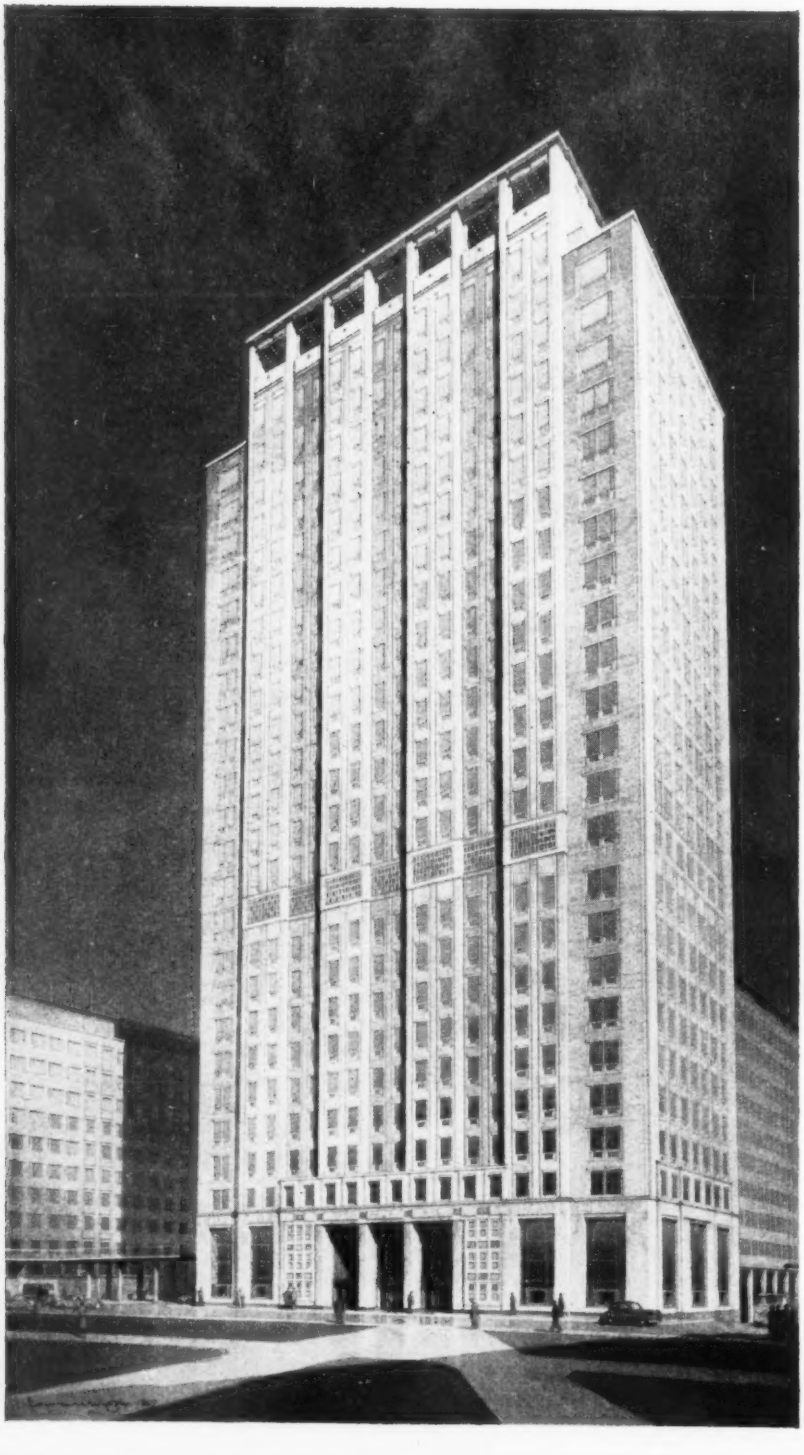
or, Hellebores on the tennis court

Gardens are greener than they were. The leafy plants that have taken possession of our living rooms are now beginning to pour down the back steps and up over trellises and arbours where, regardless of shade or a rainy summer, they rampage with heartening exuberance. One happy result is that gardeners, once as a tribe so absorbed in producing "masses of bloom," have discovered that shapes are as exciting as colours, and grey leaves and shiny ones will make a pattern just as appealing as scarlet geraniums and white alyssum. As a result the range of plants worth growing has infinitely increased.

*

Another happy result is that gardeners are much idler than they were, since a well-placed ivy and a clump of repeliantly named but handsome *fatsias* need far less toil for their upkeep than any flower border. So today's gardeners can sit about in pretty little white ironwork chairs with cool drinks and cosy conversation, instead of grubbing forever on their knees—in fact, as I discovered in a superb new gardening book this week, such old-style grubbers are now to be known as "plantsmen." New style gardeners require new style gardening books. (Hence the Architectural Press's recent volume of

Shell's South Bank Offices Brought Up To Date



About eighteen months ago (May 10, 1956) the JOURNAL illustrated a model of Sir Howard Robertson's scheme for the Shell offices on the South Bank, and described the scheme as "South Bank's Vertical Failure." Last Sunday week the *Observer* published an article it had commissioned Ian McCallum to write, called, "The Mystery of Shell," in which the building was heavily criticized. ASTRAGAL'S comments on this in last week's JOURNAL have brought the following letter from the architect.

SIR,—I would like at this stage to reply briefly as follows:

1. I do not remember seeing published in the ARCHITECTS' JOURNAL the final design for the Shell "tower" and its relation to adjoining blocks as exhibited in Mr. Lawrence Wright's drawing shown at the Royal Academy 1957. The buildings are being executed to this design, and it is the one on which consents have been accorded. The design portrayed in the picture which Mr. McCallum used in his article in the *Observer* is at least 18 months out of date, and I must assume that he would have known it to be so.

2. Through Mr. McCallum, an Associate member of the RIBA, and an employee of the Architectural Press, there has been launched a fresh campaign at the very moment that building operations start. This could have been done 18 months ago. The facts are that all consents were obtained in the perfectly normal manner, so the reasons behind the timing and character of Mr. McCallum's article must be judged in the light of these facts.

3. There has never, at any time, been any "ominous silence" about this scheme. It has been nationally publicized and illustrated in the National Press. There has been no secrecy whatever. If any citizen wished to complain, there has been ample opportunity to do so over a long period.

4. I have dealt with Mr. McCallum's article in my reply to the Editor of the *Observer*.

HOWARD ROBERTSON.

1. We did not publish the final design for the Shell tower because the changes made since the original conception do not seem particularly significant. But readers can judge for themselves from Lawrence Wright's drawing on this page.

2. We continue to deplore the fact that consents were obtained for the erection of this design from the LCC and the RFAC. The former body has shown that its standards of contemporary design, are, as far as its own architectural staff are concerned, very high, so it is puzzling that it has approved Sir Howard's building.

3. The scheme has, no doubt, received as much publicity as most very important London buildings in the national Press, but as we have complained for many years, the national Press do not give nearly enough space to architectural issues. We did not suggest that there has been any secrecy. We do believe, however, that architectural critics have restrained their criticism of this design because of their immense personal regard for Sir Howard Robertson and because they fear that by criticizing his design they offend the man. We, too, have great admiration for Sir Howard, but we try not to let our personal feelings prejudice our criticisms, painful though it may be.

4. Mr. McCallum has dealt with Sir Howard's reply in a letter to the Editor of the *Observer*.

charming little modern gardens (*The New Small Garden*, by Lady Allen of Hurtwood and Susan Jellicoe), which was a handbook of ideas for making the garden a graceful extension of the house.) Now comes *Successful Town Gardening* (Country Life; 2 guineas), by Lanning Roper, an American settler in London who, with his wife, has created a romantic garden full of catalpa and green hellebores on the site of two hard tennis courts. This is much more than a book of ideas. Although it is full of them, it also deals in detail with how to carry them out.

*

Mr. Roper knows all about our heavy, weary, city soil, our atmosphere loaded with soot and sulphur, the destructiveness of our cats, sparrows, children and jobbing gardens, and he knows what to do about them, and passes his knowledge on with agreeable informality and a wealth of beautiful illustrations. I like a man who urges one to keep a baby's bath permanently in the boot of the car for bringing back loads of manure from the country; it reminds me of a dear old lady who always begs to be brought "a cowpat for the camellia" when she sees anyone starting for a picnic. And I like his views on floodlighting one's garden, which suggest a state of permanent, private *son et lumiere*.

*

Nobody has understood better the delights of a tiny roof garden of assembled flower pots, or made better suggestions for turning a dank backyard between cliffs of houses into a place where plants of some kind or another can flourish and look happy. Both drinks-in-the-arbour gardeners and specimen-hunting plantsmen (by the way, Mr. Roper is really a plantsman, too) will find his ideas, his know-how, and his final lists of town-loving and tolerant plants most stimulating and useful.

SHEILA LYND

DIARY

City Centres: Dead or Alive? Talk by Nathaniel Lichfield at the Planning Forum. At the Planning Centre, 28, King Street, W.C.1. 6.30 p.m. OCTOBER 14

The Effect on Values of the Landlord and Tenant Act, 1954. Talk by J. C. Bassett. At the RICS, 12, Great George Street, S.W.1. 5.45 p.m. OCTOBER 14

The Return to Fixed Price Tendering. Talk by J. T. A. Brooks. At the RICS, 12, Great George Street, S.W.1. OCTOBER 16

The Editors

THE OLD ARCHITECTS' FAILING

QUITE recently the subscription rates for members of the RIBA were substantially increased, but already there are strong rumours abroad that the RIBA is in some financial difficulty. One cause is said to be the unexpectedly high cost of the extensions to 66, Portland Place now under construction (high costs are always unexpected by architects), and suggestions are being made that heavy cuts in *all* branches of RIBA expenditure must be made. Indeed, these sudden financial crises are not always so disastrous as they appear at first sight, from the very fact that they provide a moment when the whole programme of expenditure can be reviewed and re-assessed and a new programme substituted which takes into account both the new and the near-traditional items of RIBA expenditure, and judges their relative importance. But in any event we maintain that the expenditure of money on matters concerning the status and responsibility of architects must not be curbed, but rather increased; because this work is the most significant way, today, in which the RIBA can safeguard the present and future interests of the profession, and through it, the advancement of the art of architecture itself. For this, after all, as the Royal Charter states, is the primary purpose of the Royal Institute.

ARCHITECTS' AND SPECIALIST CONSULTANTS

About one thousand students entered the architectural schools this year, according to Michael Pattrick, the principal of the Architectural Association School of Architecture, and a member of the RIBA's Board of Architectural Education, who should therefore be in a position to be sure of his facts. Mr. Pattrick, who gave a Third Programme talk last week, went on to suggest that in six or seven years' time about one thousand students will qualify as architects. If this proves correct, and if the intake rate remains constant, it will only be a matter of time before the profession will have doubled its membership from twenty thousand to forty thousand. In fact, as our 1953 Guest Editors Martyn Webb and Professor Ian Bowen discovered, there is a considerable wastage both in the profession and during the period of training.

Mr. Pattrick pointed out that it takes a year to discover whether a student has a real aptitude for architecture, and he was very impressed when he visited American architectural schools (most of which, unlike the majority of English schools, belong to universities) to discover the ease in which students can change their course of study as their real aptitude is discovered. One factor which helps this is the fact that the first year of study is accepted " as an educational discipline, rather than as a professional training." It is this broader academic training which it is obvious that many British architects need so badly. But, as Michael Pattrick went on to say, the real need is to create a greater number of specialist consultants with an all-round knowledge of building. And, we would add, some form of qualification for the architectural draughtsman. As every office knows, there are plenty of excellent designers who are not mentally equipped to undertake the full responsibility of the architect, just as there are efficient building administrators who should not be allowed near a drawing board. Neither should be compelled to qualify as architects in order to achieve so-called professional status. A three-year course should be sufficient to produce the technical consultants an architect needs, and would also help to reduce the enormous current entry into the architectural profession—an entry which is liable to devalue the status of the architect. These considerations should be borne in mind by those discussing the formation of a faculty of building, or a college of advanced building technology.

BANK RATE ALARM

It would be interesting to know what reactions architects are getting to the 7 per cent bank rate. ASTRAGAL has already had one letter from an architect lamenting that his civic centre, about which he had been enthusiastic, seems unlikely to go ahead. A young assistant, promised a job with a large and expanding London firm of architects, has been told that the job must remain in abeyance until the firm's future programme is clearer. The secretary of Guy's Hospital, announcing the plans for its reconstruction, expressed concern and declared that if the project was stopped it would be an absolute tragedy. Battersea town council has abandoned a plan for multi-storey flats that had reached the contract stage. These may be unrepresentative experiences, but they are sufficient to cause alarm and despondency in a good many quarters.

STILL HIGHER COSTS

The building trade unions are going to ask for a 42-hour week when the National Joint Council has its usual January meeting. But don't imagine that operatives really want to work fewer hours; what they *do* want is an earlier start for overtime rates. The employers are naturally against the idea and officially the unions don't want excessive overtime hours worked either. But the operatives, like everyone else, want more money, and every contractor knows he can't get enough men, unless he can virtually guarantee plenty of overtime or some sort of incentive bonus scheme which brings the wage packet up very considerably, whether output is increased or not. Whichever way one looks at it, this is, in fact, a demand for a wage increase—and if the shorter hours are turned down there will, presumably, be a demand for higher hourly rates.

WHAT PRICE AMENITY?

A state of more than the usual confusion in governmental circles seems to lie behind the decision of Henry Brooke to " call in " the planning application for the skyscraper hotel in Park Lane. The decision on the application will now be taken by the Minister himself, after a public inquiry to be held on November 6. On the face of it, there is no good reason why the LCC, as the planning authority, should not be allowed to plan its own area and come to its own decisions. Only a week ago it was announced that another very tall building on Millbank had been approved by the LCC. The Minister's letter says that he must decide the matter himself because " the interests of several government departments are involved." The reality behind this phrase is simply that Whitehall is torn between dollars and amenity. The dollar-conscious Ministries (the Treasury and the Board of Trade), and the tourist organizations, are all for new hotels, regardless of where they go or what they look like. But the skyscraper is a violent intrusion into the skyline of the royal parks, which the Ministry of Works is pledged to defend to the last. And the Royal Fine Art Commission's views are critical too.

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This seems to be an admirable case for the Minister to set an example by implementing the recommendations of the Franks Committee on administrative tribunals, which recommended that inquiries should be held by independent inspectors, that their reports should be published in full, and that the Minister should furnish the inquiry

with a statement of government policy. The last one might present some difficulty!

THE NAKED AND THE URBAN

Now that the past chairman of independent television has made the Nude respectably rude with that book that people are still talking about, the crowds will no doubt be flocking to Gallery One (if they can find it) to view (and I quote the handouts cold) the "attitudes of some post-war painters to the exploration of the nude." ASTRAGAL'S regular readers, adepts at swimming against the tide, are probably heading the other way—to the Tate for Monet, or the ICA for Turnbull.

*

The Monet show may well be the last of those handed on from the Edinburgh Festival to have been organized by the indefatigable Douglas Cooper. If so, then this notable enterprise, which has given us sumptuous glimpses of Renoir, Braque and Degas, has closed on a strong and appropriate note. Monet is reckoned to be where modern art begins, and this big, meaty exhibition gives an impressive view of a lifetime of tireless and perceptive investigation of the way things really look, the pure spring of Impressionism tapped at source. The critics will doubtless rave about the quality of the light, the subtlety of colour, but the thing that struck me was the extent to which London and Paris still look to us as they do in Monet's paintings. Is it, one wonders, because they are to a large extent physically the same (like the street furniture of the boulevards or the Embankment) or is it because the Impressionists, the first amateurs of the urban scene as it is, have coloured our vision of how it still remains.

*

The Turnbull show contains hints of the urban scene as it might have been, for among his diverse, ingenious and eye-tickling paintings and his extraordinary slabby sculptures (these are unlike the spindle-shanked mannikins on which his reputation was founded) there are a few curious reliefs of knobs, spikes and ribbing on curved backgrounds that are the remains—so to speak—of a bold project that came to nothing. The idea was for Turnbull to execute a gigantic relief-mural up about eighty feet of one of those fashionable concave walls on the façade of a new office block in the City. The reliefs on show at the ICA are derived from the models he made to study sight-angles and the fall of sun (the wall was to face nearly due west) and shadow across the wall-surface and its projections, and when they are studied with this in mind, they suggest that the ICA's gain is the City's considerable loss.

CAMPUS SCHOOLS

Dissatisfaction with the 11-plus examination, and doubts about the suitability of the comprehensive school as the only solution for secondary education, are leading to the emergence of new ideas in educational circles. Those, in their turn, look like presenting architects with new problems to solve, and new opportunities too. The first attempt to abolish selection at 11-plus has begun in Leicestershire, where all children are to go to "high schools" from 11 to 14, and to grammar schools if they promise to stay until they are 16. County Durham has just adopted a scheme for five secondary schools (one grammar-technical and four secondary modern) on a single campus at Billingham.

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The schools will have separate heads and their individual corporate life, but will share not only a single body of governors, and the campus itself, but also their facilities for physical education, games, swimming and practical work. A domestic science block and a practical block (for woodwork, metalwork, engineering and similar work) will be shared, although within the blocks each school will have its own classrooms. Altogether the five schools will take about 2,500 children, and should make possible a more rational use of the facilities provided, particularly if the allocation of them between the schools is reasonably flexible.

OUTRAGE IN DUNBLANE

A powerful blast against an impending act of outrage has been sounded by the Scottish actor, Moultrie R. Kelsall, in the *Scotsman*. He criticised the Secretary of State for Scotland, John Maclay, for failing to over-rule the intention of Dunblane Town Council to demolish a group of small 18th century houses forming one side of the Dunblane Cathedral Close. An unusual feature of this case is that, for once, there is a body with ample funds eager to restore the houses and to put them to a suitable use as the Scottish Churches' Ecumenical Retreat. Among those who oppose the demolition are the Planning Committee of Perth County Council, the National Trust for Scotland, the Historic Buildings Council, the Saltire Society, and even Mr. Maclay's own Department of Health for Scotland. This is surely the sort of thing that the newly-formed Civic Trust ought to be having a stab at.

WORK STUDY FILM

"The cows ought to do the walking—not the men." That is a line from a film shown in London last week—a film about work study (not time and motion study—that's out of date) on the farm. ASTRAGAL watched the cowman plod his weary way—carrying milk. 700 miles a year he plodded, from cowshed to milking parlour, until the farmer called in a management consultant. After this fewer men could milk more cows in less space and more quickly.

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The film was shown by the London Building Productivity Committee, which—as committees always seem to do—represents all sides of the industry and the professions and is dedicated to the improvement of productivity. (How many miles do your clients walk . . . ?)

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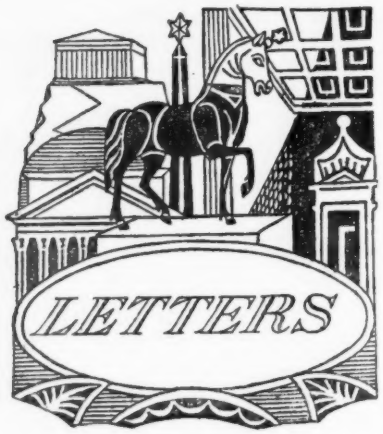
But why a film on *farming*? Because, although there are work study films on bandage making, hot dip galvanizing, centrifuge packing and bucket-filling, there are no films on work study applied to building.

*

ASTRAGAL came away with his mind's eye full of possibilities. Why not a film of work study in the drawing office (700 man-hours a year spent in throwing away catalogues . . .) as well as on the site? (700 man-hours spent finding out where section XX is on the plan). But seriously, it would be interesting to know where the time goes—and a film would be an entertaining way of being told. I hope the LBPC manage to produce a film—but it must be for architects as well as builders.

ASTRAGAL.



Paul Ritter, A.R.I.B.A.

Michael Haskoll, Student R.I.B.A.

Fredrick Gibberd, F.R.I.B.A.

Cleeve Barr, A.R.I.B.A.

A. J. Ault (A), I. J. Jessop (A), R. D. Fitzsimmons (S), A. J. Major (S).

Peter Savage, A.R.I.B.A.

Stuart Harris, A.R.I.B.A.

W. G. Cowburn

No-one Cared

SIR,—Peter Scher's many sensible suggestions show again that you are properly concerned with the problem of architectural education.

I only wish I could say as much for the many eminent persons who work in this field and whom one would expect to show interest. Before your publication of my article on the subject on November 22, 1956, I did a great deal of research and hoped to learn from the criticisms of a fair number of such men. On sending at least six of them my draft article in typed form I had no criticism and scarcely acknowledgement. Subsequent to the publication of the article I had only one response, abuse, based on falsehoods. It is true that student societies have asked me to enlarge on my views. But I am seriously concerned, as a young person, that the so-called leaders in the field show a lack of enthusiasm and interest that must be alarming to any person of whatever view who has become aware of the basic deficiencies of architectural education and education in general.

PAUL RITTER.

Nottingham.

Q.E.D.

SIR,—It seems that eventually some change will take place in architectural education. At this stage I think the following points are relevant:

A profession is as good as its qualifications. The qualifications are based on the curriculum and the standard required.

Criticism of the architectural profession implies that the qualifications are not good enough.

Either the curriculum can be altered or the standard increased.

Valid criticisms can be made of both curriculum and standard.

Alteration to the curriculum necessitates that it be lengthened, for although opinion may vary as to the method of teaching, the basic criticisms are not that the architect knows the wrong things but that he does not know enough.

Even in subjects taught it is probably true that the present standard does not ensure that the knowledge obtained is sufficient.

In other words an extended curriculum with a higher standard is required.

This in turn implies that fewer students will qualify.

However, if, as has been suggested by others, another standard is introduced—say after 3 years at the present Intermediate level—and this standard is recognised as being of value for its own sake and not merely as a stepping stone, a more realistic attitude of the requirements of the profession will be realised.

Anyway, three years study to a level equivalent to a B.A. must surely be of some value if one is to judge from the architectural appointments columns.

MICHAEL HASKOLL.

London.

Not the Point

SIR,—May I correct Astragal on a matter of fact. He says, "Tall trees extended right down to the beach and the waves left seaweed and driftwood among their trunks . . ", and goes on to say, "Once the plans for the power station were approved these trees and the lonely fields behind them were doomed . . ."

The site for the power station is an open one and there are no trees between it and the sea front and no trees on it, so none will be felled. There is a coppice on the eastern boundary, which your photographer may have thought was the site of the station, which is left undisturbed. There is another coppice on the western boundary, which is again undisturbed, excepting for the widening of an existing gap for the access road to the site.

As to the fields, they are, of course, doomed.

I take ASTRAGAL'S point about the crude surroundings in the drawing but he knows what artists' impressions are. The work is only just beginning on the landscape design. I have been told that I shall act as landscape consultant (being an FILA), and have already had meetings with R. W. Dale, the County Planning Officer and his forestry expert, with whom I shall collaborate.

FREDERICK GIBBERD.

London.

Good Chaps Stay at the L.C.C.

SIR,—As an architect who has just left the service of the LCC, I should like to contest the unwarranted statement in your leader of September 19 that "the great design impetus" at the LCC "is dying away . . . due to the fact that so many eminent architects have now left." The thing that surprises me about the LCC is that so many good chaps have stayed for so long, when, in fact, given the prestige that their work has achieved, they could have obtained leading positions elsewhere. The reason is, I think, mainly, that the opportunities at the LCC for creative work of real social significance, on a massive scale, are unequalled elsewhere.

I have had a good deal to do with staffing at the LCC during the past few years. The very size of the staff is such that, given a normal turnover, a few chaps come and a few go *every* week. The fact that women receive equal pay tends to increase the proportion of women well above the average, and this increases the rate of turnover, but, allowing for this, I doubt if the staff turnover is above the general average for most offices in the London area. Of one thing I am certain, as a result of the staffing policy of the last few years, the general level of design ability at the LCC today is relatively higher than it has been at any time whatever in the past.

You are quite right to raise the question as to whether new towns should be undertaken by local authorities or by the Government. I am sure that the LCC would not have embarked on this venture, if the Government had itself been willing to take the responsibility. The continuing increase in size of the LCC organization is also a controversial issue, since, unless unorthodox measures are taken, a point must be reached in the growth of any large office at which mere size can itself be a frustrating influence on design. But these are other issues. On the problem of "staff of the right calibre" which you question, the LCC, at all levels, has never had a better bunch of chaps, particularly of designers, than it has at the moment. The immense crop of new projects of all kinds now on the drawing-boards will one day prove that this is so.

CLEEVE BARR.

London.

Stultifying Prettifying

SIR,—We warmly welcome Andor Gomme's admirable review (September 19) of the locally-produced Outrage exhibition held in Gloucester, but your accompanying illustration of the space in front of St. Nicholas Church now occupied by hoardings prompts further comment.

Having regard to the remarks about this area made by Mr. Gomme when in Gloucester, and the JOURNAL'S reference to "stultifying prettifying," in fairness it should be pointed out that the area comes within the site layout of the adjacent new flats and shops and that as such, it will be one of the very few open spaces in the city to be architect-designed, being in fact under the control of the city architect. The detailed design which is about to be carried out, is straightforward and simple, the area being treated as a level expanse paved with flagstones and granite setts.

In Gloucester, as elsewhere, such public spaces are rarely the concern of a trained designer, and official planning control is neither the responsibility of an independent chief officer, nor in any way related to the city architect's department. This we believe to be a fundamental reason for the absence of creative planning, or indeed effective planning control. It does not however, absolve other bodies, private, commercial, and even ecclesiastical, from their share of responsibility for the particularly virulent version of subtopia apparent in post-war Gloucester—a point which was clearly shown by the exhibition.

A. J. AULT, I. J. JESSOP, R. D. FITZSIMMONS, A. J. MAJOR.

Gloucester.

The Rebuilding of Rushbrooke Village, Suffolk

SIR,—We must all agree wholeheartedly with W. G. Howell's comments on the delightful architecture of Rushbrooke Village (September 19, 1957), and on the difficulties of reaching a simplicity of architectural form through all the complexities of construction.

His conclusions on the implications of the scheme, however, do not seem to be supported by his own article. He says: "The lesson of Rushbrooke is an encouraging one. It is that we could have better housing layouts in our villages and new towns. It is no use blaming the programmes, the economics or the authorities—these will change if we can show they must."

Brave talk, and to a great extent true, but were we not told earlier in the article that "The space standards are not the same as the Ministry's" (so presumably they are higher); that "It is single-storey development which can't be as economic as two-storey," that slates are used (rather than tiles), and that boundary walls are used fairly generously to help architectural grouping. All this W. G. Howell admits.

His conclusions, then, would be more convincing if we knew that these houses cost no more per square foot of habitable space than a series of Ministry two-floor brick boxes. If they don't, this is the sort of ammunition for which the profession is waiting.

PETER SAVAGE.

Yorks.

SIR,—If, as your critic, W. G. Howell, half-suggests in his review of Rushbrooke Village, it might "tempt providence" to finish an eaves in slates bedded direct to the wallhead, the Scots have been tempting away for centuries, for it is a traditional practice in Scotland. Even pantiled roofs are often started with a few courses of slate, tight to the wallhead, with the first course of tiles about 18 in. above the eaves. The detail works all right, even in a severe climate like ours, and it is not really difficult to work on a cavity wall: one way is to rebate the wallplate into a precast concrete wallhead course. As Mr. Howell says, the detail leads to a most satisfying clarity of form—so much so that when eaves gutters are fixed to old buildings they read as a painful intrusion. The detail is indeed a key to the formal concept of the traditional house, and its neglect has quite a lot to do with the failure of modern housing to achieve a comparable force of character.

I suggest that the trouble at the ridges, where slates have come adrift, could have been avoided by the old device of diminishing the size of slates progressively from eaves to ridge, relative to the grip of the nails, the strength of the slate and the counter-leverage of the slate-head, the leverage of a small slate is tiny compared to that of a large one.

STUART HARRIS.

Edinburgh.

SIR,—It seems to be that Mr. Howell did not pay sufficient attention to the spatial form of the schemes shown in his admirable article. There were great contrasts, and these are most important.

Rushbrooke Village is a coherent whole; the screen walls form a closed spatial system in which the life takes place. Will the scheme fail because its form has been generated about the well-head, now redundant? Or is the space alone enough, of itself? Some tension must have been felt here by the designers, because they have not placed the club room in the Core.

But the CIAM projects, excluding the Howell-Partridge scheme, have no Core as I understand one. They seem Complex Single Buildings, with multiple occupation, rather than Places around which people live. The Complex takes precedence, there being virtually no public space; even the small part included is for moving through, not stopping in. Is it necessary to have a more defined neutral area to arrive in, before moving into the individual dwelling?

Here the questions can be summarized in more abstract terms, but in the opposite order from above.

(i) Is it good to have spaces of the kind that allow a differentiation between group and individuals? (This has nothing to do with the Image of the group one gets from outside the Built Complex, but has to do with the one obtained after penetrating inside.)

(ii) If it *is* good, then is it only possible to achieve this space when there is a compulsion which will make people use it? For instance, using it as a place for work. (The most forceful example of this is the Corte Palazzaccio, where the hamlet is built around the threshing yard, c.f. Casabella 205.) Or can one create a space which will bring into being a group life that will be its justification?

It seems to be on these questions that the whole of our thinking about building grouping depends.

I think that the answer to question (i) above is yes. It seems necessary for one to be able to do two things on entering the Group Place. First, assess the area as a whole, as a Place where people do live as a Group. Second, that the individual dwelling should exist apart from the group, though within it, when one is *inside* the complex. That is, the Place must have a psychological rightness of size, in order to assess its value. One can only do this if there is enough actual differentiation between the non-directional group space and the individual dwellings as *things* around it.

But on question (ii) I can see no definite answers. However, I suspect that it is not possible to form the space unless there is a function first. Therefore, in any given situation, dwellings should only be grouped about their own centres if the group is actually differentiated from any existing groups by work or social reasons.

So Rushbrooke Village will still work, though no one now uses the Well, the Corte Palazzaccio will too, though the threshing machines may come, and the Howell-Partridge scheme would come off, because it is for a social group consisting of the Aged, even though this may be bad of itself.

Even so, one cannot criticize the other projects because they have no situation; the problem has never arisen. Also, they are valuable as stimuli; they offer great solutions to the problems that they can and do face. However, I feel strongly that they cannot have their true value unless, at the same time, it is understood that the above questions are the basis of thinking regarding the creation of Architecture. Unless people feel the spaces are right, they will never be at home using them.

W. G. COWBURN.

London.

CRITICISM

The Architect Replies:

D. A. Birchett, the consulting architect for the garage and service station at Harlow New Town which J. M. Richards criticized on August 29, replies here to correspondents.

SIR,—I much appreciate the thoughtful letter contributed by R. Derek Hammett and C. A. Roger Norton in the issue of September 12. There are certain further points which should be made:—

Any petroleum-distributing company would like as many stations as possible through which their products are sold to have a "family likeness." Irrespective of whether traditional or non-traditional methods of construction are employed to achieve this, the problem of finding suitable sites is the same. Owing to the current difficulty in securing planning consents for new site development, the petrol companies must place increasing reliance on their ability to change the appearance of a greater number of existing stations where consent to change of use is not necessarily required.

Irrespective of size, station buildings within the same trading group should have the family look previously referred to. There is no reason to suppose that this cannot equally be achieved either by traditional or non-traditional methods or a combination of both. Though it is true that stations are dispersed all over the country, it is also true that each has a road leading to it. The building contracting industry is also widely dispersed throughout the country and though certain sites are rather more difficult to get at, I have known of no case where contracting facilities were not available, nor can I recall a lack of preparedness to tender for work. The general level of employment of the industry largely determines whether tenders are more or less difficult to obtain.

Opinions vary as to the areas of glazing required. My own experience leads me to believe that station operators approve generally of the increased light and state that working conditions are better. An adequate system of artificial lighting must also be available for under-chassis inspection and repair.

In answering John Burkett's letter, I believe it to be quite clear that neither Mr. Richards nor myself has ever said that a unit system of construction is the only method. There is, however, considerable justification, bearing current trends in mind, for more architects and building technicians generally to concern themselves with problems of unit construction designed either as complete systems or as systems which can be integrated with traditional constructional forms. Thus there appears to me to be no need to refer to ". . . those with a modular axe to grind."

It must be borne in mind that there are in the United Kingdom between 34,000 and 35,000 retail selling points of motor spirit, and I do not think that there is any justification for giving large numbers of these the appearance of follies, whether in the best tradition of the word or not. Bearing in mind the increasing standardization of the facilities offered by filling stations, service stations and garages throughout the United Kingdom, it surely is better that the buildings housing the facilities should be kept as simple and made as easily recognizable as possible. It is not standardization which kills this field of architecture stone dead so much as the unimaginative use by far too many people of standard components.

COMPETITION

A Timber House Can Win You a Trip to Canada

If you are interested in timber frame housing and would like to enter a limited competition which might win you a free trip to Canada, as well as a money prize, you should write for particulars to G. Cleveland Edgett, Timber Development Director, British Columbia Lumber Manufacturers' Association, Canada House, S.W.1.

Ten architects will be chosen from those who submit photos and drawings of their work in housing. Each architect will be asked to prepare a design based on the use of load-bearing timber frames or post and beam construction. They will be "free to develop structural form and style in any way they consider practical and appropriate." Each will be paid a fee of £250 sterling or the equivalent of £350 in dollars plus a free air trip to study architectural developments in Canada. A royalty will also be payable to the architects for each use of their house designs, which will be published in a booklet. They will each be requested to act, for appropriate fees, as supervising architects for any of the ten houses erected in their part of the country.

The ten houses to be designed range in price from £1,800 (in terraces) to £5,000.

LCC

Advisory Service More Than Pays For Itself

Half a million gallons of paint are used each year by the LCC on houses, flats, schools, bridges, etc. During the past year the Council's Scientific Branch advisory service has approved 83 new brands of paint and rejected 84. The causes for rejection were low opacity, poor surface finish or the presence in exterior paints of excessive amounts of chalk.

In a report* published by the Scientific Branch (of the Public Health Department) it is stated that the advisory service more than pays for itself because, by ensuring that materials of suitable quality are used, it saves maintenance work.

The building materials received by the advisory service during the year included flooring, floor scalers and polishes, plasters, light alloys and plastic building materials, fire retardents, concrete, slates, asphalts and bitumen felts. The importance of tests on samples of clays and ground waters from building sites has increased with the construction of high blocks of flats in housing schemes. The report points out that the deep concrete foundations may be in contact with moist soil or ground water, where sulphates in the London clay can weaken the concrete.

* From LCC, or from Staples Press. Price 1s. 3d.

BERLIN

The Building Industries Exhibition

The memory of the Building Industries' Exhibition in Berlin (September 14-29), will indeed be haunting when, in a few weeks, we compare it with its Olympia counterpart.

If any prospective Olympia exhibitors visited the Funkturm they would be hard put to it to make last-minute alterations, based on this new inspiration, for the great, outstanding feature in Berlin was the *organized co-operative* effort which each branch of the industry had made. There was no question of competitive manufacturers of identical goods—*e.g.* standard metal windows—each exhibiting their own version on their own stand. The crammed, dreary effect of this parochial attitude is in striking contrast to the broad—even fundamental—approach of German industry.

The Exhibition ground, at the Funkturm, consisted of about a dozen permanent halls—in a mild version of "dictatorship—classical—modern" style, and large outdoor spaces with outdoor exhibits and many special, temporary buildings. Each of the permanent halls was devoted to a group of industries—gas and electricity; steel; non-ferrous metals; wood and synthetic wood products; plastics and glass; etc., etc.

In each hall the various manufacturers of that group or branch of the building industry had made a concerted effort to convey, as strikingly as funds and space permitted, the basic character of their product or material. The entrance gallery to the wood and timber pavilion, for instance, carried models, diagrams, photographs and literature on the growth of timber, methods of selection and sawing, machining, characteristics of various hard and soft woods, preservatives, etc. Also enormous and skilfully-placed photographic material, using the psychological approach of the "Family of Man" exhibition (the baby in his wooden high chair; the old man in an autumn graveyard with wooden crosses; the bent old woman collecting twigs in a sack; the skier in flight; the tree-trunk canoe; the blazing of a log fire). In immediate juxtaposition—double timber windows of the highest precision (cost difficult to assess because great variation according to type of wood); laminated bent-ply furniture; extruded chipboard.

The cast-iron pipe manufacturers introduced their stand with reproductions of engravings on plumbing from Diderot's Encyclopaedia. Brick manufacturers had Assyman terracotta sculptures; lock manufacturers got together a notable exhibition of locks from 5,000 B.C. to A.D. 1957.

There was a great awareness of the design potential of materials. All manufacturers showed drawings, models and details of Aalto, Gropius, Vago, etc. (buildings being simultaneously shown at Interbau Exhibition), showing use of their materials: Many displayed the names of consulting designers and architects who designed products for them. The non-ferrous metals hall contained sulptures and panels by leading European artists, specially commissioned, in aluminium sheet, brass rod, or copper extrusion. Side by side with them were the brass tacks.

There was a sense of space and freedom everywhere, and no clutter. Each manufacturer exhibited only those products which were really new and different from the common ones of his industry.

Perhaps no single product was as highly developed as windows, nor did any item make the British architect feel more depressed. Double glazing was "de rigeur" both here and at Interbau. It was either factory-made, double-glazing units or double casements, side hung or vertically pivoted. Window frames were carefully designed and sound; ventilation between outer and inner frames and condensation control was explicitly solved. Stainless steel, steel, timber and aluminium frames were available in almost any combination; plastic extrusions often replaced putty; hinges and window furniture managed to *look* graceful and yet *be* astonishingly solid and heavy; proportioning of windows was uniformly good.

Although many Berlin buildings, both at Interbau and outside it—*e.g.* new block at Technical University—employ curtain walling, little interest was shown in it at the Exhibition. The Steel Industries general stand, constructed of curtain walling, had no literature on it.

The British Pavilion, which was almost entirely devoted to new schools, contained excellent material poorly displayed. The American pavilion, with its dramatic lighting and photography (again "Family of Man" inspired), showed the character of the American city on spiral, panoramic view of N.Y. Records played sound of city traffic. The procession of new materials, Buckminster Fuller domes, curtain walls (life size model of Lever House executed with two typical storeys—mirrors above and below) was impressive but over-dramatized.

HOUSING CENTRE

Students' Plan For Greenwich and Blackheath

Nobody who went to the Housing Centre last week to study and to argue about the plan for Greenwich and Blackheath prepared by the second-year students of the town planning course at the Regent Street Polytechnic could fail to be impressed by the immense enthusiasm and industry they have shown, as well as by their approach to town planning problems. For a class of 16 students (all of them, by the way, already possessing a basic qualification in, for example, architecture, engineering or surveying) to do a complete survey, analysis and plan of such a large and complex area, illustrated by a colour film running for 12 minutes, two excellent models, and a large number of maps, drawings and photographs, is an achievement in itself. Since the three hours a week formally devoted to study at the Polytechnic was given over to group discussion (at which all decisions were eventually, and amazingly, arrived at unanimously), it follows that the entire work of surveying, planning, map-making and modelling was done in the students' spare time, and paid for out of their own pockets.

The presentation of the scheme to the meeting suffered (and it is a point that others presenting students' schemes might note) from too many speakers. Is it really necessary for four teachers (the principal of the school of architecture, the head of the department of planning, and the two studio masters) each to say his piece before the students begin, and for six or more students each to explain a part of their work? All this, in a meeting nominally planned to last two hours, inevitably wastes time, leads to repetition, and becomes at times a bore. This was all the more to be regretted because the scheme itself was suffi-

Above: the riverside panorama at Greenwich, showing the Royal Naval College (centre) flanked by industry to the east, with the Cutty Sark in its new basin and some depressing council flats to the right. The model shows the Regent Street Polytechnic town planning students' proposals for Greenwich. East Greenwich is in the photograph below, with the college in the right corner. West Greenwich is beneath it with the college in the top left-hand corner. The density proposed is 150 to the acre. The point blocks would be of 11 storeys.

ciently stimulating to keep a large group of people (including architects who have been building in the area) talking for an hour after the meeting had closed in an informal discussion round the model.

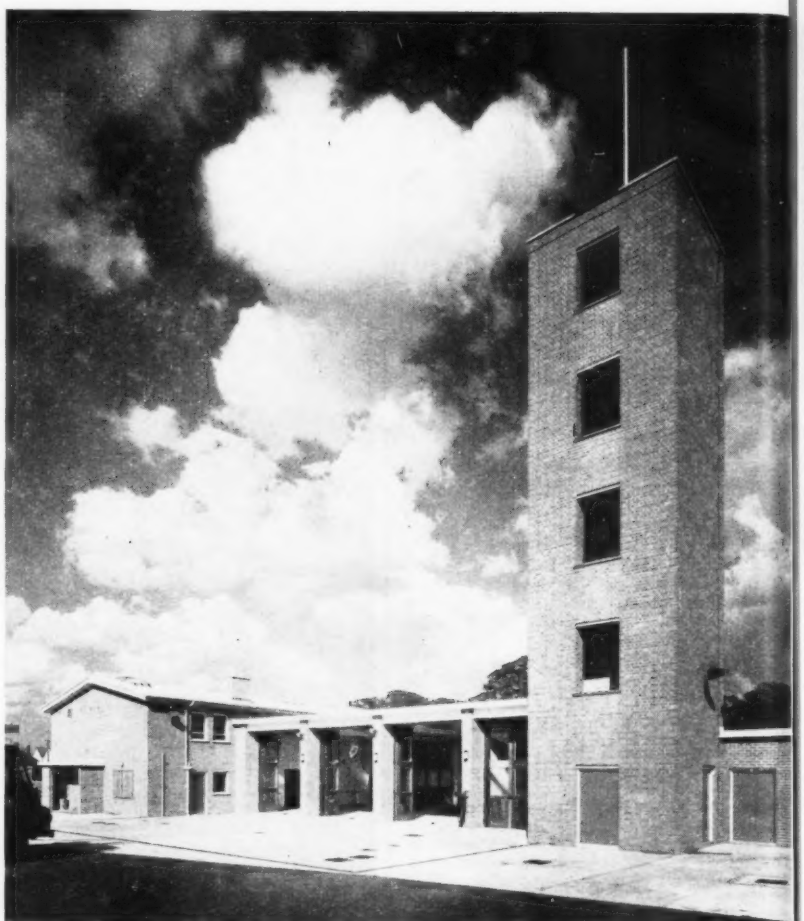
The main interest in the scheme lay in the group's decision to ignore the concentric pattern of densities laid down by the County of London Plan (which decrees a maximum density of 70 for Greenwich, and even a density as low as 50 in parts of Blackheath), and to make a practical suggestion for the redevelopment of one of London's worn-out suburban centres at very much higher over-all densities. The area surrounding Greenwich Park and Blackheath common was selected for this study because it was considered that its unrivalled open spaces justify higher density development, and that its architectural masterpieces needed to be set in better surroundings. The present densities in some of these areas is even lower than is allowed for by the plan (for example, 32 in Blackheath village and 36 on the fringe of Blackheath common). The students propose to make the densities 150 in East and West Greenwich (the plans for which are illustrated in the models on this page), 70 on the fringes of the Park and the common, and 50 in Blackheath village. The total population in the area would be raised from 30,640 to about 48,500, an increase of 47 per cent. It is proposed to clear away completely the slum and semi-slum property in Greenwich, to remove the old coal-fired power station that lies to the east of the Royal Naval College and generally to open up the river front to the public. To solve the acute traffic problems of Greenwich and Blackheath the main river-side traffic (which congests Greenwich) would be diverted through a tunnel beneath the park, and the A2 Dover Road which runs over Blackheath would be double-tracked and sunk into a cutting. The plan includes the restoration of West Greenwich to its former position of civic and commercial importance, and would locate in it offices to provide 5,000 jobs, as a move toward the decentralization of offices in London. East Greenwich would become a major shopping centre.

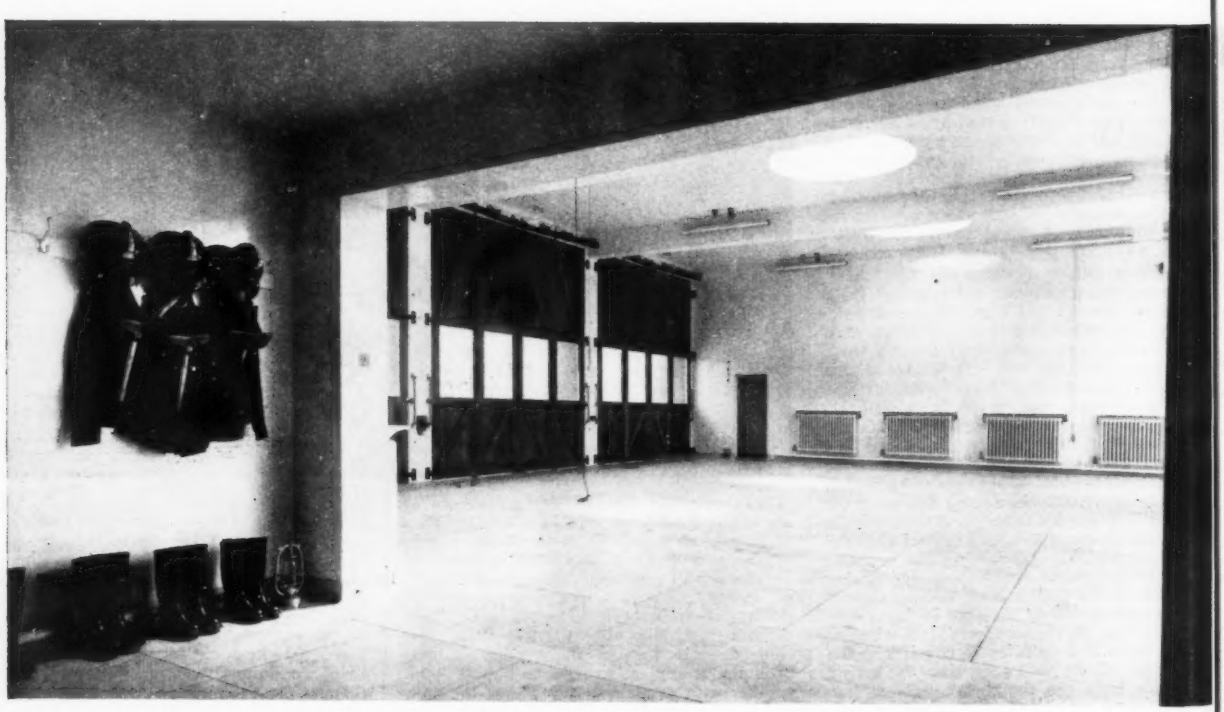
The chairman asked speakers in the discussion to give their names; as usual, most of the speakers failed to do so. The first speaker was a vigorous and rather plump lady who shook with eloquence and was, one gathered from her emphatic statement that the students would soon be one of her employees, a member of the LCC. "It's no good you saying I don't know what I am talking about," she told them, "because, when you are working for me I still won't know what I am talking about." This neatly taught the class the lesson that, in the last resort, the town planner's work fails if he cannot sell his ideas to his political chiefs. Her basic criticism was that the students had raised the density to 150 to the acre in the working-class areas of Greenwich, and left the privileged few at Blackheath to enjoy the spaciousness of 50 to the acre. She would oppose such high densities at Greenwich, at any rate until the Thames had been cleaned, and would raise the densities elsewhere. L. W. Lane, the LCC's principal planning officer, also thought that there was a case for higher densities on the higher land, and questioned the wisdom of 150 to the acre in foggy low lying Greenwich. He wondered, too, whether the students had sufficiently considered the economic effects of removing waterside industries from the river.

Other speakers started off an argument about the road proposals, in which the plan to put A2 in a cutting as it crosses Blackheath came in for a good deal of criticism on grounds of cost, and (rather surprisingly) of amenity. And a contribution from a Greenwich resident, who spoke alarmingly of the need to pile 40 ft. where the students had located their point blocks, prompted a student to refer to him as "the speaker with detailed knowledge of the area which is the planner's nightmare." The informal talk around the model revealed a general view that the 50 to the acre limit imposed by the LCC in Blackheath was absurdly low, and a regret that so much development was already taking place at even lower densities. But the general aim of the exercise, to plan the area in such a way that it could, without detriment to living conditions, accommodate more people than at present clearly commanded support.

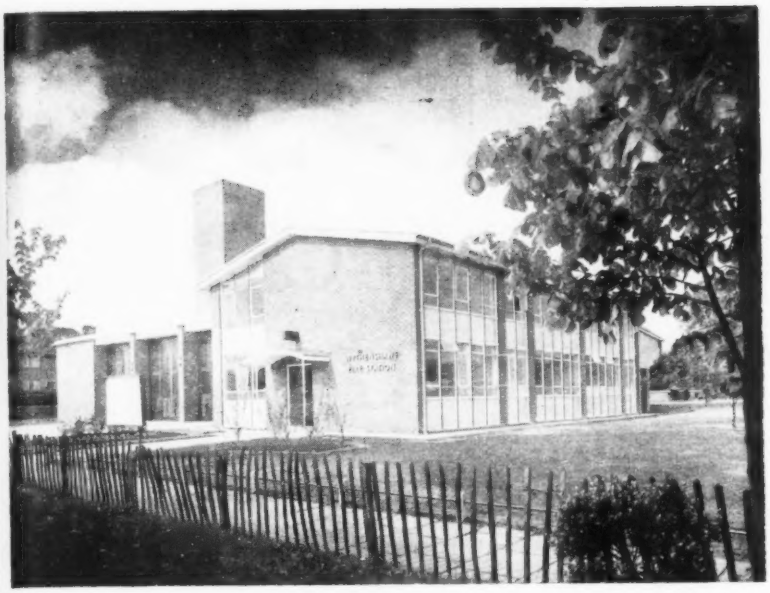
FIRE STATION AT BROWNLEY ROAD, WYTHENSHAWE

This building—seen opposite from the north-east—is on a corner site between Brownley Road and Crossacres Road. The site suggested an L-shaped block, and this tied in with the Home Office requirements that accommodation should not be placed above the appliance room, and that vertical access points should converge on a muster bay. Therefore the appliance room, of which an interior view is seen below, faces Brownley Road, the major road of the two, into which the main exit gate opens, while the domestic accommodation fronts Crossacres Road on which the return gate is sited. The exterior view, right, shows the hose-drying and practice tower integral with the building. This was considered more economical than a free-standing tower, which would have freed the operational area from training, but would have involved extensive heating pipe runs on sloping ground. A load-bearing structure of brick and r.c. concrete slabs was used in view of the size of the job and the domestic scale and treatment of the adjacent property.

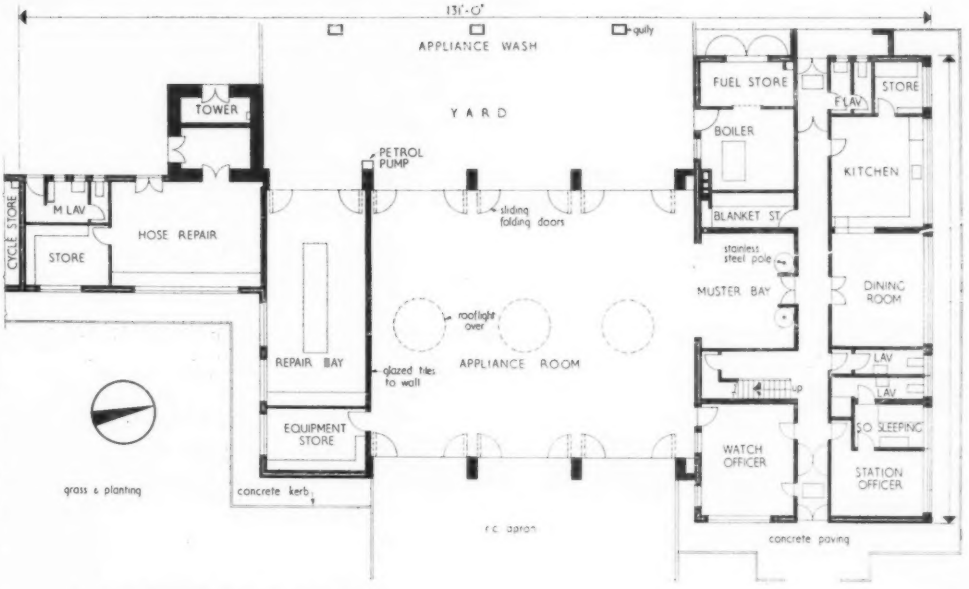




MANCHESTER, LANCS.



First floor plan



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

The finishes in the workshop areas are flush pointed walls and grano. floors; in the administration block, plastered walls generally (a glazed cement wall finish was used in the locker room suite) and linoleum or quarry tiled floors. The appliance room walls are covered with glazed wall tiles, the floor is finished in non-slip terrazzo tiling, and the doors in Burma teak. A low-pressure hot water system feeds radiators generally, with skirting heating in the dormitory and recreation room. The electrical installation includes fluorescent lights in the appliance room, an emergency lighting system throughout, battery chargers and immersion heaters in the appliance room, flood-lighting to the drill yard, a public address system, and alarm system connected by G.P.O. lines to factories. Architects, Leonard C. Howitt, Manchester City Architect, and Frank Robinson, assistant architect. General contractors, Moston Brick and Building Co. Ltd. For subcontractors, see page 536.

COST SUMMARY

Ground floor area : 5,246 sq. ft. Total floor area : 7,426 sq. ft.

Element	*Cost per sq. ft.* s	d	*Element : continued*	*Cost per sq. ft.* s.	d.
Preliminaries, etc.	3	2½	Wall finishes	3	10
Work below ground level	3	11½	Ceiling finishes		10½
Frame	1	11	Roof finishes	1	9
External walls	9	11½	Decorations	1	4½
Windows	2	9½	External plumbing		5½
External doors	5	4½	Hot and cold water installation		8½
Upper floors	2	1½	Sanitary fittings	2	8½
Staircases		9	Heating and ventilation	3	8½
Roof construction	5	1½	Gas installation		5½
Roof lights		11½	Electrical installation	5	1½
Glazing		7½	Mechanical services		4
Internal partitions		½	Drainage	3	8½
Internal doors		8½	Site works	18	1
Ironmongery	3	3½			
Fittings	2	1			
Floor finishes	4	1	Total cost per sq. ft. of floor area	73	10½

Tender price of foundations superstructure, installations and finishes : £25,409 5s.
Tender price of external works and ancillary buildings : £8,654 11s.
Total : £34,063 16s.

THE INDUSTRY

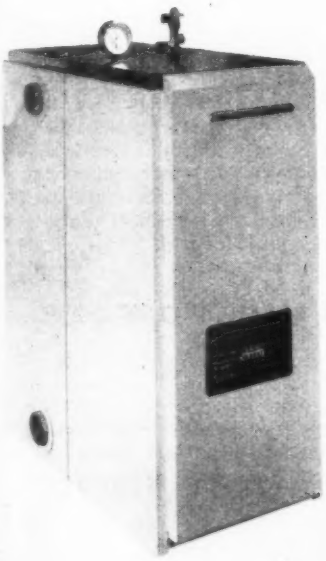
This week Brian Grant reviews a new range of oil-fired boilers, a solid-fuel stove, a gas generator, thermoplastic floor tiles and reinforcement for waterproofing.

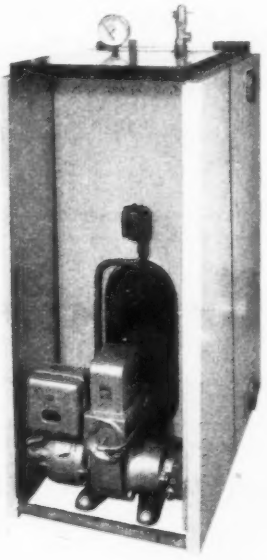
Oil-fired boilers

Readers will have noticed quite a lot of recent propaganda for oil-fired heating systems, inspired mainly by the oil companies. This, of course, is no new thing, but at least one morning paper (perhaps with an eye to more advertising revenue) has listed oil heating as one of the smart priorities in keeping up with the Joneses, along with Hi-Fi, TV and 3 children instead of the national average of 2·46. During the last five years or so the number of smallish oil burners available has increased very considerably from the eight or 10 of 25 years ago, and one of the most recent is the Oilheat series, which is produced in a range with outputs from 60,000 to nearly 2 million B.Th.U. The burners are suitable for most types of boiler, and have been designed with a good deal of care to provide simple installation and maintenance. All the internal wiring is carried out at the factory, and it is only necessary to make connections to the mains supply and the thermostat.

A range of boilers is also produced, for use with the burners, in capacities up to 800,000 B.Th.U. The combined units have easily detachable enamelled casings which also help to reduce burner noise. (*Henry Wilson & Co. Ltd., Kirkby, Liverpool.*)

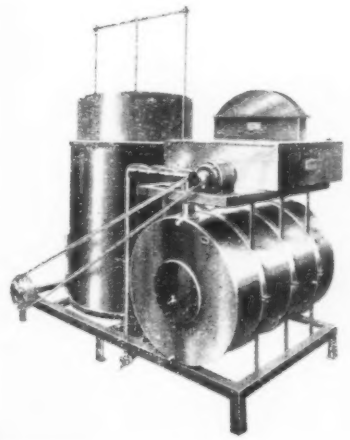
Exterior and interior of the Oilheat oil burner.



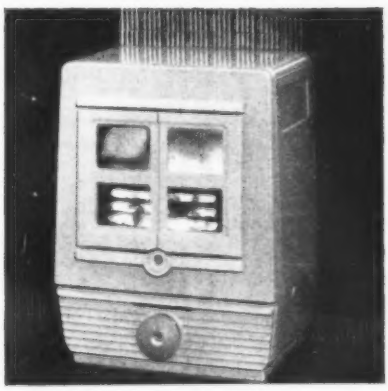


Solid fuel stove

The new Sunglow openable stove has been designed to heat rooms with capacities from 1,750 to 2,750 cu. ft., but is also produced with a boiler which will heat a storage cylinder of up to 30 gal., or up to 45 sq. ft. of radiating surface, though with the boiler the room heating capacity is reduced to about 1,500 cu. ft. The stove is suitable for coke, coal, anthracite or manufactured fuels, and will burn for more than 10 hours without attention, and the manufacturers claim that the average fuel consumption will be 1 to 1½ cwt. a week. (*Warrington Light Castings Co. Ltd., Warrington, Lancs.*)



Above, the Aerogen gas generator. Below, the Sunglow stove.



Independent gas supplies

Even when mains electricity is available there are many purposes for which gas is essential, and this is particularly so in laboratories. Gas derived from high volatile petrol involves only slight modifications to most gas appliances, and Messrs. Aerogen have for many years been producing petrol gas generators with outputs ranging from 100 to 5,500 cubic feet. The gas, which has a

ARCHITECTS:—
Dodge & Reid,
Chartered Architects,
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CONTRACTORS:—
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technical section

calorific value of 300 B.Th.U's per cubic foot, costs, as a rule, less than bottled gas, and where electricity is available, motor driven generators are most suitable, being entirely automatic and needing only a little maintenance at long intervals. Alternatively, a weight-driven generator can be used, and this will need re-winding by hand according to the amount of gas used. Both types of generator are reliable in use, and I remember that some neighbours of mine had a (pre-1914) weight driven model which was maintained by a groom turned chauffeur without any trouble. Admittedly, there are not very many areas here in which gas is not available, but Messrs. Aerogen have a surprisingly large list of users, though the majority of them are abroad. For laboratory work a considerable range of appliances for use with petrol gas is produced. (*The Aerogen Co. Ltd., Anstey Mill Lane Works, Alton, Hants.*)

Thermoplastic floor tiles

Marley Tiles have recently issued a report which summarizes basic information about thermoplastic floor tiles. The two main types of plastic tile are considered, those having an asphaltic or resinous binder, and those having a binder of plasticized polyvinyl chloride. Specifications are given, and tables of the resistance of the tiles to abrasion and indentation, as well as their flexibility, thermal conductivity and their resistance to acids, alkalis and organic solvents of various kinds. It may also be noted that there is a grade of vinyl tile which has the property of dissipating electrostatic charges, and these should be used in hospitals or any other areas where such charges can be dangerous if they are allowed to build up. (*The Marley Tile Co. Ltd., Sevenoaks, Kent.*)

Reinforcement for waterproofing

A new rot-proof fabric to be used as a reinforcing membrane for the coal tar and asphalt compounds used for waterproofing is now being produced by Fothergill & Harvey. The fabric, known as Tygascrim, has an open weave and weighs only just over 2 oz. per square yard, but has high tensile and bursting strengths. It is woven from glass yarns and coated to ensure compatibility with the waterproofer. Its principal advantages over the usual jute or cotton fabrics are that it does not rot or decay or carry moisture into the waterproofing. This last feature is due to the non-wicking properties of the glass filaments, and it also ensures that the fabric does not conduct vaporizable oils to the surface, so that the waterproofer does not dry out. Since the base fabric is glass it will withstand high temperatures and waterproofers can thus be applied very hot without the damage usually caused to vegetable fabric reinforcement. As well as for roofing work of all kinds, Tygascrim is also used on underground pipe lines and oil storage tanks. (*Fothergill & Harvey (Sales) Ltd., Harvester House, Peter Street, Manchester.*)

INFORMATION CENTRE

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

20.235 construction: complete structures

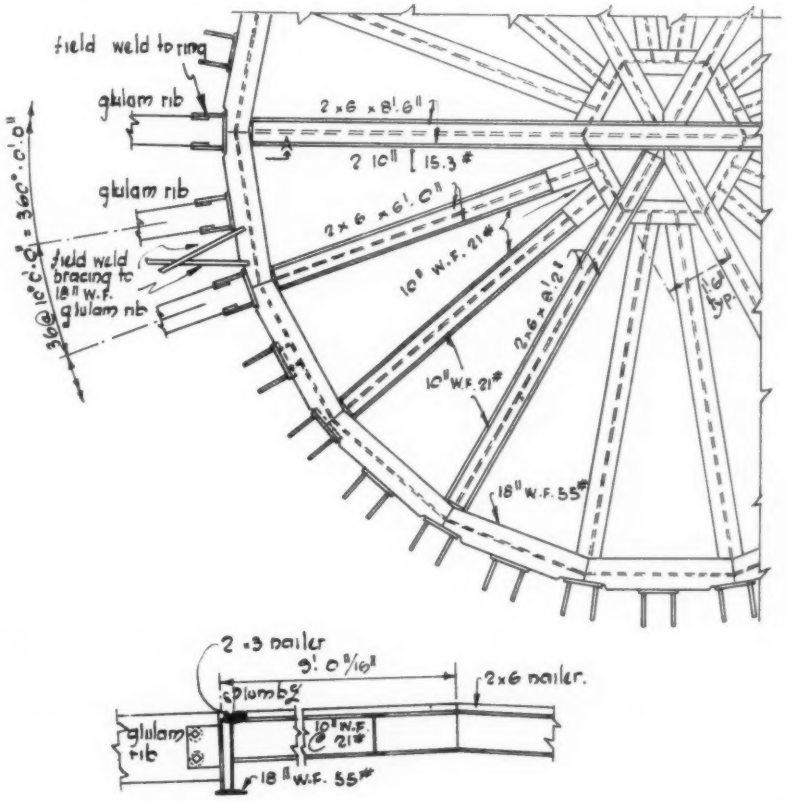
TIMBER DOME

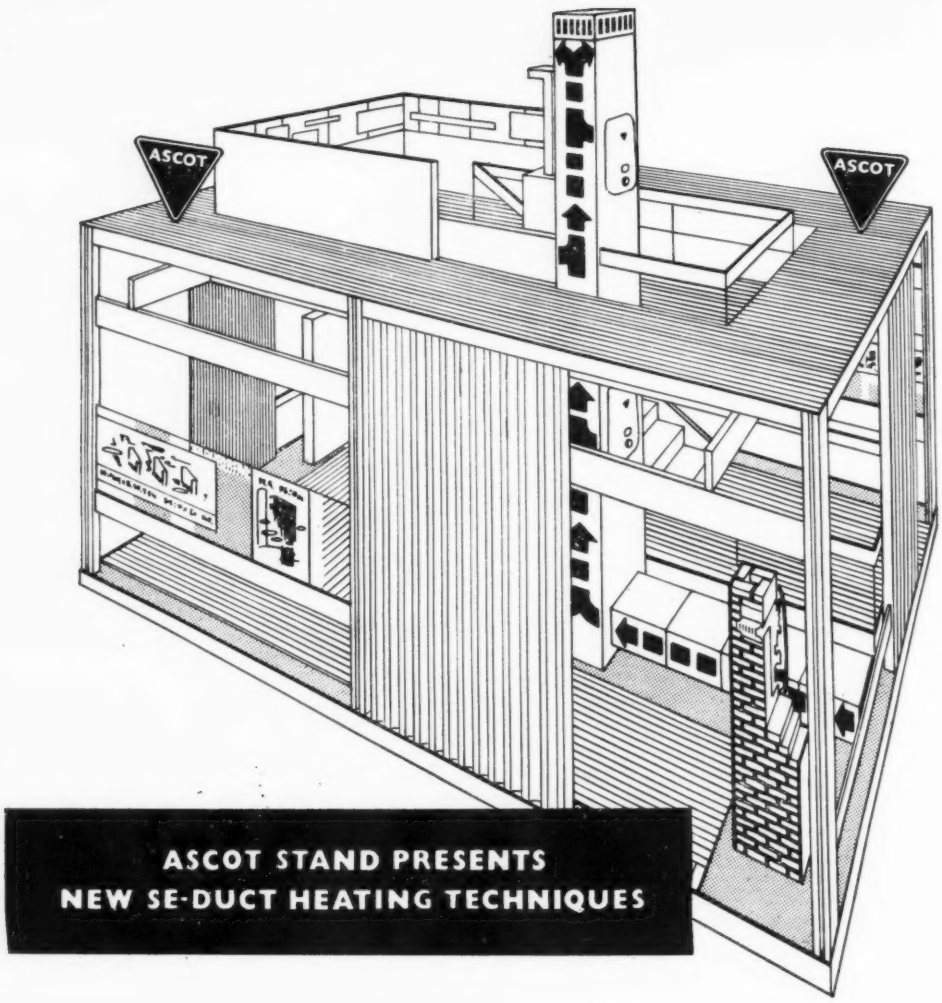
Biggest wood dome spans 300 *ft.* (Engineering News Record [USA], Jan. 10, 1957. pp. 32-34.)

Large span timber structure of interest to architects and engineers.

The Montana State College fieldhouse has what is probably the biggest timber-framed dome ever built. The spherical structure is 300 ft. in diameter. In appearance the frame suggests a giant spider's web. Thirty-six main ribs fan out radially to the walls from a steel compression ring at the centre and purlins frame between the ribs every 8 ft. to form concentric 36-sided polygons about the compression ring. The dome rises 51 ft. above the springing line. The radial thrust of the structure is contained by a steel ring girder. Encircling the dome at the base of the ribs the girder is a 30 by 10⅝ in. section built up of plates and channels. The girder lengths were welded in the field to the base shoes of the ribs. Both the ribs and purlins are glue-laminated Douglas fir. The ribs are curved constant section members, 150 ft. long, 250 ft. radius, 7 by 16¼ in. spliced at the third points. The purlins are straight members varying in length from more than 25 ft. to less than 3 ft. and ranging in section from 7 in. by 17⅞ in. to 7 in. by 11⅜ in. Fastened on top of and normal to the purlins, 2 by 4 in. sub purlins support 3 in. wood fibre and cement roof panels. The dome is cross-braced in each of the 36 sectors between the ribs by several steel-strap X's. Ends of adjacent X's were welded together after erection so that in effect the straps are a large mesh steel net enveloping the entire dome. To simplify erection the dome frame was assembled in sections on the ground, then the sections were raised and joined together in the air.

The 18-ft. diameter compression ring which is the focal point for all the 36 ribs of the timber dome of the Montana State College fieldhouse.





ASCOT STAND PRESENTS NEW SE-DUCT HEATING TECHNIQUES

The first demonstration at the Building Exhibition of the new Se-Duct system of installing gas appliances of room-sealed design is to be staged on the stand of Ascot Gas Water Heaters Ltd. (Stand 227, Row P) at Olympia from 13th-27th November.

The stand will feature an actual Se-Duct installation of Ascot water heaters and Sugg "Halcyon" space heaters, together with photographs of work in progress on the first Se-Duct installation in Britain in a block of flats under construction at Gateshead.

The Se-Duct, the development of which has been sponsored by the Gas Council, is basically a vertical duct through a building, open top and bottom, which supplies air for combustion and also carries away products of combustion from gas appliances connected to it, so sealing off the appliances from the rooms in which they are fitted.

Several outstanding advantages are provided by the Se-Duct: gas appliances need no longer be vented through outside walls; the flueway for space heaters, water heaters and drying cabinets can be placed where the architect desires; high efficiency appliances can be employed to afford the greatest economy; as one small duct will supply the needs of a complete range of gas appliances on all floors of a multi-storey building, the chimney space so saved can be added to living space; the compact Se-Duct installations are cheaper to build than multiple chimneys.

A new book describing the Se-Duct will be available on the stand to architects, surveyors and builders. This is the latest addition to the Ascot series of technical publications.

REGD. TRADE MARK ASCOT

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7 PRACTICE

client-architect relations in the design of Notts schools

Last week we published an article on the reorganization of the Notts County Architect's Department (Chief Architect Donald Gibson, C.B.E., M.A., A.R.I.B.A.) by two architect members of the department, W. D. Lacey and H. T. Swain. This week we give the other side of the picture by publishing an article by J. Edward Mason, M.A., M.ED., the Director of Education at Nottingham, describing the change which has taken place in the relations between his department and that of the County Architect in the evolution of the school brief. We hear much about the need for timely co-operation between architect and builder: timely co-operation between architect and client can be equally rewarding. To emphasize the "give and take" described in this article we interpolate (with the author's permission) comments by the architects. These are printed in italics. The job architects for the Nottingham schools are S. E. Bell, A. B. Fuller, A. Goodman, J. Griffin, M. Holland, H. L. Froome-Lewis, A. E. Metcalf; A. Meikle, T. W. Prosser and S. J. Solomon.

In order to describe the change which has taken place in the client-architect relationship in Nottingham, it is necessary to say something about how matters stood before this change took place. The client for all new schools is, of course, the Director of Education, who acts on behalf of his Education Committee. He is helped by an assistant director, to whom he delegates considerable day-to-day responsibility, by two general educational advisers (or inspectors, as they are called by some authorities) and by a group of specialist advisers for crafts (woodwork, metalwork, light craft), homecrafts, music, drama and physical education, all of whom have had considerable experience of teaching their own speciality; and to these last must be added the county librarian.

Prior to the changes which form the subject of this article it had been the custom of these colleagues to prepare the architect's brief for each school in considerable detail, basing the schedule of accommodation on the guidance given in MOE Bulletins (supplemented by consultations with MOE's regional architect) and incorporating the particular requirements of each specialist adviser. In order to improve these briefs, conferences had been held with the heads of new schools in occupation to find out how previous briefs had fared. It will be noticed that though all reasonable steps had been taken by members of the teaching profession to produce a conscientious brief, there was no contact with the architect during its preparation, for the brief, once agreed, was regarded as sacrosanct.

Independently of the larger opportunities which were missed because of it, this lack of early exchange between the professions led to great inconveniences on the score of cost. The briefs handed to the architect tended to ask for larger areas than the minima laid down by MOE and for better finishes than MOE's cost targets would allow, requiring severe cuts at tender stage and finished schools which, though greatly in advance of the pre-war provision, still show signs of last minute economies.

The new arrangements

The first and perhaps most important feature to mention is the new spirit growing up between the Education and County Architect's Departments. A real effort is being made to make the work of educational and architectural planning a joint enterprise. Instead of tending to operate in watertight departments there has been more definite teamwork, much of it on a more informal basis than hitherto was the case. Officers of the two departments naturally disagree at times, but a genuine effort is made to achieve the solution best for the school by process of discussion and compromise.

COUNTY ARCHITECT'S COMMENTS: *The possibility of day-to-day collaboration with the client is an opportunity of which the official architect can take advantage in local government. With the client often in the same building there are opportunities for frequent discussions in addition to organized meetings.*

Secondly, in consequence of the "new deal" and the new partnership, we have thrown away the text-books, as the Ministry's building bulletins have tended to be, and have looked at most of the problems *de novo* for ourselves, particularly in the light of the experience of the schools in the post-war years.

To begin with, the County Architect and I agreed that the job architects must acquire as close an acquaintance as possible with the schools and with all the activities that go on within their walls, and to this end arranged for them to make a "survey" of recently-finished schools.

COUNTY ARCHITECT'S COMMENTS: *The decision to carry out the survey was taken at chief officer level. As a result of this policy being agreed at top level the fullest co-operation between the two departments was possible at all stages of the work. The*

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primary school survey was done first since it was obvious that the requirements of the infant and junior schools were simpler than the secondary schools and could therefore be surveyed more quickly.

Obviously no educationalist could produce a brief that would tell architects all that they ought ideally to know about the work and activities for which they have to provide the facilities, and there is much that the educationalist tends to take for granted which is by no means self-evident to an architect. Since some schools are naturally much more enterprising and progressive than others, the education department suggested to the architect which would give the best return for the time spent in visiting. Moreover, visits were not haphazard. They were planned and pre-arranged in such a way that they did not become an undue burden on the heads and staffs, which is an important point in view of the pressure on schools these days and the disruption that unheralded visits can so easily cause. From the architect's point of view also it was important that the school should be following the normal timetable of activities so that a true picture could be obtained.

COUNTY ARCHITECT'S COMMENTS: *It is necessary at this stage to describe the method of carrying out the survey. The interviews at the schools were carried out by one or two architects. At the outset of the interview teachers were asked to talk about their work and not to restrict themselves by trying to describe the plans of the rooms which they wanted. To stimulate the discussion, a few general questions on the running of the school were put to the teachers and it was explained that the problems on which we were seeking information were, for example, the method of teaching the various subjects; how large classes were and what size was aimed at; the subject taught in single or double periods; relationship with other subjects. In every case the teachers responded well to this request to talk about their work and were pleased that architects were taking this detailed interest in their problems. In this way a good standard of collaboration was quickly built up and the clients were able to appreciate that if they supplied the architects with the details of how the schools were to be used, then the architects, because of their technical knowledge and planning ability, were best able to design the rooms and spaces to satisfy these requirements.*

Notes on all interviews were taken by the architects. At the interviews it seemed that some of the information was not of immediate value in planning. However, it was not until a whole lot of information had been collected and reviewed as a whole that the relevant part of it emerged and it was possible to draw the right conclusions. A lot of the irrelevant information helped the architect to identify himself with the problems and aims of the educationalists. For this reason the survey was strictly divided into two phases, firstly the collection and noting down of facts, and secondly the summarizing of main conclusions in the office. We found there was a real danger of jumping to conclusions too easily and for this reason the discipline of collecting all the information before beginning the writing of the brief was adopted.

When we had completed the programme of interviews we had to decide how to sort out and analyse the mass of information which had been collected. The first step was to break this down into a series of manageable problems and to do this a list of headings was prepared. In the preparation of these headings the information on the organization of the schools which we had absorbed during the meetings was very helpful. For example, the headings which subsequently became the sections of the finished secondary modern brief were (1) *Purpose of the Secondary Modern School.* (2) *House and Form Organization.* (3) *Circulation.* (4) *Storage of Pupils' Belongings.* (5) *Sanitary Accommodation.* (6) *Outside Play Areas.* (7) *Specialist Rooms:* (*a*) *homecrafts,* (*b*) *Practical Rooms,* (*c*) *Science Rooms,* (*d*) *Gymnasium,* (*e*) *Quiet Teaching Rooms,* (*f*) *the Centre,* (*g*) *Library,* (*h*) *Music Room,* (*j*) *Administrative Rooms.* (8) *Schedule of Areas.*

With this framework it was now possible to analyse the general information on each subject given by the head teachers and the specialist requirements given by the specialist teachers, and to start writing the first draft of the planning brief. The form of the brief for the specialist rooms was standardized eventually under (*a*) *The kind of things that are done.* (*b*) *The kind of spaces needed.* (*c*) *Furniture and equipment.* (*d*) *Services. In addition to the written notes, each section was illustrated with typical room layouts.*

The primary schools survey was the first to be undertaken. It was actually instituted by a conference between selected infant and junior school heads, the appropriate officers of my department and the County Architect and his team of investigating architects. The purpose of this conference was to let the head teachers know what our aims and intentions were and to obtain their full and active co-operation in the work to be undertaken. A preliminary discussion of a number of questions was also undertaken. Next followed the visits to the schools by the architects concerned. Detailed notes, fully illustrated by sketch plans, were drawn up by the County Architect's staff. These were criticized, analysed and discussed at length, first with my assistant director and advisers, and finally with myself and the County Architect himself participating, until agreement was reached on the content of the primary school brief. This finished document is intended as the detailed guide for each job architect and provides him with the necessary basis on which each primary school is to be designed.

COUNTY ARCHITECT'S COMMENTS: *The Planning Brief is similar in form to the Ministry of Education Bulletins and in some respects its proposals are the same. The survey has, however, enabled the client and the architect to confirm that these proposals are the correct ones within the specific context of Nottinghamshire. The object has not been to find new answers to all the problems, but in those cases*

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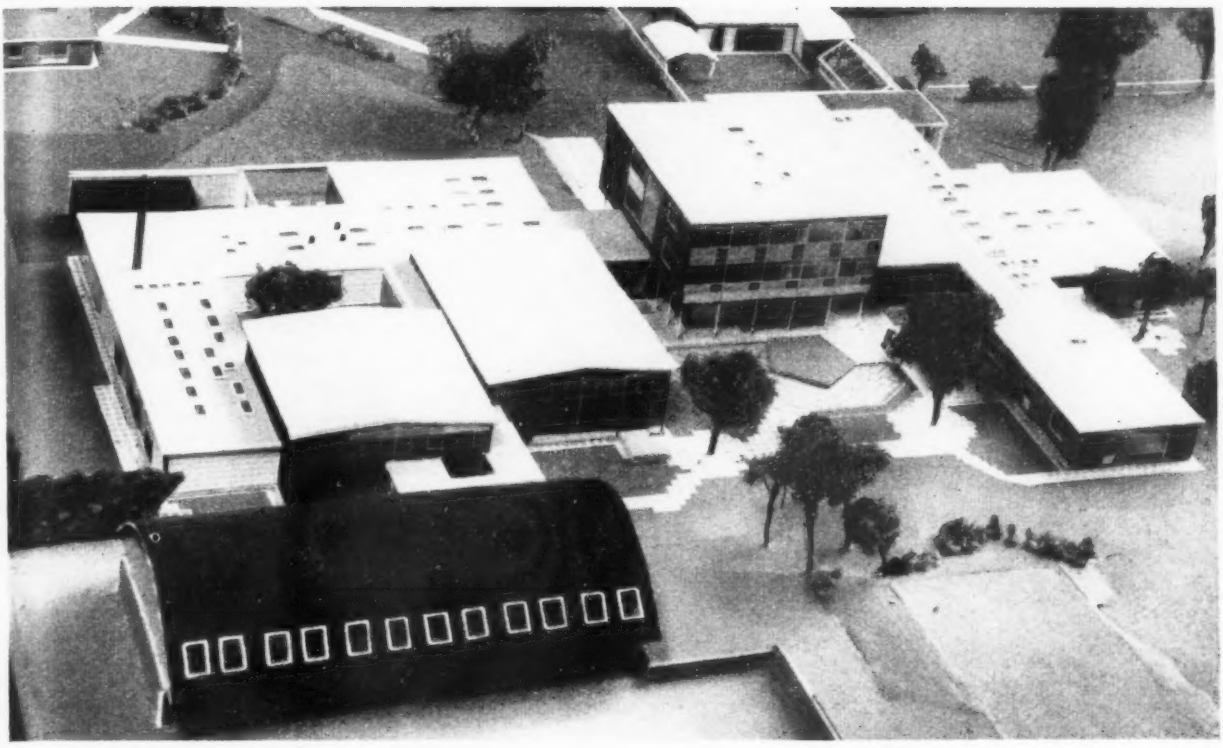

Fig. 1. Model of the Tuxford two form-entry rural secondary school showing, in the foreground, the Dutch barn which forms a covered games practice area linked to the gymnasium, the 3-storey classroom block with the practical rooms and the farmyard unit beyond. The slope of the ground has been utilized to form the open-air theatre which has been designed as the open-air extension to the school centre.

where the old solutions have been adopted, to check that they are still the right ones.

Since projects vary in size, type and locality, a schedule of accommodation still has to be supplied by the Education Department in each case. This schedule is, however, carefully related to the room sizes and the other factors set out in the agreed document.

This new Brief will not be static. Obviously as our knowledge of the schools' true requirements improves or as new opportunities for various reasons occur, we shall agree upon changes.

It would give a false impression if I were to single out isolated features of the agreed Primary School document to illustrate the points I have made. Perhaps it would be fair, however, to say that the salient principles agreed include:

1. Planning for a more domestic atmosphere than formerly.
2. Planning the school to fit the child.
3. Giving as much space for children's activity as possible, while restricting total area to what can be provided within the Ministry's ceiling cost—involving *inter alia* the reduction of space used only for circulation.
4. A realistic decision on priorities, *e.g.*, facilities most keenly desired by the teachers, including some formerly out of reach on grounds of cost, have been included in the agreed requirements because of the willingness of the schools to surrender some things less important. Craft activity areas and changing rooms with shower spaces are two examples of new facilities proposed.

COUNTY ARCHITECT'S COMMENTS: *The Secondary Modern School was a more complicated problem involving a greater number of meetings and visits to schools, but the method of carrying out the Survey and writing the Brief was the same.*

In the case of the Secondary Modern Schools a similar procedure was followed. The problem here, however, was very much bigger and more complicated. It was even more needful that the research into what was wanted and what could be afforded should be undertaken. As I have mentioned already, Secondary School projects planned on the Ministry's cost formula basis had for the most part run into difficulty at tender stage and it was obviously necessary that joint staff talks should take place if only to obviate this being constantly repeated.

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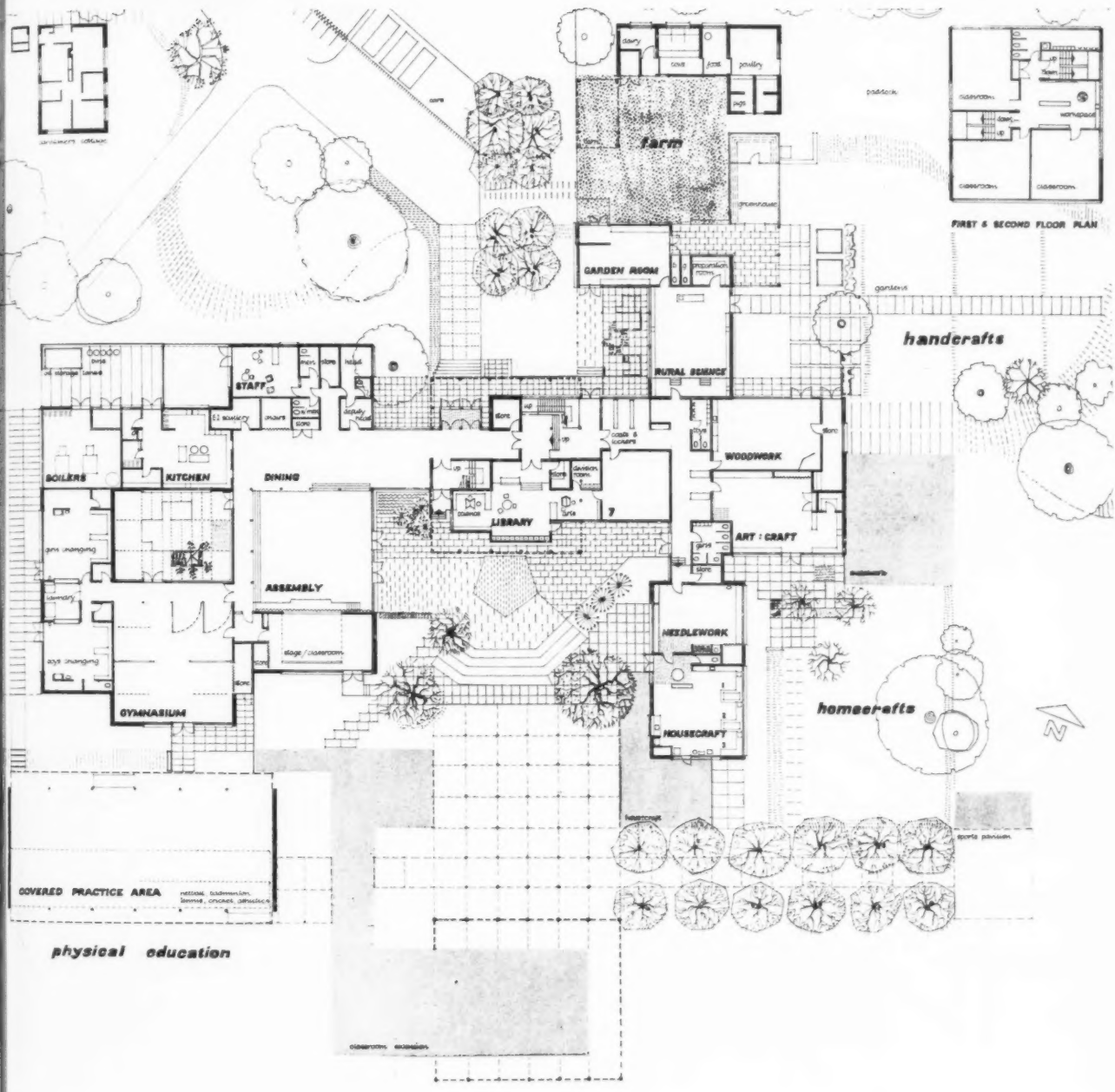

Fig. 2 (above). Plan of the Tuxford two form-entry secondary modern school (job architect A. Goodman) showing the school centre which consists of the entrance hall, dining room, assembly hall and library with vertical circulation to the classrooms and adjacent work spaces. Radiating from this centre are the homecrafts and handicrafts rooms and gymnasium with their complementary outdoor spaces. The farmyard unit and rural science area is on the north side facing the main entrance (scale: $\frac{1}{8}$" = 1' 0"). Fig. 3 (left). Perspective of part of the open-air theatre at Tuxford secondary modern school, showing the assembly hall on the left and the dining room beyond. The 3-storey classroom block has panels of vitreous enamel with wooden windows. Concrete wall blocks are used on the recessed ground floor.

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There is one feature of the former system I have not previously mentioned. The County Architect was asked to provide ¼-in. scale outline drawings of laboratories, workshops and other practical rooms for the Specialist Advisers to lay out thereon (and "lay down") their

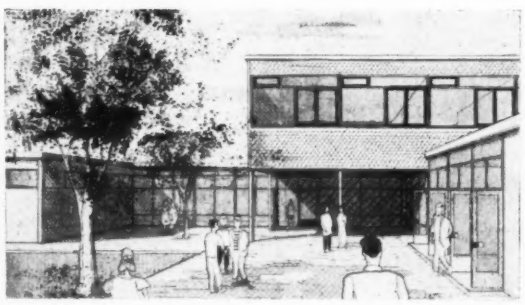

Fig. 4 (above). Plan of Ordsall two-form entry secondary school at Retford (job architect, J. Griffin). This school is being built on a heavily wooded site in the grounds of Ordsall Hall. There is a good view to the east over the lawn and gardens of Ordsall Hall. The specialist areas radiate from the cultural and administrative centre, the 2-storey classroom block and library have been sited to take advantage of the view to the east. (Scale: ¼" = 1 ft. 0 in.) Fig. 5 (left). Perspective drawing of part of the entrance courtyard at Ordsall Secondary Modern School, showing the 2-storey classroom block faced with "club foot" clay tiles and wooden windows. In contrast, the end of the single-storey block on the left is faced with concrete slabs.

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Fig. 6. The plan of Mansfield Woodhouse fifth-form entry Technical Grammar School (job architect, A. Meikle), showing the classrooms grouped in four blocks around the quadrangle. Four dining rooms have been linked with these "house" blocks in order to give rooms which can be used for teaching as well as dining, and create a more intimate atmosphere for dining. The science rooms are grouped in the three-storey block adjacent to the school centre and the practical rooms form one side of the entrance courtyard. The spaces around the building have been designed as outside extensions of the adjacent rooms. For example, the quadrangle is a sheltered recreational and circulation space with a collegiate atmosphere, to be used in conjunction with the hall, the library, dining rooms, and the classrooms. (Scale: $\frac{1}{96}$" = 1 ft. 0 in.)

KEY
1. Kitchen
2. Dining/classroom
3. Classroom
4. Library
5. Boiler house
6. Tuckshop
7. Quadrangle
8. Service yard
9. Gymnasium
10. Covered practice area
11. Sixth form
12. Maths
13. Physics
14. General science
15. Chemistry
16. Art and crafts court
17. Homecrafts court
18. Domestic garden

detailed requirements. This no longer happens. In addition to the visits to selected schools and *ad hoc* conferences with Heads and some assistants on specific problems, the architects had a series of long discussions with the Specialist Advisers to get to know and to understand what really was wanted. The outcome of all this consultation with schools and advisers was embodied both in written notes (vetted, argued over and amended as in the case of the primary school brief) and in detailed sketches of typical layouts for rooms of all kinds. Thus, in future the job architect has full information available right from sketch plan stage of the detailed requirements of each room and in consequence can build up to his final plans in a much more orderly and logical manner. Since no two plans are quite alike he cannot exactly repeat a lay-out from the agreed secondary school document and he still needs to be certain of planning the room as nearly as possible to the specialist adviser's detailed wishes. The aim is now to achieve this by personal discussion at the drawing board instead of by despatch of lay-outs under cover of formal correspondence.

COUNTY ARCHITECT'S COMMENTS: *This article describes a very close working relationship between the client and the architect, it also advocates that the first task for the architect in the design of a building is to obtain a clear and precise knowledge of the way in which the building will be used. The architect will also wish to give his work the quality of architecture. This will mean that in the development of the designs he will consider the questions of form, shape, colour, texture and the relationship of the building to the site. With this approach these features will develop from the understanding of the client's requirements. They will not be the preconceptions from which the design will begin. The development process will not be mechanical, it will call for all the technical skill and imagination which the architect can exercise, but these architectural qualities will be the flexible components to be moulded and adjusted so that the final result is the best solution of the client's requirements and one that has an architectural quality.*

For example, as a result of absorbing the client's requirements on secondary schools it was realized that

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a series of different environments were necessary within the overall unity of the building. It seemed unlikely, therefore, that the plans could be fitted into a formal shape. The expression of these different spaces has instead been allowed to generate the architectural character of the building.

The allocation of time on a job needs to be reconsidered with this approach to planning. With a programme of similar jobs such as schools the time spent on the survey is economical when spread over the whole programme. Once the results of the survey are available the amount of time required for the preparation of sketch plans and room layouts on subsequent schools will be very much less. On a single job the amount of time required for the preparation of the sketch plan will be longer than with a more orthodox approach, but there will be a saving of time on the detailing because the client's requirements are already clearly known and many of the room layouts will have been studied before the completion of the sketch plan.

As in the primary school, the desirability of making both quiet teaching rooms, laboratories and other practical rooms as large as possible has driven us to change some of our hitherto fixed ideas. We have previously strongly opposed any teaching rooms having to be used for circulation, but in order to get the most teaching value out of every square foot of area provided within cost limits we have now accepted the fact that, provided certain conditions are observed, circulation through one inner room to the end room of a wing is permissible. The conditions are:

1. That the inner room shall be mainly used for group or individual work, so that no interruption of formal teaching takes place.
2. That the outer room shall be occupied for long periods, so that children are not moving to and fro at the end of every period.

In addition, external circulation through sheltered courts will be provided and this may be used for moving about the school, or for direct access to classrooms.

It should be stressed that the reduction of circulation areas is not an administrator's decision, but the result of free and frank interchange of views with teachers, advisers and architects. It would be rank folly to seek to impose such arrangements on the schools from without. Similarly, a major decision such as that to furnish with tables instead of locker desks was the result of joint consultation.

I mentioned earlier that under the new dispensation we have thrown away our books. In some cases our enquiries and researches have brought us back very close to the answers given in the building bulletins, in others entirely different ones have been arrived at. The latter is particularly true in the case of provision for Physical Education. Our new agreed arrangements provide for a conventional gymnasium smaller than that suggested in Building Bulletin 2a, plus a large "Dutch Barn" covered on top and partially on the side, which gives opportunities for a hitherto undreamt of range of activities under all conditions of weather. Moreover, we have got rid of that most unsatisfactory mongrel provision of the two-form entry school, the hall-cum-gymnasium, and replaced it with separate hall and gymnasium plus barn.

I should perhaps mention that, as with that for the primary school, the final draft of the secondary school brief was discussed and agreed at chief officer level after our staffs had carried the work as near to completion as they were able. This final step was no mere formal one, but involved the taking of firm decisions on quite major issues, such as, for example, on whether the P.E. changing rooms should be equipped with laundries capable of washing kit and towels for every pupil in the school.

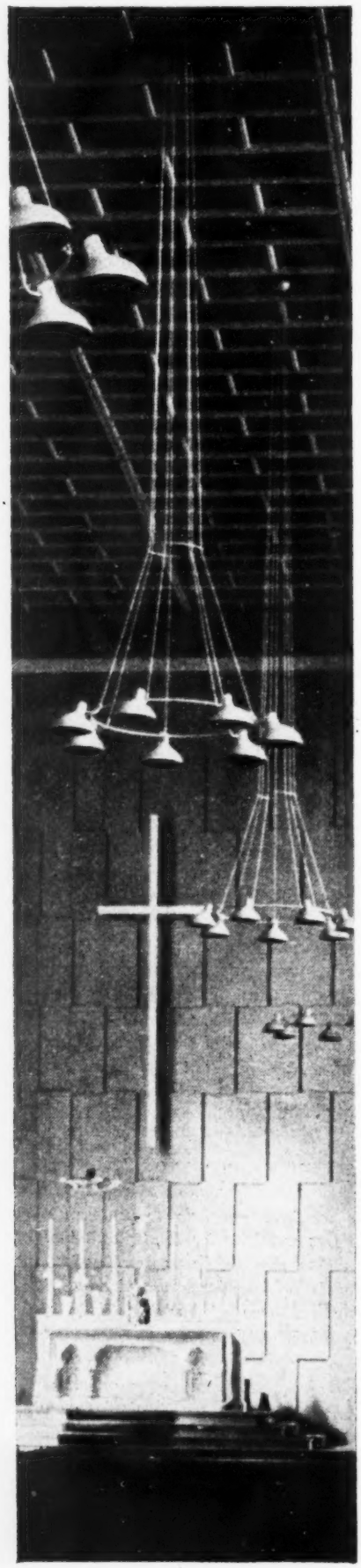
The joint research has not stopped short with the urban and suburban secondary modern school. It has gone into the special needs and opportunities of the rural secondary school. This has long been a subject of great interest to the educationalists of Nottinghamshire, but unfortunately largely a theoretical one until the publication of the Ministry of Education's Rural Reorganization Circular. We have had detailed consultations with our Rural Studies Association (a body of teachers keenly interested in the development of rural activities in the schools) over a long period and built up a body of information of much value, and this has already been used in the building of our first genuinely rural secondary school. The renaissance in our educational/architectural planning has also been evident in this specialized field, too, and we believe that because of the much more active part the architects are now taking in our educational planning we shall achieve an even better result in the most recent rural secondary school we have started to erect.

Valuable preliminary work for a grammar school survey has also been undertaken.

I would summarize by saying that the dividing walls between the Education and County Architect's Departments are coming down. We are striving to work as one team, each acting in many ways as an incentive and inspirer of the other and hoping jointly to achieve what is best for the children and teachers who will occupy the schools we plan.

COUNTY ARCHITECT'S COMMENTS: *By collaborating with the client and becoming a member of a joint team the architect can help to establish our profession as an essential service to the community. He is able to show that he has a contribution to make with his technical knowledge and planning skill to the everyday problems of building. It is only when this is established that architects will cease to be regarded as a luxury service.*

Encouraged by the success of this survey on primary and secondary modern schools, we have subsequently undertaken (but not yet completed) a similar investigation on grammar schools. The method of working is now being applied to other complicated buildings such as county fire stations and the new design for the completion of the county hall at Trent Bridge, Nottingham.



THE CHURCH IN IRELAND

NO MORE MOSAICS OR MARBLES

The author of this article, Luan P. Cuffe, explains why so many of the numerous post-war churches in Ireland are so ugly. Moreover, he believes that enough well-designed churches are being built to suggest that "the man in the Nave" is prepared to reject mosaics, marbles or historic distractions and to accept simplicity.

Somebody asked me recently why so many ugly churches have been built in Ireland in recent years. Well, perhaps one is more conscious of their architectural enormity than in other more thickly populated and less religiously homogeneous nations. In recent years our rural population has been moving into the larger towns, while the central city dwellers have been moving out to the suburbs. These shifts of an over 90 per cent. Catholic, church-going population created the immediate problem of providing church space for everyone. Most suburban churches were forced to provide seven or eight Masses on Sundays and standing room only was the general order of the day. It was obvious that new churches were required and the general prosperity of these years made their building possible. More prosperous times for the farming community also made possible the replacement of a number of decayed rural churches which had seen service from the early years of Catholic emancipation. The time was ripe for church building.

The new suburban parishes were the first to build. A church to seat up to 2,000 people was wanted in a hurry and the man who was responsible for building it, the local parish priest, was by the very nature of the problem an extremely busy—if not overworked—man. His problem was to find an architect who would ease his burden rather than add to his problems. He wanted a design which would readily be approved by higher ecclesiastical authority and would not cause misgivings in the hearts of the parish bank manager or the parishioners

There are five "reliable" firms of architects.

They have been building churches in this country for the last two to three generations. They are sound reliable men and there won't be any trouble in having the plans approved. To try a new man with new ideas would be asking for trouble. The surprising thing is that here and there a new man *is* tried.

But the priest and architect who wish to speak the architectural language of our times have to surmount two difficulties. First they have to convince the higher ecclesiastical authority of the merit of their design. It is a difficulty which varies from diocese to diocese. Again it is a question of conversion and the profession is not lacking in missionaries in this field. Two architectural competitions held in recent years have shown clearly the thinking of the majority. A symposium on church architecture organized by the Institute of Architects, magazine articles, exhibitions and letters to the Press have all played their part and will continue to do so. This naturally leads to a larger missionary field, the conversion of the laiety.

The general public have little interest in architecture, good, bad, or Hiberno-Romanesque. Here the problem is not conversion but illiteracy. Again, the solution lies with the profession and again there are signs of a turning tide. It is no longer quite true to say that the man in the nave is only interested in seeing something which appears to give value for his money—the more mosaic the better, and 20 different marbles if possible.

I'm afraid the picture I have painted may appear to be typical "Snark" country. I have dwelt deliberately on the "charms" and "snags" rather than the obvious rays of sunshine. In the overall picture, however, I do see two hopeful signs.

The first is the revival of interest within the church in the meaning of the liturgy. This movement has almost unwittingly caused a return to good architecture in church building in Germany, Switzerland and France. It is in its infancy in Ireland but is a child of promise. It promises a return to the essentials which architects had overlooked in their pursuit of historic distractions. It must at least bring with it architectural sincerity.

The second sign of the change in outlook is the increasing number of contemporary churches which have been built and are accepted without protest. Carr & McCormac have churches of promise in Lahinch, Ennistymon (picture left) and Limerick. Brendan O'Connor did a church in Donegal, Frank Murphy in Cork, Alan Hope a chapel for the Dublin Fever Hospital, Peppard & Duffy an interior at Clontarf and Andy Devane an excellent mortuary chapel at Naas. James Fehily's church at Killyon is the latest arrival to the ranks.

All these buildings represent a long uphill struggle against a historically conservative clergy and an entirely unenlightened congregation. One naturally tends to take consolation from these small signs. It is easy to look to time rather than hard uphill missionary zeal to improve things. A small victory was won recently on the worn battlefield of Maynooth. The occasion was the showing of the *Eglises de France Reconstrucet* exhibition in St. Patrick's College, which might be considered the H.Q. of Catholicism in Ireland. The exhibition conceded nothing to the eclectics and was attended by over 13,000 visitors. It indicated at least for a minority a change of heart at the heart and an awakening public interest. May it not rest in peace.

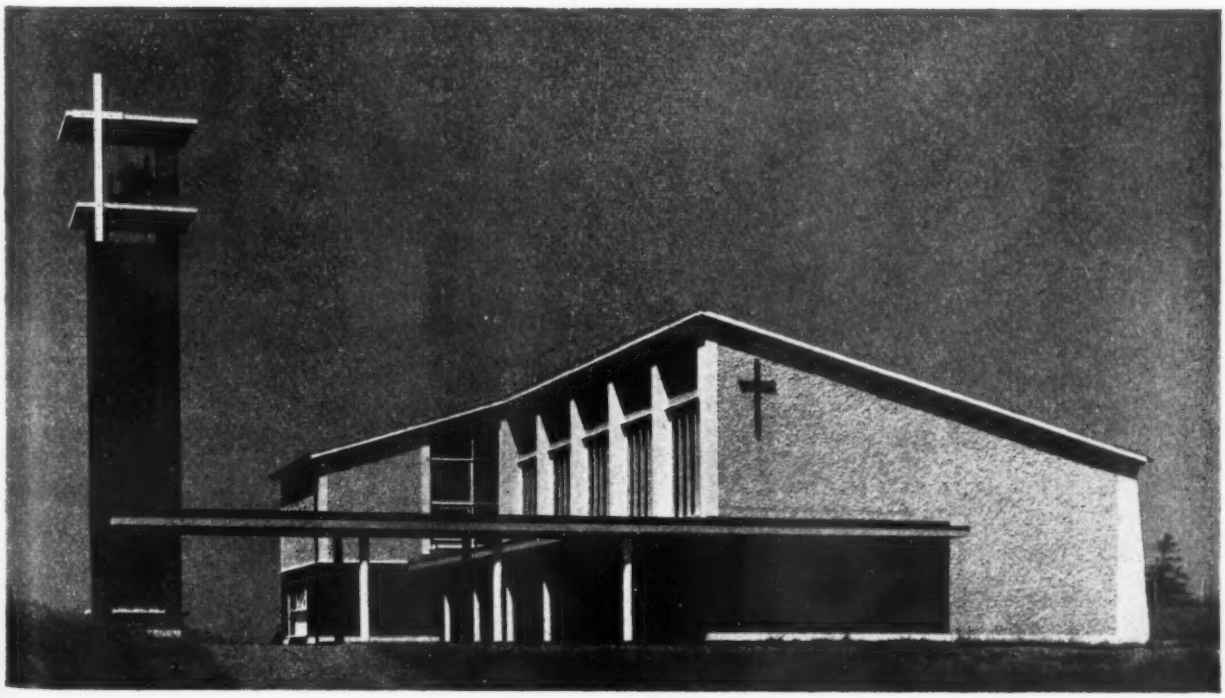
building illustrated

CHURCH

of OUR LADY OF THE ASSUMPTION at KILLYON, CO. MEATH, IRELAND, designed by JAMES FEHILY ; consulting architect (sanctuary and mortuary windows) JOSEPH MAYO ; consultant (structural) JAMES A. COSTELLO

The Roman Catholic Church at Killyon is one of the few modern churches to be built in Ireland. It was designed by the architect when a third-year student at the National University, Dublin, and largely built by voluntary labour. The photographs have been captioned by Niall Montgomery who visited the church on the JOURNAL's behalf.

The church from the main road. The grey rough-cast finish contrasts with the very dark red of the bell tower, echoed in cloister and sacristy walls, intensified by raked-out joints.



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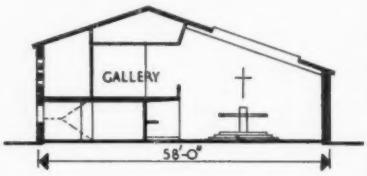

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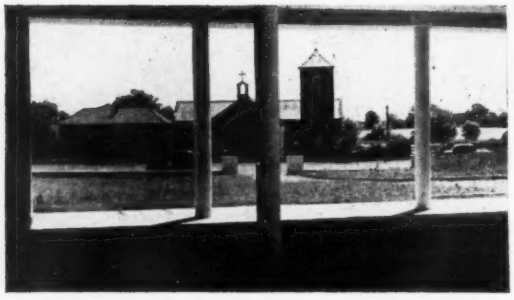
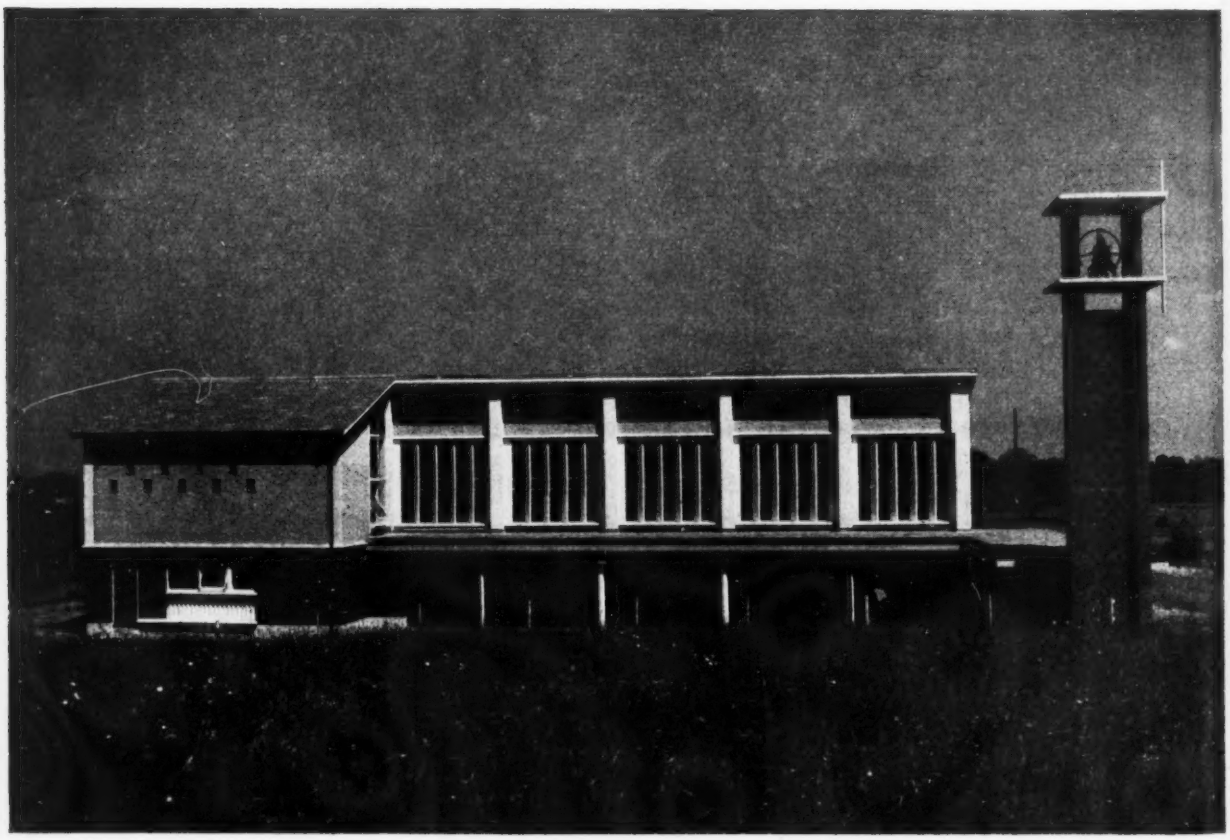
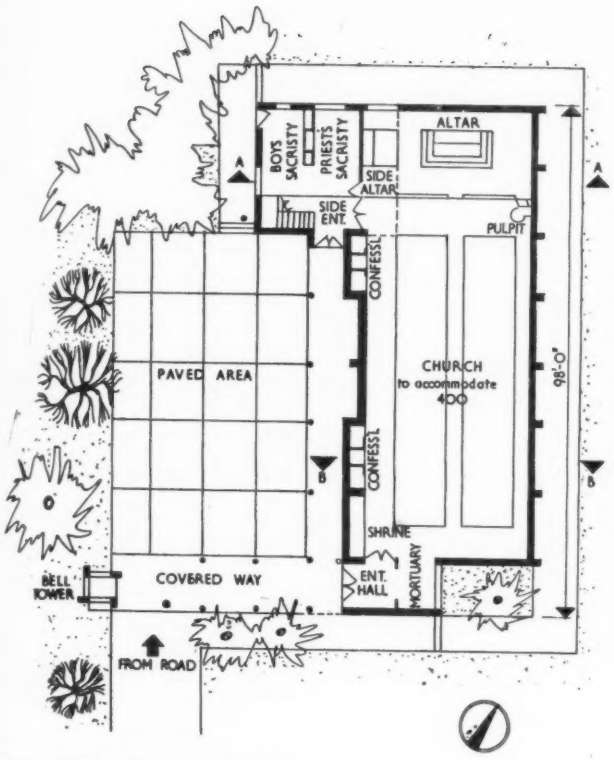
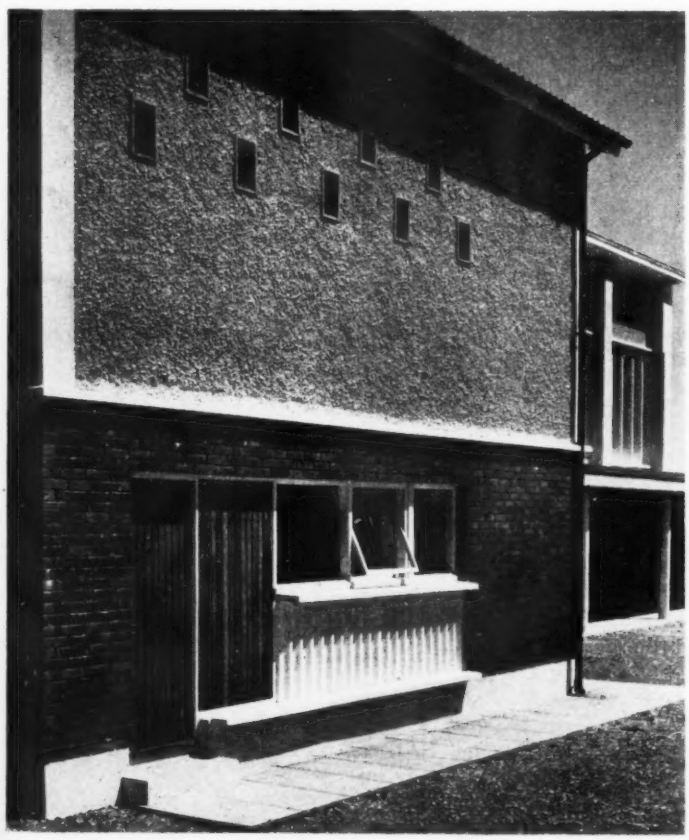


Left: looking south from the forecourt: a photograph of the old church, bell tower and what was once perhaps the priest's house. The separate bell-tower, is echoed in the new church, and recalls a time when built-in bells were taboo. Below: the west wall. Each of the five clerestory bays is glazed with a different coloured plain glass. The gallery and dark red-bricked sacristy are beneath the red-tiled lean-to roof on the left. Above: the west door to the nave-a nice balance of polished mahogany and brickwork.





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



The west facade of the gallery and sacristy block. The balance of textures is agreeable. Bricks could perhaps have lain more Flemishly

analysis

CLIENT'S BRIEF: his stated requirements

To design a church to accommodate approximately 400 persons, which would cost practically nothing, and which could be built mainly by the people themselves.

SITE: topography, surroundings, access and planting

Area approx. 1 acre. Gentle undulation in mainly flat countryside. The site is set in bleakly rural surroundings. Access is on main road, no planting.

PLAN: general appreciation and relation of units

Planned around a partly closed courtyard, to facilitate gossip before and after mass on Sundays. Apart from cost, it was desired that the building should be simple aesthetically: designed asymmetrically in sympathy with the contours of the landscape, and to provide a structural interest instead of the usual sterile symmetry, plastered with expensive ornament. Main axis is along wide aisle, with main church on one side, composed by sacristy with gallery over, and extended covered way with bell tower on other side.

MAIN CONSTRUCTION: general appreciation

R.c. foundations; concrete block piers on east wall; r.c. piers on west wall, cavity block infilling panels, load bearing gable walls, with cavity and interior brick facing; precast beams for covered way and gallery, supported on r.c. columns.

STRUCTURAL ELEMENTS

Work below ground floor level
R.c. foundation from 3-ft. to 12-ft. below ground level. Substrata were gravel with deep pockets of running sand. Heavy rain during laying made trenches unstable and resulted in wholesale waste of concrete.

External walls and facings
Main structure: 6-in. concrete block with 2-in. cavity; r.c. piers finished with wood float, remainder rough cast and sprayed with cement paint, r.c. white and rough cast grey. This form of structure was used for cheapness.
Single-storey structures (sacristy, confessionals, entrance halls, mortuary) and bell tower, 4½-in. over-burned deep red rustic bricks with raked out joints, 2-in. cavity and 4-in. concrete block internally.
¾-in. internal rendering finished with wood float.

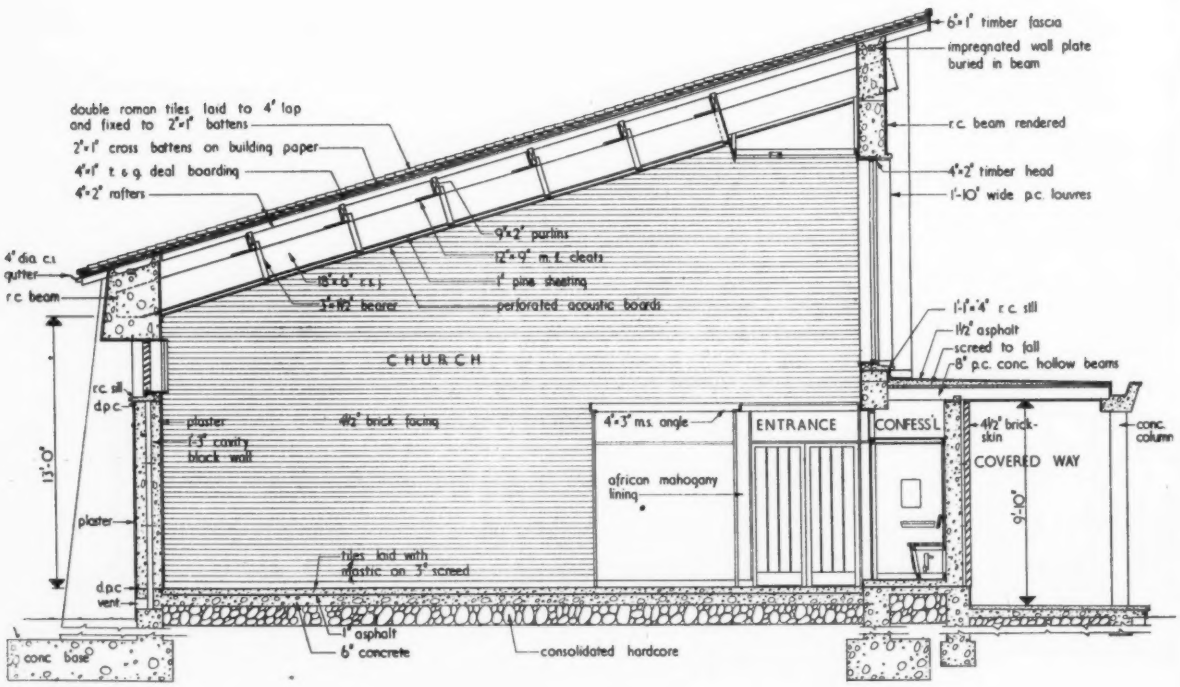
Frame or load-bearing element
R.c. and block piers supporting main roof 33-ft. 9-in. span at 13-ft. 4-in. centres; r.c. piers for covered way 10-ft. span at 13-ft. 4-in. centres.

Upper floor construction
The gallery floor is of 8-in. precast r.c. beams with timber decking over.

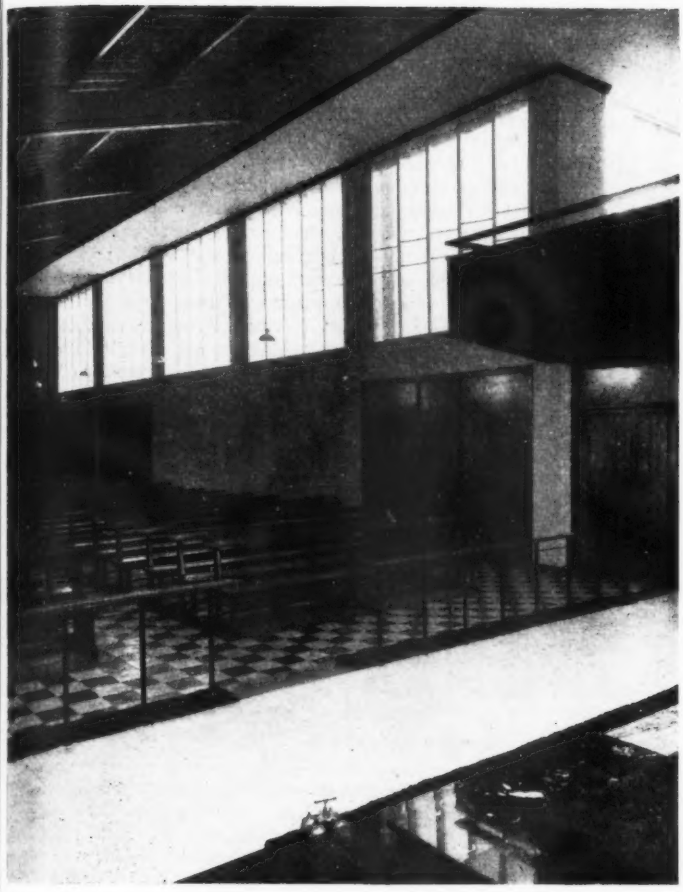
Staircases
Staircases to gallery: 9-ft. high, 6-ft. wide between landings: concrete finished with hard wood treads and black tile risers.

building illustrated

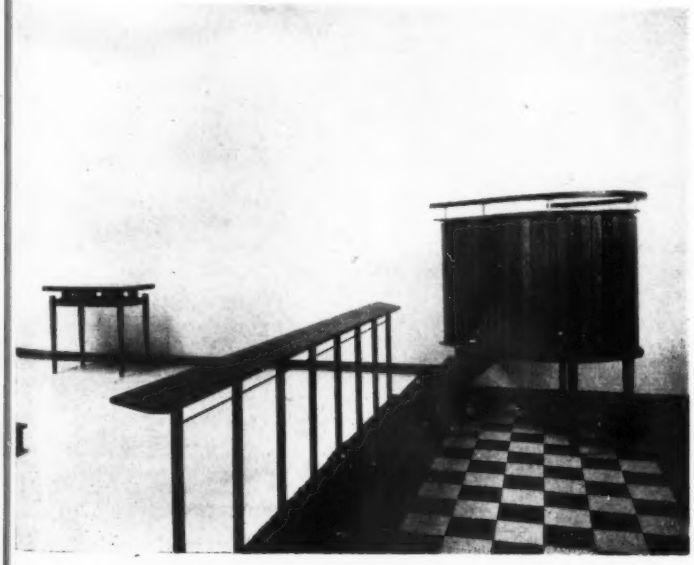
Above left: interior looking towards the altar. Oiled African mahogany is used in confessionals, gallery and pulpit cladding and benches. This contrasts with the dark grey marble altar, yellow brick gable, black and white tiled floor, grey-coated walls, grey r.s.j.s, and white trim. Colour emphasis is in five green purlins, pink tiles under the seats, coloured glass west clerestory. Mr. Mayo's fine design, acid-embossed on the glass panel, left of the altar, would benefit by re-location. Above right: grey black Connemara marble altar, yellow brick back wall. The Crucifix, of a type commercially available, relates oddly to the specially-designed cross. The pendant sanctuary lamp is also a commercial fitting.



Section B-B [Scale: ¼" = 1'0"]



Above: the west clerestory seen from the altar. Plain glass is coloured red, blue, yellow in alternate bays. Below: Credence-table, communion rail, mahogany-clad pulpit, grey-coated wall, black and white tiles.



analysis

Roof construction
Main church roof: Pantiles on 2-in. × 1½-in. battens and cross battens, with felt underlay on 6-in. × 1-in. t. and g. boardings on 4-in. × 2-in. rafters, supported by 9-in. × 2-in. purlins on 18-in. × 6-in. R.S.Js. Roof pitch 18°.
Flat roofs on single-storey structures: ¾-in. asphalt in two layers on cement screed laid to fall to outside gutter, on 8-in. pre-cast, hollow concrete beams, plastered on undersides.

Roof lights
One roof light over the sanctuary, 16-ft. × 10-ft. in Georgian wired glass set in aluminium bars on a timber kerb. Total area approx sq. 160 ft.

Windows
Window frames purpose made in softwood with oak sills. 32-oz. glass, except moving panes in large window over side entrance, in ¼-in. plate. Bays of coloured light were used to break down the unduly long proportions inside the building. There are five bays, each containing five louvres, and the colours, reading from the main entrance, are blue, pale green, white, amber and ruby.
Two windows have been designed by Joseph Mayo:
(*a*) on axis of wide aisle, adjoining side altar, under projection of gallery. Theme: three sleeping disciples surmounted by kneeling Christ, entitled " Agony in the Garden."
(*b*) mortuary window in five panels on " The Last Judgment." Bottom panel of outstretched figure depicts the Dead; above it on left is cut-away section through the church showing people of the parish praying for the soul of the deceased while on right is an angel similarly occupied; above is St. Michael, the archangel, blowing the trumpet on the last day, and at the top right corner is the Judgment scene itself.
Their visual effect has been spoiled to some extent by sheets of cast glass erected behind each to protect them from damage.

External doors
African mahogany double swing external doors, partly glazed in vertical strips with ¼-in. plate glass, give access to entrance halls and from the halls to the church.
Door to boys' sacristy, 3-in. × 1-in. African mahogany on blockboard backing, solid.

PARTITIONING

Internal partitions
Decking and partition on gallery, 4-in. × 1-in. t. and g. boarding on capoc quilt on 4-in. × 2-in. joists; plaster skim on wall board on 4-in. × 2-in. studs.

Internal doors
Between sanctuary and priests' sacristy: partly glazed African mahogany. Between priest's sacristy and boys' sacristy, and to store under stair, ¾-in. blockboard painted lime green.

FINISHES

Floor finishes
Terrazzo tiles, 9-in. × 9-in.; black and white tiles in aisles and white in sanctuary. 6-in. × 6-in. baked cement tiles under seats and in the sanctuary, strawberry colour.

analysis

Wall finishes
Interior end walls are in golden brown brick. Side walls are plastered with wood float and sprayed with grey coat. Panelling is African mahogany as follows: entrance hall, adjoining mortuary from 9 in. above floor level to transome over door (about 7 ft. above floor); wall behind side altar, underside and face of gallery, pulpit, communion rail and confessionals.

Ceiling finishes
Exposed timber sheeting is painted white, purlins lime green and r.s.j.'s grey. Suspended ceiling of plaster skim on wall board on battens is painted white.

Decorations
Panelling in the gallery and side altar are painted with linseed oil; the roof sheeting is white and egg-shell, purlins in lime green, r.s.j.'s in grey, window frames and fixed members in white, and moving members in deep green, all oil paint.

FITTINGS

Altar fittings in the sanctuary are in black Connemara marble on r.c. frame. Pulpit in African mahogany. Confessionals along the wide aisle African mahogany with linseed oil finish.

SERVICES

Rainwater disposal
Gutters and down pipes of cast iron, painted black.

Drainage
External for rainwater, through 4-in. concrete pipes to soak-away pit.

Electrical installation
Armoured cable wiring. Two fluorescent tube lights externally. Nineteen 60-watt and two 100-watt lights internally. The suspended lamps in the church will be replaced by Italian lamps when 60 per cent. import duty is lifted.

Heating
Seven portable electric heaters.

Paved areas
These are home made by voluntary labour. Sited under the covered way they are made of 2-ft. × 2-ft. × 2-in. pre-cast concrete slabs.

Special acoustical treatment
Wood float lime plaster is used on internal walls along both sides, as cheapest and simplest. Sound insulation by kapoc quilt under timber decking on gallery, to overcome hollow echoes in church.

Fire
Structural precautions: 2-in. concrete cover on reinforcement.

ADDITIONAL INFORMATION

This church was built largely by voluntary labour at a total cost of £12,000. The preparation of drawings commenced in September, 1953. Construction began in March, 1954, and finished in March, 1957. Work proceeded as funds were available, and when work in the fields was not urgent. The following work was carried out by voluntary labour: clearing site, levelling the ground, lifting and delivery of sand and gravel, excavation and pouring of foundations, mixing of concrete used throughout the building, laying of hardcore and concrete for floors, excavation and laying of drains, attendance on tradesmen and subcontractors, erection of fences and planting of shrubs. There was no general contractor, but there were sub-contracts for small individual aspects of the work. The total wages paid to tradesmen were £1206.
The parish priest, who kept the accounts, was constantly on the site organising operations, usually with his coat off and an implement in his hand. A clerk of works visited the site 30 times, when technical assistance was required. The architect, who was a student at Dublin, was available when he came home three times a year on vacation, and a few times when he was urgently required. The main snag, he says, was the difficulty in fixing responsibility when mistakes were made.

CONTRACTORS

Clerk of works: Dan Moran. Sub-contractor's: *Reinforcement (foundations and elsewhere):* McNaughtons Ltd. *Asphalt:* Granger Bros. *Concrete blocks:* Riverdale Concrete Products and Meath Co. Council. *Bricks: external*—Kingscourt Brick Co.; *internal*—National Coal Board. *Tiles:* Brooks Thomas Ltd. *Glass and Patent Glazing:* Dublin Glass and Paint Co. *Structural Steel:* Navan Engineering Works. *Patent flooring:* Excel Tiles. *Waterproofing material:* Secomastic Ltd. *Electric light fixtures:* General Electric Co. Ltd. *Stairtreads, Plaster, Joinery, Door furniture, Window furniture, Furniture:* Kiernan Bros. *Marble:* Irish Marble Ltd. *Textiles:* Brown Thomas. *Church fittings:* Gills Ltd. *Paint:* Barrett, Kells.

POLICE HEADQUARTERS

in QUEEN'S GARDENS, HULL, EAST RIDING OF YORKSHIRE ; designed by PRIESTMAN and LAZENBY

in collaboration with FREDERICK GIBBERD, town planning consultant to Hull Corporation

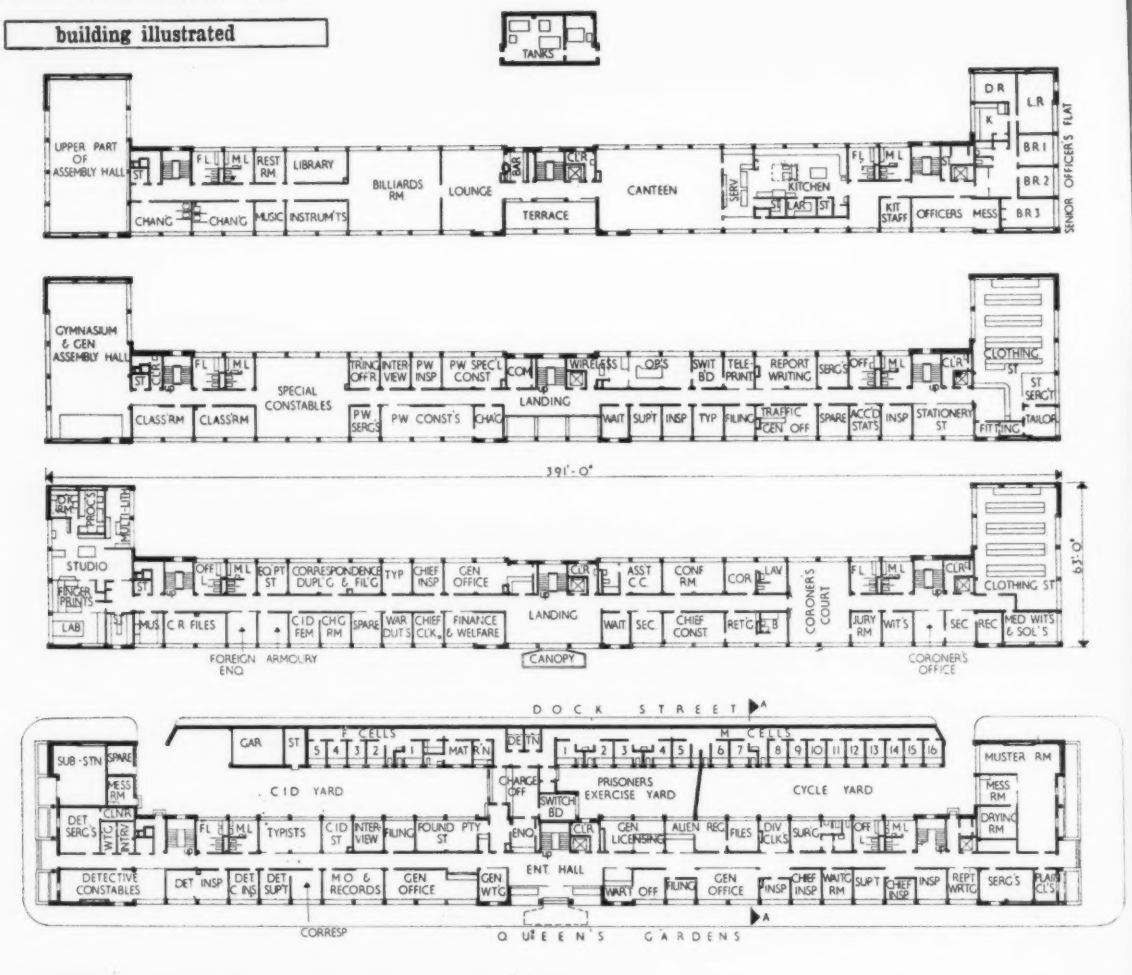
consulting engineers (structural) J. DOSSOR ; (heating and ventilation) A. F. MYERS and PARTNERS

(electrical) GEORGE R. CLAY ; quantity surveyors HOLDSWORTH and PARTNERS

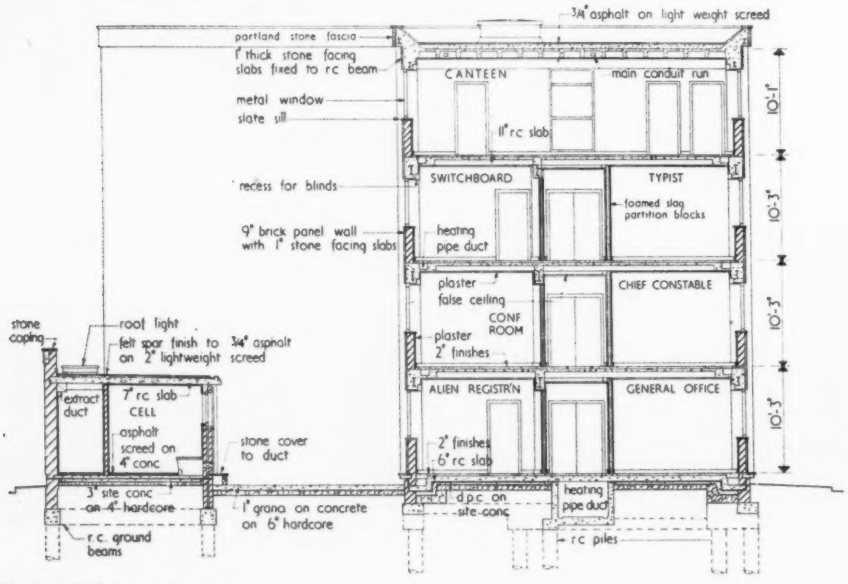
The new police headquarters at Hull occupies a central site with a frontage of 389 ft. to Queen's Gardens. Work began before the war, suspended in 1939, and recommenced in 1955. This building was intended to set the standard for the city's civic centre. The following police headquarters have been analysed in the JOURNAL: Stretford, Manchester (May 5, 1955), Wellington, Shropshire (November 1, 1956), and Earl's Court Road, London, W.8 (May 9, 1957).

The south-east facade, which faces Queen's Gardens.

building illustrated

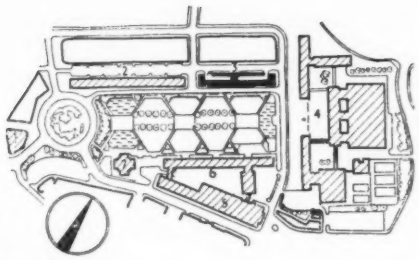


Basement, ground, first, second and third floor plans [Scale: $\frac{1}{16}$" = 1' 0"]



Section A-A [Scale: $\frac{1}{8}$" = 1' 0"]

From the north. Behind the low wall on the right are the prisoners' cells and exercise yard.



KEY:
1. Dock offices
2. Custom House
3. Police Headquarters
4. College of Technology
5. Guildhall
6. Guildhall extension
7. Winter Garden

Site plan

Above: in the centre of the south-east facade is the main entrance, with windows lighting the entrance hall and main staircase. Below: the main entrance hall on the ground floor.

analysis

CLIENT'S BRIEF: his stated requirements

A building to house the Headquarters of the city police force in accordance with the Home Office schedule of accommodation. The building would set the standard for the development of the civic centre on Queen's Gardens and it would be necessary to confer with the Town Planning Committee and their consultant, Frederick Gibberd.

The structural steel framework and basement constructed in 1938 were to be re-used as far as possible. The basement was leaking badly and required waterproofing. The Home Office required that the MOW report on economy of building materials be observed.

SITE: topography, surroundings, access, planting

The site fronts on to Queen's Gardens, formerly Queen's Dock, which became redundant and was filled in in the 1930's. The frontage to the Gardens is 389 ft. and as the site was only 58 ft. in depth it was necessary to encroach a further 10 ft. on Dock Street to the north, where it is proposed to construct a police yard and parade grounds approximately 310 ft. × 105 ft. at a future date. There is street access on all sides of the site. The site is flat and it was necessary to provide piled foundations, bearing upon a bed of boulder clay at a depth of about 40 ft.

PLAN: general appreciation

The accommodation had to be arranged departmentally, and so as to ensure that offices which would be visited by members of the public were as close as possible to the main entrance and enquiry office. As the Coroner's Court and suite of offices, although housed in the building, are not connected directly with the police, the entrance to the Court is placed at the extreme east end of the building. The cell block was required in a central position, adjoining the charge office and having easy vehicular access from the rear of the building. An exercise yard for prisoners on remand was also called for. The remaining yard space is used for storage of bicycles. The administrative section is placed centrally on the first floor. Clothing stores are placed at the east end of the building on first and second floors and are served by a goods lift, which also serves the canteen kitchen on the third floor. The whole of the third floor is devoted to amenity purposes, except for the Senior Officer's flat.

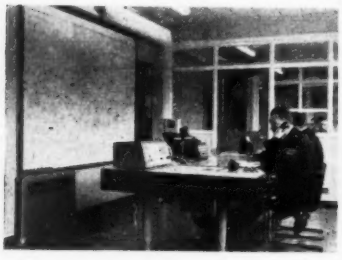
The basement contains central heating boilers, boiler for domestic hot water, oil fuel storage tank, telephone exchange, rifle range and storage space for files and found property. A space was required at ground level to house a sub-station for the Yorkshire Electricity Board.

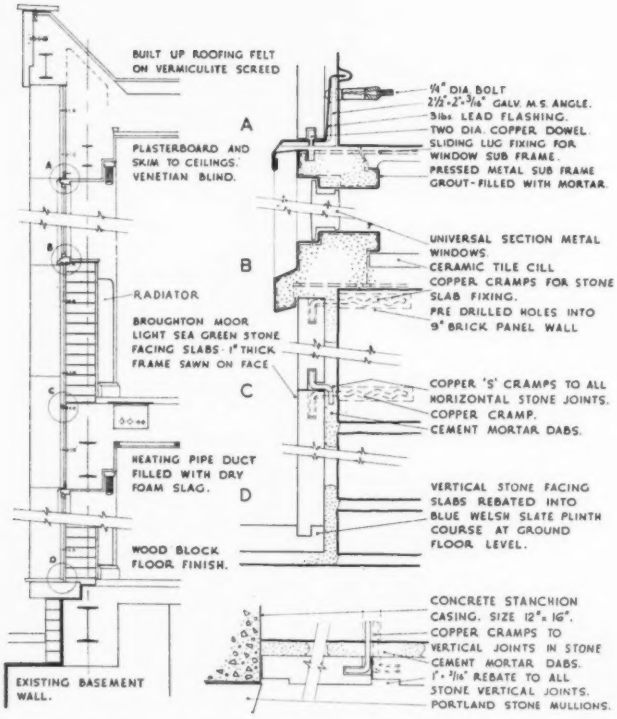
MAIN CONSTRUCTION: general appreciation

Owing to new bay sizes agreed with the planning consultant and reduction of storey heights by Home Office, very little of the original steel framework could be re-used. The roof slab and all floors, except the ground floor were suspended, and were constructed of hollow trough in-situ reinforced concrete with ribs at approximately 2-ft. centres. This facilitated the distribution of services transversely throughout the building. The main runs were in a false ceiling in the main corridor on all floors. Internal partitions were required to be solid and there was little scope for glazed partitions internally. There was no provision for strengthening of roof slabs for Civil Defence purposes. The cell block was detailed in accordance with the standard practice of the Home Office Architects' Branch.

building illustrated

Above: the first floor landing above the main entrance hall. Below left: the operations room on the second floor. Below right: the canteen on the third floor.





Section and details A B C and D, typical external cladding. [Scale: ¼" and 2" = 1'0"]

analysis

	s	d
Cost per sq. ft.		
Preliminaries and insurance		10
Contingencies	2	0½

STRUCTURAL ELEMENTS

Work below ground floor level — 10 3½

Constructional work below ground floor level was the subject of a separate contract. The eastern half of the building is carried upon 184 bored piles 16 in. diameter, average 46 ft. deep, each carrying approximately 30 tons. A further 153 bored piles were put down after trepanning the floor of the existing basement. The existing damp proof course was made good around each pile. The whole area of the basement floor was then covered with corrugated asbestos cement sheets and then covered with 6-in. concrete. The hollow space beneath the floor is connected to seepage channels which are taken to sumps fitted with float switch controlled pumps.

External walls and facings — 11 4½

Brickwork generally in 2⅝-in. golden brown wire-cuts with joints flush pointed at completion. Stone dressings in Portland stone with copings and plinths in blue slate, oiled after final fixing. Panels between windows faced with 1-in. Broughton Moor light sea-green stone slabs, frame sawn finish and secured to brick panel walls with copper cramps and " S " hooks. Recessed panels at east and west ends were faced with 9-in. × 6-in. yellow faience tiling ⅝ in. thick. Detached columns covered with ¾-in. × ¾-in. vitreous glass Italian mosaic in contrasting colours.

$$\text{Ratio : } \frac{\text{Solid wall}}{\text{Floor area}} = \frac{0.5103}{1}$$

Frame or load bearing element — 8 7¾

Structural steelwork was a separate contract. Erection time was eleven working weeks, coinciding with the completion of the foundation contract. Column grid 12 ft., internal spans 19 ft. 2 in. and 12 ft. 2 in., except where rooms continue across building.
The Cell Block: load-bearing external brick walls.

Upper floor construction — 3 5½

All patent hollow trough-cast in-situ with ribs at approximately 2 ft. centres, 11 in. deep, spanning 19 ft. and 12 ft. Solid slab 9 in. and 7 in. thickness under billiards room.

Staircases (three open-well staircases) — 1 0½

Width of staircase = 4 ft.
Total rise (west and central) = 42 ft.
Total rise (east) = 30 ft. 9 in.
Reinforced concrete with precast terrazzo treads and risers.

Roof construction — 2 1

Main building. Total area = 15,194 sq. ft. R.C. as floors, but spanning in opposite direction. Span 12 ft. Vermiculite concrete screed and 3-ply felt. Cell block. Total area = 5,032 sq. ft. 7 in. thick r.c. laid to fall of 3 in. Finish as above.

Roof finishes — 1 5½

2,188 sq. yd. mineral surfaced 3-ply built-up roofing felt.
51 sq. yd. 3-ply built-up roofing felt with 12-in. × 12-in. asbestos cement tiles to terrace.
15 sq. yd. ¾-in. asphalt finished with white spar chippings to canopy over main entrance.

analysis

Roof lights — s d 2¾

28 roof lights with pressed glass lens cast into concrete frames. Under side glazed with ¼-in. rough-cast plate glass.
Total area = 306 sq. ft.

Windows — 2 10½

Purpose made hot-dip galvanized steel in steel sub-frames. All windows designed for cleaning from inside building. All furniture in bronze. Vertical pivot lights have espagnolette bolt on open in portion and handle on open out portion. Horizontal pivots have cam opener and cap pivots. High level windows in assembly hall have remote control gear. Central landing windows all in pressed steel galvanized. Cell windows double lens in r.c. frame to Home Office specification.

$$\text{Ratio: } \frac{\text{Windows}}{\text{Floor area}} = \frac{0{\cdot}1920}{1}$$

External doors — 1¾

Main entrance standard armourplate double doors on floor springs. East and west entrances solid flush faced with external quality plywood with glazed panels.
All doors to rear of building solid, flush, metal-faced.

$$\text{Ratio: } \frac{\text{Doors}}{\text{Floor area}} = \frac{0{\cdot}0068}{1}$$

Glazing — 5½

Generally 32 oz. and 24 oz. clear sheet. Double doors: ¼-in. polished georgian wired. Glazed screens: cross reeded glass. Central landing windows and main entrance screen in ¼-in. polished plate. Light fittings in cells in armour plate.

PARTITIONING

Internal partitions — 2 1

3-in. solid and 4¼-in. hollow foam slag partitions with ½-in. plaster.
Area of each type— 2,182 sq. ft. 3-in. partition
29,693 sq. ft. 4¼-in. partition

Screens — 8¾

Glazed partitions—gurjun to landings and deal elsewhere. W.c. doors and partitions and shower partitions in ½-in. aluminium faced plywood.

Internal doors — 1 4

219 single (including 21 cell doors)
30 glazed (screen)
32 double
6 double (cupboards)
3 steel
4 (grilles to cell corridors)

1¾-in. ply-faced flush doors. Cell-doors metal-faced both sides, having grilles and observation apertures.

Ironmongery to internal doors — 11

Furniture escutcheons and purpose-made finger plates and kicking plates in satin chrome.

FINISHINGS

Floor finishes — 3 8¼

Wood block flooring—including sealer and polish.

Area in sq. yds.		*Price per sq. yd.* s d
2732	West African guarea to offices generally	31
1032	Australian karri to all corridors except ground floor	37
342	West African ekki to ground floor corridor	38 6
157	West African agba to senior officer's flat	28 9
30	Rubber tile flooring—corridors approaching coroner's court	44 6
1123	Coloured asphalt flooring—whole of cell block (to Home Office specification)	9 3
237	Industrial type tile floors—4 in. × 4 in. × ½ in. to lavatories	42
134	6 in. × 6 in. × ½ in. to canteen kitchen and stores	43 3
71	Ceramic mosaic—to main entrance hall and panels in first floor landing Reason, colour, texture non-slip and used as cover to floor heating panels.	68
54	Thermoplastic flooring—⅛-in. thermoplastic tiles to private lavatories	16 (average)
210	Plastic in-situ flooring—¼-in. jointless composition to clothing stores	15
49	Granolithic paving—1 in. thick to cleaners' stores	6
136	2 in. thick to boiler-house, etc.	10 3

Wall finishes — 2 10

½-in. hard plaster throughout. Walls of cells in case-hardened cement. Dado of 6-in. × 6-in. cream glazed wall tiles to canteen kitchen and servery, and lavatories and showers.

Ceiling finishes — 1 2¾

Plaster board and skim generally. Acoustic tiles in Assembly Hall and Coroner's Court. Cell block plastered on concrete roof slab.

Decorations — 1 5¾

Walls and ceilings, 2 coats emulsion paint. Walls of staircases and corridors, and woodwork, finish gloss oil paint.

FITTINGS

Generally — 1 10½

Specially designed benches and fittings to photographic studio, dark room and process rooms. Counters and divisions to public offices and clothing store. Charge Office bench and counter—counter metal faced to front and top. Enquiry Office counter. Bar counter and back fitting. Wooden racks and terrazzo benches to canteen kitchen. EJMA fittings to matron's (cell block) kitchen and Senior Officer's flat kitchen, and cleaner's stores. Fire hose reels and extinguishers. Steel lattice wireless mast. Flag poles. Cell block fittings. Lightning conductors. Cycle racks. Shelving and pin rails.

analysis

SERVICES

s d

Plumbing, external 11½
Copper tubing rain-water waste and soil pipes in service ducts.

Hot and cold water installation 2 7
Hot water: one oil-fired boiler in basement, 904,000 B.Th.U. rating. One calorifier in boiler-house, 300 gall. capacity; one in centre basement area, 150 gall.; one east end ground floor, 150 gall. and one third floor, near kitchen, 100 gall. Copper pipe with capillary fittings.
Cold water: 740 gall. storage tank at roof level. Booster pumps to serve fire fighting equipment.

Sanitary fittings 9¾
W.c'.s, lavatories and urinals in white glazed vitreous china. W.c'.s to cell block, corbel closet pan and remote control flushing apparatus. Electric incinerators in all female lavatories.

Heating and ventilation 8 2
Temperatures: 55–60° F. generally and 1·5 air change.
" U " values: Walls, 0·35. Roof, 0·20.
Boilers: Two 200 sec. oil-fired boilers of 1,642,000 B.Th.U. each.

Heating installation: radiators under windows. Floor heating panels fixed in central area where insufficient wall space.
Cell block: copper filled tube heaters are beneath benches.
Ventilation: Extract ventilation system to cells, rifle range in basement, switch room and battery room, drying room and canteen kitchen.

Drainage 7
A combined system, generally in s.g.w. pipes. The drainage from the female cells over the basement is above yard level enclosed in a brick duct.

Gas installation 1¾
Cooking in canteen kitchen by gas. Instantaneous water boilers provided in mess rooms. 15 gas points.

Electrical installation 3 4½

313 fluorescent fittings	11 illuminated internal signs
575 tungsten fittings	23 cell call and indicator light and buzzer points
130 emergency lights	224 13-amp. socket outlets
24 outside lights	66 2-amp. socket outlets
81 clock points	117 telephone points

Screwed conduit installation to lighting and power points and telephone system. Emergency lighting installation 100 V., D.C. fed from standby battery in basement. Electric clocks, cell call and indicator light and buzzer system.
Cell lighting fittings have 100-watt lamp for normal use and 25-watt for night use.

Lifts and other mechanical services 1 4½
Central lift serving 5 floors including the basement. East lift serving 4 floors.

OTHER ELEMENTS

Externals 9½
Paving to yards, block boundary wall, yard gates, flower boxes, guard bars and unclimbable fencing to prisoners' exercise yard.

Shillings per sq. ft. of floor area = 79s 9½d = £272,504 / 68,301 sq. ft. (net cost excluding external works) (Floor area measured inside external walls)

s d

Kitchen equipment 4½
All gas fired, cooker, griller, steamer, fish fryer, vegetable boiler, two hot cupboards, and combined washing-up and sterilizing unit.
(Not included in total of 79s. 9½d.)

TIME SCHEDULE

Architects appointed	Sept. 18, 1953
Plans approved by Home Office	May, 1954
Foundation contract	
Tenders	Jan. 7, 1955
Contract signed	Feb. 12, 1955
Completed	Oct. 15, 1955
Structural steelwork	
Tenders	Jan. 10, 1955
Contract	April 21, 1955
Completed	Oct. 15, 1955
Main contract	
Tenders	Aug. 31, 1955
Contract	Nov. 10, 1955
Completed	May 1, 1957

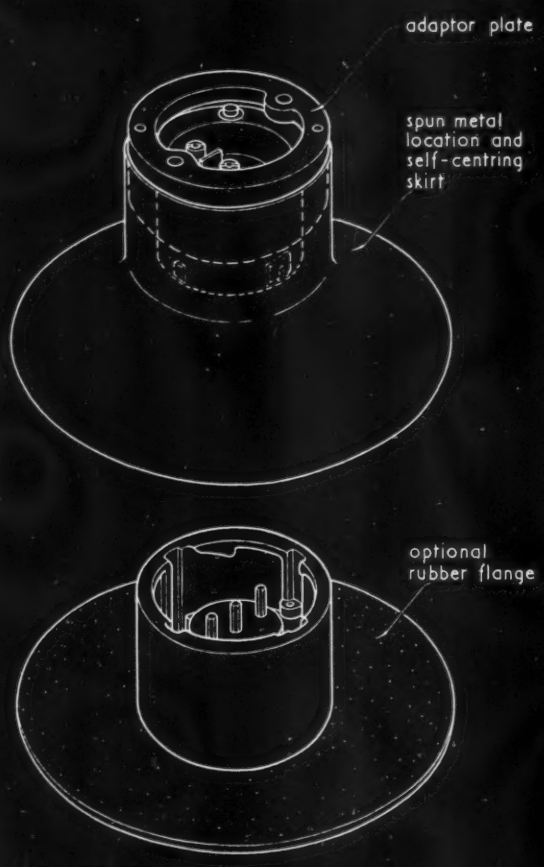
COST COMMENTS

When the analyses of the police headquarters published so far are placed side by side (Manchester, May 5, 1955; Wellington, November 1, 1956; Earls Court, May 9, 1957) one hopes all the more that the editorial comments of the JOURNAL on September 12, 1957 (calling for more ministerial cost guidance) are being heeded at the Home Office.
It seems unlikely that each scheme and estimate was backed up with a detailed cost plan showing how the money was distributed.
At Hull the element groups of Fittings (1s. 10½d.), Finishings (10s. 8d., including 1s. 5¼d. for roof finishings), Services and special equipment (17s. 5d.), are comparable with those of earlier analyses. But the structural elements at Hull (omitting foundations and including roof finishes) amount to 36s. 9d. per sq. ft. of floor area as compared with 24s. 7d. at Manchester, 30s. 9d. at Wellington and 26s. 7¼d. at Earls Court.
Compared with Earls Court, this increase of almost 10s. per sq. ft. in the structure can be seen below in such elements as frame and upper floor construction, external wall and windows. (Note that element costs have been divided by their ratios to give rates per unit area of element.)

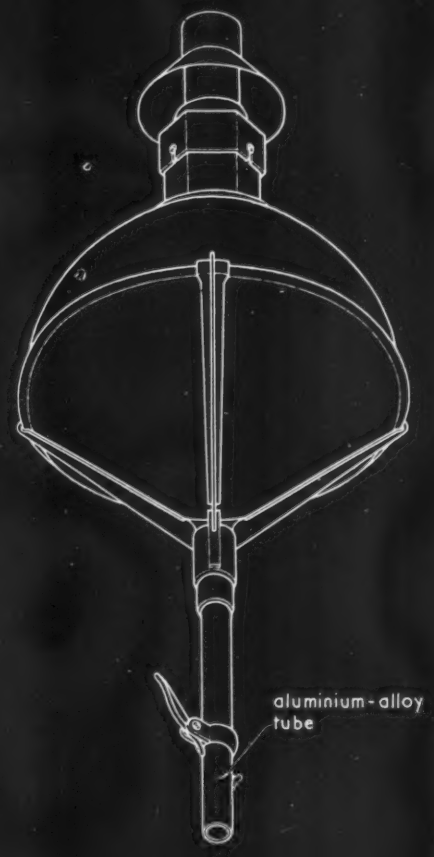
Element	*Hull*	*Earls Court*	*Remarks*
Frame	8s. 7¾d. (steel)	7s. 0½d. (r.c.)	
Upper floor construction	3s. 5½d. (patent hollow trough)	Inc. (r.c.)	
External walls	11s. 4½d. = 22s. 9d. per sq. ft. / ratio 0·5	7s. 11¾d. = 11s. 9d. per sq. ft. / ratio 0·7	Note the use at Hull of such materials as natural stone, Broughton Moor stone, and faience tiling
Windows	2s. 10½d. = 15s. 2d. per sq. ft. / ratio 0·19	1s. 9d. = 13s. 5d. per sq. ft. / ratio 0·13	

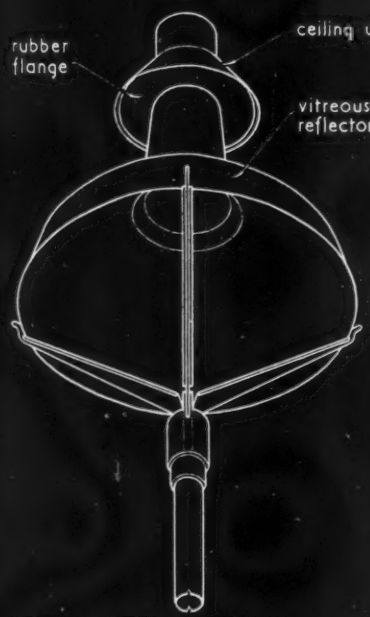
Perhaps in due course it may be possible for the Home Office to add to their *Memorandum on the Design and Construction of Police Stations* an appendix on costs and permissible cost limits.

The Architects' Journal Library of Information Sheets 639. Editor: Cotterell Butler, A.R.I.B.A

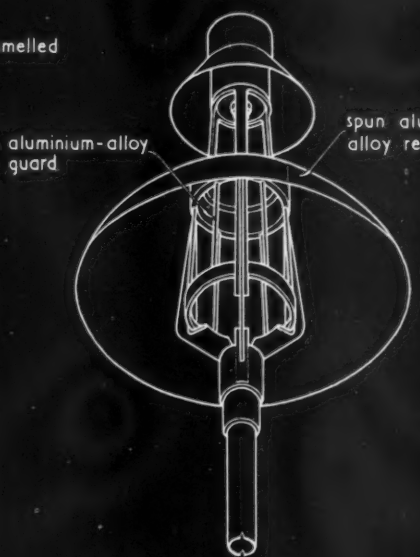


QUIKFIT CEILING UNIT.

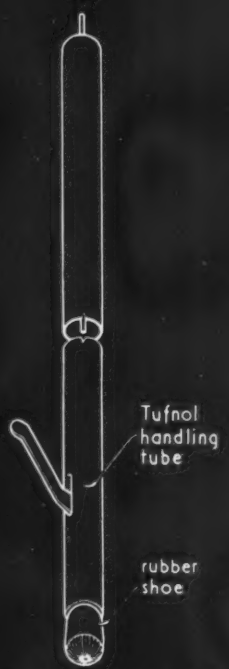




DEEP DISPERSIVE FITTING.



GYMNASIUM FITTING.



PERSPEX INDUSTRIAL FITTING.

SPECIAL FITTINGS FOR USE WITH QUIK RELEASE EQUIPMENT.

QUIK RELEASE DETACHABLE SUSPENSION FOR LIGHTING EQUIPMENT. Manufacturer: Cable Strippers Ltd.

34.K1 ·QUIK RELEASE· DETACHABLE SUSPENSION FOR LIGHTING EQUIPMENT

This Sheet describes Quik Release detachable suspension for lighting equipment. The use of this system makes possible the removal, from floor level, of a complete electric light fitting for cleaning and maintenance. The lighting fittings shown are specially developed for use with Quik Release equipment and can be obtained through Cable Strippers Ltd.

Principle

The ceiling or suspended fitting incorporates a bayonet fixing. A special grab, on an extension of the appropriate length, has three arms which open and close at the touch of a lever and these can be made to grasp the light reflector firmly. An upward thrust and a turn release the whole lamp unit which is then lowered to floor level. A different type of grab is required for each different type of fitting, but the same extensions may be used with each.

Ceiling Unit

The drawing on the upper left face of the Sheet shows the construction of the Quikfit unit. It may be fitted direct to the ceiling or suspended, special adaptor plates being available for each application. The aluminium-alloy corrosion-resistant castings are LM6. The location and self-centring skirt is of spun mild steel. The rubber flange is optional: it is recommended where the electrical parts should be completely enclosed, e.g. in corrosive atmospheres, and it also acts as a stabiliser to suspended fittings. Aluminium-alloy vents can replace the rubber flange if required.

Grabs

For fittings: Grab heads are supplied with aluminium-alloy tubes 1 ft. 6 in. long for connecting to an extension. These tubes are to BS. 1471, HT15. The extensions are of similar material in 5 ft. 0 in. and 2 ft. 6 in. lengths.

For lamps: These are supplied with tubes 5 ft. 6 in. long.

Lighting Fittings

"Perspex" industrial fitting: Standard grabs are made for use with this fitting. The body is of die-cast corrosion-resistant aluminium-alloy, stove-enamelled white inside. The globe is in opal acrylic material reinforced with an aluminium ring. The fitting is of the enclosed type and is dust-proof and waterproof. It is suitable for interior or exterior use.

Deep dispersive reflector: This fitting is only supplied by Cable Strippers Ltd.

Gymnasium fitting: This fitting is to the design of the Chief Engineer to the London County Council and can be obtained through Cable Strippers Ltd. It is made entirely of aluminium-alloy. It has a guard to protect the light bulb and the spun aluminium reflector is not fixed, so that it resists the effect of any impact by tilting.

Other fittings: Where the architect wishes to use specific fittings other than those listed above, photographs or drawings should be sent to Cable Strippers Ltd. with all relevant dimensions and weights.

Weights

The weight of the fitting determines the height practicable for the fittings. For example, the weights and maximum heights for the fittings previously described are as follows:

Type of fitting or lamp	Weight (lb.)	Max. height (ft. and in.)	
		Standard extension	Telescopic extension*
Reflector (14 in. dia.) 200W lamp	3	20–0	22–6
Gymnasium (14 in. dia.) 200W lamp	3	20–0	22–6
Perspex industrial (14 in. dia.) 150W lamp	5	17–6	20–0
Perspex industrial (18 in. dia.) 300W lamp	7	15–0	17–6
Lamps, 15W to 1,500 W	—	25–0	30–0

* The telescopic extension consists of 4 tubes, extends to 17 ft. 0 in., and collapses to 5 ft. 6 in.

Finishes

The spun metal skirt of the ceiling unit can be heat-treated in aluminium, zinc or polythene.

Safety Equipment

The tubes and castings may be polythene-covered, with modification to operating cone and head base in Tufnol. A 4-ft. insulated handling tube is available.

Further Information

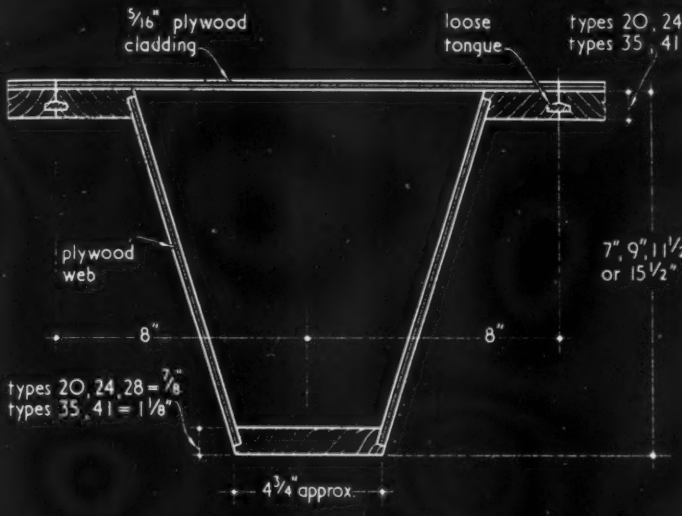
Detailed literature is available on request from Cable Strippers Ltd.

Compiled from information supplied by:

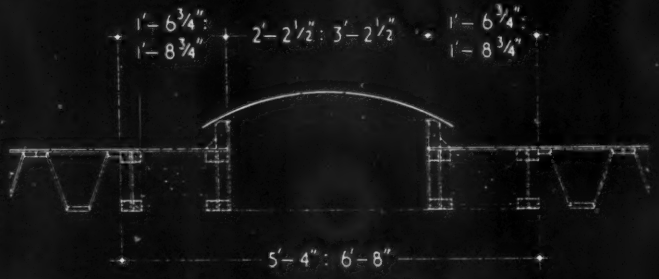
Cable Strippers Ltd.
Address : Leighton House, Potters Bar, Middlesex.
Telephone : Potters Bar 2267

ROOF STRUCTURAL ELEMENTS | TIMBER

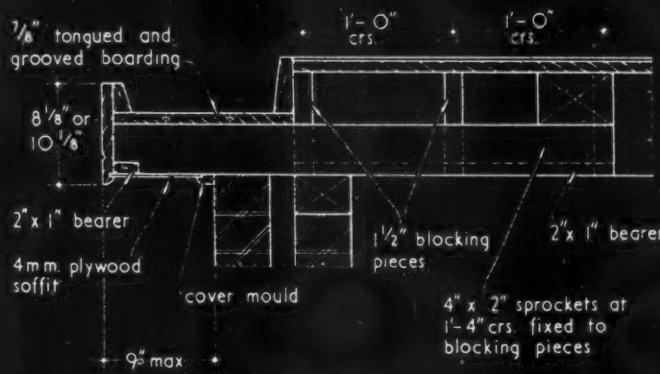
The Architects' Journal Library of Information Sheets 640 Editor: Cotterell Butler, A.R.I.B.A.



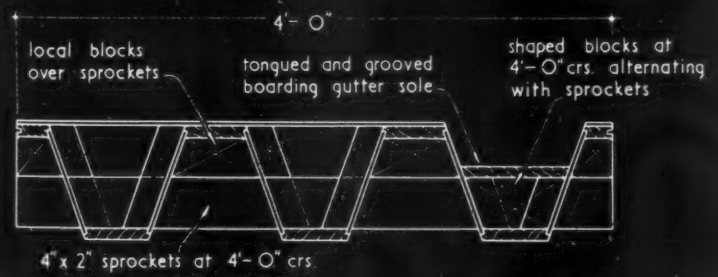
SECTION THRO' TYPICAL TROUGH.



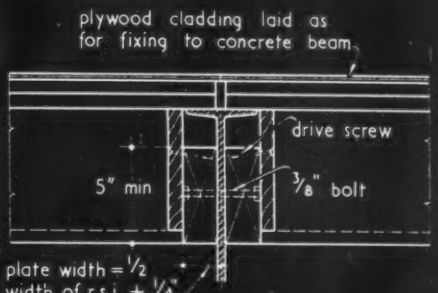
TYPICAL UNIT FOR USE WITH 'PERSPEX' DOME ROOFLIGHT.



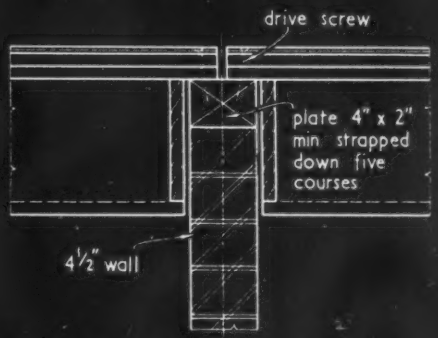
TYPICAL GUTTER ARRANGEMENT. (at ends of trough)



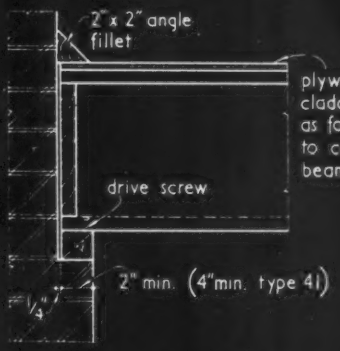
TYPICAL GUTTER UNIT. (parallel to trough)



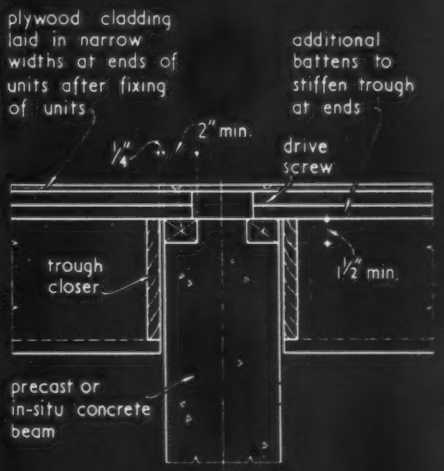
FIXING TO STEELWORK



FIXING TO 4 1/2" BRICKWORK.



FIXING TO PARAPET WALL.



FIXING TO CONCRETE BEAM

'TROFDEK' TIMBER ROOF DECKING. Manufacturer: H. Newsum Sons and Co. Ltd.

20.E4 ·TROFDEK· TIMBER ROOF DECKING

This Sheet gives details of Trofdek timber roof decking which is a prefabricated lightweight construction built up from standard components. It can be used for flat, low-pitched or curved roofs. It is also suitable for floors, under certain conditions, and for concrete formwork.

Design and Construction

The Trofdek unit is prefabricated from timber battens and plywood, resin-bonded to the form shown on the upper face of the Sheet. The plywood is Douglas fir exterior grade and the battens are of selected European redwood. The unit is stiffened at the ends by additional battens under the top members, as shown in the fixing details. Adjacent units are jointed by a loose tongue.

Sizes

The decking is made from standard troughs manufactured in four depths: 7 in., 9 in., 11½ in. and 15½ in. The troughs can be made to any required lengths and are of a standard width of 16 in. Effective spans from 20 ft. 0 in. to 41 ft. 0 in. are possible, but a slight modification is necessary on spans over 35 ft. 0 in. For spans under 20 ft. 0 in. the manufacturer produces another form of roof decking called Diaframe.

Weight

The decking, including the plywood cladding, weighs 3 to 5 lb. per sq. ft. according to span.

Fixing

The details on the face of the Sheet show typical end fixings for various types of construction. The manufacturer will supply and fix a complete roof, including felting, roof lights, gutters, etc. Roof-light units are made from suitable built-up beams, which are designed to span up to the maximum average depth of trough. Ceilings can normally be fixed directly to the underside of the decking, but where it is desired to leave the underside exposed, it requires special attention during manufacture and fixing, and involves a small extra cost.

Thermal Transmittance

Using a ceiling construction of ½-in. fibre board, the calculated thermal transmittance (U value) would be 0·21. Where ½-in. fibre board is also laid on top of the plywood cladding beneath the final covering (roofing felt), a U value of 0·16 is obtained.

Further Information

The manufacturer has a Technical Design Department available for answering all technical questions dealing with the use of Trofdek. On receipt of drawings, detailed quotations for the complete roof will be supplied.

Load Span Table

The following table gives the safe distributed loads for the various depths of Trofdek construction. The spans are limited so that a maximum mid-span deflection will not exceed 0·003 of the effective span.

Type	Approx. depth (including plywood cladding)	Weight (lb./sq. ft.)	Maximum uniformly distributed loads in lb./sq. ft. for effective spans in feet (centre to centre of supports)†																													
			10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
20	7⅛ in.	3·5	—	—	—	74	59	48	40	33	28	26	25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
24	9⅛ in.	3·75	—	—	—	—	—	77	68	57	48	40	35	30	27	26	25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
28	11⅛ in.	4·0	—	—	—	—	—	—	—	—	—	76	65	56	49	43	37	33	29	26	25	—	—	—	—	—	—	—	—	—	—	—	—	—
35	15⅛ in.	4·75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	63	56	50	45	41	37	34	32	28	25	—	—	—	—	—	—	—
41	15⅛ in. *	5·25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	41	37	34	31	29	27	26	25

* Built to give two-way falls

† Design load = dead plus live load

Compiled from information supplied by:

H. Newsum Sons & Co. Ltd.
Address: 238, High Street, Lincoln.
Telephone: Lincoln 812.
London Office: 28, St. George Street, Hanover Square, W.1.
Telephone: Mayfair 3453.

working detail

TELEPHONE BOXES: MAGISTRATES COURT AT SLOUGH, BUCKS

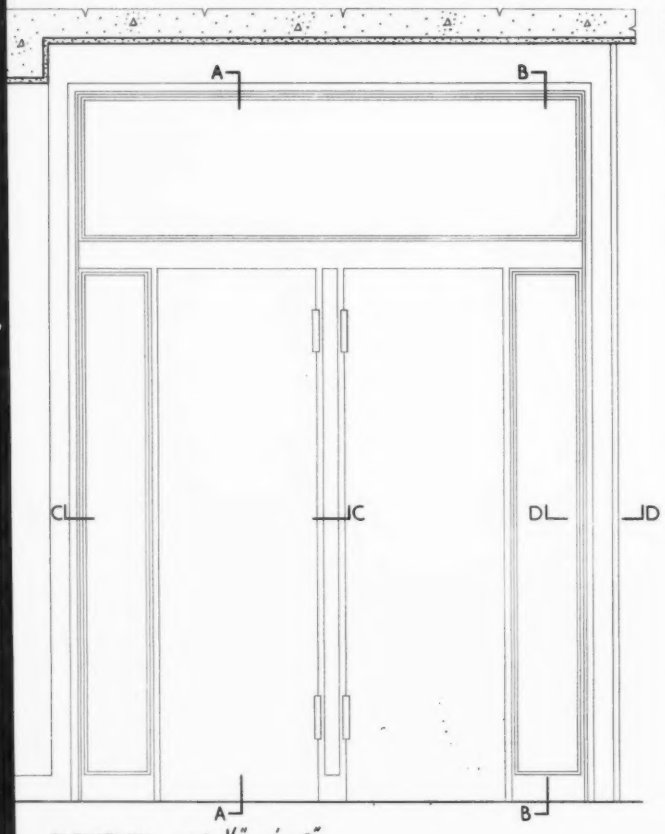
F. B. Pooley, Architect to the Buckinghamshire County Council

This is a good example of detailing with a definite "public" character and an almost Victorian regard for quality, but which still avoids "stuffiness." Note the handsome aluminium beads which express the full thickness of the joinery, also the use of self-closing hinges in preference to unsightly door closers (the right-hand door has been wedged open merely for the purpose of the photograph). The limitation of the glazing to the narrow side panels gives a measure of privacy which will be much appreciated by callers in a police court.

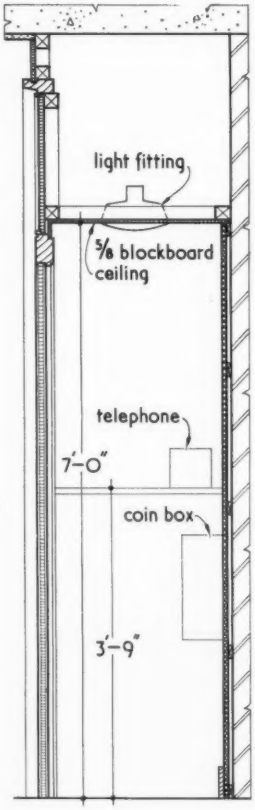
working detail

TELEPHONE BOXES: MAGISTRATES COURT AT SLOUGH, BUCKS

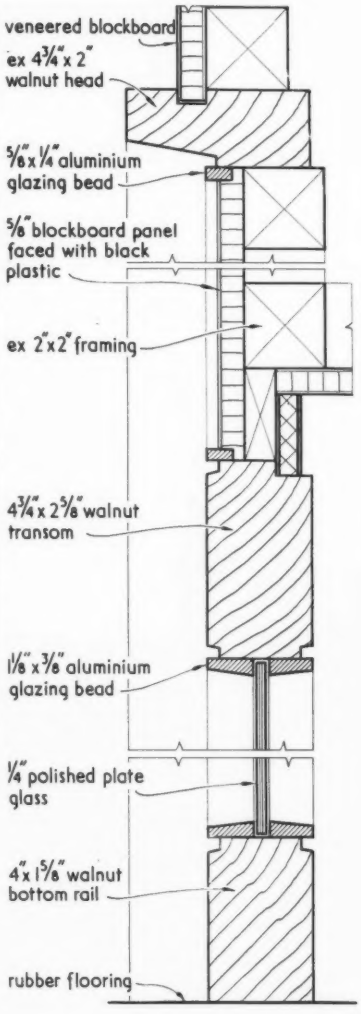
F. B. Pooley, Architect to the Buckinghamshire County Council



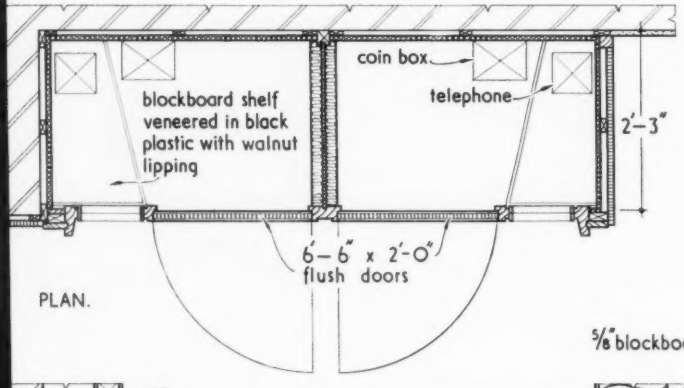
ELEVATION. scale ½" = 1'–0"



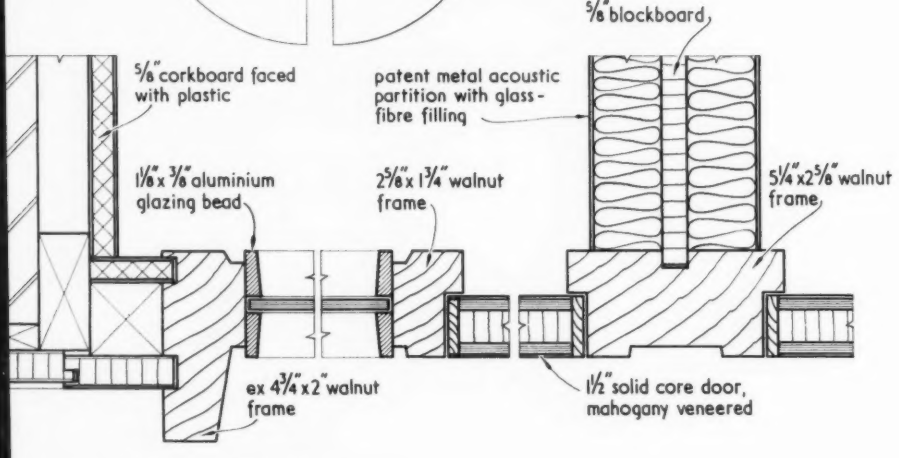
SECTION A–A.



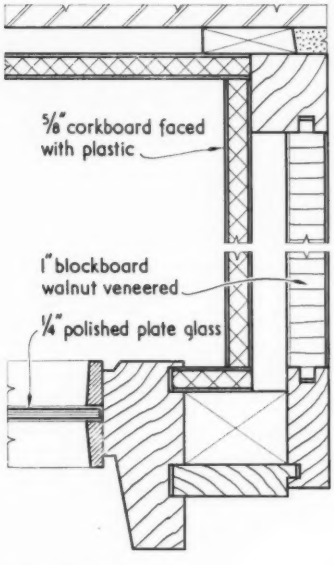
SECTION B–B.



PLAN.



SECTION C–C. scale ¼ full size



SECTION D–D.

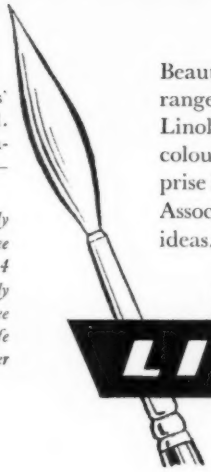
More scope

for creative achievement in floor styling

THELMA . . . . stands for The Linoleum Manufacturers' Association, 127 Victoria St., London, S.W.1. For further information write to the Association or to any of the following members :—

Barry, Ostlere & Shepherd Ltd., Kirkcaldy
Dundee Linoleum Co. Ltd., Dundee
Linoleum Manufacturing Co. Ltd., 6 Old Bailey, E.C.4
Michael Nairn & Co. Ltd., Kirkcaldy
North British Linoleum Co. Ltd., Dundee
Scottish Co-operative Wholesale Society Ltd., Falkland, Fife
Jas. Williamson & Son Ltd., Lancaster

B4



Beautiful effects are easy to plan with the vast range of colours available in modern linoleum. Linoleum is as rich as an artist's palette in the colour combinations it provides for creative enterprise in floor styling. The Linoleum Manufacturers' Association will gladly help you to develop your ideas.

PLAN FOR LINOLEUM

Architects: **FITZROY ROBINSON, HUBERT H. BULL.** Flooring Contractors: **A. B. DALZELL & CO.**

City Offices choose NAIRN linoleum

For full information about Nairn Linoleum write or telephone to **MICHAEL NAIRN & CO. LTD**
131 Aldersgate St., London, E.C.1. MONarch 3211
or telephone Birmingham Office: Midland 5989
Manchester Office: Central 1417 Glasgow Office: South 1011
Head Office and Works: Kirkcaldy, Scotland. Kirkcaldy 2011

Nairn 'quality' linoleum made in two thicknesses
LINTILE 6.70 mm **BATTLESHIP** 4.50 mm

In the entrance hall of Ellerman Lines' new City offices, Nairn Lintile Linoleum in black and greystone forms a floor which is both attractive and hard wearing. Plain or marbled Lintile and Battleship linoleums are made in a wide range of colours from which architecturally designed floors can be built. Nairn Linoleum is chosen throughout the world for quality... fine marblings... colour... hard wear.

PLANNING PERMISSION GRANTED FOR MILLBANK OFFICES

Ronald Ward and Partners designed this building (to house offices and a few flats) for a site on Millbank. Planning permission has been granted by the LCC. The freehold of the 3½ acre site is owned by the Crown and, subject to negotiations now in progress, will be leased to the Legal and General Assurance Society who, in association with the Vickers group of companies, will develop the project. The RFAC has accepted the idea of a building above normal height and has raised no objections to the scheme as shown here. The highest part of the structure reaches 350 ft. and has 30 storeys. The site will be open at ground level, except for the main circulation areas, to provide maximum open space for gardens.

Buildings Illustrated

Fire Station, Wythenshawe, Manchester, for the City Corporation (pages 510-511). *Architect:* Leonard C. Howitt, M.ARCH., DIP.T.P., D.P.A., F.R.I.B.A., M.T.P.I., City Architect. *Senior assistant architect:* Frank Robinson, D.F.M., A.R.I.B.A. *General contractors:* Moston Brick & Building Co. Ltd. *Sub-contractors:—Plumbing and glazing:* John Turton & Sons Ltd. *Heating installation:* Dodd Engineering Co. Ltd. *Painting:* H. S. Hollinshead Ltd. *Metal windows:* John Thompson (Beacon Windows) Ltd. *Plastering:* Thomas Bros. Ltd. *Terrazzo flooring, etc.:* Conways (Tiles & Terrazzo) Ltd. *Roofing:* Neuchatel Asphalte Co. Ltd. *Electrical installation:* Frank Wall & Co. *Asphalting:* J. E. C. Lord (Manchester) Ltd. *Petrol storage installation:* Dowson & Mason Gas Plant Co. Ltd. *Entrance gates:* Robert Walker & Sons. *Reinforced concrete floors and roofs:* Concrete Ltd. *Boundary railing:* Concrete Unit Ltd. *Door opening gear:* Hill Aldam & Co. Ltd. *Cycle racks:* Constructors Ltd. *Metal doors:* George Wragge Ltd. *Hose hoisting gear:* The Vaughan Crane Co. Ltd.

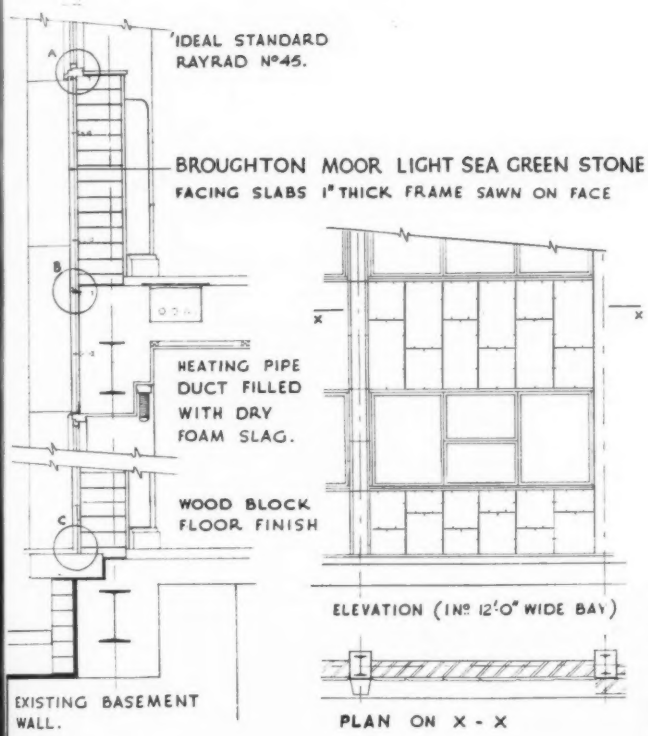
Central Police Headquarters, Queens Gardens, Hull, E. Yorkshire (pages 529-534). *Architects:* Priestman & Lazenby, F./A.R.I.B.A., in collaboration with Frederick Gibberd, C.B.E., F.R.I.B.A., M.T.P.I., Town Planning Consultant to Hull Corporation. *Quantity surveyors:* Holdsworth, Son & Partners. *Consultants:* (structural) J. Dossor, M.I.C.E.; (heating and ventilation) R. R. Jennings & Partners; (electrical) George R. Clay, A.M.I.E.E. *General contractors:* Quibell & Son Ltd. (superstructure and Portland stone masonry); F. Shepherd & Son Ltd. (foundations). *Concrete piling:* Holmpress Piles Ltd. *Asphalt tanking:* J. Hardgrave Asphalts Co. *Plumbing:* F. Abba & Co. *Structural steelwork:* Redpath Brown & Co. Ltd. *Heating and ventilating engineers:* G. N. Haden & Sons Ltd. *Electrical engineers:* J. Shaw & Co. Ltd. *Plumbers and glaziers:* Drape & Upton Ltd. *Carpenters and joiners:* Humber Joiners Ltd. *Steel reinforcements:* British Reinforced Concrete Engineering Co. Ltd. *Stone facings:* Broughton Moor Green Slate Quarries Ltd. *Slate sills and copings:* Humber Slate Works. *Facing bricks:* National Coal Board, Clayworks Dept. *Metal windows and sub-frames:* Henry Hope & Sons Ltd. *Lift installations:* Shorts (Lifts) Ltd. *Roof covering, asphalt tanking and paving:* Northern Asphalt Co. Ltd. *Painter and decorator:* T. W. Bailey & Sons Ltd. *External and internal wall and floor tiling:* British Clay Products Ltd. *Cell windows:* Lenscrete Ltd. *Concrete roof and lantern lights:* J. A. King & Co. Ltd. *Wood block flooring:* J. A. Hewetson & Co. Ltd. *Rubber and thermoplastic flooring, etc.:* Semtex Ltd. *Sanitary fittings, etc.:* Ideal Boilers & Radiators Ltd.; Twyfords Ltd. *Galvanized steel sinks and kitchen cooking equipment:* J. Stott & Co. Ltd. *Cell block fittings and wrought ironwork:* Chas. Smith Sons & Co. Ltd. *Metal handrails, steel doors and balustrades:* King & Co. Ltd. *W.c. and shower cubicles:* Flexo Plywood Industries Ltd. *Terrazzo staircases and benches, mosaic work:* O. Toffolo & Son Ltd. *Flush doors:* J. Sadd & Sons Ltd. *Door furniture and ironmongery:* Dryad Metal Works Ltd. *Wall panelling and metal-faced doors:* Wm. Mallinson & Sons Ltd. *Main entrance screen:* Wm. Mason Ltd. *Gas fires:* North Eastern Gas Board. *Roller shutters:* Roller Shutters Ltd. *Flag poles:* Chas. Pearson (Hull) Ltd. *Gymnasium equipment:* H. Hunt & Son Ltd. *Telephone hood:* Burgess Products Co. Ltd. *Venetian blinds and dark room blinds:* J. Avery & Co. Ltd. *Fire-hose reels and fittings:* The Pyrene Co. Ltd. *Steel shelving and backing:* Harrison (Office Equipment) Ltd. *Cycle racks:* Alfred A. Odoni & Co. Ltd. *Bicycle parking blocks:* Stelcon (Industrial Floors) Ltd. *Gas meter cover and frame:* Broads Manufacturing Co. Ltd. *Wireless mast:* British Insulated Callender's Construction Co. Ltd. *Lightning conductor:* F. E. Beaumont Ltd. *Electric booster pumps:* J. Cherry & Sons. *Electric incinerators:* Wandsworth Electrical Engineering Co. Ltd. *Paint:* Blundell Spence & Co. Ltd. *Electrical fittings:* General Electric Co. Ltd.; Falk, Stadelmann & Co. Ltd. *Cement:* G. & T. Earle Ltd. *Plaster:* Imperial Chemical Industries Ltd. *Common bricks:* London Brick Co. Ltd.

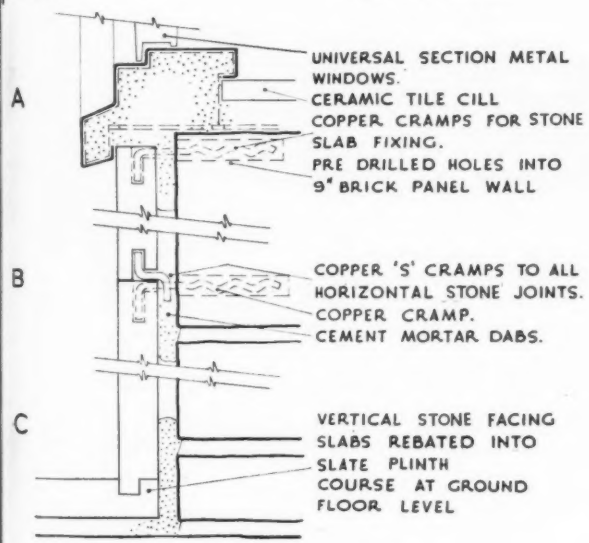
BROUGHTON MOOR LIGHT SEA GREEN STONE

FRAME-SAWN FINISH

New Central Police Headquarters, Hull

(Architects : Messrs. Priestman & Lazenby)

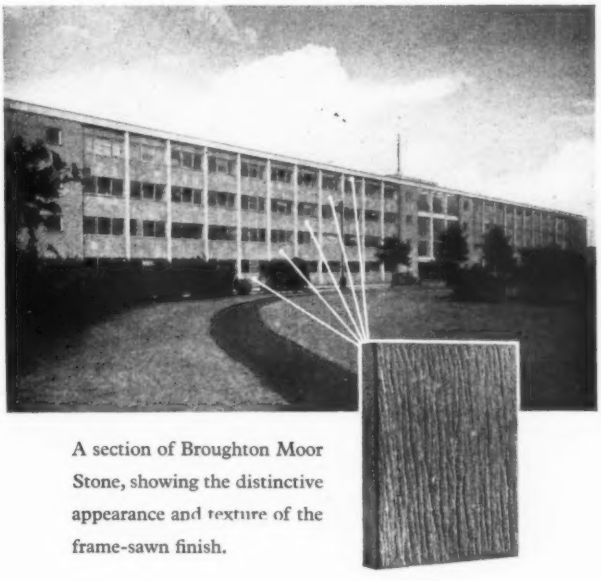




Method of fixing Broughton Moor Light Sea Green Stone Slabs, with frame-sawn finish, 1in. thick, and in sizes ranging from 3ft. 6in. by 2ft. to 2ft. by 2ft. Approximate area of slabs supplied—12,500 ft. sup.

Broughton Moor Green Stone is ideally suited for use both as internal and external facing, and remains sound for centuries. It can be supplied in a variety of beautiful finishes, including frame-sawn, sanded, fine rubbed or naturally riven. It was these characteristics which caused it to be chosen for the facing of this impressive building.

Fixing is normally effected by means of non-ferrous cramps and dowels, grouted into drillings in the stone, and brickwork or concrete. The method of fixing employed in this instance is shown here.



A section of Broughton Moor Stone, showing the distinctive appearance and texture of the frame-sawn finish.

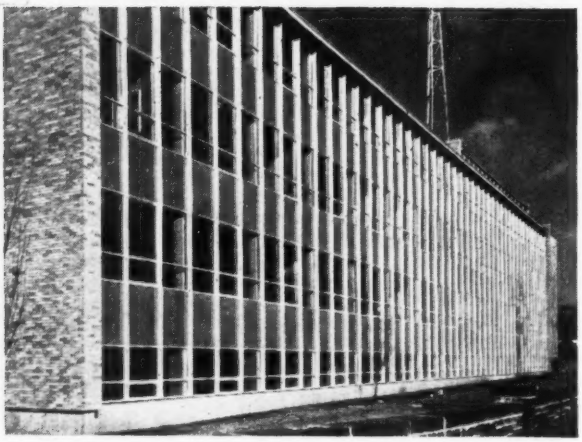
Technical pamphlets showing typical methods of fixing are available as follows: 1—Flooring, 2—Facings, 3—Coping, 4—Cills, 5—Riven Face Slabs.

THE BROUGHTON MOOR GREEN SLATE QUARRIES LTD., CONISTON, THE LAKE DISTRICT, LANCASHIRE

Telephone : Coniston 225/226

WILLIAMS & WILLIAMS NEWS SHEET

'WALLSPAN' in curtain-wall-conscious America

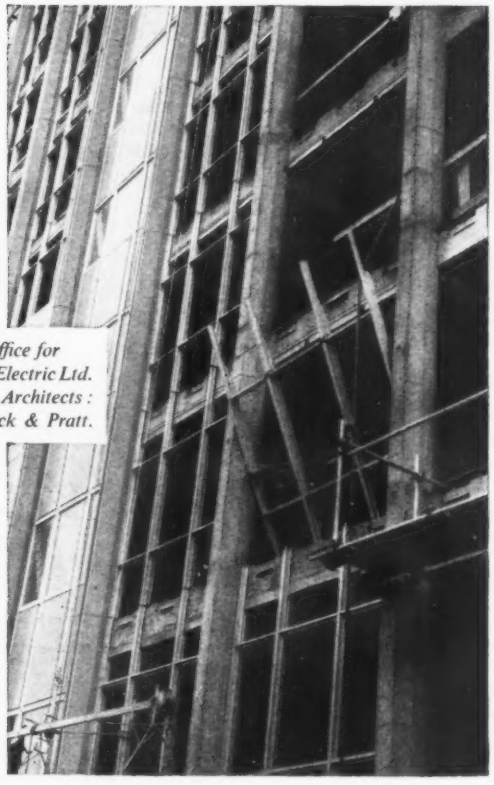


In the United States, Williams & Williams 'Wallspan' is finding frequent and favoured mention in architects' specifications. For the new Loyola Hall of Science at Scranton University, for example, 'Wallspan' was chosen to clad the two long sides of the building. A rare feature (to American as well as to English architects) is the absence of a stub wall behind the spandrels.

The circular concrete columns supporting the upper floors were formed by cardboard shuttering — a recent innovation in American building technique.

New Science building for Scranton University.
Architects: Gilboy, Bellante & Klaus.

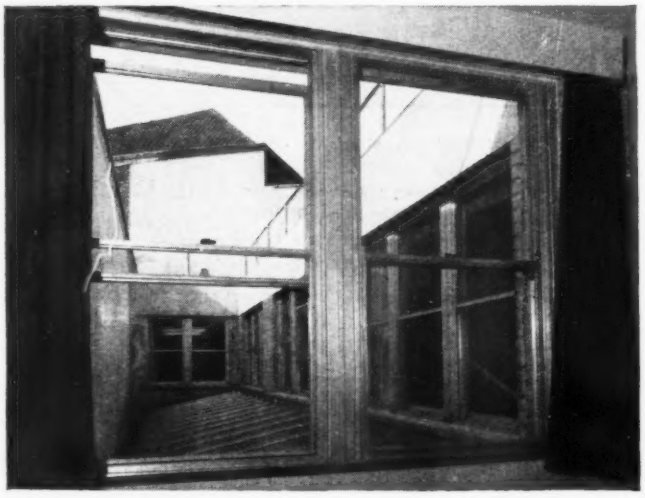
New Head Office for British Columbia Electric Ltd. Vancouver. Architects: Thompson, Berwick & Pratt.



Our biggest yet . . . is the new B.C. Electric building in Vancouver. This famous office block has its entire exterior—all 21 floors of it—clad in 50,000 square feet of 'Wallspan'. Time from foundations to occupation—20 months!

As a point of interest, the fixing of the 'Wallspan' was unorthodox. The HE9 alloy sections were assembled into small grids prior to erection, in order to facilitate fixing from inside the building.

The light concrete structural mullions are capped by a specially made aluminium pressing.



Northern Aluminium choose Williams & Williams

Williams & Williams purpose made aluminium double hung windows, recently fitted at the Bristol office of Northern Aluminium Co. Ltd. Architects & Surveyors: Frank W. Wills & Sons.

A reminder that . . . your Williams & Williams Area Manager is always anxious to serve you. Telephone him at:

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BRISTOL: 38907	MANCHESTER: Blackfriars 9591
CARDIFF: 27092	NEWCASTLE UPON TYNE: 21353
CRAWLEY: 2200	NORWICH: 24393
EDINBURGH: 33951	NOTTINGHAM: 52131
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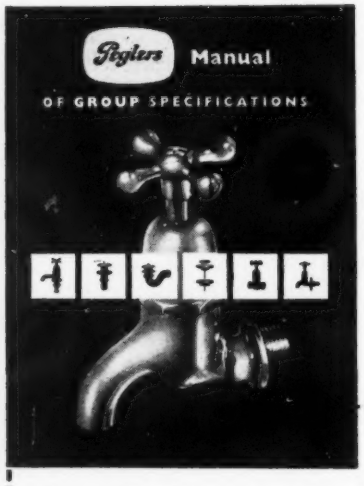

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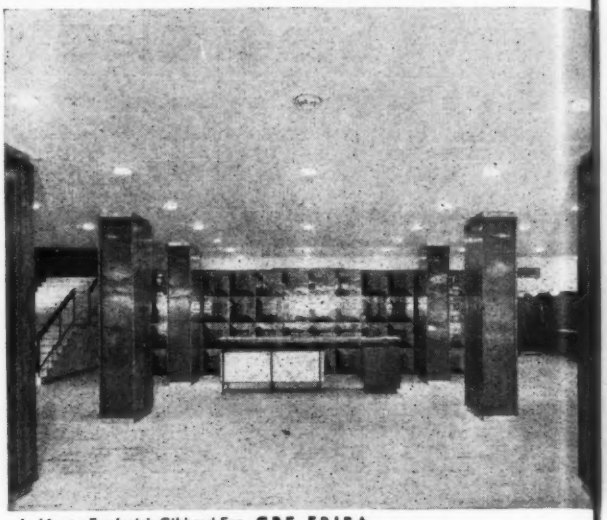
Entrance Hall to the Queen's Building



Architect: Frederick Gibberd Esq., C.B.E., F.R.I.B.A.
Acoustical Engineers: John Dale Ltd., London, N.11. (Acoustics Division)

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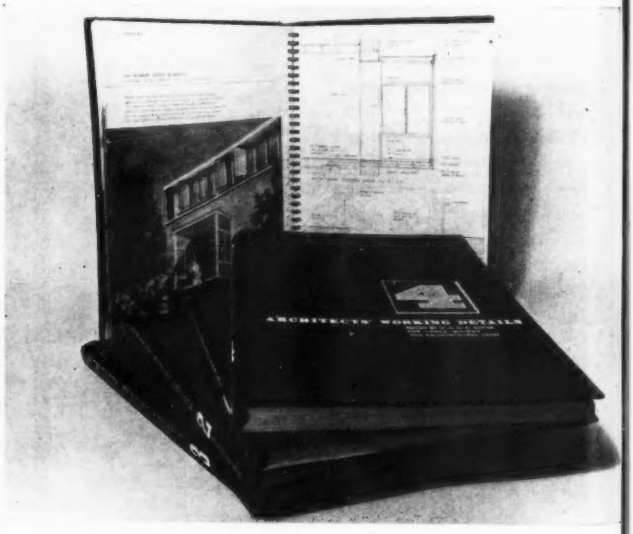
Just published

ARCHITECTS' WORKING DETAILS: VOLUME 4

Edited by D. A. C. A. Boyne, executive editor of 'The Architects' Journal', and Lance Wright, technical editor of 'The Architects' Journal'.



A FOURTH VOLUME has just been added to this popular new series. Like the earlier volumes this has a twofold purpose: first, to provide architects and assistants with easily accessible solutions to many everyday design problems; secondly, to record the latest stages reached in the study of those problems, thus providing a time-saving starting-point. The presentation is the same as in earlier volumes: each detail is illustrated by a large photograph and by a working drawing on the facing page; the headings under which details are grouped follow, in the main, those used in previous volumes—but with the addition of *Miscellaneous Details*. Each Volume is self-contained and sold separately. The series—reflecting a steadily growing demand—is, of course, continuous. And Volume 4 is very carefully indexed to facilitate quick reference. Size 11¾ ins. × 8¼ ins. 160 pages. 'Wire-O' bound to lie flat on drawing-board. Price, per volume 25s. Postage: 1 vol., 1s. 9d.; 2 vols., 2s. 3d.; 3 vols., 2s. 9d.; 4 vols., 3s. 3d.

THE ARCHITECTURAL PRESS, 9-13 QUEEN ANNE'S GATE, LONDON, S.W.1

Universities
Staircase
Arcadia

October Architectural Review

Vexed by conflicting interests and lack of comprehension of the issues at stake, the design of *Universities* has become a problem that excites passion and prejudice, rather than constructive thinking. In the October number of the Review, Professor Pevsner and the Hon. Lionel Brett will attempt to put the problem back on a realistic basis in a special feature covering both the historical growth of *universities* and their present needs, emphasising the diversity of concepts, both in organization and architecture that the term embraces. Two articles in the same issue will deal with problems of architectural lettering; Nicolete Gray contributing a study of *Lettering in Three Dimensions* and *Skill*, surveying the design of *Fascia Boards*. Also in *Skill* will be an illustrated description of Arne Rudberger's stunning staircase for the MEA department store in Stockholm, and other recent structures to be illustrated will include a small house by Sir Hugh Casson on the South Coast, and another well-designed adjunct to a department store—G. A. Jellicoe's roof garden on top of Harvey's at Guildford. Two historical features will deal with developments in the first quarter of the present century: Ian Nairn's delayed study of Hampstead Garden Suburb is now expanded into a larger study of *Arcadia* as a place to dwell in, and Reyner Banham will investigate the implications of recent publications on the position of *Mondriaan* both as a pioneer of modern design, and as a model to be set up for emulation by architects in the future

3 D shop lettering in Dublin.


Staircase at the MEA Store, Stockholm.

Smithsons
Building Exhibition
ONNO

November Architectural Review

The controversial Smithsons will make their first appearance as contributors to the Review in November, with an illustrated study of the Shape of the Community, in which they set against the exhausted diagrams of CIAM planning their vision of a more humane type of city. For non-visionaries—and for visionaries too—*Skill* will provide a full coverage of the Building Exhibition from the technical point of view, as well as an *Interiors* treatment of G. A. Jellicoe's restaurant and shopping floors at Harvey's of Guildford.

Visionary qualities, spurred by hard practical necessities, illuminate Kenneth Browne's proposals for applying the ONNO traffic-directing technique to Park Lane and west Mayfair. The study of the functional tradition is advanced by Brian Spiller's article on Georgian Breweries. Buildings described in this issue will include the new Bowater Factories by Farmer and Dark, whose cladding provides a practical follow-up demonstration of patent-glazing techniques, and Rangoon University and Technical Institute, by Raglan Squire and Partners, extensively illustrated in colour. Professor


Entrance to the Library of the new Rangoon University. Architects, Raglan Squire and Partners.

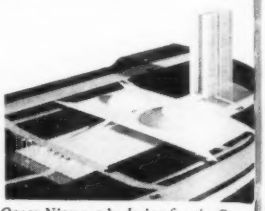
Pevsner reviews Tschudi Madsen's important book on the Origins of Art Nouveau, whose character is summed up in the title *Beautiful and, if need be, useful*, and Dr. S. Lang will provide a note on Architectural Visitors to Padua, based upon a register kept by the university there, in which practically every English architect and amateur of note signed his name when passing through.

TUC
Brasilia
Street Lighting

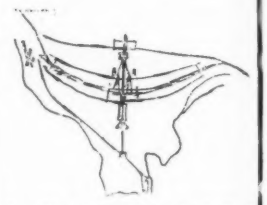
December Architectural Review

Design for public and administrative functions will form the subject of the two most important features in the Review for December. The *TUC Memorial Building*, designed by David Aberdeen, which is only the second public building of consequence to go up in London since the War, will be described and illustrated for the first time in completed form, and a supporting article in *Skill* will examine in detail the finishes and mechanical equipment that make this one of the most lavish buildings—outside the commercial field—of recent years. The other major feature is concerned with *Brasilia*, the projected new capital city for Brazil, typically grandiose and Latin-American in conception, but more likely than most such schemes to achieve completion. Sir William Holford


Airview drawing of David Aberdeen's TUC Memorial Building.


Oscar Niemeyer's design for the Congress Building at Brassilia.

who was one of the jury which assessed the competition for the new capital's plan, introduces the project and its site, discusses the competition, and adds a few words by way of introduction to the brilliant and unconventional winning scheme, by Lucio Costa, father of Brazil's modern movement, whose report is published in English for the first time.


One of Lucio Costa's sketches for Brasilia

Another father of his art, *John Britton*, founder of English topographical studies, will be the subject of an historical article by Peter Ferriday, and the bicentenary of the birth of the great neo-Classical sculptor *Antonio Canova* is celebrated by one of England's leading neo-Classical scholars, F. J. B. Watson, with a chronicle of English visitors and admirers at the sculptor's studio in Rome. Gordon Cullen will tackle one of the most vexed and debated problems of outdoor detailing, *Street Lighting*, in terms of distribution and siting as well as the design of equipment and interiors to be described include the IBM offices and the Garden Centre, both in new office blocks in Wigmore Street. Foreign reports will cover the *Triennale di Milano*, and the *Berlin Interbau* exhibition, and regular features like the *Counter Attack* Bureau and Robert Melville's provocative art-criticism will continue.

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

30s. per inch; each additional line, 2s. 6d.

ARCHITECTURAL ASSISTANTS (Estab.) A.P.T. I (£575 to £725 p.a.). Applicants must have passed Intermediate R.I.B.A. examination or equivalent.

ESTIMATING AND COSTING SURVEYOR (Estab.), A.P.T. II (£725 to £845 p.a.).

London weighting of £20 or £30 p.a. according to age. Application form and conditions of appointment from Borough Engineer (AJ), Town Hall, Tottenham, N.15. Applications to be delivered by Monday, 14th October, 1957. 7667

COUNTY BOROUGH OF BURNLEY

Applications are invited for the undermentioned appointments in the Borough Engineer's Department:—

(*a*) PRINCIPAL ARCHITECTURAL ASSISTANT. Special Grade (£750—£1,030).

(*b*) SENIOR ARCHITECTURAL ASSISTANT. Special Grade (£750—£1,030).

(*c*) ARCHITECTURAL ASSISTANT. Grade 1 (£575—£725).

Applicants for appointment (*a*) must have had considerable experience in all types of Municipal work, and applicants for all three positions must hold appropriate qualifications. The commencing salary in each case will be fixed in accordance with experience and qualification.

Provision of housing accommodation will be considered if required.

Forms of application may be obtained from the Borough Engineer, 22/24, Nicholas Street, Burnley, to whom they should be returned not later than first post on Monday, the 14th October, 1957.

C. V. THORNLEY,
Town Clerk.
7642

NORTHUMBERLAND COUNTY PLANNING DEPARTMENT

ONE AREA PLANNING OFFICER required on A.P.T. V Scale (£1,175—£1,325), A.M.T.P.I. essential. Additional qualification in engineering, surveying, or architecture, an advantage.

Application forms and further information from County Planning Officer, County Hall, Newcastle upon Tyne, 1. Closing date 12th October, 1957.

ONE SENIOR ASSISTANT (Architect/Planner) required on A.P.T. IV scale (£1,025—£1,175), A.R.I.B.A. essential, and planning qualifications desirable.

Application forms and further information from County Planning Officer, County Hall, Newcastle upon Tyne, 1. Closing date 12th October, 1957. 7665

WEST SUSSEX COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT

Applications are invited for the following appointment:—

ASSISTANT ARCHITECT, at a salary in accordance with the Special Grade of the National Scales of Salaries, £750 × £40—£1,030. Commencing salary according to experience.

Further particulars should be obtained from the County Architect, County Hall, Chichester, to whom all detailed applications must be submitted not later than 12th October, 1957.

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

County Hall,
Chichester.
17th September, 1957. 7640

BOROUGH OF MANSFIELD

Applications are invited for the following appointments in the Architect's section of the Borough Engineer and Surveyor's Department.

(1) TWO GENERAL ARCHITECTURAL ASSISTANTS.

Salary: Special Grade £750 × £40—£1,030.

Applicants must have passed parts I and II of the R.I.B.A. Final or Special Final or their equivalent and to have had at least five years' experience (including training).

(2) JUNIOR ARCHITECTURAL ASSISTANT.

Salary (*a*) General Division (£200—£450) or Higher General Division (£230—£560); (*b*) A.P.T. I (£575 × £30—£725).

Salary (*a*) will be paid to a person having passed the general certificate of education in appropriate subjects. Experience in architectural draughtsmanship is essential.

Salary (*b*) will be paid to a person having passed the R.I.B.A. Intermediate examination.

Applications giving the following particulars:
(1) Age.
(2) Training.
(3) Qualifications.
(4) Present and past appointments with salaries.
(5) Experience in (*a*) housing development including 2 and 3 storey flats; (*b*) shops; (*c*) swimming baths; (*d*) crematorium.
(6) Names and addresses of not more than 3 referees should be sent to the Borough Engineer and Surveyor, Carr Bank, Mansfield, not later than Monday, 14th October, 1957.

A. C. SHEPHERD,
Town Clerk.

Carr Bank,
Mansfield. 7639

SOUTH EASTERN ELECTRICITY BOARD
SENIOR ARCHITECTURAL ASSISTANT
SURVEYOR'S SECTION, HEADQUARTERS

Salary: £855—£930, under N.J.C. Grade 5. Applications are invited from Registered Architects with experience in the preparation of schemes including showrooms, offices, stores and garages. Preference to applicants who are Associates of the R.I.B.A. or I.A.A.S.

The post is permanent and superannuable. Applications, naming two referees, to Surveyor, South Eastern Electricity Board, 10, Queen's Gardens, Hove 3, by 14th October, 1957.

A. L. BURNELL,
Secretary.
7638

HAMPSHIRE COUNTY COUNCIL—ARCHITECTURAL/PLANNING ASSISTANT required, A.P.T. Grade II (£725—£845), in the County Planning Department Headquarters at Winchester. Candidates must have passed the Intermediate Examination of the Royal Institute of British Architects or of the Town Planning Institute, be experienced and capable designers and have some knowledge of Town Planning. The appointment is pensionable and subject to a satisfactory medical report. In approved cases the County Council assist with removal and other expenses.

Applications, stating age, education, qualifications and experience, together with a copy of one testimonial and the names of two referees, should reach the County Planning Officer, Litton Lodge, Clifton Road, Winchester, by 19th October. 7641

CITY OF LEICESTER
CITY ARCHITECT'S DEPARTMENT

Applications are invited for the appointment of SENIOR ASSISTANT QUANTITY SURVEYOR, salary grade A.P.T. V (£1,175—£1,325 p.a.).

Applicants should be A.R.I.C.S. and have had considerable experience in the preparation of Bills of Quantities, Final Accounts, Site Measurement and Valuations.

The appointment will be subject to the National Scheme of Conditions of Service and one month's notice on either side.

Applications, with full particulars, together with copies of two recent testimonials should be sent to the undersigned not later than Saturday, 12th October, 1957.

J. H. LLOYD OWEN,
City Architect.

10, Loseby Lane,
Leicester. 7637

MONMOUTHSHIRE COUNTY COUNCIL
APPOINTMENT OF SENIOR ARCHITECTURAL ASSISTANTS

Applications are invited for two posts in the County Architect's Department under the N.J.C. conditions as follows:—

TWO SENIOR ARCHITECTURAL ASSISTANTS, Grade A.P.T. III, at a commencing salary of £950 to £1,025, according to ability.

Forms of application, particulars of post and Conditions of Service can be obtained from the undersigned.

Applications, together with three testimonials must be forwarded to the County Architect, Queen's Hill, Newport, Mon., not later than Saturday, October 19th, 1957.

VERNON LAWRENCE,
Clerk of the Council.

County Hall,
Newport,
Mon. 7705

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HEADQUARTERS STAFF
ARCHITECTURAL STAFF

I. SENIOR ASSISTANT ARCHITECT:
Salary £975 × £35 (1) × £30 (5)—£1,160 per annum.

II. ASSISTANT ARCHITECT:
Salary: Grade I £930 × £30 (3)—£1,020 per annum. Grade II £840 × £30 (3)—£930 per annum. Grade III £740 × £25 (4)—£840 per annum.

The grade in which appointments at II will be made will depend on candidate's qualifications and experience.

Application forms and particulars obtainable from Secretary, Northern Ireland Hospitals Authority, Victory Buildings, 44/46, Queen Street, Belfast, to whom completed forms should be returned not later than 22nd October, 1957. 7664

CITY OF SHEFFIELD
CITY ARCHITECT'S DEPARTMENT
APPOINTMENT OF ASSISTANT ARCHITECTS
Grade S.C £750—£1,030

Applications are invited from persons who must have passed Parts I and II of the R.I.B.A. Final (or equivalent), for two appointments in the Housing Section and two in the Education and General Section of the City Architect's Department which has an extensive programme comprising mixed developments of housing and flats, the redevelopment of outworn central areas including multi-storey flats; new schools, colleges, and a variety of "General" work which includes interesting civic buildings.

Commencing salaries will be commensurate with the successful candidates' qualifications and experience.

Applications indicating the section preferred and stating age, present and past appointments, particulars of qualifications and experience and the names and addresses of two persons to whom reference may be made should be sent to the undersigned as soon as possible but not later than Monday, 14th October, 1957.

JOHN HEYS,
Town Clerk.

Town Hall,
Sheffield, 1. 7663

COUNTY BOROUGH OF GREAT YARMOUTH
EDUCATION COMMITTEE

Applications are invited from Registered Architects for the permanent appointment of SENIOR ASSISTANT ARCHITECT in charge of Minor Capital Works and Maintenance.

Salary within A.P.T. Grade III (£845—£1,025). A car allowance of £112 10s. per annum is also payable.

Further particulars may be obtained from the Schools' Architect, 22, Euston Road, Great Yarmouth, to whom applications should be sent not later than the 11th October, 1957. 7666

AIR MINISTRY require WORKERS-UP in Quantities Division London. Must be fully experienced and competent to Work-up entire Bills of Quantities. Preference holders C. & C. (Quantities), O.N.C. or equivalent technical qualification. Salary range £695 at age 25 to £1,030 starting pay dependent on age, qualifications and experience. Pensionable and promotion prospects. Five-day week. Over three weeks' leave a year. Applicants normally should be natural born British subjects. Write stating age, qualifications and previous appointments including type of work done, to P.E. 104, Manager, Professional & Executive Register, Ministry of Labour and National Service, 1-6, Tavistock Square, London, W.C.1. No original testimonials should be sent. Only candidates selected for interview will be advised. 7404

LONDON COUNTY COUNCIL
ARCHITECT'S DEPARTMENT

Vacancies for ARCHITECTS and SURVEYING ASSISTANTS in the Building Regulations Division as follows:—

(*a*) For surveys of existing premises and consideration of proposals for alterations and new construction in the Theatres Section, and;

(*b*) for building control work in connection with applications under the London Building Acts and bye-laws as regards compliance with the Council's construction and means of escape standards.

Salaries up to £817 (under review) with starting rates according to qualifications and experience.

Application form and particulars from the Architect (Ref. AR/EK/47/57), The County Hall, S.E.1. (1610). 7377

ARCHITECTURAL ASSISTANTS
Required by
MINISTRY OF WORKS

For employment in London and Provinces on design and detailing work on construction and maintenance of all types of public buildings.

Salary range £550 (age 21) to £870 p.a., London (slightly less elsewhere).

5-day week. 3½ weeks' annual leave initially. Starting pay according to age, qualifications and experience. Good prospects of promotion, with salaries of £1,030 p.a. and above.

Opportunities for permanent posts leading to pensions (non-contributory).

Interviews at Regional Offices, where possible. Applicants should be of Inter. R.I.B.A. standard. State age, training and experience to Chief Architect, Ministry of Works (A), Abell House, John Islip Street, S.W.1. 7484

BOROUGH OF HESTON AND ISLEWORTH

Applications are invited for the permanent appointment of a SENIOR ARCHITECTURAL ASSISTANT in the Borough Engineer and Surveyor's Department. Salary in accordance with A.P.T. Grade III (£845—£1,025, plus London "weighting").

Applicants must have had good experience in architectural design and building work under construction, and, other things being equal, preference will be given to applicants who have passed the examination for Associate R.I.B.A. or hold a University Degree or Diploma in Architecture accepted by that Institute.

The Council is unable to assist the successful candidate with housing accommodation.

Applications are to be submitted by 14th October, 1957, on forms to be obtained from and returned to the Borough Engineer and Surveyor, 88, Lampton Road, Hounslow.

D. MATHIESON,
Town Clerk.

Town Hall, Hounslow. 7614

MANCHESTER REGIONAL HOSPITAL BOARD invite applications for two new posts of MAINTENANCE CLERKS OF WORKS, one covering North Lancashire/Westmorland and the other covering South Lancashire/Cheshire. Duties will principally be to prepare and keep up to date records of structural defects of all the board's properties. Knowledge of costing is desirable. Salary £635×£20 (2)×£25 (3)—£750. National Health Service conditions and superannuation. Application forms obtainable from the Secretary of the Board, Cheetwood Road, Manchester, 8. 7572

BOROUGH OF BEXLEY
FIRST ASSISTANT ARCHITECT

Applications are invited for this appointment, at a salary within the Special Scale (£750—£1,030 per annum), plus London weighting.

Candidates should have experience in Schools and Housing projects, and must have passed the Final R.I.B.A.

Forms of application and conditions of appointment are obtainable from the Borough Engineer, West Lodge, Broadway, Bexleyheath, Kent, to whom completed applications must be returned by 21st October, 1957. The Council may be prepared to assist in the provision of housing accommodation. Canvassing will disqualify.

ARTHUR GOLDFINCH,
Town Clerk.
7619

LONDON COUNTY COUNCIL
ARCHITECT'S DEPARTMENT

Selections for appointment are now being made from ARCHITECTS who have passed their Final examinations this summer. Starting salaries up to £676 16s. a year in scale £606 6s. to £817 (under review).

Vacancies also for ARCHITECTS of experience at starting salaries up to £1,036 (under review).

Full programme of houses, flats, schools and many other interesting buildings.

Application forms and full particulars from the Architect (Ref. AR/EK/46/57), The County Hall, S.E.1. (1609). 7378

URBAN DISTRICT COUNCIL OF TETTENHALL

Applications are invited for the appointment of an ARCHITECTURAL ASSISTANT on the staff of the Engineer and Surveyor at a salary of £725×£30 to £845.

Applicants should be suitably qualified, with experience in connection with the design of houses and estate development, and should be competent to prepare plans and specifications in connection with same.

The Council will give consideration to the provision of suitable housing accommodation to the successful applicant, if required. Applications, setting out details of qualifications and experience, together with names of two persons to whom reference can be made, should be sent to J. W. Mason, M.I.Mun.E., M.T.P.I., Engineer and Surveyor, not later than Thursday, 10th October, 1957.

R. WAKEFIELD RUSSELL,
Clerk of the Council.

Council Offices, Upper Green,
Tettenhall, Staffs.
19th September, 1957. 7620

COUNTY BOROUGH OF SUNDERLAND
SENIOR ESTIMATING SURVEYOR

Applications are invited for the above post in the Public Works Department. Applicants should have extensive experience in competitive tendering for major building and civil engineering works, as well as preparation of estimates for smaller works of adaptation and repair, etc. Salary, new A.P.T. Grade III, £845×£35 to £1,025 p.a.

Further particulars may be obtained from the Public Works Manager, Ivor House, 1 and 3, Otto Terrace, Sunderland, together with forms of application, which are to be returned to the undersigned not later than Monday, 14th October, 1957. Canvassing will disqualify.

G. S. McINTIRE,
Town Clerk.

Town Hall, Sunderland. 7615

COUNTY BOROUGH OF ST. HELENS

Applications are invited for the appointment of ARCHITECTURAL ASSISTANT, A.P.T. Grade I (£575 × £30—£725 per annum) in the Borough Engineer's Department.

The commencing salary will be fixed within the grade according to qualifications and experience.

The appointment will be terminable by one month's notice and will be subject to the Local Government Superannuation Acts, medical examination and N.J.C. Service Conditions.

Applications stating age, qualifications, present and past appointments and details of experience together with two recent testimonials must be forwarded to the undersigned not later than Monday, the 21st October, 1957.

Applicants must reveal relationship to any member or senior officer of the Council.

Canvassing will disqualify.

M. WARD, M.I.Mun.E., M.T.P.I.,
Borough Engineer.

Town Hall,
St. Helens. 7706

CITY OF LANCASTER

Applications are invited for the appointment of a SENIOR ARCHITECTURAL ASSISTANT in the Architect's Division of the City Engineer's Department. Salary Special Grade (commencing on 6th step—£950 per annum × £40 to £1,030 per annum). Applicants must be Registered Architects and preference will be given to Associates of the R.I.B.A.

Housing accommodation may be provided in a suitable case.

Applications with names of two persons to whom reference may be made to be sent to Mr. L. Lyons, B.Sc., A.M.I.C.E., City Engineer, Town Hall, Lancaster, not later than Monday, 21st October, 1957.

J. D. WADDELL,
Town Clerk.

Town Hall,
Lancaster.
27th September, 1957. 7701

BOROUGH OF CHORLEY

Applications are invited for the position of DRAUGHTSMAN in the Borough Engineer's Department. Salary the maximum of Miscellaneous Grade IV (£620).

After a period of satisfactory service, and if considered suitable, the successful applicant may be offered articles under the Borough Engineer.

The National Scheme of Conditions of Service and the Superannuation Acts apply.

Applications stating age, qualifications and experience with copies of two recent testimonials must be received by the undersigned not later than the 14th October, 1957.

GEORGE JACKSON,
Town Clerk.

Town Hall,
Chorley.
23rd September, 1957. 7659

HARLOW URBAN DISTRICT COUNCIL

Applications are invited for the appointment of an ARCHITECTURAL ASSISTANT in the Engineer and Surveyor's Department on the new grade A.P.T. II/III (£725 to £1,025 per annum). Commencing salary will be subject to the terms of the N.J.C. Conditions of Service.

The Urban District embraces the Harlow New Town and has a rapidly increasing population scheduled to reach 80,000 in ten years. The Department is actively engaged in the preparation of schemes for several major projects including a swimming pool and a crematorium as well as the normal development projects for local authority services.

Housing accommodation, the repayment of removal expenses and a travelling allowance will be made available where appropriate.

Applications in writing giving the 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., M.R.S.H., Netteswell Hall, Harlow, Essex, not later than 19th October, 1957.

D. F. BULL,
Clerk of the Council.

Netteswell Hall,
Harlow.
24th September, 1957. 7662

LINDSEY (LINCOLNSHIRE) COUNTY COUNCIL

(*a*) ONE ASSISTANT ARCHITECT, Grade A.P.T. II, £725/£845, or if qualified, Special Grade £750/£1,030.

(*b*) ASSISTANT ARCHITECT, Grade A.P.T. II, £725/£845.

Candidates for (*a*) should have passed Intermediate Examination of R.I.B.A. or Final Examination for Special Grade, and candidates for (*b*) should have passed the Intermediate Examination.

(*c*) TWO ENGINEERING ASSISTANTS, Grade A.P.T. II, £725/£845, for Heating Services. Candidates should hold the Higher National Certificate or Intermediate Examination I.H.V.E. and be capable of designing and preparing heating and hot water schemes and specifications for school buildings.

(*d*) ONE ELECTRICAL ENGINEERING ASSISTANT, Grade A.P.T. II, £725/£845. Should be capable of preparing drawings in connection with electrical installations in schools. Higher National Certificate required.

In special circumstances consideration will be given to starting salary not more than two steps up the grade.

N.J.C. Conditions of Service. Canvassing will disqualify. Candidates must disclose in writing whether to their knowledge they are related to any Member or Senior Officer of the Council.

Applications giving age, qualifications, experience, present salary, and the names of at least two persons to whom reference can be made to be sent not later than 8th October to the County Architect, County Offices, Lincoln. 7660

MIDLANDS ELECTRICITY BOARD

ARCHITECTURAL DRAUGHTSMEN required on the Chief Engineer's Staff at Board Headquarters, Mucklow Hill, Halesowen, to assist in design and preparation of outline and detail drawings for Offices, Stores, Substation and Service Centre buildings. Intermediate R.I.B.A. an advantage.

Salary £760/£860 per annum (N.J.B. Schedule "D," Grade 5). Superannuable.

Apply, by letter, within fourteen days, stating age, experience, present salary and position to the Secretary (Ref. FWC), Midlands Electricity Board, Mucklow Hill, Halesowen, Nr. Birmingham.

A. STEPHENS,
Secretary.

7658

COVENTRY CORPORATION require JUNIOR MODEL MAKER. Trainee with some experience carpenter/joiner/cabinet maker considered if over 18. Salary scale for Trainee according to age on H.G. Division (£290 at 18). For qualified applicant Misc. III (£470-550). Additional £26 in approved circumstances. Interest-free loan for removal expenses. Application forms etc. from City Architect and Planning Officer, Bull Yard, Coventry, returnable within 10 days publication. 7689

BOROUGH OF POOLE
ASSISTANT ARCHITECT
Special Grade £750—£1,030

Applications are invited for the above appointment to the Borough Engineer's Staff. Candidates should have passed the appropriate professional examinations. Experience in the design of schools will be an advantage.

Application forms from the Borough Engineer & Surveyor, Municipal Buildings, Poole, to be returned to the undersigned by the 21st October.

J. G. HILLIER,
Town Clerk.

Poole.
September, 1957. 7688

WILLENHALL URBAN DISTRICT COUNCIL
ARCHITECTURAL ASSISTANT

Applications are invited for this appointment. Salary within Grade A.P.T. I (£575—£725 per annum). Applicants must have had experience in an architect's office but not necessarily in local government. Appointment terminable by one month's notice on either side and subect to the National Scheme of Conditions of Service (without Examination bar) and Local Government Superannuation Acts.

Applications stating age, qualifications, if any, experience and names and addresses of two referees should reach the Clerk of the Council, Town Hall, Willenhall, Staffs, by 14th October, 1957. 7687

CITY OF PORTSMOUTH
CITY ARCHITECT'S DEPARTMENT
ASSISTANT QUANTITY SURVEYOR

Applications are invited for the permanent post of Assistant Quantity Surveyor, Special Grade (£750—£1,030).

Commencing salary according to experience.

Applicants must be Associate Members of the R.I.C.S., and be thoroughly experienced in taking off, abstracting and billing of Quantities, measurement of work in progress and settlement of final accounts.

The appointed candidate will act as deputy to the Chief Quantity Surveyor.

Housing accommodation will be provided if required.

Applications, with full details and names of two referees, must be delivered to the undersigned not later than 12 noon on Monday, the 14th October, 1957.

Canvassing will disqualify.

V. BLANCHARD,
Town Clerk.

City Council Chambers,
1, Clarence Parade,
Portsmouth. 7657

COUNTY BOROUGH OF DEWSBURY
BOROUGH ARCHITECT AND BUILDINGS SURVEYOR'S DEPARTMENT

Applications are invited for the following appointments in the above Department:—

(*a*) ASSISTANT ARCHITECT (Education Section)—Special Grade.
(*b*) TWO ASSISTANT ARCHITECTS (Housing and General Section)—Special Grade.
(*c*) ARCHITECTURAL ASSISTANT — A.P.T. Grade II.
(*d*) ARCHITECTURAL ASSISTANT — A.P.T. Grade I.
(*e*) ASSISTANT QUANTITY SURVEYOR — Special Grade.
(*f*) ASSISTANT BUILDING INSPECTOR — A.P.T. Grade I.
(*g*) TEMPORARY CLERK OF WORKS (Housing) —A.P.T. Grade I.
(*h*) TEMPORARY CLERK OF WORKS for a period of approximately 1½ years for the erection of a new Primary School—Salary £13.13.8 per week.

The commencing salaries will be fixed within the scope of the grades stated according to qualifications and experience, i.e., Special Grade £750—£1,030 p.a., A.P.T. Grade II £725—£845 p.a., and A.P.T. Grade I £575—£725 p.a.

Applicants for appointments (*a*) and (*b*) must have passed the final examination of the R.I.B.A. and preferably have a knowledge of local government procedure and those for appointment (*e*) must have passed the final examination of the R.I.C.S.

Housing accommodation may be made available if required.

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

Applications stating age, education, qualifications, full particulars of training and experience, together with copies of two recent testimonials, should be sent to the undersigned not later than Monday, 21st October, 1957, in envelopes endorsed with the name of the appointment applied for.

A. NORMAN JAMES,
Town Clerk.

Town Hall, Dewsbury.
26th September, 1957. 7691

EASTERN ELECTRICITY BOARD
CHILTERNS SUB-AREA
SENIOR DRAUGHTSMAN—SUB-AREA HEADQUARTERS

Candidates should have had experience of Buildings and Civil Engineering work for substations, Service Centres, workshops, offices, etc.

The successful candidate will be required to supervise staff engaged on the preparation of drawings, be capable of the design of simple reinforced concrete structures and be able to carry out site surveys.

Salary—N.J.B. Schedule D, Grade 5 (£760—£860).

The successful candidate will be required to contribute to a superannuation scheme and may be required to undergo a medical examination.

Apply by letter, within 14 days, to S. F. C. Whitmore, A.M.I.E.E., Manager, Chilterns Sub-Area, Eastern Electricity Board, Prebend Street, Bedford. 7690

LONDON COUNTY COUNCIL
ARCHITECT'S DEPARTMENT

Vacancy for Grade III (up to £1,090), for maintenance, repair and small improvements of Council buildings. Experience of alteration work and maintenance work on schedule basis an advantage; A.R.I.B.A. or A.R.I.C.S. desirable.

Particulars and application form, returnable by 16th October, from the Architect (AR/EK/51/57), County Hall, S.E.1. (1798) 7704

CITY OF CHESTER
DEPARTMENT OF CITY ENGINEER

Applications are invited for the post of SENIOR ARCHITECTURAL ASSISTANT. Salary at a point on the New Special Grade, i.e. £750 × £40—£1,030 per annum. Candidates should have had good training and experience, and have passed the R.I.B.A. Final Examination. Housing accommodation will be available for the successful applicant if required.

Applications with two testimonials should reach the City Engineer, 49, Northgate Street, Chester, by Monday, 7th October, 1957. 7662

LONDON COUNTY COUNCIL
ARCHITECT'S DEPARTMENT
Vacancy for ARCHITECTURAL AND TOPOGRAPHICAL MODEL MAKER (up to £860 a year). Experience essential and should be able to work from Architec's plans and elevations on wood, card, metal and perspex. Application form returnable by 19th October, from Architect (AR/K/52/57), The County Hall, S.E.1. (1799) 7703

Tenders for Contracts

6 lines or under, 15s.; each additional line, 2s. 6d.

BOROUGH OF EALING

1. Twenty-four two-storey bedsitting room type flats on two sites on the Lime Trees Estate, Northolt, and

2. 122 flats and maisonettes in two- and three-storey blocks on the Northolt Park Estate.

Forms of Tender and Bills of Quantities may be obtained from the Borough Surveyor, Town Hall, Ealing, W.5, upon a deposit of £2 which will be returned on receipt of a *bona fide* tender.

Tenders must be delivered to the Town Clerk, Town Hall, Ealing, W.5, not later than 9.30 a.m. on Friday, 1st November, 1957. 7656

Architectural Appointments Vacant

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

LONDON office with widely varied practice urgently requires all grades of ASSISTANTS, preferably with London experience. Five-day week. Lewis Solomon, Son & Joseph, 21, Bloomsbury Way, London, W.C.1. Holborn 6168. 6831

CO-OPERATIVE WHOLESALE SOCIETY, LTD. ARCHITECT'S DEPARTMENT, BIRMINGHAM

APPLICATIONS are invited for the following appointments in the above Branch Office undertaking interesting and varied commercial and industrial projects:—

(*a*) ASSISTANT QUANTITY SURVEYOR, with good experience in the preparation of Bills of Quantities, measuring and adjusting variations and estimating under supervision (salary range £550 to £820 per annum).

(*b*) ASSISTANT ARCHITECT, capable of preparing working drawings from preliminary details (salary range £560 to £820 per annum).

There is a 5-day week in operation, and the appointments offer prospects of upgrading.

Applications, stating age, experience, qualifications and salary required, to G. S. Hay, A.R.I.B.A., Chief Architect, Co-operative Wholesale Society, Ltd., 1, Balloon Street, Manchester. 7073

ASSISTANT ARCHITECT. Co-operative Wholesale Society, Ltd., invite applications for the position of Assistant Architect. Must be capable of preparing working drawings from preliminary details. The post is superannuable, subject to medical examination. 5-day week in operation. Applications, giving details of age, experience and salary required, to—W. J. Reed, F.R.I.B.A., Chief Architect, C.W.S. Ltd., 99, Leman Street, London, E.1. 6350

SENIOR and JUNIOR ASSISTANTS required for busy office in the North-East. Ability and a sense of responsibility are the essential qualities. Good starting salaries are offered, and progress will depend on performance. Pension scheme and bonus scheme are both operated.—Box 7412.

SENIOR ASSISTANT required in busy West End office. Interesting commercial work, and must be prepared to take responsibility.—Please write, giving details of experience, etc., Box 7462.

ASSISTANT ARCHITECTS required in private practice in Yorkshire in salary ranges £600—£800, and £1,000—£1,200. Applicants should be qualified and those for senior posts should have had considerable office experience fully competent to see contracts through from start to finish. In this grade we are looking for men who will eventually deal with schemes of major importance. Work is interesting and varied including schools, offices, industry, housing, etc., of good contemporary design. Pension scheme in operation. Apply stating age, experience, to J. G. L. Poulson, L./F.R.I.B.A., Chartered Architects, Surveyors, 29, Ropergate, Pontefract, Yorkshire. 7607

ASSISTANT ARCHITECT required for design division of South London Contractors. Equivalent to Intermediate R.I.B.A. standard, experience of commercial and office design, and ability to work with minimum supervision is desired. The job offers a commencing salary of £750 to £850 (with excellent prospects for talented person), is permanent and pensionable, and assistance can be given with accommodation if required. Please apply, giving age, experience and qualifications to Box 7600.

JUNIOR ARCHITECTURAL ASSISTANT, preferably taking the R.I.B.A. examinations, required in small busy office. Opportunities of experience in interesting and varied work. F. Potter, F.R.I.B.A., 3, Vicarage Road, Edgbaston, Birmingham, 15. EDG 4283. 7595

ARCHITECTURAL ASSISTANT required in busy London Office with varied practice. Good salary and prospects for suitable applicant. Five-day week. Write, giving particulars of age, qualifications, experience, etc., to Box 862, c/o 7, Coptic Street, W.C.1. 7593

W. S. ATKINS & PARTNERS announce that they have vacancies for ARCHITECTURAL ASSISTANTS both qualified and of Intermediate standard for work on contemporary industrial projects including Atomic Power Stations.

Applications, stating experience, qualifications and salary required to Personnel Manager, 158, Victoria Street, London, S.W.1. 7596

ARCHITECTURAL ASSISTANTS (Intermediate standard) required for office at Northolt Airport. Salary £400—£600. For appointment telephone WAXlow 4311, Ext. 614. 7625

ASSISTANT of Intermediate-Final standard required for detailing and site supervision of interesting work in London and Home Counties. Write stating age and salary required to Westmore & Partners, 121, Cheapside, London, E.C.2. 7598

ARCHITECTURAL ASSISTANT (Junior) with approximately four years' Drawing Office experience required for Contractors' Office. Some experience of Site Surveys, Lay-Outs and Levelling might be an advantage. Replies to: Joseph Webb & Co. Ltd., 1, Ivy House Lane, Coseley, Nr. Bilston, Staffs. 7624

QUALIFIED CHIEF ASSISTANT required for Country practice. Good prospects. Reply with full details including salary required to Box 7627.

SENIOR ARCHITECTURAL ASSISTANT required in Architect's Department of London Brewery Company. Must be good draughtsman.—Write, stating age, qualifications, experience, salary required, Box 7502.

NORTH Lancashire Architect requires ASSISTANT. Splendid opportunity with prospects for keen, capable young man, of Final, or near Final, standard. Varied and interesting types of work in pleasant office; every encouragement given to man of initiative and integrity. Salary in £750 bracket, according to experience.—Full particulars to Box 7520.

ARCHITECTURAL ASSISTANT required for interesting work of an industrial and commercial nature. Inter. standard. Salary in accordance with experience and qualifications.—Apply Box 7547.

ARCHITECTS' ASSISTANTS required. R.I.A.S. Pension Scheme in operation.—Applications, stating age, particulars of experience and salary required, to Wylie, Shanks & Underwood, Chartered Architects, 12, Clairmont Gardens, Glasgow, C.3. 7546

ARCHITECTURAL ASSISTANT required in Engineer's Office of large Brewery Company in East Midlands area. Work comprises general maintenance, alterations and extensions of industrial buildings. State age, experience and qualifications. Apply Box 7568.

EXPERIENCED ARCHITECTURAL ASSISTANTS required for contemporary office. Salary according to experience.—C. H. Elsom, 10, Lower Grosvenor Place, S.W.1. VIC. 4304. 7538

ASSISTANTS required in the Architect's Department of the Appleby-Frodingham Steel Company for work on expansion and development projects embracing office, amenity, laboratory and various classes of industrial buildings.

Applicants should be competent draughtsmen, with a sound knowledge of modern buildings' techniques and services.

The positions are permanent for suitable applicants, and a pension scheme is in operation.

Applications, giving age, experience and salary required, should be made in writing to the Employment Officer, Appleby-Frodingham Steel Company, Scunthorpe, Lincs. 7551

JUNIOR and SENIOR ARCHITECTURAL ASSISTANTS required for interesting work in expanding contemporary office.—Box 7539.

NEW ZEALAND ARCHITECTURAL PRACTICE, mainly engaged commercial and industrial work, requires:—

(*a*) ASSISTANT ARCHITECT with A.R.I.B.A., salary range £900 to £1,000, or

(*b*) ARCHITECTURAL ASSISTANT, with at least 7 years' sound office experience, salary range £700 to £800.

Prefer single man but would consider married. Salary rate applicable influenced by ability and qualifications, being commencing salary subject good increases according progress. Splendid opportunity for enterprising, capable men. Minimum 2 years' assured engagement, applicant's passage provided, subject some minor conditions.—Apply airmail, with snapshot, and personal and experience details, plus small recent working drawing, to Gray Young, Morton & Calder, P.O. Box 2692, Wellington, N.Z. 7542

ARCHITECTURAL ASSISTANTS required for work on Licensed premises, including interior decoration. Write stating age, experience and salary required to The Secretary, Benskin's Watford Brewery Ltd., P.O. Box 106, Watford, Herts. 7123

LONDON office of expanding practice requires experienced ASSISTANTS, preferably qualified. 5-day week.—Apply Diamond, Hodgkinson and Partners, 50, Baker Street, W.1. Telephone HUNter 0849. 7698

ARCHITECTURAL ASSISTANT required at once. Intermediate or Final standard.—Richard Pickles & Partner, Chartered Architects, 1, Harrison Road, Halifax. 7697

ARCHITECT, with small City office, requires intelligent and capable ASSISTANT, prepared to take responsibility for a variety of small and medium sized contracts. Salary £600 to £750.—Telephone Central 5766 or write Box 7699.

ARCHITECTURAL DRAUGHTSMAN required in Stockport office.—Apply, stating age, qualifications, and salary required.—Box 7696.

INTERMEDIATE ASSISTANTS required for interesting contemporary work in this country and overseas.—Write, giving details of experience and salary required, to Phillip Cranswick, A.R.I.B.A., A.M.T.P.I., 36, Sackville Street, London, W.1. 7695

ARCHITECT'S ASSISTANT required for varied work on offices and industrial buildings throughout U.K. Applicants must be in early twenties, with at least 2 years' office experience, and capable of undertaking small projects with minimum supervision. Intermediate R.I.B.A. an advantage. 5-day week, canteen, pension scheme.—Write, stating age, previous experience and salary required, to Personnel Manager, Schweppes, Ltd., 1/6, Connaught Place, London, W.2. 7694

ARCHITECTURAL ASSISTANTS required by large commercial concern in the following branch offices:—

Bristol.
Birmingham.
Sheffield.
Newcastle.

Starting salary will be £600—£650 p.a., depending upon age and ability. Applicants should be of Intermediate standard R.I.B.A., have experience of contemporary design, and be capable of working independently. A high standard of presentation is required. Luncheon vouchers, pension scheme, social club and sickness benefits.—Write, giving full details of experience, age, and salary required, to Box 7655, quoting Ref. AA.191.

ARCHITECTURAL DRAUGHTSMAN required for small progressive office. R.I.B.A. Inter. standard. Salary £600—£750 p.a.—Apply in writing to J. L. M. Williams, L.R.I.B.A., 66, Station Buildings, Altrincham, near Manchester. 7654

VARIED experience all branches of Building Surveying and Architecture for young ASSISTANTS (R.I.C.S. Inter. and Final standard—2 and 3 years' practical experience respectively), with City Chartered Surveyors and Architects.—Box 7653.

TWO ARCHITECTURAL ASSISTANTS required. Must have office experience. Busy office with wide variety of work. Good prospects.—Applications to Fairbrother Hall & Hedges, Chartered Architects, Surveyors, 2, Birley Street, Blackpool. 7652

DRAUGHTSMAN and JUNIOR ASSISTANT required immediately.—Write in first instance, stating age, qualifications if any, experience and salary required, to Kenneth W. Favell, A.R.I.B.A., Chartered Architects, 23, Well Street, Ruthin, Denbighshire. 7651

ARCHITECTURAL ASSISTANTS, Junior and Senior, required for West End practice. Experienced in preparation of working drawings, detail specifications, supervision, etc., of commercial buildings, factories, etc. Salary according to experience from £600—£1,000 p.a.—Box 7646.

SENIOR and JUNIOR ASSISTANT ARCHITECTS required.—Details of experience, salaries, etc., to T. H. Thorpe & Partners, 41, Friar Gate, Derby. 7645

ASSISTANT, preferably of Intermediate standard or recently qualified, required for interesting work in medium sized Birmingham office.—Applications in writing, giving details of experience, age, salary required, etc., to Box 7644.

BRIGHTON.—ARCHITECTURAL ASSISTANT required for small busy practice with sound knowledge of construction and used to speculative development. Good salary and prospects.—Box 7643.

ARCHITECTURAL ASSISTANT, of Intermediate standard with good all-round experience, required for young but rapidly growing practice. Excellent prospects. Mid Essex.—Box 7679.

JUNIOR ARCHITECTURAL ASSISTANT, with some office experience, required in busy private practice. Capable of converting sketches into respectable and accurate drawings under some supervision. Interesting and varied work.—Please write, giving full particulars, to Messrs. J. W. Hammond, 20, North Street, Romford. 7678

QUANTITY SURVEYOR required, to assist on all stages of work for Commercial and Domestic contracts.—Please state experience, age and salary required, to Hill & Allum, F.R.I.B.A., A.R.I.C.S., 21, Carlton Crescent, Southampton. 7674

ARCHITECTURAL ASSISTANT, with some office experience, required in City office for work on modern office blocks. Salary £700—£800 per annum.—Write to Campbell Jones & Sons, 9, Dowgate Hill, E.C.4, or telephone CITy 1131. 7673

BUCKINGHAMSHIRE firm of Architects, with Quantity Surveying branch, require JUNIOR ASSISTANT for taking off and working up. Salary according to age and experience.—Write Box 7672.

ARCHITECTURAL ASSISTANT required in City office. Qualified or Intermediate standard. Varied work. 5-day week. Salary range £600—£800. Telephone London Wall 3825. 7671

WEST MIDLANDS Office of expanding practice requires experienced ASSISTANTS, preferably qualified. 5-day week.—Apply Diamond, Hodgkinson and Partners, 31, Queen Street, Wolverhampton. Telephone 21404. 7670

ASSISTANT ARCHITECT required for interesting work on Non-traditional projects, including Multi-Storey Flats, Maisonettes, etc.—Applications, stating age, experience, qualifications and salary required, should be made to Peter J. Lee, B.A., A.R.I.B.A., Chief Architect, Reema Boot, Ltd., Storforth Lane, Chesterfield. 7669

COMPANY, with large overseas interests, requires ASSISTANT CHIEF ARCHITECT. Age 40 to 45 years. Experienced in maintenance and design for overseas and tropical areas.—Box 7668.

REEMA CONSTRUCTION, LTD., Milford Manor, Salisbury, have vacancies for recently-qualified ARCHITECTS and for experienced BUILDING CONSTRUCTION DRAUGHTSMEN, for work on the design and production of new traditional buildings, including Multi-Storey Flats. 7681

ARCHITECTURAL ASSISTANTS required: (1) Intermediate/Final standard, with minimum 3 years' experience; (2) Final standard, with experience. Varied and interesting work. Salary by arrangement.—Apply in writing to Max Lock and Partners, 109, Gt. Russell Street, W.C.1. 7680

QUALIFIED ASSISTANT. 2½ years' post grad. Schools. General experience and alterations. Free-lance assistance to Architects, Birmingham region. Car owner.—Box 7683.

ASSOCIATE (35), with 7 years' varied experience, requires responsible work in private practice (London or Southern England), with prospects of partnership.—Box 7682.

WELL-KNOWN London Architects require ASSISTANTS between Intermediate and Final standard. Interesting projects. Five-day week.—Write, Box 861, c/o 7, Coptic Street, W.C.1. 7589

LONDON Office requires ASSISTANTS of Intermediate standard. Wide variety of interesting work. Five-day week. Study concessions for evening students according to circumstances. Good salaries. Box 7587.

W. H. WATKINS, GRAY & PARTNERS require ASSISTANTS for interesting hospital work. Pension scheme in operation.—Write or 'phone, 57, Catherine Place, S.W.1. VICtoria 7761. 7555

ARCHITECTURAL ASSISTANT required, Intermediate to Final standard, with office experience for small busy practice. L.V. No Saturdays. Shaw & Lloyd, F.R.I.B.A., 74, Gt. Russell Street, W.C.1. Museum 9693. 7591

Architectural Appointments Wanted

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

SENIOR ASSISTANT, 12 years' experience, Finals—seeks situation in London/Home Counties, preferably with single unfurnished accommodation. Car owner.—Box 7676.

Other Appointments Vacant

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

LADY TRACER required by Consulting Engineers in Westminster. Civil engineering experience desirable, but neatness and speed more important. Salary will be based on experience, and carries staff pensions arrangement. Age range preferred up to 35, but suitable experience would not restrict consideration as to age.—Box 7648.

BUILDING DESIGNER DRAUGHTSMAN required, with good experience in general industrial building work. Knowledge of estimating and surveying useful but not essential. Candidates should possess H.N.C. in Building or equivalent in allied profession. Salary according to experience, etc. Pension and Life Assurance Scheme in operation, and assistance given with housing.—Write fully in confidence, SP.A/ACM, Michelin Tyre Co., Ltd., Stoke-on-Trent. 7647

NORTH & PARTNERS, Chartered Architects, Maidenhead, are seeking an enthusiastic man with experience in specifications and builders' accounts for the smaller type of job where a Quantity Surveyor is not commissioned. 7675

SHOP FITTINGS. Applications requested for position of SHOP FITTINGS SUPERVISOR, conversant all aspects of Shop Fitting Work including Details, Costing, and with outstanding ability in Contemporary Design, Lay-out and Presentation. Box 7692.

Services Offered

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

"DON" ARCHITECTURAL MODEL MAKERS. We offer the highest grade work with speed and reliability.—Please 'phone Erith 3843 or Hastings 1366. 1673

SITE Surveys and Surveys of Buildings prepared at short notice anywhere in Britain. MUSeum 8753. 3103

ARCHITECTURAL. Reinforced Concrete and Steel design and detailing work required. Over 30 Assistants available. MUS 8753. 5145

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