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The Architects' JOURNAL for March 3, 1955

THE ARCHITECTS' JOURNAL



standard contents

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

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

IGE	Institution of Gas Engineers. 17, Grosvenor Crescent, S.W.1.	Sloane 8266
IHVE	Institution of Heating and Ventilating Engineers. 49, Cadogan Square.	Sloane 1601/3158
IIBDID	Incorporated Institute of British Decorators and Interior Designers. Drayton House, Gordon Street, W.C.1.	Euston 2450
ILA	Institute of Landscape Architects. 12, Gower Street, W.C.1.	Museum 1783
I of Arb	Institute of Arbitrators. 35/37, Hastings House, 10, Norfolk Street, Strand, W.C.2.	Temple Bar 4071
IOB	Institute of Builders 48, Bedford Square, W.C.1.	Museum 7197/5176
IQS	Institute of Quantity Surveyors, 98, Gloucester Place, W.1.	Welbeck 1859
IR	Institute of Refrigeration. Dalmeny House, Monument Street, E.C.3.	Avenue 6851
IRA	Institute of Registered Architects. 47, Victoria Street, S.W.1.	Abbey 6172
ISE	Institution of Structural Engineers. 11, Upper Belgrave Street, S.W.1.	Sloane 7128
LDA	Lead Development Association. Eagle House, Jermyn Street, S.W.1.	Whitehall 7264/4175
LMBA	London Master Builders' Association. 47, Bedford Square, W.C.1.	Museum 3891
LSPC	Lead Sheet and Pipe Council. Eagle House, Jermyn Street, S.W.1.	Whitehall 7264/4175
MARS	Modern Architectural Research Group (English Branch of CIAM). Secretary: Trevor Dannatt, 6, Fitzroy Square, W.1.	Euston 7171
MOA	Ministry of Agriculture and Fisheries. 55, Whitehall, S.W.1.	Whitehall 3400
MOE	Ministry of Education. Curzon Street House, Curzon Street, W.1.	Mayfair 9400
MOH	Ministry of Health. 23, Savile Row, W.1.	Regent 8411
MOHLG	Ministry of Housing and Local Government. Whitehall, S.W.1.	Whitehall 4300
MOLNS	Ministry of Labour and National Service. 8, St. James' Square, S.W.1.	Whitehall 6200
MOS	Ministry of Supply. Shell Mex House, Victoria Embankment, W.C.	Gerrard 6933
MOT	Ministry of Transport. Berkeley Square House, Berkeley Square, W.1.	Mayfair 9494
MOW	Ministry of Works. Lambeth Bridge House, S.E.1.	Reliance 7611
NAMMC	Natural Asphalte Mine-Owners and Manufacturers Council. 94-98, Petty France, S.W.1.	Abbey 1010
NAS	National Association of Shopfitters. 9, Victoria Street, S.W.1.	Abbey 4813
NBR	National Buildings Record. 31, Chester Terrace, Regent's Park, N.W.1.	Welbeck 0619
NCBMP	National Council of Building Material Producers. 10 Storey's Gate, S.W.1.	Abbey 5111
NFBTE	National Federation of Building Trades Employers. 82, New Cavendish Street, W.1.	Langham 4041/4054
NFBTO	National Federation of Building Trades Operatives. Federal House, Cedars Road, Clapham, S.W.4.	Macaulay 4451
NFHS	National Federation of Housing Societies. 13, Suffolk St., S.W.1.	Whitehall 1693
NHBR	National House Builders Registration Council. 82, New Cavendish Street, W.1.	Langham 4341
NPL	National Physical Laboratory. Head Office, Teddington.	Molesey 1380
NSA	National Sawmilling Association. 15, New Bridge Street, E.C.4.	City 1476
NSAS	National Smoke Abatement Society. Chandos House, Buckingham Gate, S.W.1.	Abbey 1359
NT	National Trust for Places of Historic Interest or Natural Beauty. 42, Queen Anne's Gate, S.W.1.	Whitehall 0211
PEP	Political and Economic Planning. 16, Queen Anne's Gate, S.W.1.	Whitehall 7245
RCA	Reinforced Concrete Association. 94, Petty France, S.W.1.	Abbey 4504
RIAS	Royal Incorporation of Architects in Scotland. 15, Rutland Square, Edinburgh.	Fountainbridge 7631
RIBA	Royal Institute of British Architects. 66, Portland Place, W.1.	Langham 5721
RICS	Royal Institution of Chartered Surveyors. 12, Great George St., S.W.1.	Whitehall 5322/9242
RFAC	Royal Fine Art Commission. 22A, Queen Anne's Gate, S.W.1.	Whitehall 3935
RS	Royal Society. Burlington House, Piccadilly, W.1.	Regent 3335
RSA	Royal Society of Arts. 6, John Adam Street, W.C.2.	Trafalgar 2366
RSI	Royal Sanitary Institute. 90, Buckingham Palace Road, S.W.1.	Sloane 5134
RIB	Rural Industries Bureau. 35, Camp Road, Wimbledon, S.W.19.	Wimbledon 5101
SBPM	Society of British Paint Manufacturers. Grosvenor Gardens House, Grosvenor Gardens, S.W.1.	Victoria 2186
SCR	Society for Cultural Relations with the USSR. 14, Kensington Square, London, W.8.	Western 1571
SE	Society of Engineers. 17, Victoria Street, Westminster, S.W.1.	Abbey 7244
SFMA	School Furniture Manufacturers' Association. 30, Cornhill, London, E.C.3.	Mansion House 3921
SIA	Structural Insulation Association. 32, Queen Anne Street, W.1.	Langham 7616
SNHTPC	Scottish National Housing. Town Planning Council. Hon. Sec., Robert Pollock, Town Clerk, Rutherglen.	
SPAB	Society for the Protection of Ancient Buildings. 55, Great Ormond Street, W.C.1.	Holborn 2646
TCPA	Town and Country Planning Association. 28, King Street, Covent Garden, W.C.2.	Temple Bar 5006
TDA	Timber Development Association. 21, College Hill, E.C.4.	City 4771
TPI	Town Planning Institute. 18, Ashley Place, S.W.1.	Victoria 8815
TTF	Timber Trades Federation. 75, Cannon Street, E.C.4.	City 5051
WDC	War Damage Commission. 6, Carlton House Terrace, S.W.1.	Whitehall 4341
ZDA	Zinc Development Association. Lincoln House, Turl Street, Oxford.	Oxford 47988

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[Vol. 121

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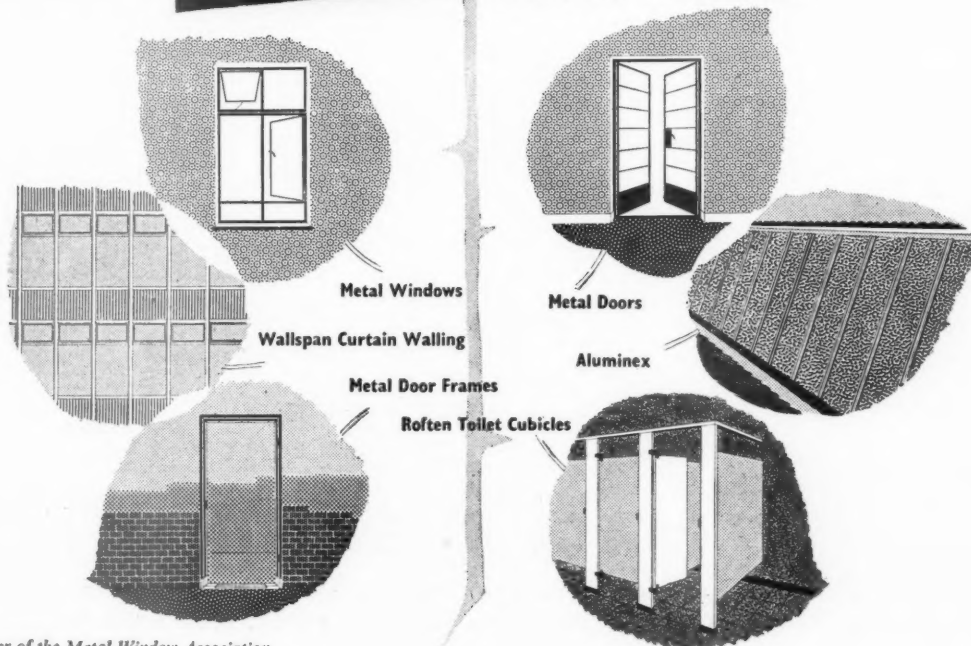


Arthur Brooks has green fingers Time was when Mr. Brooks*—a structural engineer—won first prize for roses at a Surrey Horticultural Show And when all six foot two inches of Mr. Brooks won a table tennis championship for the Divisional Police And when he became a golfer with a handicap of 8. Time was, in short, when Mr. Brooks had time! But as Williams & Williams Divisional Manager with an overriding responsibility for Greater London, the West of England and South Wales, and as a Director of Williams & Williams(South Western) Ltd., he has time only for the odd job in the garden now You'll find him digging into metal window problems, nipping trouble in the bud, cutting corners and smoothing paths of architects. He does it all so pleasantly too!

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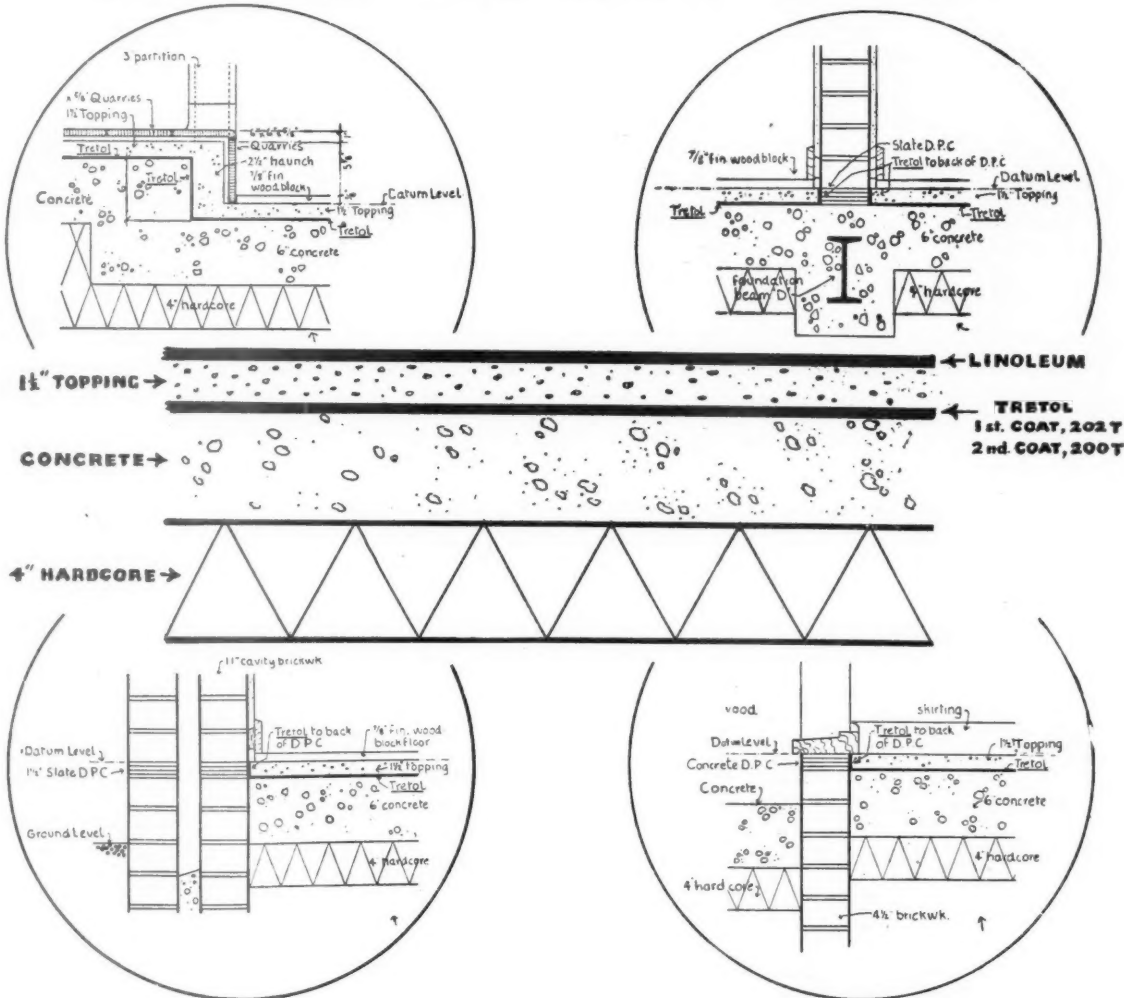
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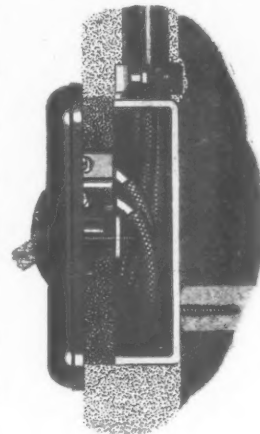


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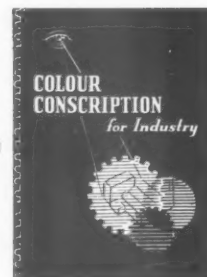
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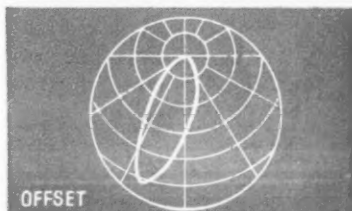
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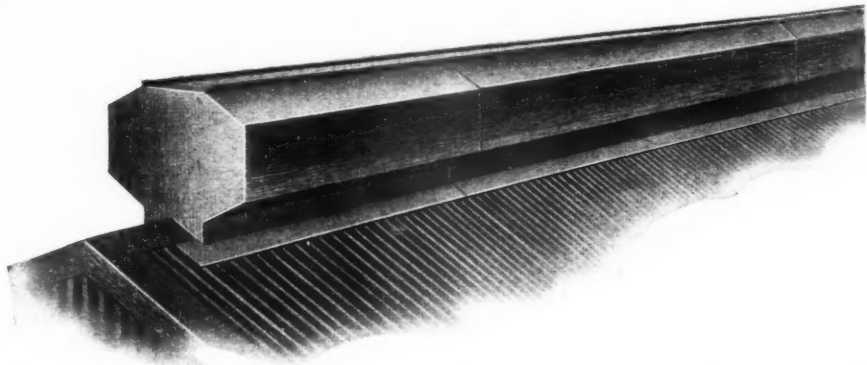
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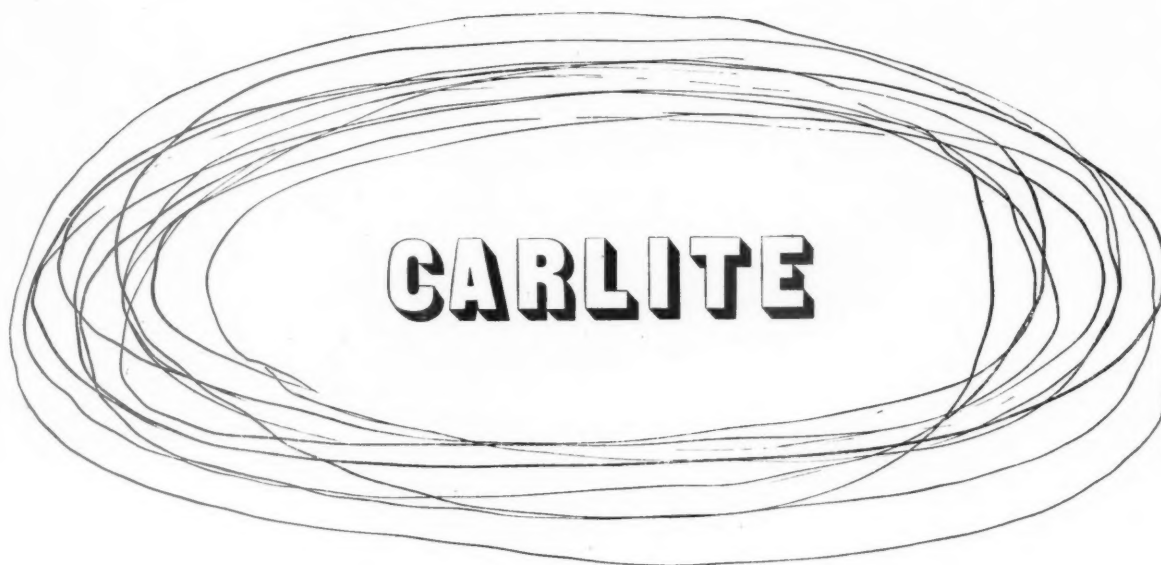
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Facts


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of installation costs...
between an Ascot
plus open fire
and open fire plus
back boiler

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The figures in the chart were not specially prepared. They are from bills of quantities of schemes which had already been completed by an eminent architect before the analysis was contemplated.

Examination of the plans shows that because the Ascots

could be sited nearer to bathroom and kitchen draw-off points than the back fire boilers and do not require a flow and return draw-off system, pipe runs were considerably shorter and simpler. This is quite usual.



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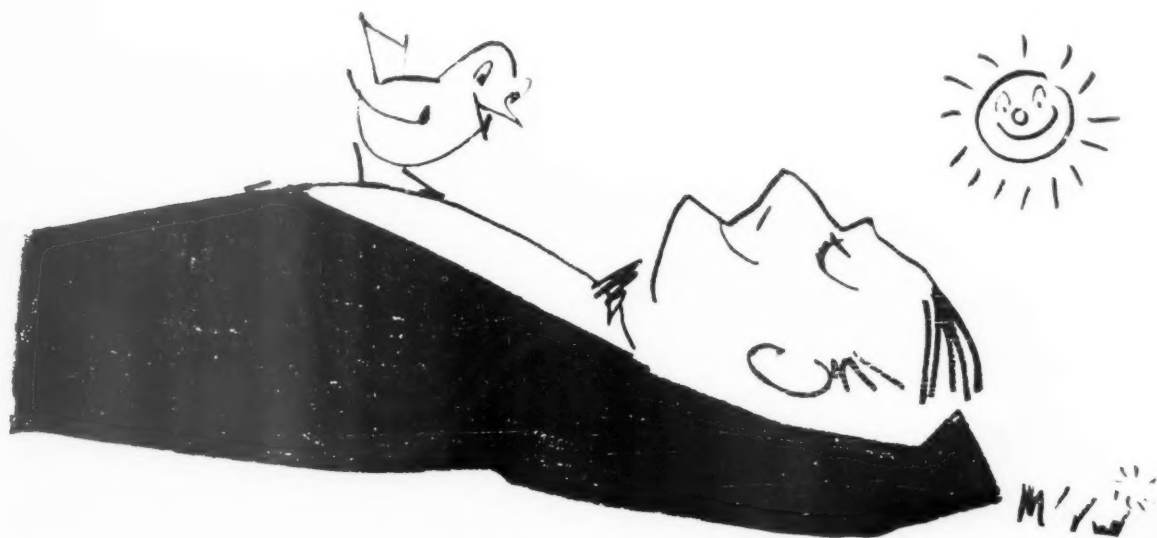
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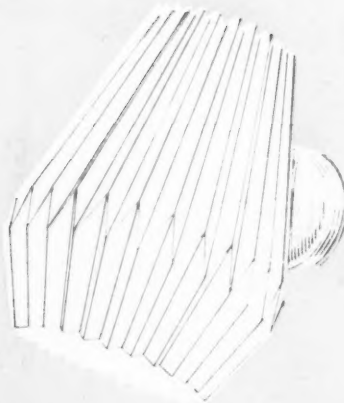
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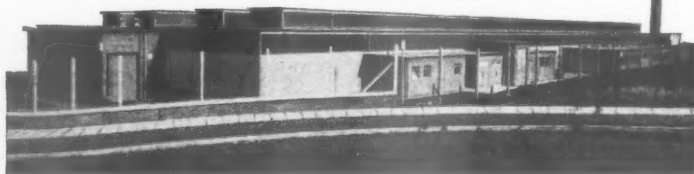
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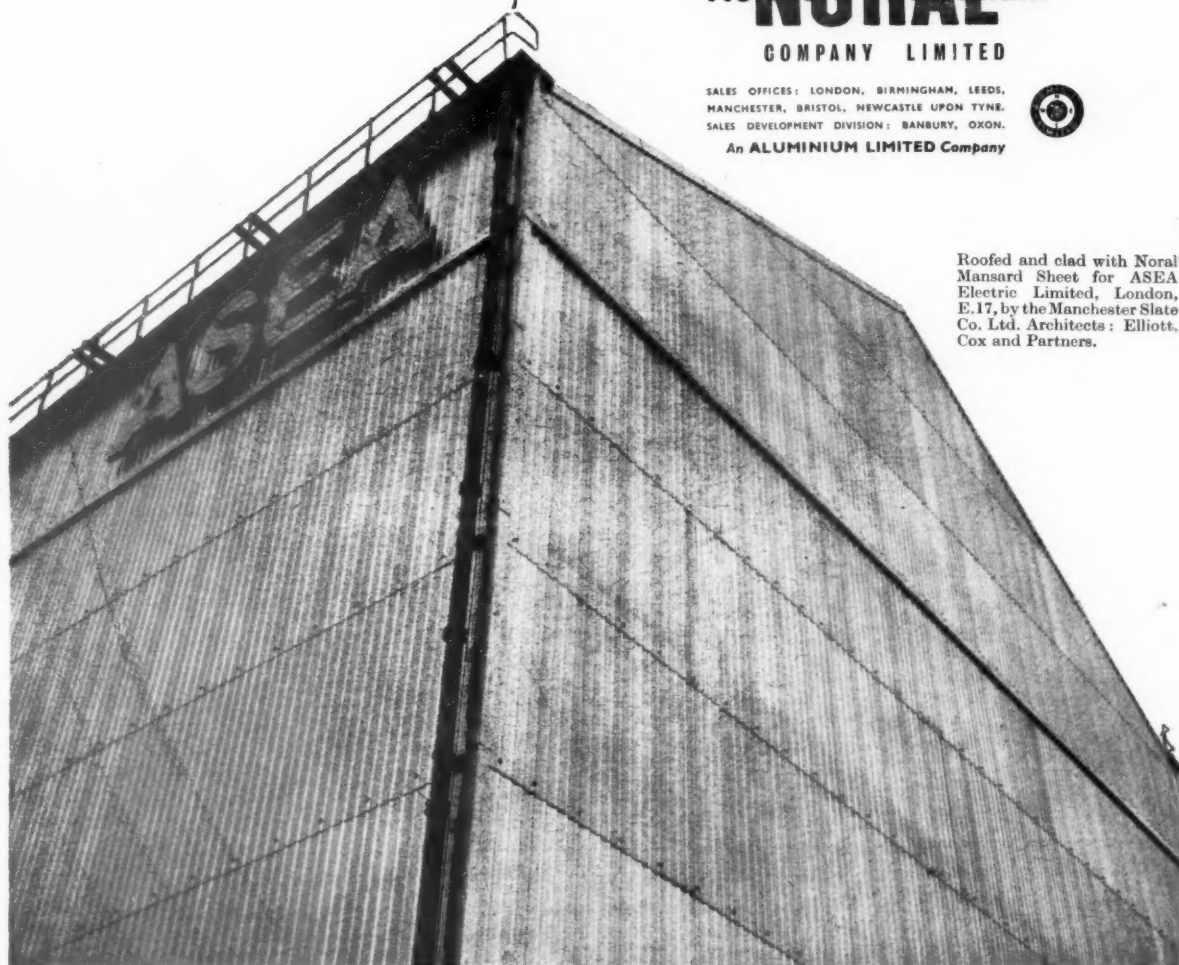
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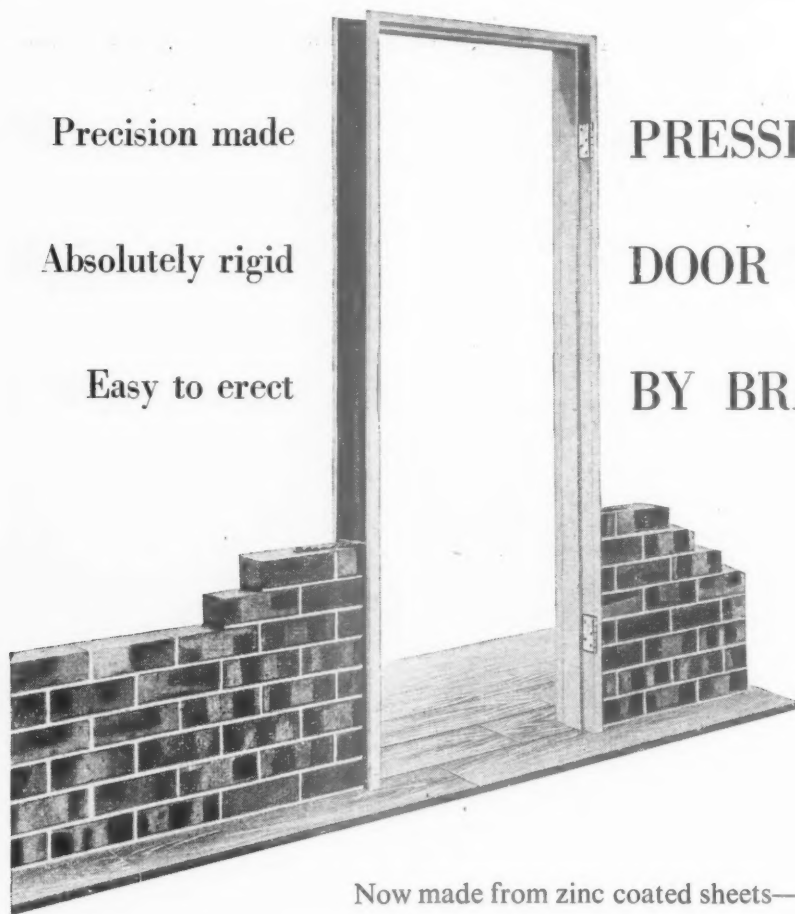


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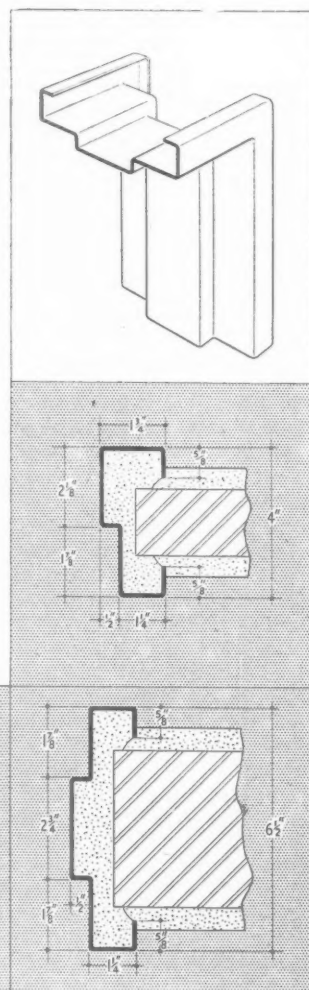
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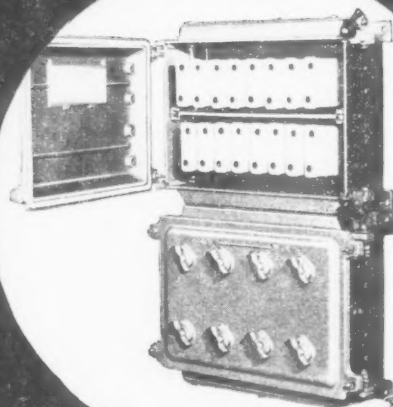
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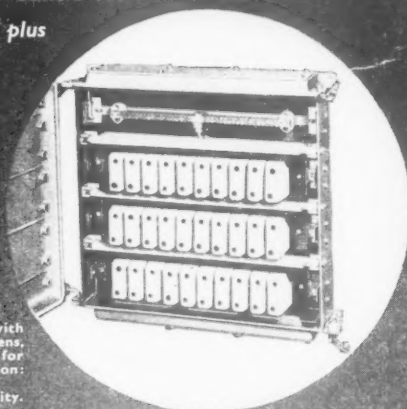
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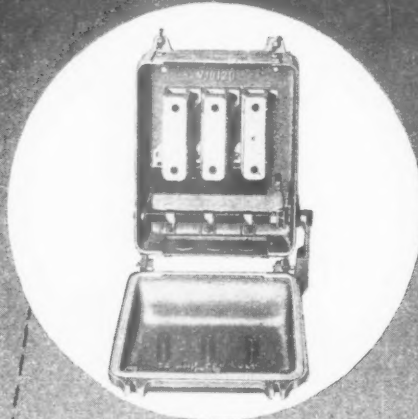
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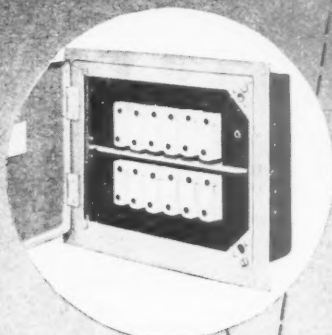
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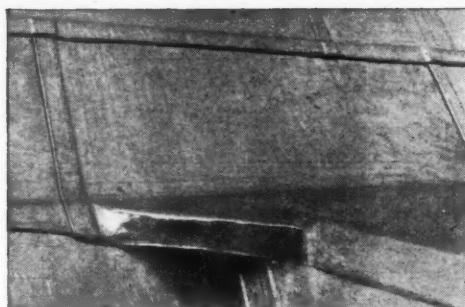


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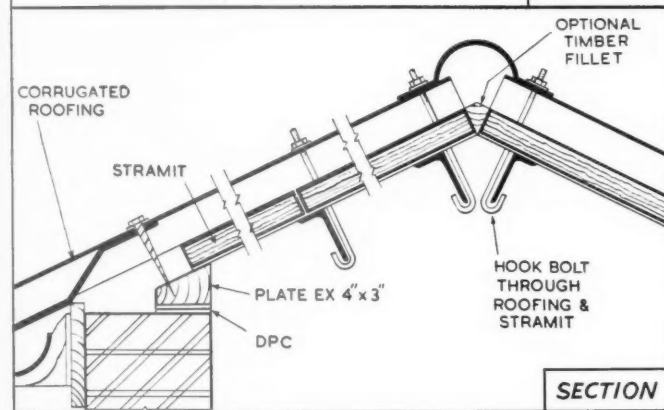
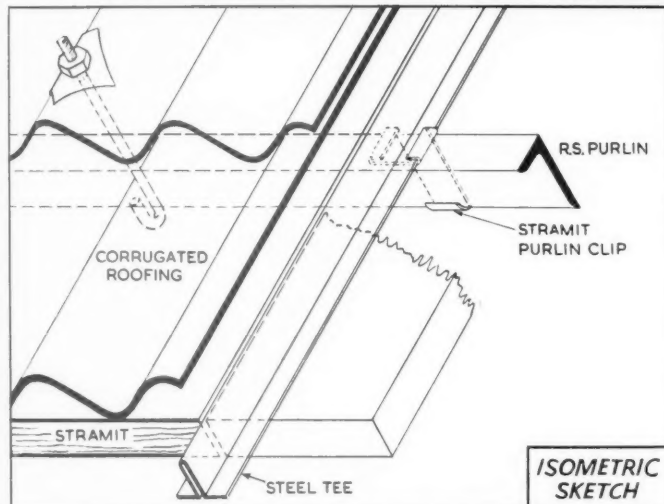
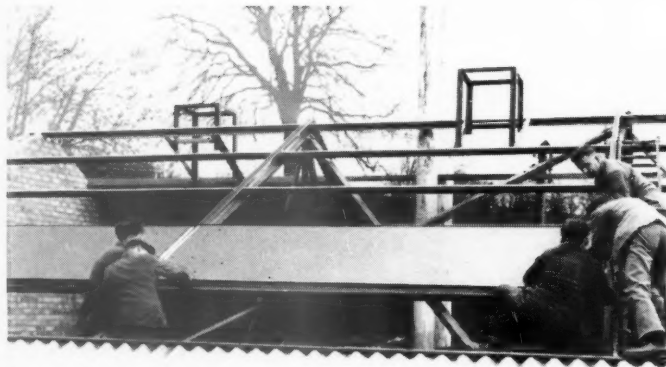


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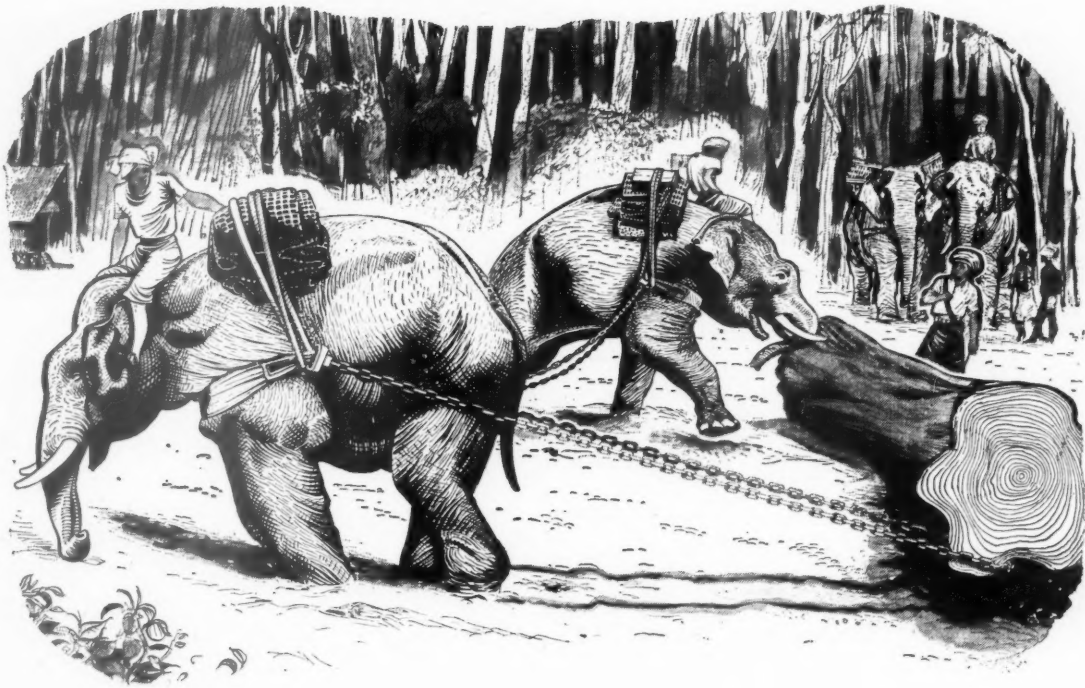


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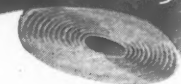
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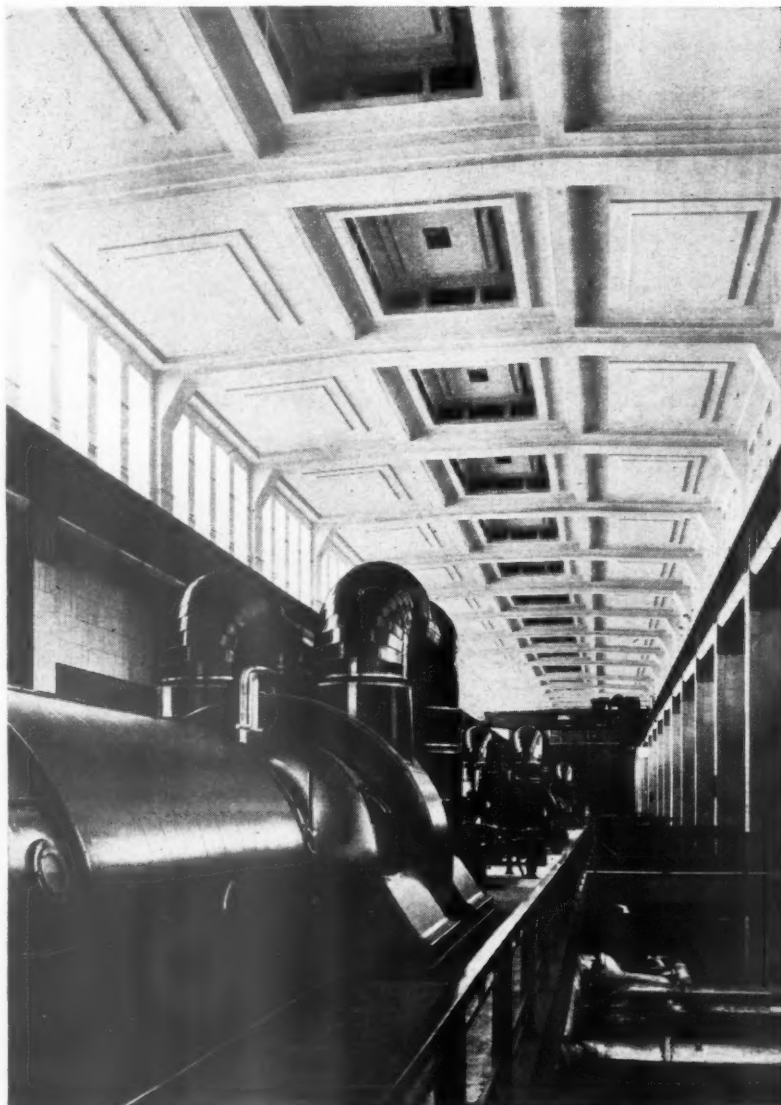
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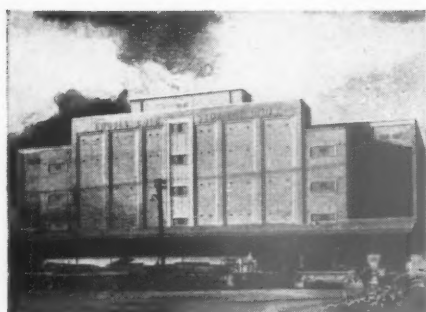
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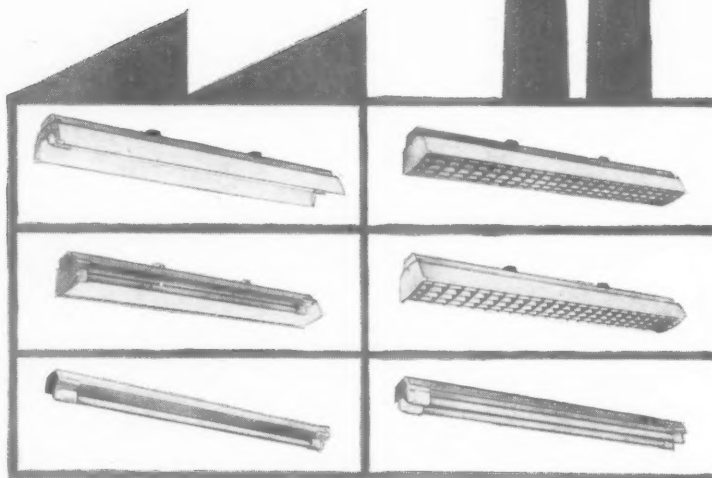
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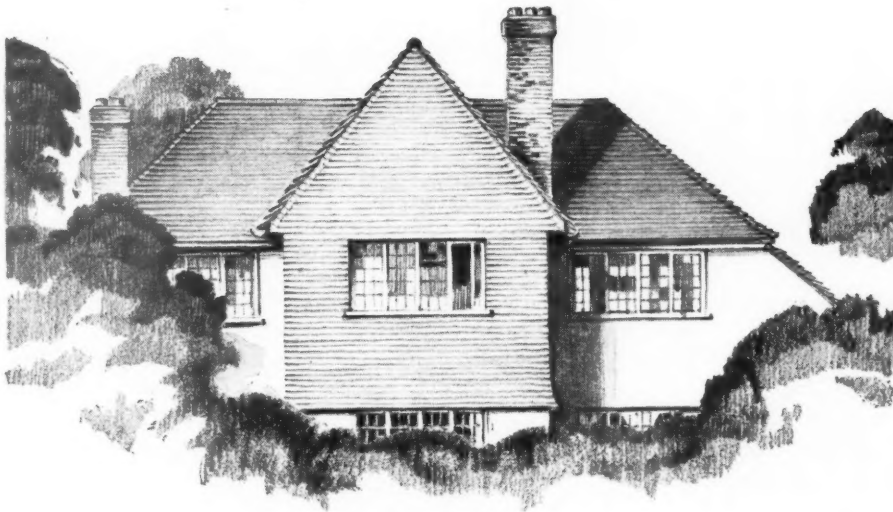
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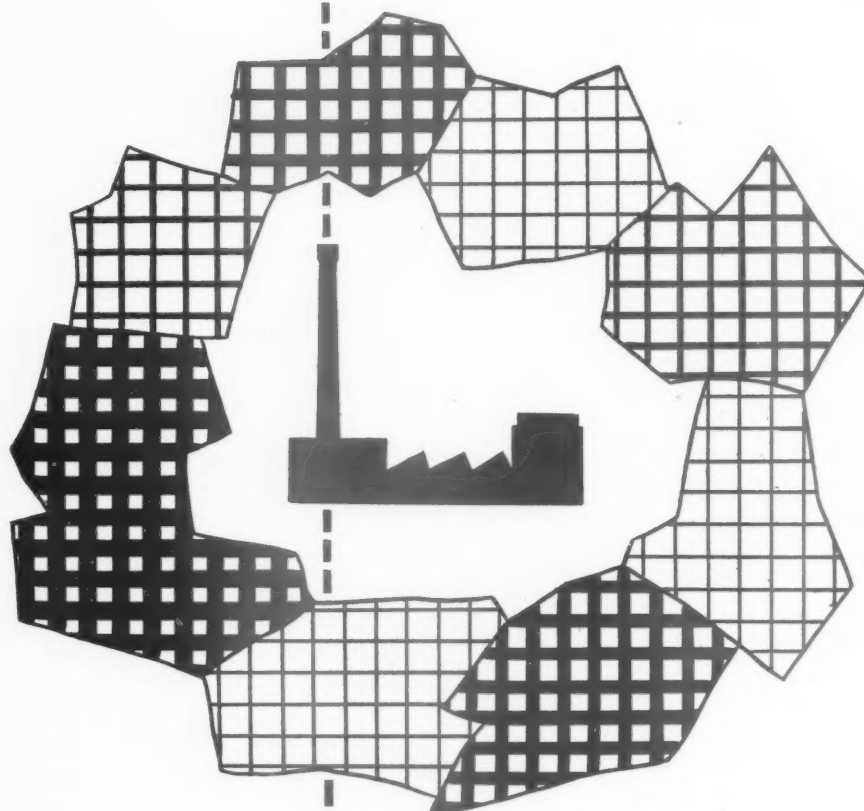
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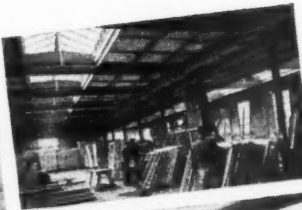
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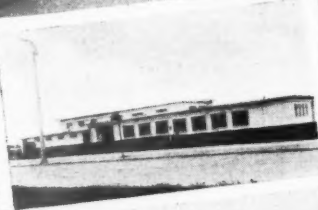
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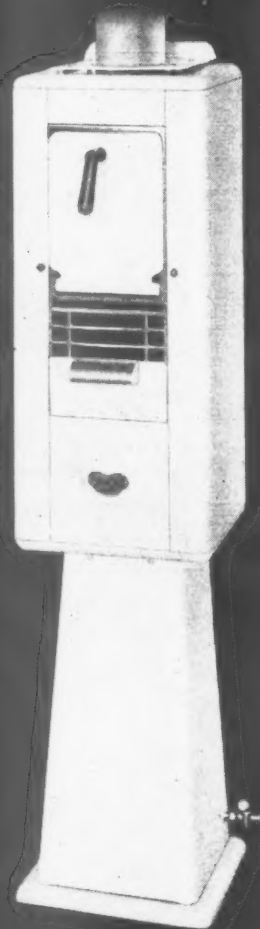
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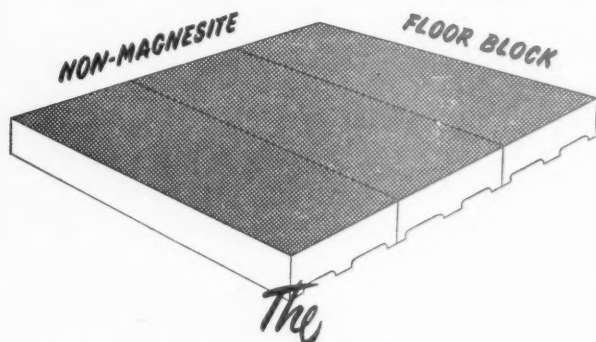
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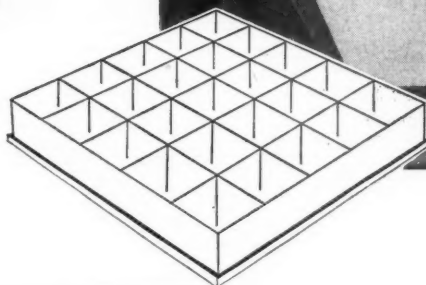
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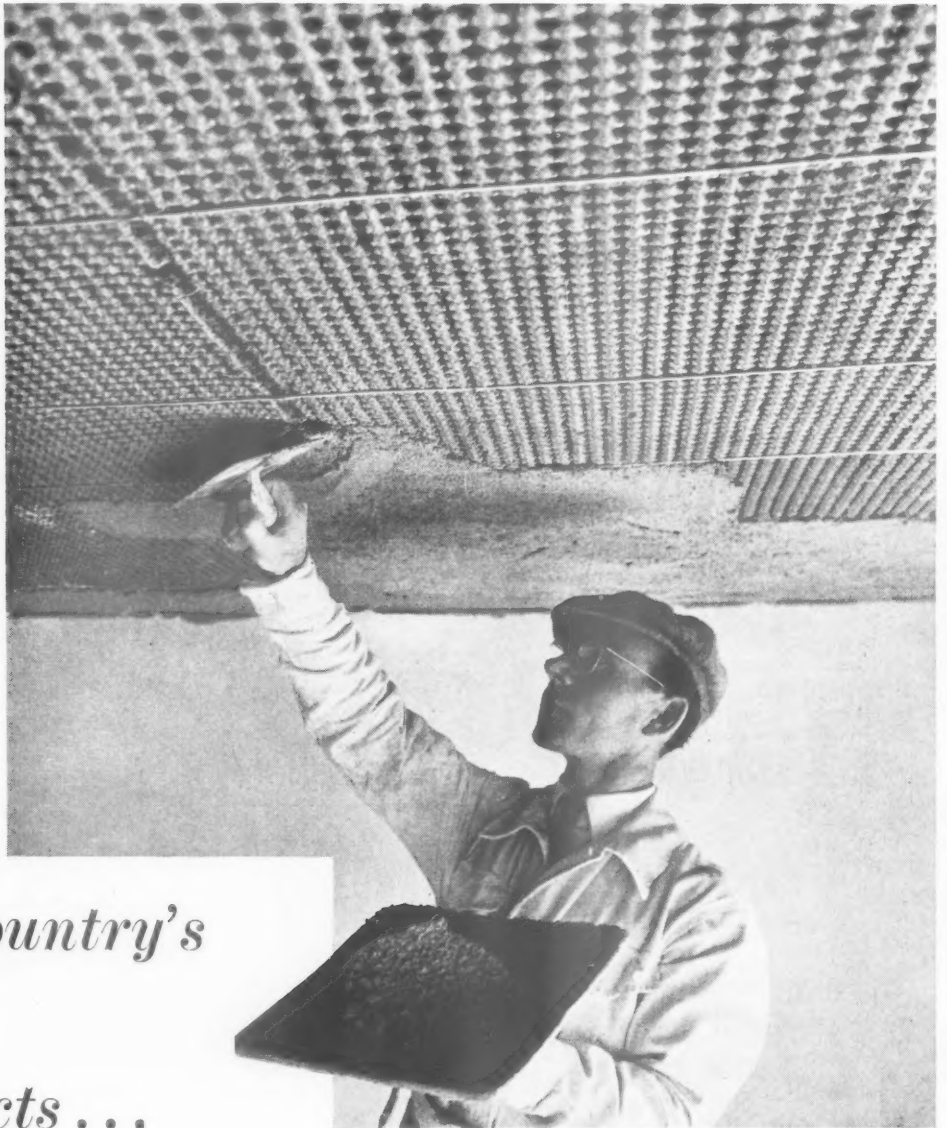
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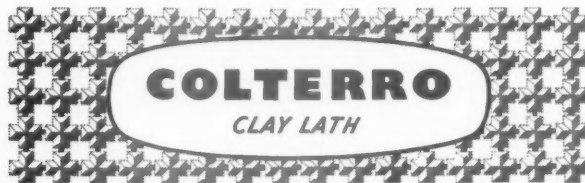
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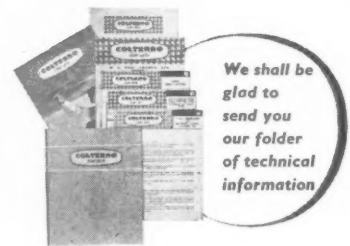
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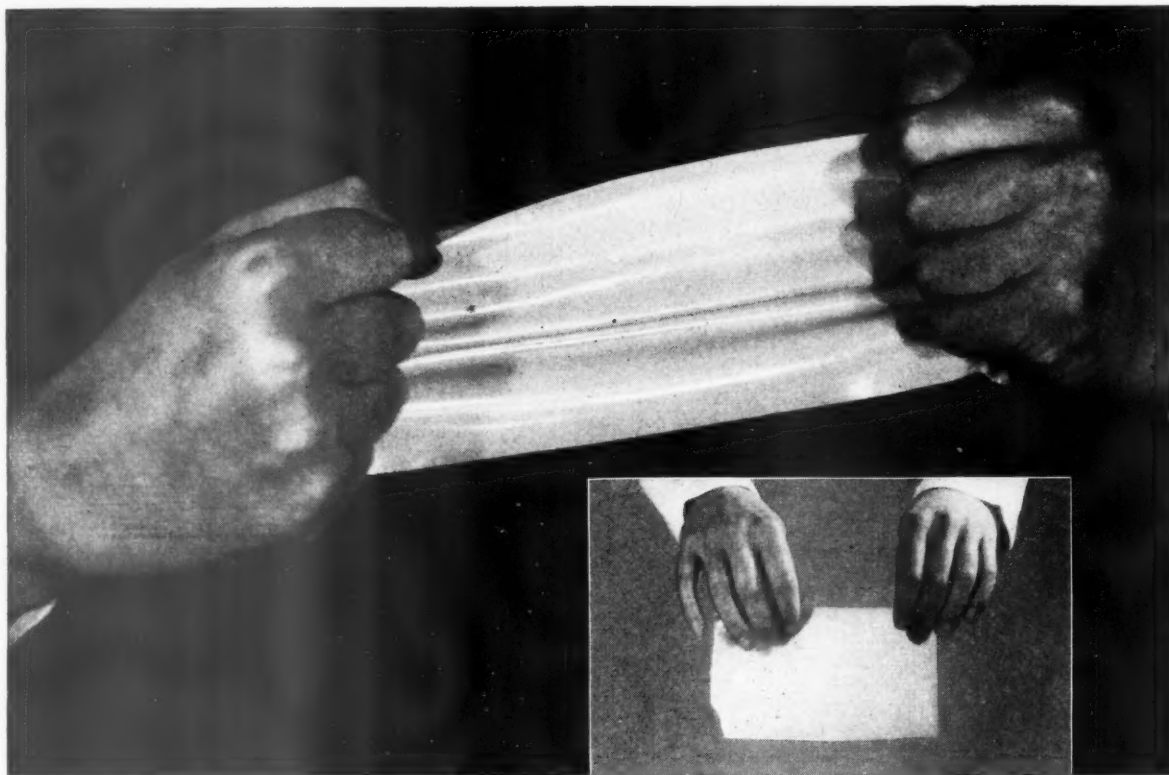
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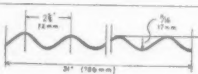
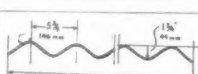
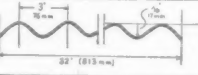
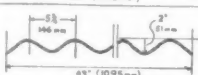


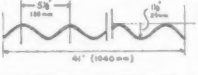

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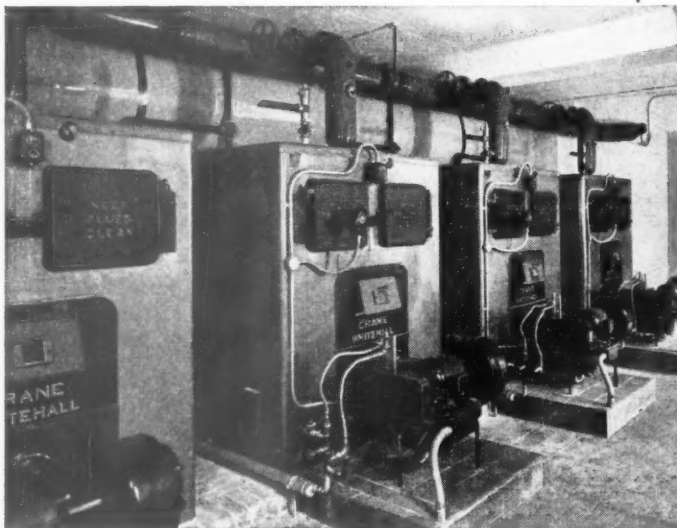
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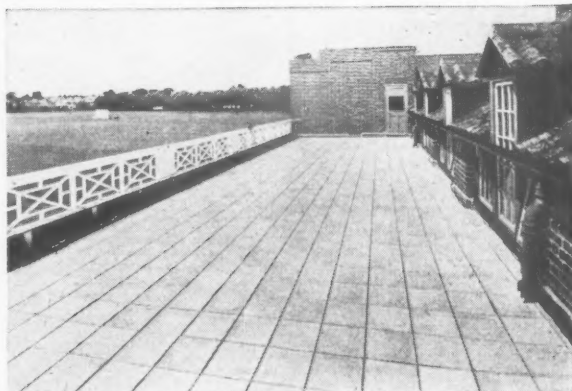
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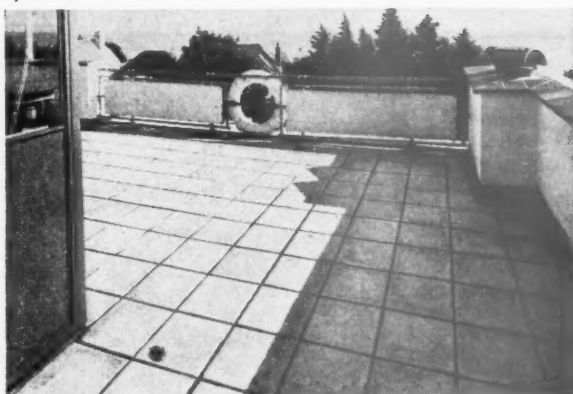
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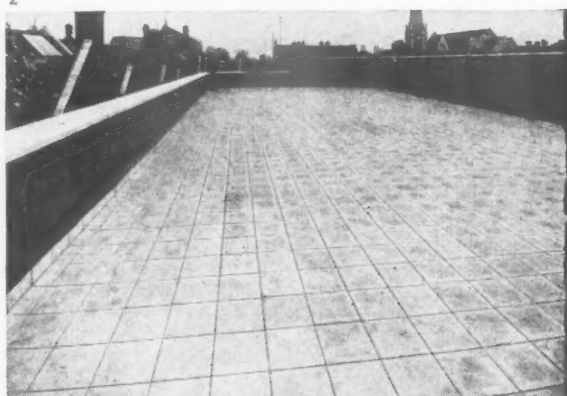
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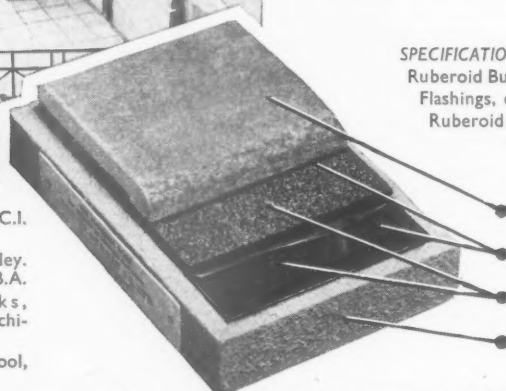


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1. West Park Pavilion, Jersey, C.I. Architects: Blampied & Biggar.
2. Sports Pavilion, North Wembley. Architects: Duke & Simpson, F.R.I.B.A.
3. "Showboat," Sandbanks, Bournemouth. Residence of the Architect, A. J. Seal, Esq., F.R.I.B.A.
4. Latymer Foundation Upper School, Hammersmith. Gymnasium Roof. Architects: Chesterton & Sons.
5. Balcony at United Club, Jersey, C.I.

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No. 3131 March 3, 1955 VOL. 121

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WEST GERMAN ARCHITECTURE

"The Germans did it much better" is the title Paul Reilly gave to his article in the *News Chronicle* on the RIBA's exhibition of German Architecture. Richard Sheppard, broadcasting on the same subject on Sunday was not so sure. He suggested, if I heard aright, that British architecture of the same period was less grandiose and pretentious than the German—but there was a nasty sting in his last sentence: "I would be happier in making a comparison," he said, "if I had not seen some positively atrocious designs for our blitzed cities."

There are over 140 examples of German post-war buildings on view at Portland Place; very few are of low

quality; indeed most of them, in ASTRAGAL's opinion, and as far as one can judge from monochrome photographs and tiny plans, are very pleasant indeed. Germany's recovery from the war has been pretty amazing in itself. That she should be capable of producing such quality as well as quantity in building is all to her credit. There are rumours abroad—or, at least, at home—that the Arts Council are going to arrange shortly a comprehensive exhibition of British architecture. It will be interesting to see if they can collect a better-looking array of photographs or a show of work comparable with the standard of the German buildings and by as many architects (148). We have our stars, of course, Powell and Moya, Architects' Co-Partnership, Lionel Brett, the LCC, the MOE and so on—you can fill in your own favourites. But can we reach 140? As a spur to the complacent, it should not be forgotten that we had no pre-war political party to drive our leading architects abroad and thus delay the development of modern architecture for a dozen years.

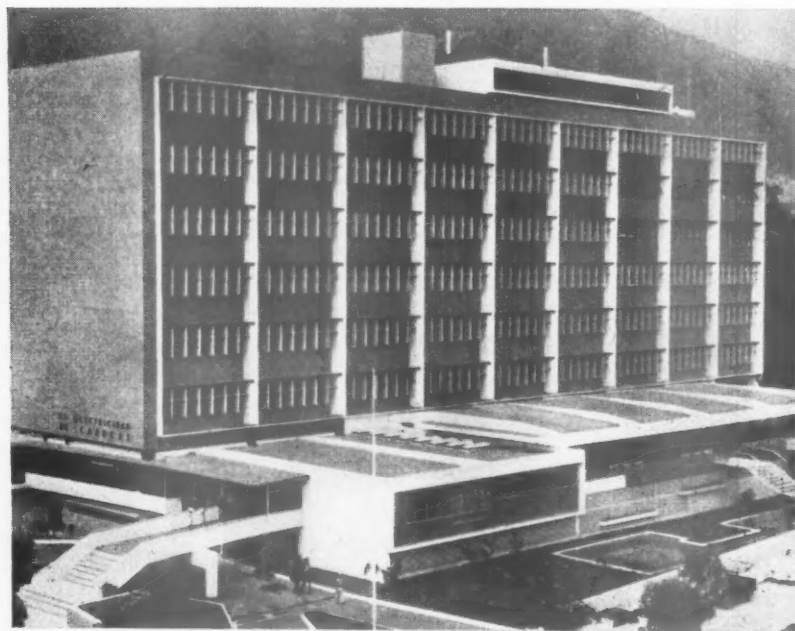
Of the exhibition as an exhibition there is little to say. It is not very exciting, the plans are inadequate and dates of building completions are not given. Many of you will be able to judge the exhibition for yourselves when it goes on tour—to Birmingham, Glasgow, Liverpool, Manchester, Bristol, Leeds and York—from next May. As the most exhibition-weary, and -wary, man in London, ASTRAGAL longs for someone to remember those marvels of the modern day—the film, the film strip, the tape-recorder, even the lantern slides—and to give us a means of study-

ing designs (preferably in colour and with much more technical information) in comfort. Or at least let exhibition visitors have bath-chairs; or put all the photographs in a book, or publish a special issue of the RIBA Journal so that there need be no exhibition at all.

Whip me round the South Bank, Brer RIBA, but don't make me shuffle many more times round those endless screens at the RIBA.

WHO IS THIS KENNETH TYNAN?

ASTRAGAL, who is growing tired of the dirty *double-entendre* spoken with a leering coyness, which is so much a part of radio and stage entertainment today, was refreshed by the unabashed bawdiness of George Farquhar's comedy, *The Recruiting Officer*, which the AA Theatre Group performed last week at the Twentieth-Century Theatre. He found it a pleasant change, too, to hear the audience's uninhibited laughter—and, of course, to join in it himself. How nice it is to laugh from one's—I am sure you will forgive me—belly, knowing very well that the man behind you, who is laughing from his ditto, knows that you are convulsed not only because the stream of obvious jokes about pregnancy is frightfully funny, but because you *understand* just how much these jokes *belong* to their period. And how jolly it is to know that he knows that you know that he is laughing for the same reason. Between you two—indeed between all members of the audience—is an unspoken understanding that although a lot of people would be terribly shocked by this sort of play, it is simply too deliciously unsophisticated for anyone really enlightened to object to at all.



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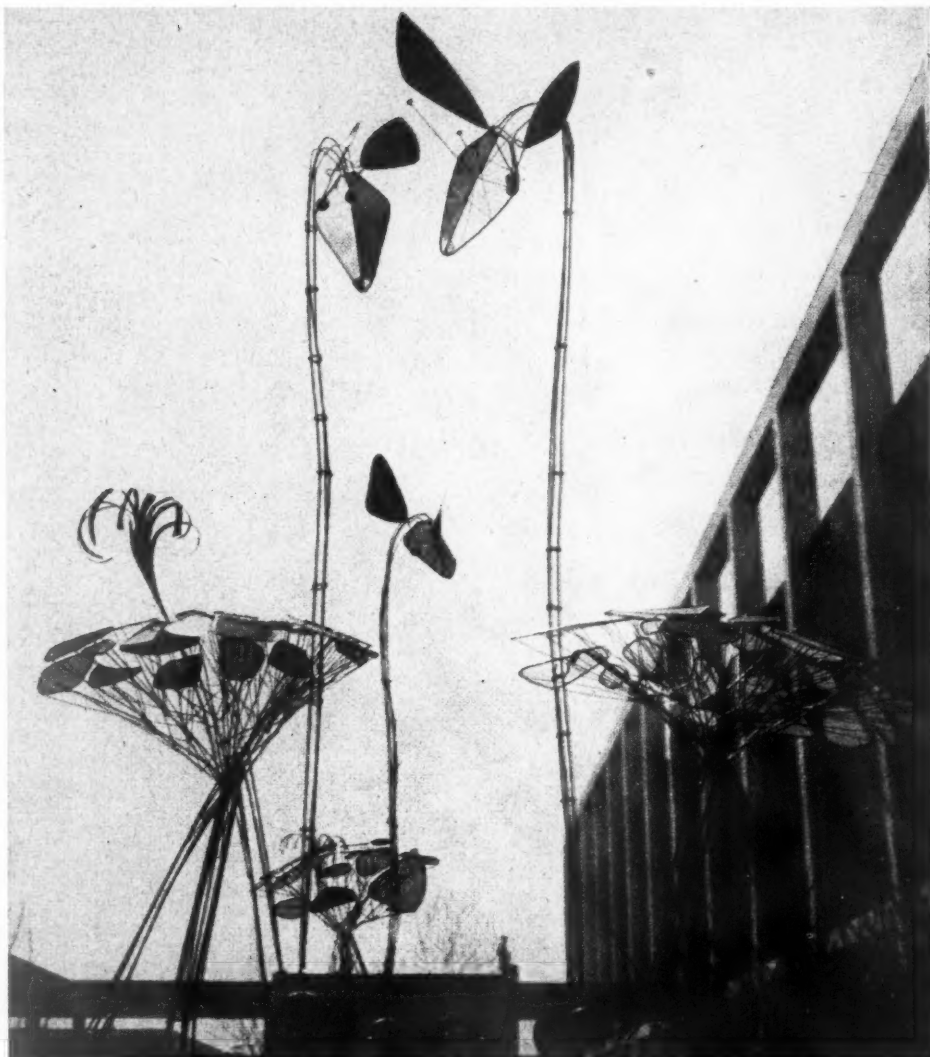
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Two weeks ago ASTRAGAL published a picture of Antoine Acket's water stabile in "The Coffee House," Haymarket, and spoke of similar "gimmicks" he had seen in pictures of an American super market. Mr. Acket has written to ask how such devices as his are used in a shopping centre. Here is a stabile built on similar lines to Mr. Acket's (the leaf-like shapes are of coloured perspex) which stands in a super-market at Detroit. Like Mr. Acket's stabile, it is used solely to delight, surprise, baffle or shock the eye.



Congratulations to the AA Theatre Group for again choosing a play that we should not otherwise have much chance of seeing, and for performing it in such a way that even those of us who were not related to any of the actors could enjoy it. Regular readers of ASTRAGAL's infrequent drama criticisms will be glad to know that he can, as usual, divide the cast into nicely-labelled grades: (a) Outstanding; (b) Scored Heavily; (c) Also Did Well; (d) Convincing; (e) Admirably Supported By. Special mention must be made, as the local papers say, of

T. Greenwood, J. Smith, M. Cain, N. Grimwade, K. Buffery, J. Roebuck, Caroline Harding, Patricia St. Leger, Rosalind Buffery, J. St. Leger, Joyce Lowrie, A. Gale, J. Cain, N. Brown, J. Addis, D. Bullivant, E. Ribet, Gwyneth Knight, D. Bright, Penelope Bennett and Michael Grimswade—

—if only to bring in another twenty-one shillings to the JOURNAL'S order department. It remains for me to say that the set by Colin Glennie and C. Stevens was of the quality we expect and the lighting by Terry Knight and David

Bottoms up to standard—in short, all Worked Hard, Not Least Those Who Toiled In The Wings Bless Them Like Producer Patricia Bullivant And I'm Sure If You Enjoyed Playing To Us As Much As We Enjoyed Watching You That's Too Sweet Of You But Let's Get Away From This Old Pro's Jargon and say, simply and sincerely, thank you, AA Theatre Group, for a very pleasant and amusing evening.

THE HALSINGBORG EXHIBITION

When the British have done anything at all at international exhibitions in recent years their contributions have often been a trifle pathetic. It is good news, therefore that COID are planning a "show-flat" for the Halsingborg Exhibition (June 10-August 28) and have adequate funds for the job. Architecture, industrial design, furniture and crafts will all come into the picture.

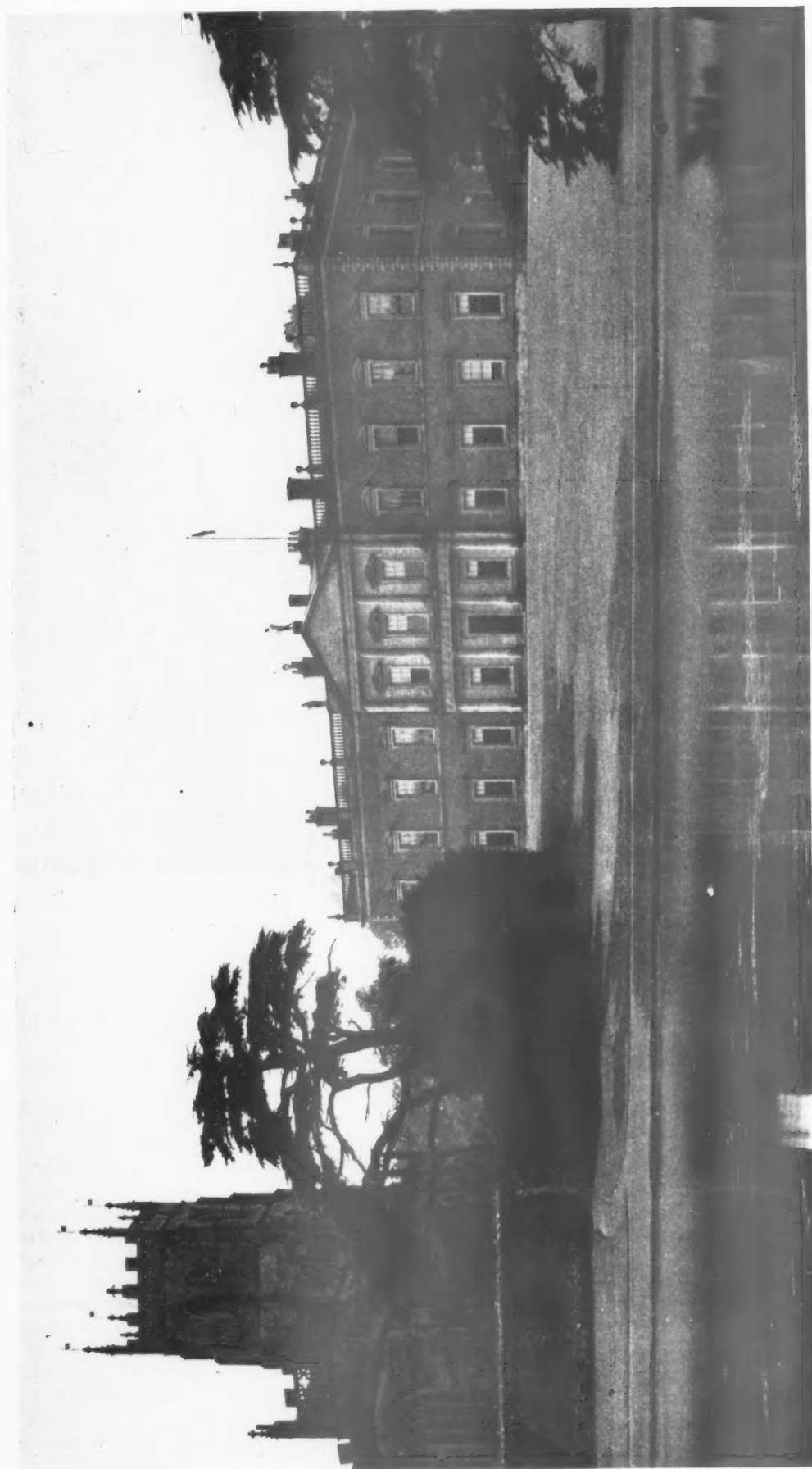
*

The COID have asked the AA princi-

pal, Michael Pattrick, and his wife to decorate and furnish the flat, which they will choose from an existing example. We are short of post-war luxury flats and the Pattricks will surely have some difficulty in making their choice. ASTRAGAL looks forward to finding that their choice is creditable to the country.

ANTI-PLANNERS

The anti-control of elevations movement which has been gathering strength for a long time came to a head last week at the AA. The resulting sore was roughly bandaged by pro-control Arthur Ling, but the cause of the discharge remains. G. A. Jellicoe and MOHLG architect R. T. Kennedy were supposed to put the case for control over elevations. W. G. Howell and Robert Jordan argued for freedom. Of the four speakers Jordan was unquestionably the best—putting forward a



Another Country House in the Balance

Some local authorities are just as likely to let good historical buildings come down as they are to stop good modern buildings from going up, and quite a few of our country houses have been spared from demolition gangs in spite of the local authorities concerned. It is, therefore, good news that Leicestershire County Council has temporarily stayed the hand of the would-be owner-demolisher of Staunton Harold, a

mid-eighteenth century mansion whose earlier parts are ascribed to Inigo Jones. (The church—built in 1653—is owned by the National Trust.) The owner has appealed against a preservation order made by the County Council and, as a result, a public enquiry will take place next week. ASTRAGAL will report on the outcome of this enquiry.

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brilliant, concise argument which no one could really refute.

At the start most of those in the audience seemed to be against control over *architects*, but not, possibly, against control over non-architect designers. The planners' retort was that not all architects were good ones. The anti's pointed out that one could not differentiate, and, as Jordan so sensibly said, the law cannot work well when attempting to deal with the indefinable, the unknowable—such as aesthetics. The anti's were winning all the way until Arthur Ling gave the first reasoned case for control, followed shortly by Lionel Brett who—with Peter Shephard—gave the most sensible compromise solution. Indeed, by the end many of the audience were well on the way to being persuaded to suffer planning control over design, if not gladly, at least resignedly, for fear of the worst that might befall—one might have been back in the 'forties.

DR. BRONOWSKI ON ARCHITECTURE

Just before the JOURNAL goes to Press, ASTRAGAL has seen the text of Dr. Bronowski's talk (March 1) at the RIBA, which he certainly intends to make an effort to attend—if only to hear how an RIBA audience shapes up to so humane and well-informed an address from someone right outside the architectural discipline, but from right inside that other discipline—the scientific—to which we all pay unthinking lip-service.

Unthinkingly, muses ASTRAGAL, tugging at his prophet's beard, because we would all agree with his statement that "architecture remains the crossroads of new science and new art," but few of us, not even the most passionate pre-fabricators, are really *au fait* with even the practical, technological end of new science, and just as few of us are really anywhere with new art.

A big emphasis on freedom, seen as the desire not to accept things as found, nor to take them as read, runs through the talk, culminating in a neat rephrasing of a celebrated Gilbert-Scottism: Bad Architecture is the decoration of acquiescence.

Short pause for an examining of consciences. . . . ASTRAGAL

The Editors

KNOW YOURSELVES

IT is surely obvious that the architectural profession can improve salaries and status much more easily and quickly if it acts as a united body, than it can if only half of it agitates within some form of trade union.* By all means let architects join existing unions—if they can afford to—as a short-term measure for the improvement of salaries. The good work done by NALGO, ABT and so on is not to be despised. However, it must be realised that such increases in salaries can only be in mere tens of pounds, which may be reasonable enough for architectural assistants, but not for Architects. For Architects, that is, with a capital A—to denote, as we have said repeatedly recently, the man who carries complete responsibility to the client for the design and erection of a building. For such, who form the backbone of the salaried side of the profession, the increase in salaries must come not in tens but in several hundreds of pounds.

But such proposals are useless unless the bulk of the profession is convinced that until the financial position of the salaried Architect is improved, the whole status of the profession will decline. Why should a client pay 6 per cent. in fees on a £50,000 building when an architect can be hired for £12 a week? How can architects in local authority offices hope to boycott under-paid jobs successfully if the local authority can always evade the issue by giving the work to a private architect, or by transferring it to the architectural assistants in the Engineer's Department?

It must be obvious that unity within the profession is the only means of ensuring progress towards higher status on a broad front. And such unity can only be obtained if the profession finds out all it can about itself and makes sure that it works in the interests of architecture and not in the interests of big, or local authority, business. For instance, which is the cheaper, and the more efficient, the local authority architectural department or the private practice? Architects are constantly at loggerheads about this, but not, it should be noted, the clients. The RIBA should ensure that it is the clients who are arguing, if anyone. Architects should be confident that whoever does the local authorities' work—public or private architect—the quality of the service rendered and the true remuneration received, are equal.

There are many other issues, of course, but perhaps sufficient has been said to show that for big changes in the architects' status to take place a great deal of energy on research and mutual re-education on the status of the Architect will have to be spent within the profession itself. It should, however, be remembered that the machinery for knowledge, and improvement: the allied societies, the RIBA Council and committees, are all there. They can all be made to operate on the right lines if the profession can be bothered to pull the right levers.

* See letters on page 292 and Martyn Webb's second article overleaf

The discussion continues below between Martyn Webb and an Editor on the architect's status and the steps they should take to improve their salaries. Last week, Martyn Webb pointed out that too much attention recently had been paid to "means," and not enough to ends, that is, to defining what the profession ought to be and to have. He emphasized that architects were in that very exclusive category of "professional men" and that if they did not live up to, and carry fully the responsibilities which that implied, they did great harm to their status in the public eye. He then said that such professionalism was quite incompatible with trade unionism: the professional man sought higher status and recognition, the trade unionist struggled for higher wages, better working conditions and freedom from exploitation. It would only confuse issues if architects tried to adopt trade union methods on a long-term basis. Martyn Webb suggested that if architects really act as a profession, in the full meaning of the term, they could go right ahead and plan the actions necessary to improve salaries. This week he proposes a course of action designed to achieve this aim. These two articles will be followed by a criticism from a supporter of the trade union approach to the problem.

ARCHITECTS AND TRADE UNIONS

WEBB: In the second part of our discussion I would like to be a bit more explicit, paying a little more attention to means rather than ends. I would like to commence by stating two propositions. The first is: the architectural profession is a unity and it is to the profession that all architects owe their loyalty. And the second, the profession is a heterogeneous mixture of both employer and employee. Taking first professional unity: In concrete terms this unity is almost an abstract idea, one of purpose and vocation; in real life architects are dispersed over the whole country, in ones or twos, or, very occasionally, in hundreds. No matter where the architect is likely to be he is going to be outnumbered, either by the rest of the machine for which he works, or by the community at large. In other words, he is no different from any other profession. And, like all professions, it is only strong when all members speak together; whether or not they are personally concerned in the particular issue at stake.

EDITOR: *We presume you make this comment in the light of the RIBA's advice to its members, that their interests will be best served by joining an existing organization appropriate to their field of employment?*

WEBB: Precisely. I often wonder how a minority profession makes its voice felt within the "appropriate organization." Especially when, as it often happens, not only is the architect out-numbered, but is also a member of an association composed almost entirely of non-professionals; office clerks, cleaners, bus inspectors, etc. Furthermore, I do think that the RIBA is being very naughty. You see, underlying this instruction lies the implication that the RIBA will be there, behind the scenes; co-operating and liaising with the various negotiating bodies. This is almost a case of having the cake and eating it. In other words, fulfilling the duties of a professional association whose objects are conditions of service and salaries, without being such an association. This, of course, most certainly emphasizes the real need for a real and effective architectural watch dog, but it is very misleading to architects who are led to believe that the RIBA can really do something about it, and then learn that in fact it cannot.

EDITOR: *What would happen if someone were to declare that this interest of the RIBA in salaries and conditions of service were outside the scope of its charter?*

WEBB: I think it might clear the air a great deal. It would reveal immediately just how exposed the architectural profession really was, for, despite its charter, the RIBA has, in fact, been assuming or partly assuming all the tasks of a "professional association" (the term I shall, in future, use to describe this, as yet, unformed body or its objects). By accepting these tasks the RIBA, as I have said, is a little naughty (but very kind-hearted and public spirited) because in practically every case we find that, according to the letter of the law, it is debarred from doing the jobs asked of it, which, of course, rather cramps its style.

EDITOR: *Must we, therefore, throw overboard any idea of the RIBA being concerned in this matter?*

WEBB: The answer is to be found, in my opinion, in the Allied Societies. There they are, covering practically the whole of the country, free from nearly all the legal restrictions with which the RIBA is encumbered and yet, because of the developments within the profession, crying out for some really worthwhile task to do. They are not suspect in any way as being politically biased, or wanting to profit at the expense of the RIBA.

EDITOR: *Is not this rather a revolutionary idea?*

WEBB: Not at all. We must have a professional organization; it must already have a large membership (even if this membership is purely nominal) and, above all, it must have roots in the country. The professional association, with its widely scattered members must be based upon regional units. In any case the Allied Societies already seem to imagine themselves in the rôle of a professional association. The Devon and Cornwall Society of Architects, to take one example of which I know, entered in its report for last year three significant items: a request to the RIBA to make changes in scale of charges, supported the RIBA in the matter of price fixing by trade associations, and viewed with

growing concern the increasing infringement of the Architects' Registration Acts. If this is not the sort of work a professional association ought to be doing, I should be very surprised to learn what is.

EDITOR: *Agreed. Now what do you suggest?*

WEBB: I think we must consider the second of my two propositions. That the profession is a mixture of employer and employee. We must consider this to be a paramount division; superior to the distinction between private and public architecture.

The employers earn incomes from fees; assistants in private practice are paid, as a part of office expenses from these fees. Thus, in private practice, no fees, no salaries. Fees and salaries are part of the unity of the profession, they cannot be separated. Thus, the first step could be, the handing over of the Scale of Charges to the Allied Societies. I understand that in any case they were originally taken over from the Allied Societies, or rather one of them, which is now defunct.

Second, since fees relate to salaries, assistants in private practice will, *at last*, have some one with whom to negotiate—the Scale of Charges committee—representing principals in private practice (who would also be responsible for form of contract, etc. etc.).

EDITOR: *How would assistants in private practice be catered for?*

WEBB: They, of course, would form a sub-unit of the main committee representing all assistants. The break-up of the assistants committee is, of course, something which could be debated, but it does seem to me that as far as assistants are concerned those in very small offices, or in very small types of employment, e.g., teaching, would be immeasurably reinforced by the backing of the main committee. So, too, would the scale-of-charges committee since it also needs support in fixing charges. This is only a rough outline, but I am only concerned, at present, with the ideas behind the scheme.

EDITOR: *This method seems to cater fairly well for the assistant in private practice, but what do we do about the assistant in public practice?*

WEBB: The problem here is much more difficult, I agree. With whom and with what are public assistants (and commercial and others) going to negotiate? Undoubtedly this cannot be answered in advance; the history of the professions as a whole shows that so much has depended upon the sense, ability and purposefulness of the leaders of the profession concerned. Some of the methods which have been used, with varying degrees of success, to secure proper recognition by public and government authorities have been:

(a) Asking members to withdraw membership from all the "appropriate organizations." This means, of course, that the appropriate organization cannot then claim to represent the profession concerned. (b) Seeking as the ultimate goal recognition as the negotiating body; a half-way house seems to be separate representation within an existing organization which is recognized to be the negotiating body.

(c) The black-listing of posts not providing the approved salaries or conditions of service. (d) Sanctions against own members who, by accepting lowly paid or poor service conditions, lower the status of the profession.

There are many more; sometimes mass resignations have been put in by all members of an association, in order, for example, to achieve recognition, whether personally concerned or not. It is not for me to forecast or describe in detail what could or could not happen. What I do wish to emphasize is the need for unity between all members of the profession in matters of dispute. Otherwise, as I have said, the profession will always be outnumbered.

EDITOR: *Yes, we can now see what sort of action the profession could have taken with regard to the Chief Architect's Department at Coventry. There is, however, one further point which we would like to raise. The RIBA mentioned negotiations with the ABT. Does your scheme include any provision for ABT?*

WEBB: Yes, certainly, ABT can and must be fitted in. I have heard that there are only four to five hundred architect members of ABT. Most of ABT's membership is derived apparently from the lower grades of the profession and from the office and technical staff of the building industry. If we had a purely professional association we would still be left with all architectural draughtsmen, clerks of works and so on who would be unrepresented. It does seem to me to be a logical suggestion that ABT should represent this arm of the building industry. It could receive recognition from the association of professional architects (that is the Allied Societies under the scheme I have suggested) and would be regarded by them as the negotiating body for the unqualified working in private offices. ABT would have to secure its own recognition in public and government employment.

EDITOR: *This seems to have covered the ground. Do you think you could now sum up your proposals?*

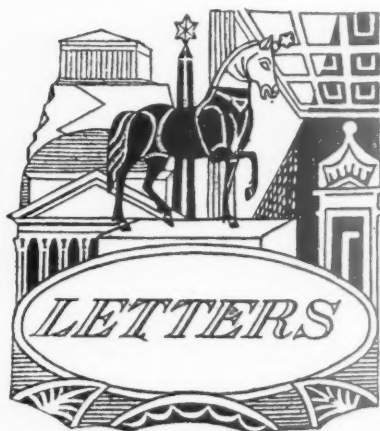
WEBB: Certainly. I would like to emphasize once again, however, that I am mainly concerned with the formulation of a working policy; not the detailing of a master plan. Some of my comments, particularly with respect to the legal aspects of this problem, need careful checking with experts.

(a) The professional association must embrace both employer and employee. (b) It must, therefore, be responsible for fees and charges as well as salaries. (c) If it is a truly professional organization, then it seems likely that there should be no fear about legal protection. A trade union seems, therefore, to be unnecessary. (d) That the association must have a nation-wide coverage with a fair amount of local autonomy and a firm hold on local events. (e) That the body or bodies most likely to fulfil this rôle would be the Allied Societies. (f) That the unqualified members of the profession should be encouraged to support ABT. (g) That the RIBA should consider its position not only with regard to salaries and fees alone, but to all those features of its work which, in the complete absence up to now of any really representative architectural organization, it has had to accept. To do this, (a) with a view to giving power and substance to the new organization, and (b) with

regard to the true character of its Charter. (h) That the new organization should work as a whole, either as a body, regionally, to achieve local successes and needs or nationally as a profession when the needs demand.

The whole problem does require a great amount of study but if the architectural profession could fashion an instrument in keeping with the great traditions of *professionalism*, yet able to fulfil the needs of today, it would be doing immeasurable service to both itself and to its sister professions. It is a task for which the profession will un-

doubtedly require the assistance of many experts and in particular from lawyers. At the same time it would be very wrong to consider that expert opinion alone will give the profession what it wants. Expert opinion is very often negative, it usually suggests what one cannot do rather than what one ought to do. It is the task of the architectural profession to do itself what it expects from its own clients: clearly to formulate its needs and the ends required. The experts may then be set the task of building an instrument fitted for the task in hand.



J. L. G. S., A.R.I.B.A.

25 members of the County
Architect's Dept., Aylesbury

Maurice Lee, A.R.I.B.A.

Gavin H. McConnell, etc.

O. Evans Palmer, A.R.I.B.A.

Statistician

R. G. Hollis, A.R.I.B.A.

Statistician

Sir Richard Coppock, General Secretary,
N.F.B.T.O.

A. I. Nellist, A.R.I.B.A.

G. P. Townsend

H. G. L. Spencely, F.R.I.B.A.

Unsatisfied Souls

SIR.—Your article appertaining to the question of an architect's union, is the first published that really finds the true reason for dissatisfaction amongst the qualified assistants.

The qualified assistants are not solely interested in the receipt of higher salaries. The majority of them became architects because they wished for an occupation that would provide them with a full and satisfying life: a job that could satisfy the soul as well as the body! Many of them felt a calling to become architects, not because they hoped to become wealthy thereby. There are several better ways of becoming prosperous than to study for five years and then live on an architect's salary.

As you state in your JOURNAL, the question

is purely that of status. Why does not the RIBA take some action to persuade its own members, who are principals of private firms or government departments, that their qualified assistants are fellow architects, and human beings also? So many architects find themselves within these "pyramids of power," and do not receive the satisfaction from their work that they should do. Many of them never have that feeling of contact with the client for whom they are designing the building; they have no idea of the kind of person he is.

Some may be even more unfortunate, if they happen to work in a place where a "site architect" is employed; they do not even have the pleasure of watching their design take shape. If there were a machine that could produce competent drawings, many principals would certainly invest in one!

No, they do not want more money, life is much too short to worry about that—but they would like to live a full and enjoyable one, through the profession of their choice.

J.L.G.S.



Did our Guest Editor's "Office Building" story (January 22 and February 3) give a fair picture of client, architect, quantity surveyor and builder? Some readers do not think so. Others say they have met all these characters. A selection of letters about the Guest Editor's articles appear on page 297.

The Trade Union : Three Suggestions

SIR.—The letters from "48 London Architects" and "34 Derby Architects" (A.J.: January 27) dealt in detail with the points raised in the RIBA Council's letter to its members. These letters express the need so keenly felt by salaried architects for a negotiating body. It seems to us that the institute has ignored the excellent factual report of its sub-committee, and drawn conclusions from its questionnaire which are, to say the least, debatable.

This question is not one which calls for the support of salaried architects only, but of the entire profession, as the maintenance of adequate standards for salaried architects is a vital safeguard for the standards of the profession as a whole.

In view of the uncompromising attitude of the RIBA the essential question remains, namely, what is to be done? We suggest:—

(1) That in the forthcoming RIBA elections, candidates be asked to make known their views on this matter.

(2) That resolutions be urged through allied societies, asking the institute to reconsider the matter and carry out the wishes of its members.

(3) We would support a national conference of salaried members of the profession to discuss the question of a formation of a

negotiating body, and ways and means of obtaining this result.

25 MEMBERS OF THE COUNTY
ARCHITECT'S DEPARTMENT.

Aylesbury.

"Unthinkable that RIBA should abandon members interests"

SIR.—It was with very mixed feelings that I learnt the decisions of the RIBA concerning the representation of the interests of salaried architects.

That the Royal Institute should not sponsor a new organization of a trade union nature is, I think, commendable. It is unfortunate that the term trade union was ever used. As Martyn Webb outlined in last week's JOURNAL, architecture is an occupation of long-standing professional status. Every registered architect subscribes to a strict code of professional behaviour. Having attained this status he does not need the legal protection of a trade union. To form one would be a retrograde step. It is hardly conceivable that the architectural profession would find it either profitable or morally defensible to resort to strike action where negotiation failed.

However, this does not mean that no organization is necessary to protect the interests of the salaried architect. In recommending the joining of an existing organization appropriate to their particular field of employment the RIBA is surely side-stepping its responsibilities in a way which has brought disillusionment to many of its members. Within all such existing organizations of recognized strength architects comprise a very small minority and they have no power to negotiate in their own interests as architects. If we follow this recommendation we shall find that the salaries of architects are being fixed by organizations which know very little of the architect's functions, responsibilities and worth. Very soon he, and with him the RIBA, will begin to lose the status which they still hold.

The only reasonable solution is for a central organization to be created within the RIBA to make a detailed study of the whole subject of responsibility at various levels in both private and public offices. From here, and only here, is it possible to study the problems of establishments and finally of salary scales. With the backing of the entire membership of the RIBA this organization would have the power to black-list if necessary any office, public or private, whose conditions of service ran counter to the interests of the profession.

Thus the RIBA would be rendering to the salaried architect an equivalent service to that which it already renders to the self-employed architect by framing and maintaining the scale of charges. It is quite unthinkable that the RIBA should abandon the interests of the majority of the members who form it to a handful of mixed trade unions.

Welwyn.

MAURICE LEE.

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Please Join the Snowball

SIR.—We, the undersigned, who have followed with interest and sympathy, the numerous letters published in the JOURNAL, on the subject of an Architects' Union, and who—like the majority of your correspondents—have been disturbed by the attitude adopted by the RIBA to the will of its members, wish to support especially "One London Architect" in his letter (AJ February 17) particularly in his penultimate paragraph calling for the voice of the profession to be raised in the architectural Press.

We hope, therefore, that our signatures will form the core of a gathering snowball, and that all those who feel their wishes as expressed in "the questionnaire" have not been recognized, will join by showing their disapproval in the columns of the architectural Press.

GAVIN H. MCCONNELL, J. M. BERESFORD, P. G. FISHER, B. M. DOWALL, T. A. B. DEMPSTER, R. WALKER, IAN W. STEWART, S. RUTHERFORD, G. R. MUNRO, H. W. R. ALLAN.

Fifeshire.

Why Not Kill the Dead ?

SIR.—You wrote recently (AJ: February 17) of the urgency of improving the status of our profession and you suggested the value of the architect as an individual.

There is one positive step which either ARCUK or the RIBA could take now which is to forbid the continuation of any practice save only in the names of principal or partners living and active.

There are too many "architects" whom the client will never meet unless he is prepared to take that journey from which there is, as yet, no return.

O. EVANS PALMER.

London.

A Way to Raise Architects' Salaries

SIR.—Is it really necessary that the RIBA should be a negotiating body for salaried members or that a trade union is required?

It seems remarkable that, on a market which, today, is experiencing a boom and there is a greater demand for assistant architects than there is a supply, the salaries do not enhance themselves on this basis of economics without any support of a negotiating body.

The two main classes of employer are the practising architects and the local authorities. Competition for the services of the available labour between these two classes would materially assist in securing better salaries and, with them, an enhanced status.

If you are sincere, therefore, in your previous comments on salaries and status you could do a great deal for the profession if you were to:—

(a) Publish the complete scale of local government A.P.T. salaries and the minimum qualifications required for commencement on the scales.

(b) Recommend to all assistant architects employed by private architects that they should immediately seek from their employers the adoption of these scales in relation to the minimum qualifications.

(c) Refuse to publish any advertisements which require assistants at a less salary than the A.P.T. scales.

In due course the National Joint Council would have to raise its salary levels in order to encourage more architects into local government and this would ultimately do good for the whole profession both in salaries and status.

STATISTICIAN.

Derby.

[Statistician's first point has been answered on page 296. We agree with the implication in his second point that salaries of assistant architects in private and public

offices should be comparable, but until further study of conditions has taken place so that true comparisons can be made, a recommendation on the lines he suggests would hardly be worthwhile. On the third point, refusing to publish advertisements in the AJ would only mean that they would be published elsewhere, and if the labour market was suitable, they would still be answered by assistants wanting a job. The issue is more fundamental than Statistician would appear to think.—Ed.]

Isn't Life Horrible ?

SIR.—Your report in the JOURNAL (February 10) of the criticisms made by Mr. Raymond Erith must, I feel, conceal a generous heart, and for that, I would forgive him anything. However, the number of his platitudes is such that the purpose of what he said is not discernible, perhaps no more discernible than that purpose which the students concerned sought in the work that he criticizes.

The absence of a sense of purpose with its accompanying frustration, and stagnation of ideas, is typical of life (or what passes for it) today, and may be illustrated by the way the most "modern" accomplishments lag so far behind our ideas.

Ideas today are two-a-penny with no buyers at that; the atmosphere is pregnant with them, and most of them still-born, mocking and tantalizing, so that the eager and generous fervour, which at first motivates us all, turns sour and our aspirations are as dust in our mouths.

It is because of this that we have become ungenerous and quarrelsome among ourselves, and to bolster our sense of inadequacy, we assume a dogmatic and pedantic air and try to evolve empirical laws for a pleasant pastime, which was intended to express the whim and fancy of those for whom we volunteer to act.

Ideas are the unalterable and essential expression of the unceasing processes of individual growth, when growth ceases so do ideas. There is no logic or purpose in growing life, nor in the various expressions of it, it is just to be, or not to be, and to be, must be expressed or die.

It is symptomatic of life today that activated by needs and sensations, not yet comprehended, and knowing that life cannot continue indefinitely without such comprehension, we maintain a mode of living that does not easily permit of such comprehension.

Bedevelled as we are by anachronisms on all sides, bogged down by archaic precepts, and traditional pleasantries and whimsies that have become law, small wonder that strong men grow silent and the less imaginative blench at the enormity of the rapidly growing "backlog" of achievement, which has now by neglect become grim necessity, a burden to life instead of a pleasure.

R. G. HOLLIS.

London.

So There !

SIR.—Your correspondent "Gremlin" appears to think that statisticians at BRS and elsewhere should be placed end to end.

Surely one of the major elements of the work carried out at BRS is to so organize knowledge about the performance of buildings that it is possible for architects to place all the gremlins end to end and run a protractor over them.

STATISTICIAN.

Herts.

Must Craftsmen and Architects go to the Dogs ?

SIR.—I am sorry ASTRAGAL thinks that "building has now reached a stage at which the craftsman is less necessary" (A.J.: Feb-

ruary 3). It may be, as ASTRAGAL says, that there are poor craftsmen from the point of view of both knowledge and execution of work, but the fact is, however, that good work still demands proper training. One would have thought that an architects' journal would be the last to deride craftsmanship.

I imagine that quite a long period of training is required to qualify as an architect; but if there are to be no more craftsmen what will architects in future concern themselves with? Dog kennels?

RICHARD COPPOCK.

London.

"Don't Tweed on the Gwass"

SIR.—Townscape design as outlined by H. F. Clark (AJ: February 10) seems to have interesting possibilities and possesses a pleasing intimacy which is, alas, not usually achieved in municipal work.

I would be interested to learn, however, whether there is any known means of preserving such pleasant features from complete destruction, not by the small minority of vandals so glibly referred to, but by almost the entire child population of the neighbourhood.

It is very interesting to read, in theory, of demountable landscape, but disconcerting, in fact, to find that the landscape is demounted suddenly and violently overnight. In areas of high density, bye-law housing of the older type it often seems virtually impossible to preserve a young and struggling tree. Even on new and more open estates the trees are inclined to vanish shortly before November the Fifth, leaving nothing but a splintered stump.

Play areas are not the answer, for the joys of a playground are nothing compared to the joys of breaking down a tree.

It is sometimes argued that in a generation or two people will learn again to appreciate and value such things, but local authorities are understandably reluctant to continue paying for new trees and planting for an indeterminate number of generations to come.

If any reader can offer an effective method of protection, other than a high electrified wire fence, he will earn gratitude in many places.

A. I. NELLIST.

Taunton.

A Correction

SIR.—I am very appreciative of your references to the architect-designed private housing with which I am associated. There was, however, a mis-statement in your foreword in your New Year's issue, January 20, which I think should be corrected.

I am not acting as building contractor for these projects, the flats referred to having been erected by Messrs. Wates, Ltd., of 1258, London Road, Norbury, S.W.16, under a negotiated contract. I would like to record my appreciation of Messrs. Wates' helpful co-operation with us in carrying out these projects.

In the case of the small houses also mentioned, these are being erected by local builders under contract.

G. P. TOWNSEND.

Surrey.

An Appeal

SIR.—A recent sight of some ABS case histories led me to count the subscribers named in its annual report, and to compare their number with that of architects listed in the register; in round figures the respective totals were 4,000 and 18,000.

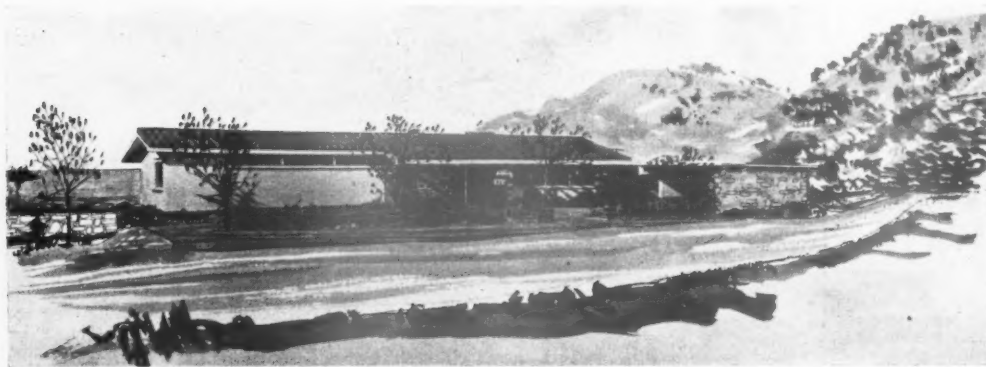
There may be among the 14,000 some who would feel inclined, whenever they got a new commission, to give a present to the ABS, and others who would do the same

(Continued on page 295)

PROPOSED HOUSE AT SAN FELIU DE GUIXOLS

This proposed house has been designed by Michael Lyell for an English client, who requires a summer holiday residence at San Feliu de Guixols, Costa Brava, Spain. The design of the house was left to the architect, except that the client required a pitched roof with Spanish tiles. As the house will be occupied only in summer months,

there will be no central heating and all windows will have hardwood rolling shutters outside so that the house may be completely shut up for several months. The site is on a rugged, rocky peninsular, located about half a mile south of the town of San Feliu. The site faces almost due west and has a magnificent and extensive view down the coast towards Tossa. The ground extends right down to sea level, which is 75 ft. below the narrow flat area on which the house will stand. The cliff falls away steeply to the sea, as can be seen in the view from the north-west above, and the precipice at the corner of the dining terrace is only about 10 ft. from the house. The site contains many cacti and there are a few existing cork trees, which have been considered in the siting of the house. In the sketch below, the house is seen from the south-east



across the approach road. On the opposite page are two photographs of the model: top, a plan view of the house roof and bottom, a view from the north. A single-storey house was agreed from the start, so that the building would break the existing rugged skyline as little as possible and become part of the landscape. The client required that all the main rooms, living and dining rooms, study, main and guest bedrooms and bathroom should face towards the sea and view. This requirement resulted in a long narrow plan, but the main elevation will be broken up by patios and terraces. On the west side, the roof will overhang about 6 ft. to protect the living rooms and bedrooms from the sun, and there will be a system of adjustable glass louvres, which, when open, will allow air to pass through the house at ceiling level. The

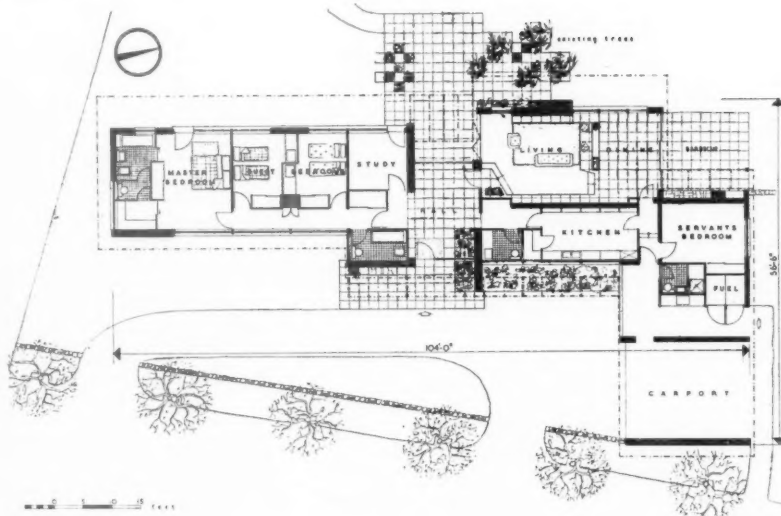
general construction will be of timber trusses at approximately 9 ft. centres, supported on hardwood columns or load-bearing walls. The whole plan is based on a grid of one metre in both directions. The walls will be

COS

Ground

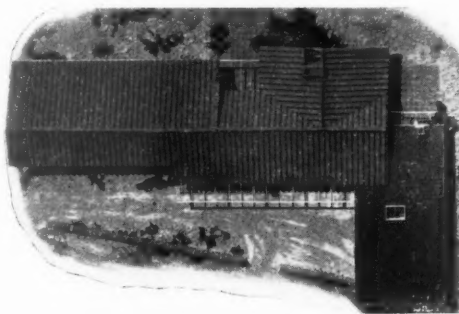
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COSTA BRAVA, SPAIN



Ground floor plan

built of local stone, quarried in the adjacent hills, or of Spanish bricks, rendered white externally and plastered internally. The roof will be supported by joists spanning between the trusses. Cork, processed at Palamos, 7 miles away, is to be used for insulation. Floor finishes will be parquet or terrazzo tiles on a concrete sub-floor and ceilings of polished boarding in the entrance hall and living room; elsewhere they will be plastered. Exposed areas of trusses are to be covered with polished vertical boarding, as are small areas of the external walls. Internal solid partitions will be plastered. Except for the external brick areas, which will be rendered, most of the materials will be left in their natural state. The local stone is a mixture of light buff and red-brown in colour. The hard wood columns and vertical boarding will be polished, but the window and door frames, fascia board and open-joist construction over patios will be painted white. The flagstones on the terrace will blend with the colour of the natural rock outcrops of the site. All furniture throughout the house is to be specially designed and bedrooms will contain built-in wardrobes, dressing tables, and wash basins. Considerable thought is being given to the lighting installations to give interesting effects at night. The area of the house is approximately 2,500 sq. ft., excluding car-port.



Letters—continued from p. 293

whenever their salary was raised. Couldn't we spare ten shillings or a pound on every such lucky day? It would mean a lot to our less lucky contemporaries, and would lighten the work of the good people who manage the ABS.

This work is done on behalf of the whole profession, and should therefore be supported by all. Let us all act so that in next year's ABS report the wide difference which gave rise to these thoughts will have disappeared.

H. G. C. SPENCELY.

London.



NALGO

Revised Scales of Salaries

The following revised scales of salaries for architectural assistants in local authorities were decided upon at a meeting of the National Joint Council for Local Authorities' Administrative, Professional, Technical & Clinical Services, held on January 19, 1955. The former scale for the grades referred to below were: Grade I, £490-£535, Grade II, £520-£565, Grade IV, £580-£625. It should be noted the new special scale of £650-£775 for assistants who have passed their finals does not require that the architects be registered. Theoretical training can be counted as practical experience. Although the increases in salaries are to be commended, it is difficult to see how much benefit can be gained until some control can be obtained over the establishment—that is, the number and grades of salaried staff—in local authority offices.

Architectural Assistants

(a) Posts occupied by probationers of RIBA, articled pupils, learners, beginners, trainees.

Grade: General Division or Higher General Division, as appropriate.

(b) Posts occupied by Assistants who are required to have attended a full-time course of Architecture and to have passed the RIBA intermediate examination or its equivalent at one of the recognized Schools of Architecture, but to have had less than one year's subsequent experience in an architectural office.

APT Grade I (£500-£580).

(c) (i) Posts occupied by Assistants who are required to have attended a full-time course of Architecture and having passed the RIBA intermediate examination, or its equivalent at one of the recognised Schools of Architecture, to have subsequently worked

for a minimum period of one year in an architectural office,

(ii) Posts occupied by Assistants who having served or are serving their articles of pupillage with an architect, or who having worked in an architectural office for a minimum period of three years, are required to have passed the RIBA intermediate examination or its equivalent at one of the recognized Schools of Architecture.

APT Grade II (£560-£640).

Note: The foregoing group (c) will absorb the officers referred to in the previous decision (sub-paragraph (d)) in the National Scheme and who were graded on the former APT IV. These are the Assistants with the intermediate RIBA examination who have worked in an architectural office for a period of two years.

(d) Posts occupied by Assistants who are required to have passed Parts I and II of the RIBA final or special final examination or their equivalent at one of the recognized Schools of Architecture and who have had at least five years' experience (including the period spent on theoretical training).

Special scale (£650 × 25—£775).

(e) The salary scale indicated in (d) above is intended to be related to posts the duties of which are appropriate for performance by qualified architectural assistants in the early stages of their professional careers. The grading of posts which carry duties of a more responsible character is left to employing authorities.

The assimilation of existing staffs is to be as indicated below:—

Post (a)—Salary to be in accordance with the General Division or Higher General Division salary scales as appropriate.

Salary as from
1st January, 1955

Salary at 1st April, 1955, on
amended scale (subject to the
provisions of paragraph
23 (b) of the Scheme of
Conditions of Service)

Post (b)		
£540		£560
560		580
580		580
*Post (c) (i) and (ii)		
£560		£580
580		600
600		620
620		640
640		640

* Including officers referred to in sub-paragraph (d) of previous scheme on Former A.P.T. Grade IV.

Post (d)		
£625		£650
650		675
675		700

BRONOWSKI AT RIBA

"Have Architects Earned the Right to be Consulted"

An audience at the RIBA on Tuesday of this week heard Dr. J. Bronowski talk about "Architecture as a Science and Architecture as an Art." We publish here a short extract from the talk, which will be published in full in this month's *RIBA Journal*. (ASTRAGAL comments on page 289.)

"Wren and Hooke were not minor figures; in the age of greatest scientific speculation before our own, their minds marched with the leaders. Hooke's neglected reputation in science is now reviving, but he remains unlucky in his architectural work because hardly any of it has survived; or if it has, like the Monument (which he built) it does not go by his name. These two springing minds re-ha't London; was their architecture original because they were scientists, or in spite of it?"

"This is the type of question which now troubles all serious artists. The easy answer of course is to give science a sort of kitchen-maid's place in architecture; to let her supply the materials and techniques, and to begin the creative work only when the skeleton has been fixed by some hand-book engineer armed with the codes of practice. Gilbert Scott put this view baldly when he said that 'architecture is decoration of construction,' and his own work is a noisy witness to the consequences of this definition of architecture as schizophrenia. But the view (and its disasters) has not died with Gilbert Scott.

"Every building is an invention, no less and no more. It begins with a problem, which has nothing to do with the look, the construction or the lay-out of the building, but asks something more searching: how should the activity which the building is to house be carried out? If the architect is not asked to help think this out, he will build what Britain is now full of: office blocks which are (I know no exception) meaningless rows of holes linked by tunnels; power stations and town halls which are indistinguishable; and vistas of semi-detached houses which (though they may be poured in concrete or assembled from panels) differ from their Victorian models only because it is now too dear to dig out a basement. Ride the lifts in Broadcasting House, go to bed in any hospital, drop into a prefabricated post-war villa for tea, and ask yourself whether the architect was consulted on how the work there can be made to flow.

"He was not; but then, has he earned the right to be consulted? This country is already building the world's first atomic power stations, and the designs which have been published show that they put many exciting problems. Alas, the designs also show that once again they have been solved in the conventions of Battersea and Western Avenue. But what architect today knows enough science to be able to think himself into the new processes, and invent an organic plan? Wren and Hooke would not have muffed this chance.

"Or take a simpler contemporary issue: the housing estate. The main problem in house building in this country is the mass production of sub-units. What architect has studied this at first hand where it has been solved, in the component and sub-assembly factories of the Detroit automobile industry? What young architect has fitted himself by research to tackle the central heating of the small house? or that other weak unit, the water and waste system?

"The health, yes, the beauty, of architecture hangs on seeing your vocation in this way. Architecture is not decoration, and it is not a jigsaw of technical tricks. A building is not a beautiful shell, and neither is it a functional shed. A building is the coherent solution of a problem in living. In that profound sense, a building is an invention, and all architecture is invention. Some of the most original architecture today is surely in Italian dams, in Swiss bridges, and in oddities like the Dome of Discovery. Wren and Hooke would have delighted in these problems; and like them, the architect must fit himself for solving all parts of the work in his own person. His invention is only free when it rises out of his own scientific as strongly as out of his artistic imagination.

"We all hanker for beauty expressed as freedom of choice, because freedom (this is the crux of my aesthetic) is an emotional need as real as the physical need for rest, comfort and gadgets. We all fear and feel the constriction of a uniform society and a threatening world. This tension is as old as man, and gives his thought its spring, its creative invention, in art and science together.

"But now our generation has begun to make a dangerous distinction; it has separated these two modes of original thought, and identified art with freedom and science with its inevitable limitations. This identification

is false, as I have shown in architecture. It is unhealthy for the artist, because it makes him narrow and the public taste narrow—but, alas, a century apart. It is bad for the scientist, whom it makes dictatorial, irresponsible and philistine. And it is a disaster for mankind."

BARBICAN SITE

Houses as well as Offices?

Although the Corporation of London has rejected the New Barbican scheme, it is thinking of providing housing on the Barbican site.

This was announced last week by the Corporation planning officer, H. A. Mealand, who said that even if the bombed areas of the city were rebuilt within current limitations, those areas would ultimately have at least as much floor space as they had before the war.

Work on the new viaduct road route between Aldersgate and Moorgate, said Mr. Mealand, might begin before the end of the year. Car parks would be provided between the arches of the viaduct.

GERMAN ARCHITECTURE

RIBA Exhibition

An exhibition of German architecture which opened at the RIBA headquarters last Thursday was the subject of a BBC Third Programme talk by Richard Sheppard on Saturday.

The exhibition and Mr. Sheppard's talk (which will be repeated tomorrow night, at 11.10 p.m.) are discussed by ASTRAGAL on page 285.

EXHIBITION

Oil-Burning Exhibition

On Wednesday, February 16, Lord Mottistone opened a display of domestic oil-burning equipment at Messrs. Charrington's showrooms, 11, Henrietta Place, W.1. The establishment of satisfactory oil delivery services has made this fuel worth consideration by the moderately well-to-do. The motive for using it is, of course, cleanliness and saving of labour. The average cost of conversion to oil for a small house (i.e., for an installation of up to 80,000 BTUs per hour) is given at £100, while for a typical large country house installation with a 650-gal. storage tank and a fully automatic pressure jet burner the conversion cost is given at £250. To this must be added slightly increased running costs.

This exhibition, which is a useful one for architects, is open until the end of March, from 9 a.m. to 5 p.m. on weekdays, and from 9 a.m. to 12 noon on Saturdays.

DIARY

Questions of Planning Administration. Talk by Ruth Glass, Lecturer at University College, London, at the Planning Forum, 28, King Street, W.C.2. 6.30 p.m.

MARCH 14

A Plan for Bethnal Green. By the students of the Department of Town Planning, University College, London. Chairman: Professor Sir William Holford. At the HC, 13, Suffolk Street, S.W.1. 6 p.m.

MARCH 15

English Church Architecture. Alfred Bosson Lecture by A. B. Knapp-Fisher. Sir Alfred Bosson will preside. At the RSA, 6, John Adam Street, W.C.2. 2.30 p.m.

MARCH 16



What did the building cost? And how much was spent on what? We—and our Guest Editors (Costs)—think that those questions should be the architect-reader's first concern when he sees a building illustrated, for only by making a comparative study of cost-breakdowns can he be in a position to control costs. That is why we have started to publish cost-breakdowns as part of our new method of describing buildings. And that is why we have asked our Guest Editors not only to examine every building-cost analysis published and to comment on it, but also—where necessary—to get further information from architects and quantity surveyors. This week the architects for the flats in Bishop's Bridge Road (see page 299) have not given us the cost details asked for, although they hope to make them available later on. Instead, we publish again (below) the excellent cost analysis for Ravenscroft School, Herts. (fully described last week), which has now been studied by our Guest Editors, who consider it to be a good basis for comparison. The cost, they say, has been well distributed among the building's elements, and the building provides good value for money. But they qualify their comments with a note of caution: the analysis, they point out, is based on the tender figure and may therefore be altered when the final account is settled. We put this point to the architects, who said it was unlikely that the figures for distribution of cost would be materially changed. There would, they said, be small adjustments (e.g., an increase—about 25 to 30 per cent.—on ironmongery, and a small increase on drainage) but these increases would come out of the sum given under "contingencies," and the changes in element costs would be very small. Next week the Guest Editors will comment on a cost analysis of the new Technical College at Poole, Dorset. Their earlier comments on the cost of building have already caused a lot of readers to write appreciative or critical letters, and we publish a selection from these on this and the following page.

COST ANALYSIS OF RAVENSCROFT SCHOOL, BARNET, HERTS.

Note: Gross cost = net cost plus external works.		cost per sq. ft. in pence	
External works include: a. Drainage works beyond m.h.'s adjacent to building. b. Road paths and fencing. c. Site layout, planting. d. Caretaker's house. e. Playing fields including additional cost of foundations due to bad site and abnormal cost of site works caused by water-logged clay site.		ELEMENT	
No. of form entries	4	Policies and insurance	12.02
No. of places	680	Contingencies	18.53
Floor area (sq. ft.)	50,920	Work below ground floor level	47.01
No. of sq. ft. per place	74.9	External walls and facings	48.69
Net cost	£166,170	Internal load bearing walls	23.04
Net cost per place	£244.5	Internal partitions	
External works	£22,648	Frame	114.65
Gross cost	£188,818	Upper floor contr. and staircase	26.25
Gross cost per place	£277.6	Roof	58.38
Tender date	Sept. 1952	Rooflights	7.48
		Floor finishes	51.46
		Ceiling	25.94
		Windows and doors (ext.)	59.64
		Doors (internal)	10.28
		w.c. doors and partitions	2.20
		Cloakroom fittings	3.20
		Wall finishes	26.02
		Built-in fittings	39.63
		Fittings	
		Ironmongery	4.60
		Plumbing (external)	9.32
		Plumbing (internal)	13.42
		Sanitary fittings	8.66
		Gas installation	4.59
		Electric installation	42.09
		Heating installation	71.17
		Ventilation	0.78
		Drainage	20.01
		Glazing	9.74
		Decorations	27.45
		Playgrounds	41.98
		Paved areas	

THE COST OF BUILDING:

WHAT READERS THINK

SIR,—Your fable concerning Mr. Basildon-Jones has shaken me badly. I have no doubt that there are building jobs which run to this pattern, architects like Basildon-Jones, quantity surveyors like Price and builders like Boxall.

I do not believe in Gross at all—such a degree of complacent indulgence must indicate either a recent stroke or imminent bankruptcy; still one may assume for the purposes of the story that Basildon-Jones has struck lucky and found the client of a lifetime—he certainly won't find such another. But when the Guest Editors describe Basildon-Jones, as "an up-to-date Architect in his late thirties, competent but not brilliant," I am completely incredulous. By any normal standard he is incompetent to the point of legal action, and what he is up-to-date in heaven only knows—perhaps his taste in wallpapers?

If I am right, their use of the word "competent" leads me seriously to doubt the judgment of your Guest Editors and thence the value of any of their conclusions. If I

am not right and Basildon-Jones does indeed represent the normal competent architect, then they may save their labours since, whatever their recommendations such an inefficient profession would be quite incapable of benefiting from them; better leave it to Mr. Boxall who at least has a dim idea of what he is doing.

The "Honeywood File" taught, and I imagine still teaches, succeeding generations of architects the pitfalls and errors of private practice because the mistakes made by old Spinlove (or whatever his name was) were just the kind of mistakes a reasonably competent young architect might make. The catastrophes of an architect like Basildon-Jones who in his late thirties "forgets" major requirements of his client are only illustrative of the habits of a congenial idiot. Or do X, Y, and Z, my competent friends in private practice (in their late thirties too) really behave like this? As I said, you've shaken me badly.

KENNETH J. CAMPBELL, A.R.I.B.A.

London.

SIR,—Allow me to congratulate you on your recent articles concerning cost analysis of building.

I find the situations depicted so true to life that they make entertaining reading, in fact I've met all the principal characters before in both private and public offices.

HAROLD WEBB, A.R.I.B.A.

Surrey.

SIR,—It was with considerable interest that I read your articles on the trials and tribulations of Basildon-Jones and those associated with him on "The Office Building." Articles like this undoubtedly make all of us reflect on the efficiency of the building industry and by building industry I mean everybody connected with building.

The general trouble which runs through the story is the lack of time. The client, quite naturally, wants to start as soon as possible, but it is at this stage that the architect must be firm and insist upon a realistic approach. Most of Basildon-Jones' troubles stem from the fact that he was unable to

think out all the factors before committing himself.

It is evident too, that all the professional advisers such as engineers, both structural and mechanical, and, of course, the quantity surveyors must be brought in at the very beginning. Advice on structural form should be taken at the design stage and the architect should be able to insist that general principles are discussed and that slide rules are kept out of the picture until later. A method of heating and the positioning of pipes is not a secondary consideration, but can effect the whole plan and the type and method must be resolved before the plan is submitted to the client.

The cost of materials and labour costs are probably better understood by the experienced architect than at any time in our history, but even so he will need expert advice from the quantity surveyor, since an apparently cheap material can often be costly to fix and the architect's knowledge of labour costs is limited.

The builder may not always be efficient, but he must have time to tender; he must understand the building he may have to erect and he must have a reasonable opportunity of getting the job. We all know the evils of unrestricted tendering which prevents that close interest at the estimating stage. I have mentioned that the main weakness is the pressure by the client to cut down on time in preparation and execution. It is quite true I think that extra time in preparation will reduce the time required to carry out the job and avoid additional costs and ill feeling. I would like to see it a matter of normal procedure that there is a breathing space of two or three months between the acceptance of a tender and the actual start on the site. If this were so the contractor would know that the job was his and he could then analyse his problems and work out the general phasing of the job. The architect could bring all his estimates up to date and make those minor adjustments between the Bills and the drawings which inevitably occur and so prevent many arguments at a later stage. The sub-contractors would know that their materials or services were required and they could co-operate with the main contractor in working out a realistic time table. We have all seen progress charts which look very pretty but are quite useless after a few weeks and I am sure that with this period of reflection the job as a whole would be finished just as quickly in the end and certainly with fewer headaches.

CHARLES PIKE, A.R.I.B.A.

London.

SIR,—In our opinion, the only way to reduce building costs is to create the right spirit on the job with the employees. Having created this spirit, it is essential that no alterations of any description occur in the work, as immediately you demolish a wall erected the previous week, or commence cutting holes that could easily have been left, the men on the site at once consider that the contract is proceeding in a disorganized manner, i.e., the foreman is no good, having made these mistakes and/or the contractor's supervisor. We know that in most cases this is not so; a mistake has been made by the architect in not providing the information to allow the job to proceed in the cheapest possible manner.

There are also many instances of work being left, waiting for purpose-made metal windows or stone surrounds which have not been dealt with correctly and efficiently by the architect. These arrive later and the openings are then completed at considerable expense to the contractor. In addition, this reduces the morale of the men on the site.

Another case of considerable expense is the question of sub-contractors. Before the war, sub-contractors were very efficient; they apparently had men on the shelf and could always obtain the right material immedi-

ately. Today the position is altogether different. In constructing a multi-storey building, it is quite usual for the main contractor to wait for the flooring contractor to appear on the site after having promised to commence seven days previously and then to immediately ask for some assistance in obtaining labour, materials, etc. It would seem, therefore, that in order to avoid these constant delays which occur with sub-contractors, it is essential that, wherever possible, the main contractor executes more work than he normally does with his own staff. If floors in a multi-storey building proceed at the right time to suit the bricklayers, it enables these men to be transferred to individual sections of the job with the utmost efficiency.

Furthermore, a sub-contractor will also duplicate the amount of work required for storage of materials and huts and will also, in some cases erect his own hoisting equipment; this can produce chaos on the site. Many sub-contractors' supervisors today are no more than normal carpenters or salesmen, and are not aware of their duty to the main contractor, which is that he must dovetail his work to suit all the other trades on the site and anything less than this undoubtedly increases the costs very considerably.

To summarize, therefore, the position is as follows:—

- Drawings indicating every item of cost to be provided by the architect, before the work commences.
- All major items of sub-contractors' work, such as *in situ* concrete and fixing of pre-cast concrete members, steel windows, plumbing, etc., must be done by main contractor, or alternatively, he must be allowed to control his own labour by placing his own orders with firms which he knows will give him the service he requires.
- Sub-contractors who have given the architect absolute satisfaction on pre-

vious contracts to be used only; no others to be considered.

We are quite sure that if the essentials mentioned above are followed, much cheaper costs will automatically be produced.

"PROVINCIAL BUILDER."

SIR,—I find in normal work—particularly housing, where we are able to compare relative plans and types of construction on a reasonable scale—that the method of presenting the bills of quantities and/or the method of tendering does not seem to encourage the introduction of economic design details.

In many cases a particular economy is not apparent in the bill of quantities, and although a minimum of three weeks is allowed for tendering, the contractor who visits our office to inspect plans and details, is the exception.

A curious tendering anomaly occurred recently as follows. Several contractors tendered on a bill of quantities which included alternative measurements for different floor finishes. The relative values of these alternatives bear no relation to the order of the tender figures for the whole contract, as you will see from the schedule enclosed, from which the actual names of contractors have been omitted.

Further, it is fairly common practice with some contractors to price the bill of quantities, adjust the final total in accordance with their personal estimates, subtract one total from the other, and a percentage representing the difference is applied to all rated items.

H. H. PORRITT, A.R.I.B.A.

Newcastle.

[The guest editors write: "We will discuss these interesting tender figures given by Mr. Porritt in a later article dealing with builders' costing methods. Meanwhile we shall be glad of similar information from readers."]

Below, the schedules referred to in Mr. Porritt's letter.

Contract No. 1. Comprising 13 three-bedroom houses, 18 two-bedroom houses, 15 two-bedroom flats, 3 one-bedroom flat. 49 houses in all, with External Site Works.

SCHEDULE OF TENDERS RECEIVED: JULY, 1954

	Basic tender	Time required, weeks	Variation if:— Ground floor in timber	Paved courts in Kullaphalts
1. Contractor I	£59,817	40	plus £78	plus £435
2. Contractor II	£63,815	50	plus £298	plus £77
3. Contractor III	£64,007	36	plus £370	plus 405
4. Contractor IV	£65,616	36	plus £60	plus £311
5. Contractor V	£66,487	52	plus £430	plus £490
6. Contractor VI	£67,620	40	plus £394	plus £516
7. Contractor VII	£69,137	52	plus £309	plus £391
8. Contractor VIII	£69,467	not stated	minus £530	plus £463

Contract No. 2: Comprising 21 three-bedroom houses, 30 two-bedroom houses. 51 houses in all, with external site works

SCHEDULE OF TENDERS RECEIVED: JULY, 1954

	Basic Tender	Time required, weeks	Variations for ground floors in timber
1. Contractor I	£63,315	40	plus £111
2. Contractor II	£63,997	51	plus £458
3. Contractor III	£64,020	36	plus £405
4. Contractor IV	£65,526	36	plus £116
5. Contractor V	£66,525	52	plus £486
6. Contractor VI	£67,970	40	plus £618
7. Contractor VII	£68,783	52	plus £358
8. Contractor VIII	£67,282	not stated	minus £515

SCHEDULE OF COMBINED TENDERS, FOR THE WHOLE 100 HOUSES, ON BASIC TENDERS, WITHOUT ALTERNATIVES

	Reduction offered	Total	Time in weeks
1. Contractor I	£625	£122,508	Concurrently
2. Contractor II	£250	£127,562	75 weeks
3. Contractor III	Nil	£128,027	Concurrently
4. Contractor IV	£1,000	£130,142	52 weeks
5. Contractor V	Nil	£133,012	Concurrently
6. Contractor VI	£343	£135,247	Concurrently
7. Contractor VII	£500	£137,419	Concurrently
8. Contractor VIII	Nil	£136,750	Concurrently

FLATS

for the BOROUGH OF PADDINGTON in BISHOP'S BRIDGE ROAD, LONDON, W.2
 designed by TECTON, DRAKE and LASDUN: ALEX REDHOUSE, chief assistant
 OVE ARUP and PARTNERS, consulting engineers: DONALD SMITH, SEYMOUR and ROOLEY,
 heating consultants: J. G. MOHRING, electrical consultant: CYRIL SWEETT, quantity surveyor

This is the second in a new series in which we are giving a more comprehensive description of important buildings. As we pointed out last week, when we published details of the Ravenscroft School at Barnet, Herts., we want to give readers a complete picture of what each building looks like, how it was built—down to the smallest detail—and how the money spent on it was shared out. Every time we publish a cost analysis it will be commented on by our Guest Editors (Costs) for 1955. Unfortunately the architects for this week's building scheme have not given us the costs information we asked for, although they hope to let us have it later on. When we receive it we shall publish it, together with the comments of our Guest Editors, whose remarks on the cost analysis of last week's building appear on page 297. Next week we shall again publish a cost analysis—this time for the new technical college at Poole, Dorset.

The design of the Hallfield Estate for the Borough of Paddington was begun early in 1947 by the firm of Tecton: Partners, Drake, Lasdun, Lubetkin and Skinner. On the dissolution of the firm in November, 1948, Drake and Lasdun were appointed architects for the development and execution of the scheme. Building was begun on the first of the 10-storey blocks in December, 1949, and all the blocks in the first contract, as well as two in the second contract, are now completed and occupied. The estate, which contains 656 flats and provides accommodation for 2,362 persons, is due to be completed in December.

A view across the north-east corner of the estate.



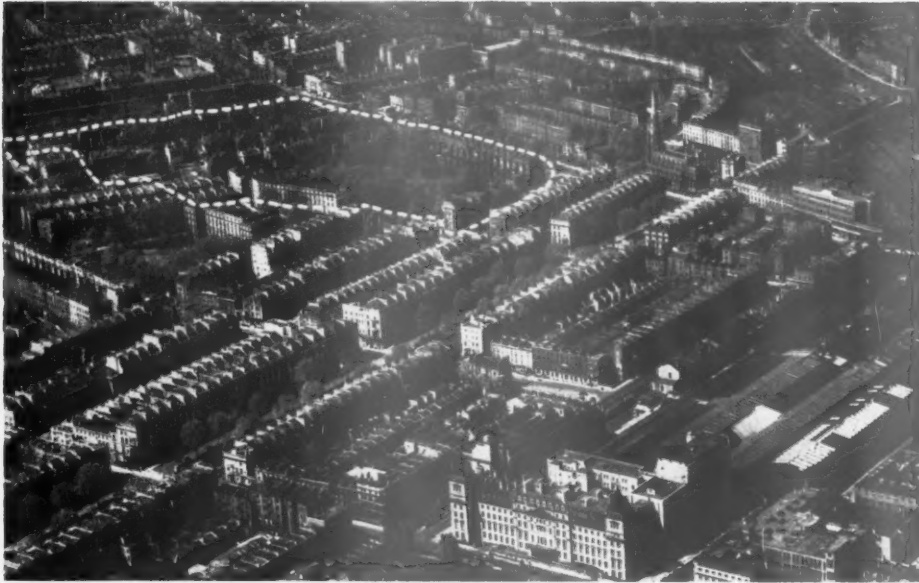
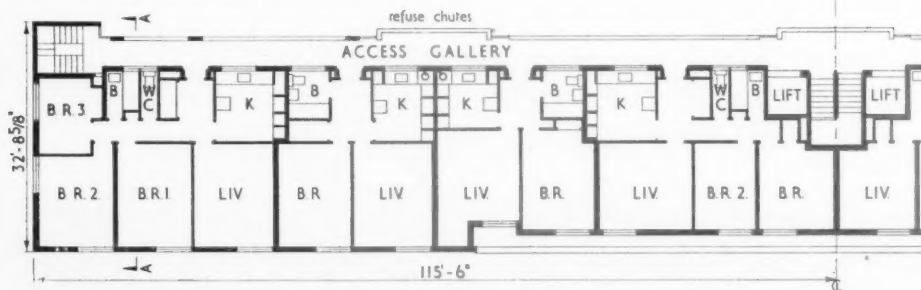
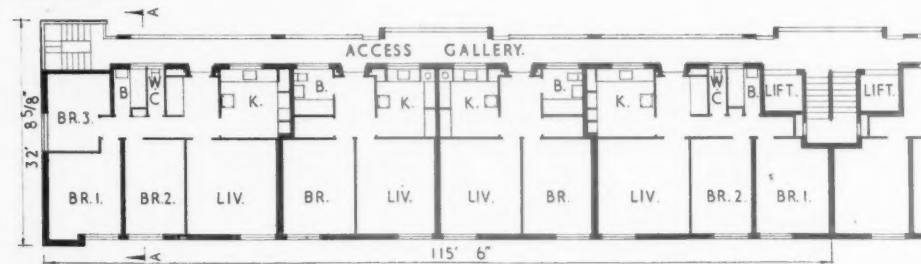


Photo by Aerofilms

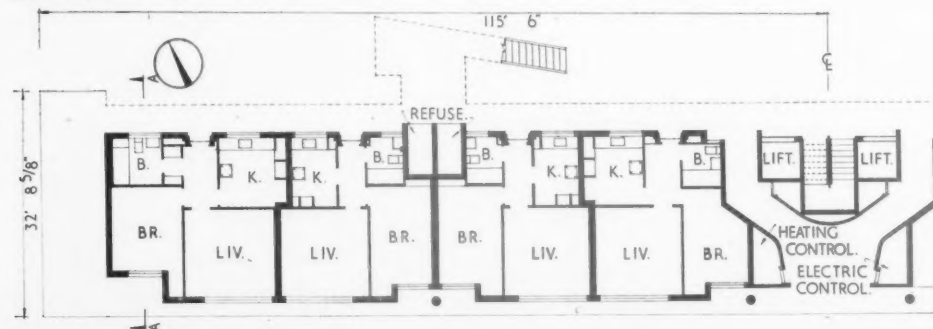
From this page to page 305 readers are taken on a photographic tour of the Hallfield Estate, starting at the north corner of the site, at the junction of Bishop's Bridge Road and Gloucester Terrace (see site plan on page 306) and finishing at the south corner, where flats in the second contract are still under construction.



Ninth floor plan

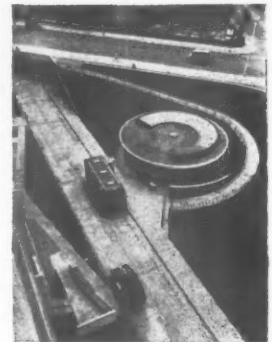


Typical upper floor plan

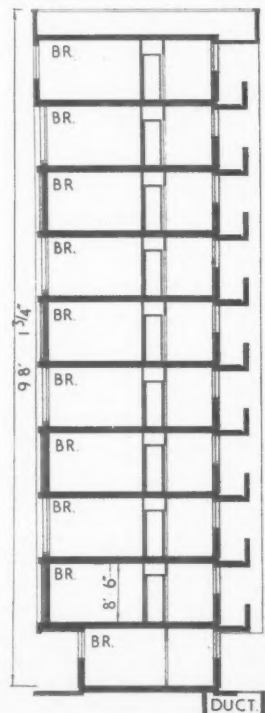


Ground floor plan of ten storey block [Scale: $\frac{3}{8}$ " = 1' 0"]

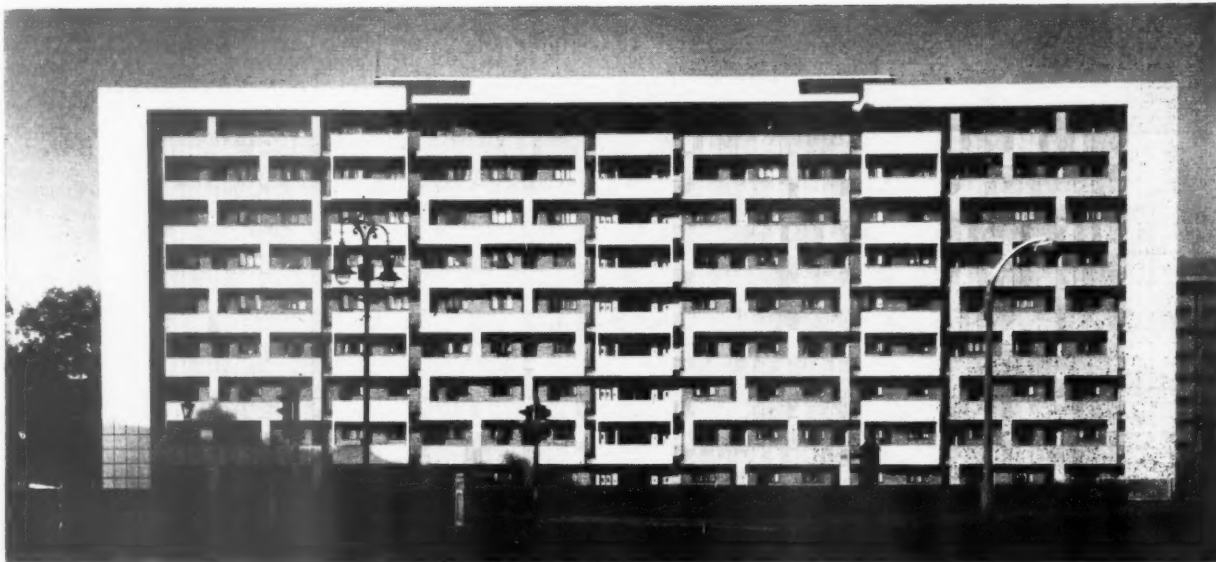
The Hallfield Estate site is shown by the dotted line in this aerial photograph of the Paddington district (on the left), which shows the railway station, bottom right. When this photograph was taken (looking approximately north-west), the site contained terraces of early Victorian, 4-storey property and two enclosed gardens, thought to be laid out by Loudon. Many fine trees, some over 50 ft. high, have been retained in the new development, as will be seen from the site plan on page 306 and some of the photographs.



The photograph above shows an entrance to the site—a semi-circular pedestrian ramp, which encircles the first of two communal laundries. Another is being built to the south-west of the site. The estate is built, as this photograph shows, on lower ground (about 12 ft.) than the surrounding roads.



Section A-A

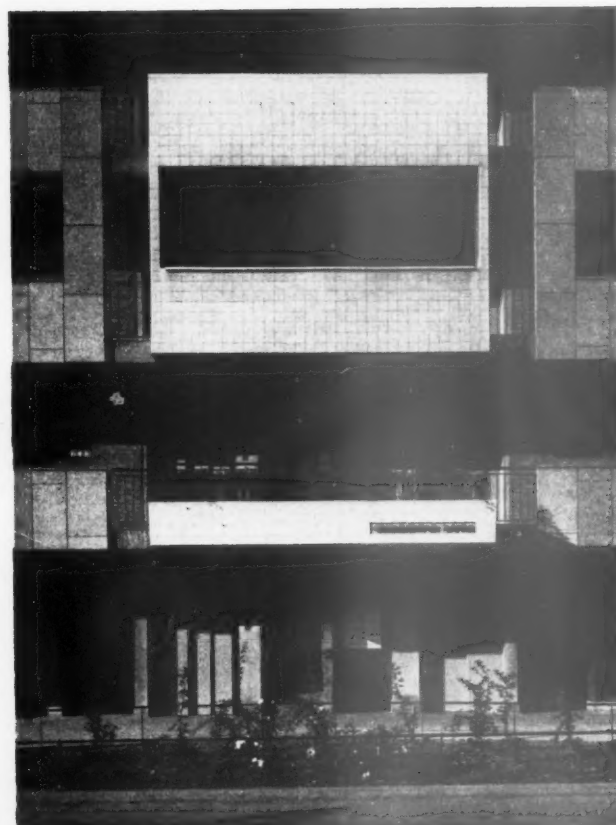
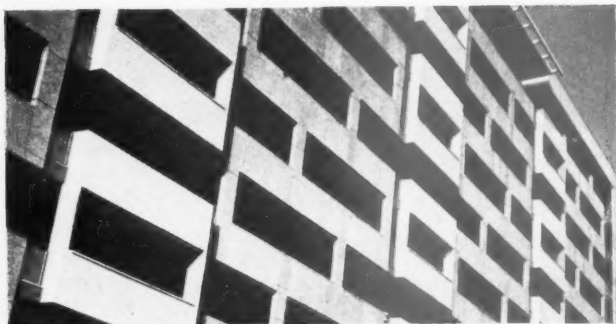


The architects' task was to develop the site at a density of 176 persons to the acre. To achieve this they have planned six 10-storey and eight 6-storey blocks. In the first contract, which has been completed, there are two similar 10-storey blocks (A1 on site plan on page 306) and four similar 6-storey blocks (B1 on site plan). Above is the north and access elevation of a typical 10-storey block as it appears from outside the site—that is from the junction of Bishop's Bridge Road and Gloucester Terrace.

FLATS AT PADDINGTON

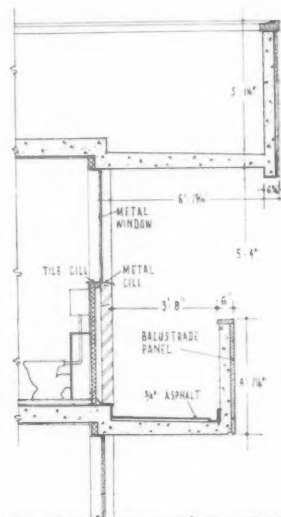
In the photograph below, this block is shown in perspective, together with a 6-storey block. This photograph shows clearly how the patterned screen, formed by the balustrading to the access galleries, appears to "float" within the cream-tiled surround. The 6-in. sq. tiles on the surround, as well as those on the gable walls, are divided by black lines into 3 ft. 0 $\frac{5}{8}$ -in. by 2 ft. 6 $\frac{1}{4}$ -in. panels. The balustrading, which is faced with pre-cast concrete slabs, acting as permanent shuttering, is broken three times on each gallery by "accents": these are points at which the gallery is widened. Behind the centre "accent" are lifts and a staircase. The other two on each gallery mask the position at which residents have access round refuse hoppers. The "accent" is emphasised by a facing of tiles similar to those used on the surround. The railings on each side of each "accent" are black, and as they are hardly visible from a distance, they contribute to the effect of a "floating" screen.





FLATS AT PADDINGTON

The photographs on this page show a closer study of the access-balcony facade of the 10-storey block seen on the previous page. This facade faces slightly east of north. The picture top left shows clearly how the "accents" already referred to are produced by the widening of access galleries at three positions on each gallery. The precast concrete cladding seen left and right in the centre photograph has a variegated grey and white cornish granite exposed aggregate. Rear walls of balconies are faced with dun coloured concrete bricks. Ground-floor tenants in the 10-storey blocks use refuse chambers on the first floor; access to these is by staircases (see bottom left) at each end on the north side. The staircases also lead to fire escape stairs at each end of the block. Each staircase gives the impression from a distance and at first glance, that it is cantilevered from the first-floor slab, but, as can be seen in this picture, the half-landing is supported on a rectangular pier of Staffordshire blue bricks.



Section of top access balcony

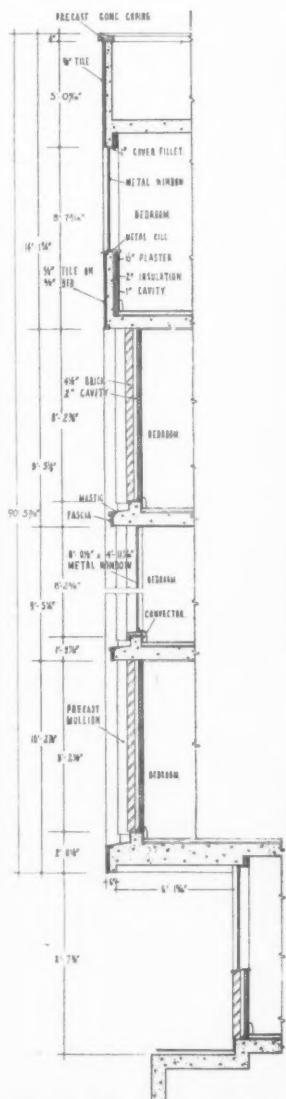
Below is a typical kitchen containing equipment—all fittings are of wood—which is lavish by present-day housing standards. It will not be so lavish in flats in the second contract. Kitchens all have white ceilings, pale blue walls, white fittings and blue-grey window frames. The floors are finished with $\frac{1}{2}$ -in. pitchmastic.



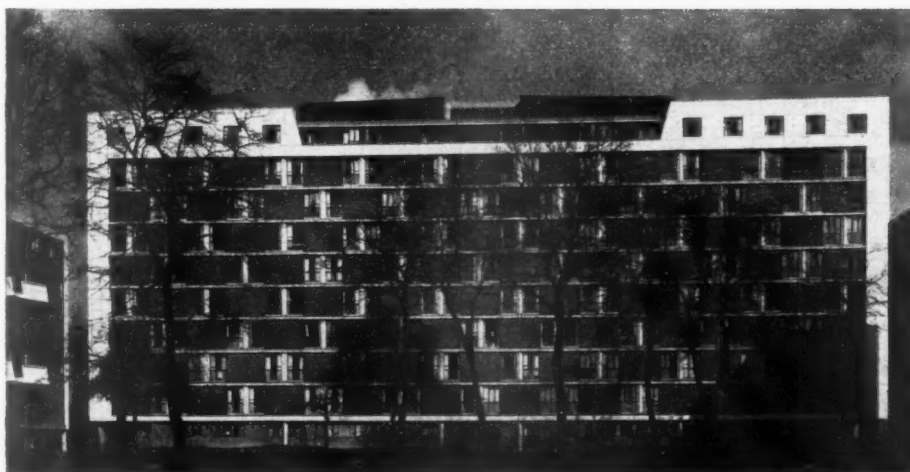
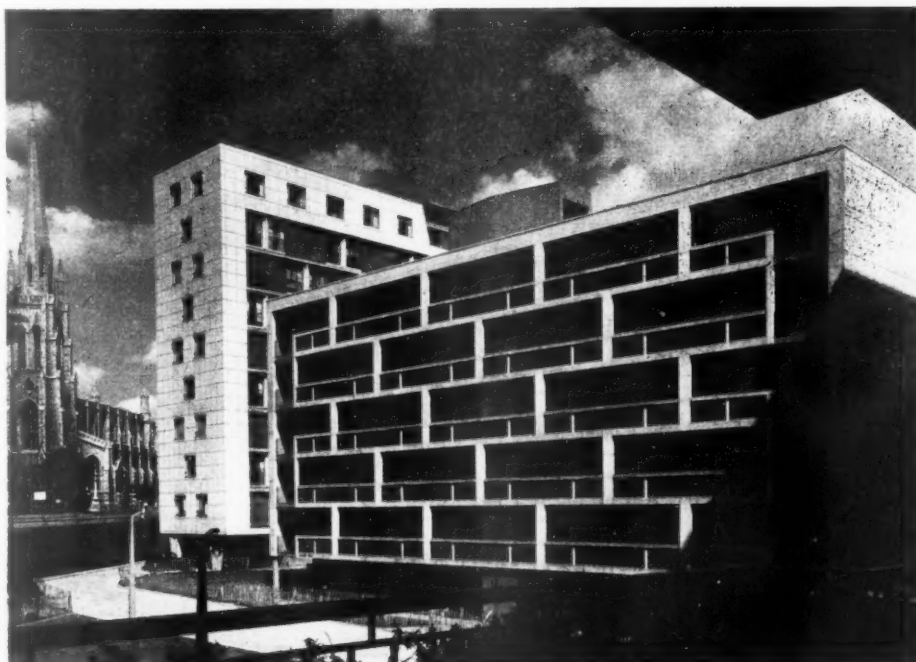
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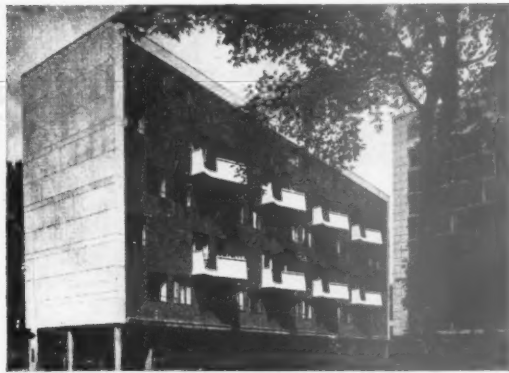
Section
wall 10
[Scale :

At this stage in our photographic journey we turn from the north facade of the 10-storey block we have been looking at, round the west end, passing one of the 6-storey blocks (see centre photograph) in order to study the south facade. On the way we pass one of the fluted concrete columns (right), which support the end walls of 10-storey blocks. The pattern on these columns is obtained by fixing battens on the interior face of the shuttering. These columns and the circular columns along the ground floor on the living-room facades indicate the positions of some of the load-bearing cross walls. The bottom photograph shows this south facade of the block, flanked by two 6-storey blocks. The floor-to-ceiling windows to living rooms and bedrooms are coupled by intermediary mullions, which are staggered so that adjacent windows belong to the same dwellings only on alternate floors. The mullions act as protective cappings to the ends of structural cross-walls or non-structural partitions, on alternate floors. Thus, this facade, which shows neither horizontal nor vertical emphasis, expresses neither the dwelling units nor the structure. Fenestration has been subdued for the sake of visual order. Panels of dun coloured concrete bricks and blue Staffordshire engineering bricks are used on alternate floors. The tiled surround is cut away at ninth floor level and the centre flats on this floor are set back. The only differences to be found in the appearance of the 10-storey blocks is that on the block shown here and on one to be built in the second contract, there is an enlarged roof superstructure. This accommodates the 2,500-gallon water storage for the heating system. The roof structure consists of in situ r.c., 3 in. of lightweight concrete as insulation and 3 layers of built-up bituminous roofing with a gravel finish.



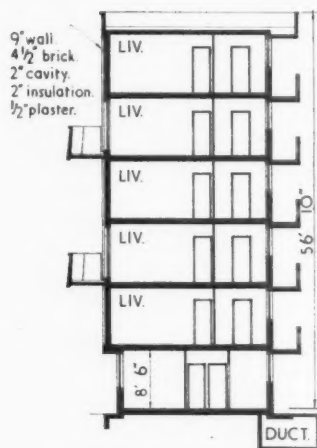
Section through typical south wall 10-storey block
[Scale: $\frac{1}{4}'' = 1' 0''$]



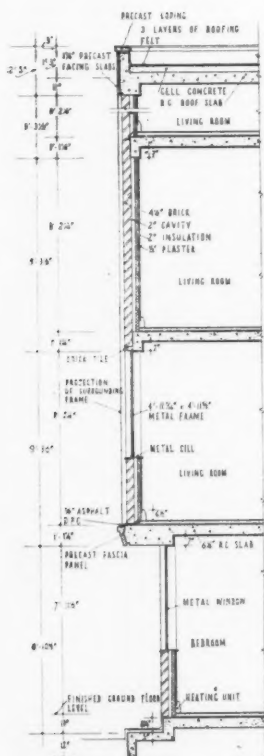


FLATS AT PADDINGTON

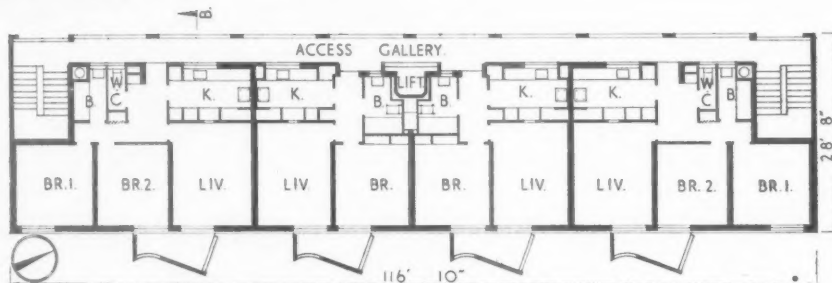
Turning the camera left after looking at the view in the bottom photograph on the previous page, we see a typical living room facade of a 6-storey block. These blocks are all on an approximate north-south axis and this facade faces approximately east. The pattern of coupled staggered windows is repeated here. The 6-storey blocks have private balconies, but only on alternate floors so that there is no overshadowing. (This gives the impression that the blocks contain maisonnettes, not flats.) The balconies have pale blue painted soffits and a curved front (on plan). This balcony pattern, together with the recessed facade at ground floor level, makes the block look less high than it is. (A typical balcony, as seen here, was illustrated as a Working Detail in the JOURNAL for December 16, 1954.)



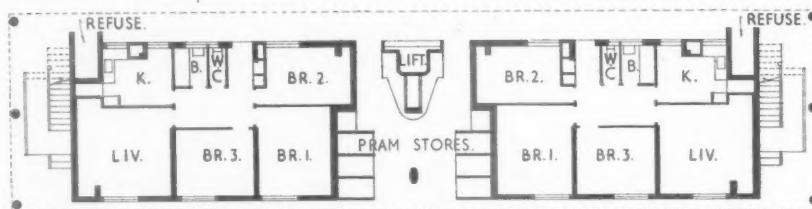
Section B-B



Section through typical south wall of 10-storey block
[Scale: 1/4" = 1' 0"]

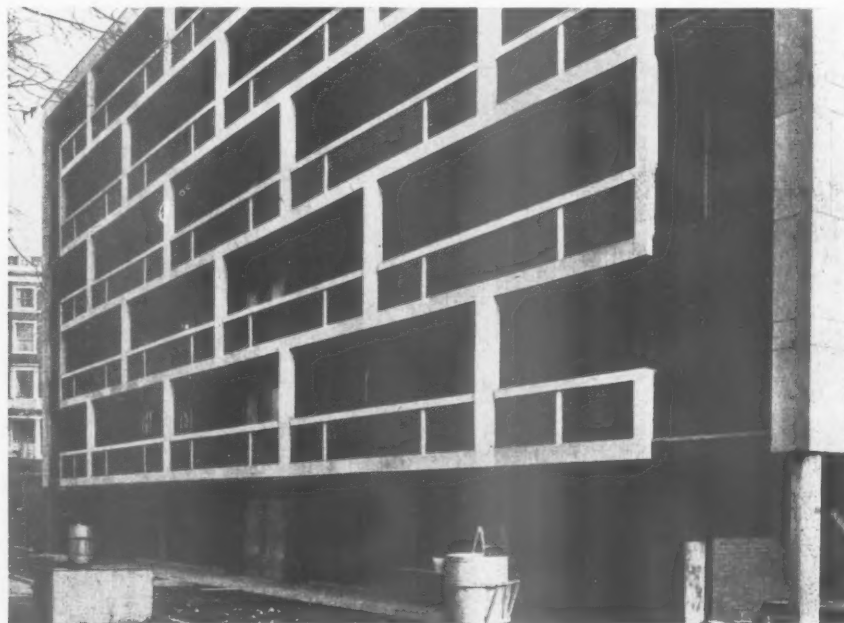


Typical third and fifth floor plan



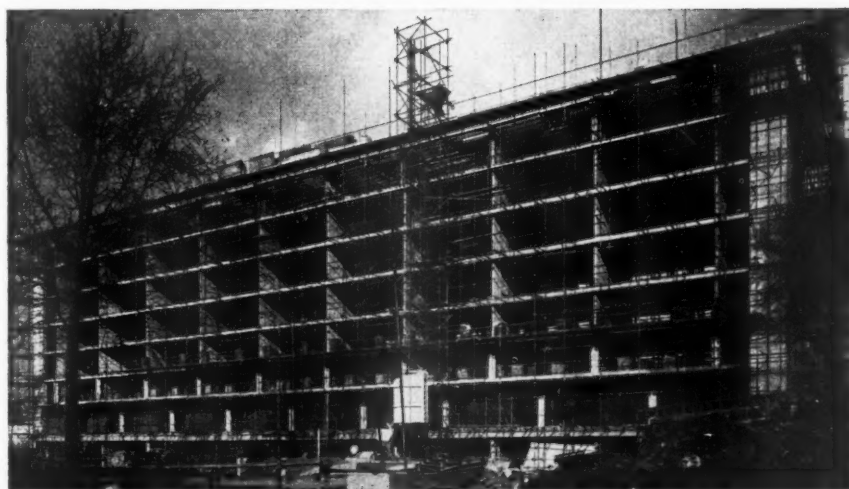
Ground floor plan [Scale: 1/4" = 1' 0"]

This 6-storey block—part of contract No. 2—stands at the eastern corner of the site, near the junction of Gloucester Terrace and Cleveland Gardens. Cuts in the housing subsidies have led to certain economies here: one way in which the architects have economised can be seen clearly; they have used brick panels on the access balconies. (Compare with photographs on page 303.) Only two 6-storey blocks will have these brick infill panels.



The picture on the right shows the south-west corner of the centre 10-storey block bordering Bishop's Bridge Road. A nursery school (2 on site plan, page 306) will be built in the rectangular open space which is surrounded by two 10-storey blocks and four 6-storey blocks. On the right is part of the access gallery facade of a typical 6-storey block. (A Working Detail of one of these access balconies appeared in the JOURNAL for January 13, 1955.) On the south side of the site on either side of the "Forum"—a group of buildings including shops, laundry, etc.—and primary school (4 and 5 on site plan, page 306) are two 10-storey blocks, among the last to be built in contract two. The living room facade of one of these is shown, below right, under construction. The reinforced-concrete cross walls and floor slabs can be seen, as well as the first and second floor precast mullions, which are in position on ground and first floors.

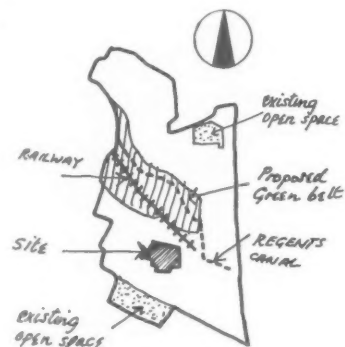
We complete our photographic tour of the Hallfield Estate with a view of the primary school (5 on site plan, page 306) designed by Drake and Lasdun for the LCC and recently completed. The bottom picture shows the junior classroom block from the south-west. The school accommodates 400 juniors and 320 infants and has two assembly halls, both of which will be made available for public social activities. (Contractors and sub-contractors, page 318.)



CLIENT'S BRIEF: his stated requirements

The architect was asked to prepare a housing scheme on a site in the south of the Borough (a dormitory area for workers in light industry), incorporating communal amenities, such as garages, laundries, shops, public houses and primary and nursery schools. The population of the Metropolitan Borough of Paddington has increased from 2,000 in the 19th century to over 138,000 today, absorbing all but two small areas of open space—the Recreation Ground in the north and the tip of Kensington Gardens in the south. The London Plan exposed a

deficiency in this respect of 163 acres which it sought to restore by a re-distribution of densities. A density of 200 persons to the acre in flats was recommended in the London Plan for the area in which the site stands. The completed Hallfield Estate will house 176 persons per acre. Besides being a part of the London Plan the scheme is intended to satisfy the urgent needs of a population mostly housed in obsolete property already scheduled for demolition before the war.



Sketch plan of Paddington Borough

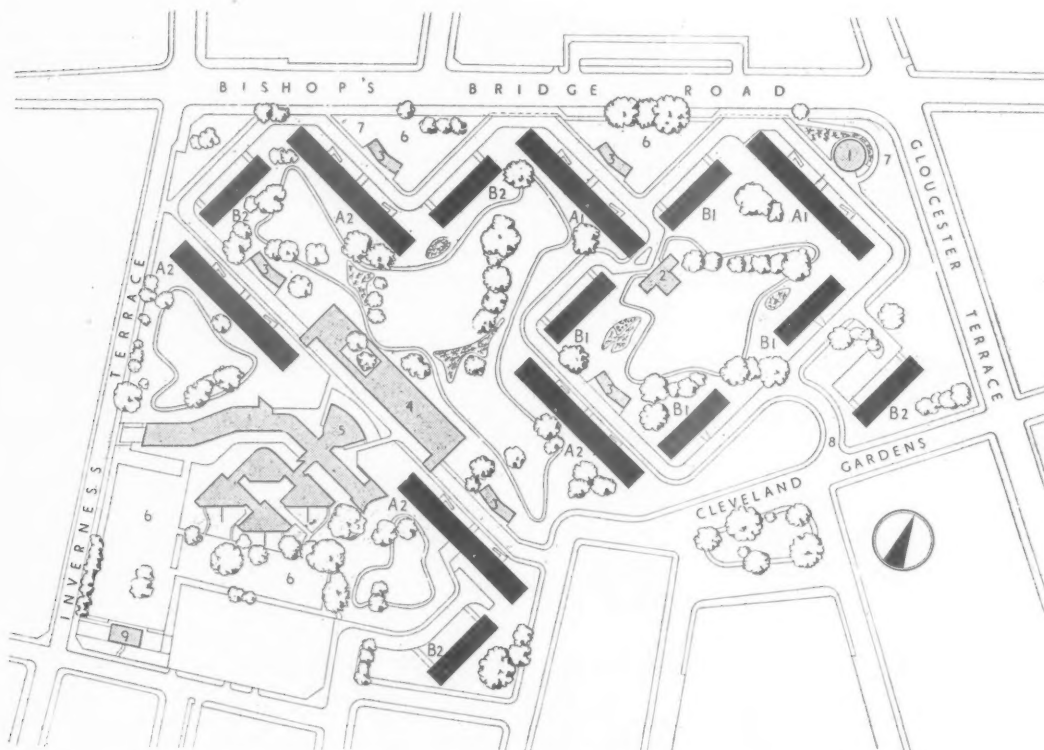
SITE: topography, surroundings, access, planting

SITE BEFORE DEVELOPMENT: The site was previously developed between 1800 and 1850. It was laid out with 4-storey brick and stucco terraces and had two enclosed gardens thought to have been landscaped by Loudon, a contemporary of Paxton. On it there are many fine trees and shrubs including magnolias,

catalpa, mountain ash, sycamore and London planes, many of which now stand over 50 feet in height. The site is flat and its level averages 12 ft. below Bishop's Bridge Road and Gloucester Terrace. Along Inverness Terrace the site level is approximately 5 ft. to 1 ft. lower.

AREA OF SITE: 17½ acres.

SITE DEVELOPMENT: The layout of the blocks is based on a rigid geometric grid (see sketch) the lines of which follow an approximate North-South and East-West direction, in contrast to the surrounding Victorian terraces which follow the road patterns. This contrast, together with the retention of the existing lower level, divorces



Site Plan. Housing shown black. A1 and B1, completed. A2 and B2, under construction. Ancillary buildings grey. Of these Primary School and Laundry 1 completed; other buildings not yet begun.

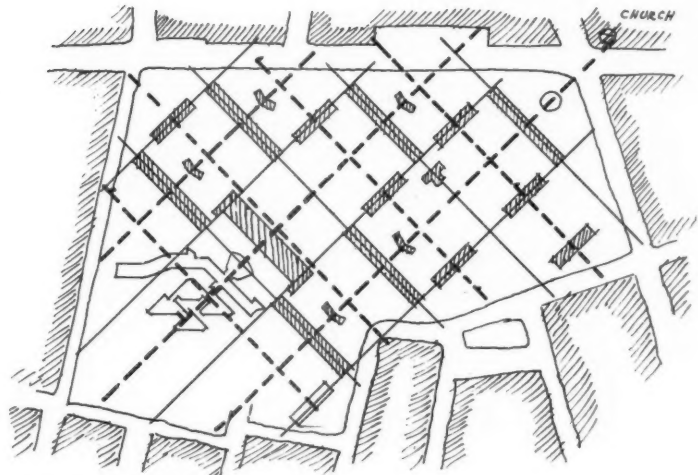
KEY

- A.1 Ten-storey blocks. Contract 1.
 B.1 Six-storey blocks. " 1.
 A.2 Ten-storey blocks " 2.
 B.2 Ten-storey blocks. " 2.
 1. Communal laundry No. 1, and heating and electrical sub-station.

2. Nursery school.
 3. Garages.
 4. "Forum": communal laundry No. 2, heating sub-station, shops, public house, club room, terraces.
 5. LCC Primary School for 720 children.

6. Children's playground.
 7. Pedestrian ramp down to site.
 8. Ramp approach to site for pedestrians and vehicles.
 9. School caretaker.

the scheme sharply from its surroundings so that a direct architectural comparison between old and new is visually elusive. The layout of the estate is also designed to "disengage" the new community from the main traffic routes, such as Bishop's Bridge Road and Gloucester Terrace, and create space, verdure and quiet. When the scheme is complete, 2,362 persons will be housed in six 10-storey blocks and eight 6-storey blocks. The architects chose to develop the site with 10-storey and 6-storey blocks in order to (1) leave the maximum site area open for communal use, (2) avoid cutting down existing trees, (3) avoid overshadowing of blocks, (4) give the best possible orientation of flats for sunlight and view of gardens, (5) avoid monotony in the skyline by use of two contrasting heights of blocks.



Site plan showing grid layout

PLAN: general appreciation

Only two types of block have been used throughout. Blocks of each type are similar and each contains flats of mixed accommodation. Access galleries have been used because they save space and money by reducing the number of stairs and lifts required. (No habitable rooms face on to access galleries.)

The 10-storey blocks have two central lifts large enough to take prams and each flat has a pram store inside. The 6-storey blocks have one central passenger lift and prams are stored in the ground floor entrance hall. Private balconies are provided only to alternate floors of the 6-storey blocks. Kitchens, bathrooms and w.c.s

have been grouped together to simplify services. The 10-storey blocks have an approximately north-south aspect and the 6-storey blocks have an approximately east-west aspect.

MAIN CONSTRUCTION: general appreciation

The structure consists of a series of continuous vertical and horizontal slabs with rigid joints. The gable end walls are supported on reinforced concrete columns. The access balcony facade of the 10-storey blocks has additional columns on either side of each flat's entrance door. These,

together with edge beams along dwelling face, support the cantilevered access galleries and the load of the balcony screen.

A similar type of construction is used on the six-storey blocks, except that intermediate cross walls through half-width of blocks are provided

to reduce spans. These are linked to columns along dwelling face on either side of the flat's entry doors by two-way r.c. stiffened strips within thickness of floor slab.

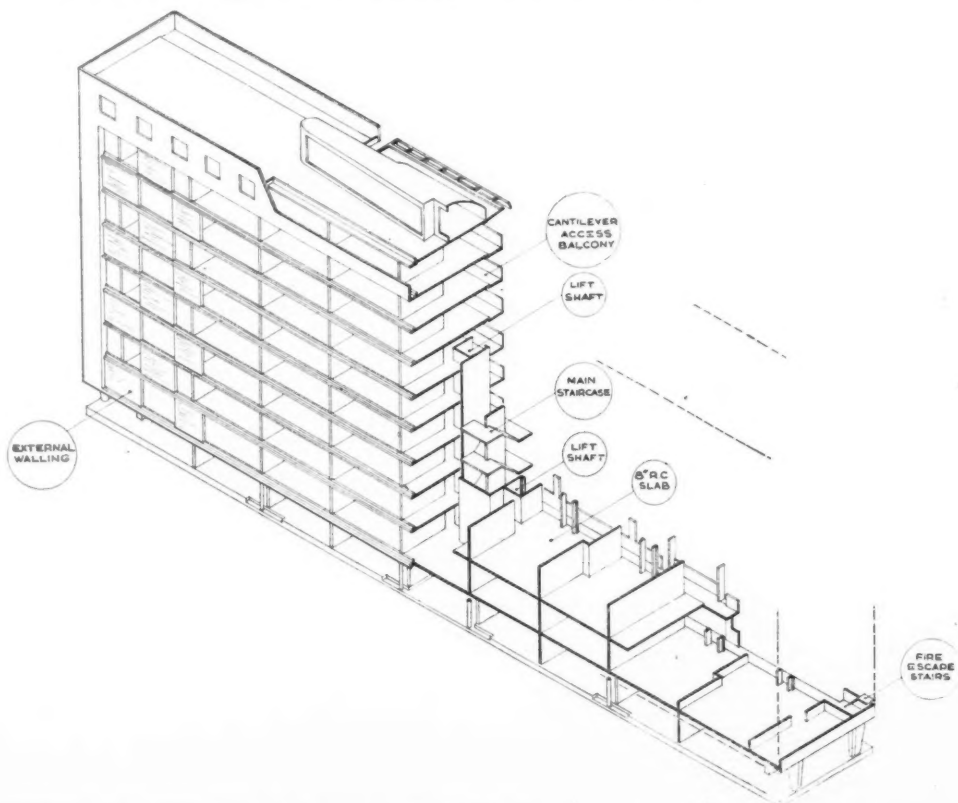


Diagram showing basic construction of typical 10-storey block

MAIN CONSTRUCTION

LOAD BEARING ELEMENT: reinforced concrete cross walls. *Locations:* a. In 10-storey blocks as party walls between flats. b. In 6-storey flats, as a and partitions on living room side and party walls. *Centres:* a. Average 23 ft. b. 11 ft. a, b. Thickness 7 in. on first floor, 6 in. between second and fourth and 5 in. between fifth to ninth floors. *Reasons:* Architects' experience shows it to have relatively low cost. It also gives considerable "facade freedom."

FOUNDATION TYPES: In situ reinforced concrete piles for: a. Cross walls. b. Columns on dwelling face along access balcony. c. Columns supporting 10-storey blocks, gable end walls. *Locations:* a. Forming pair either side of wall at 3 ft. 6 in. centres with continuous pile caps. b. Two columns per pile cap. c. Separate groups of six per column linked by tie beam. Sub-soil clay. Depth 28 ft.

OUTER WALL TYPES: a. Load bearing. b. Panel cavity. c. Cavity wall. *Locations:* a. Gable end walls and returns. b. South facade 10-storey. c. North facade 10-storey and 6-storey E. & W. *Materials:* a. In situ reinforced concrete with 1-in. cavity and 2-in. clinker block b., c. 4½ bricks 2-in. cavity, 2-in. clinker block

inner leaf. *Finishes:* a. 10-storey: 6-in. by 6-in. cream-coloured frost-proof tiles in 2 ft. 6½ in. by 3 ft. ½ in. panels with 1 ½ in. dividing joints. 6-storey: precast concrete slabs used as permanent shuttering. b., c. Dun bricks pointed in grey ash mortar. *Reasons:* External wall facings were chosen for their weathering qualities to ensure low maintenance costs. The detail design has been based on the British Standard Code of Practice No. 114 (1948).

ACCESS BALCONIES—BALUSTRADE TYPES: Wet construction. *Locations:* a. 10-storey. b. 6-storey. *Material:* a., b. Non-load bearing. In situ concrete reinforced for horizontal wind loading. *Finish:* a. Precast concrete slabs used as permanent shuttering. b. Precast concrete slabs and infill panels of precast honeycomb pattern concrete slabs with black Cornish granite exposed aggregate. A typical access balcony is shown as a Working Detail in the JOURNAL for January 13, 1955.

ROOF TYPES: Flat slab with parapet upstand. *Location:* general. *Material:* In situ reinforced concrete. *Finish:* 3-in. lightweight concrete laid to fall with three-layer built-up roofing and gravel finish.

FLOOR STRUCTURE TYPES: In situ slab with rigid joints to cross walls. *Locations:* a. 10-storey blocks. b. 6-storey blocks. *Materials:* a. 8-in. in situ reinforced concrete. b. 6½-in. r.c. *Finishes:* a, b. ½-in. glass silk quilt insulation. 1½-in. cement and sand screed, ½-in. pitch-mastic floor finish. *Reasons:* 1½ cement and sand 1:3 mix is the minimum thickness that can be laid on fibre glass. In second contract ½-in. thermoplastic floor tiles have been substituted for pitch-mastic.

INTERNAL WALL TYPES: a. Partitions. b. Party walls, lift walls, etc. *Locations:* a. Between rooms. b. Between dwellings. *Materials:* a. 2-in. clinker block. b. rc cross walls with 1-in. cavity and 2-in. clinker block. *Finishes:* a. ½-in. plaster, ½-in. sand lime ready mix with ½-in. gypsum. b. On concrete, ½-in. plaster, ½-in. bonding with ½-in. gypsum finish. *Reasons:* In case of b walls were specified fair-face, and good standard of finish was obtained.

CEILING TYPES: In situ. *Location:* general. *Material:* concrete. *Finish:* ½-in. plaster. (½-in. bonding, ½-in. gypsum finish).

ARTIFICIAL LIGHTING

SOURCE AND FITTING TYPE: London Electricity Mains. Fittings in dwellings provided by tenants. *Location:* ceiling throughout. *Comments:* bulkhead fittings provided for staircases and balcony access galleries.

WIRING AND SWITCHING TYPES: VIR cables in heavy gauge screwed steel conduit. Switches,

for locally controlled lighting points of 5-amp. plastic flush type with rectangular covers, colour brown. *Location:* throughout. *Comments:* All conduits are completely concealed in floors, walls, and cupboards, etc.

POWER SUPPLY TYPE: 415-240 volts, 3-phase, 4-wire, 50 cycle A.C. *Distribution:* mains

brought in at ground level in each block, terminating in a triple pole and neutral cut-out and distribution switchboard. Rising mains run vertically through ducts to full height of blocks to distribution boards and thence lateral mains in middle third of floor slabs terminating in consumer control units in the meter cupboard of each flat.

NATURAL LIGHTING

a. Panels, floor to ceiling. b. Hole-in-wall. *Location:* a. South facade 10-storey blocks. b. Generally. *Comments:* Standard metal

windows, generally. a, lower light glazed in rough-cast Georgian-wired glass, private balconies in 6-storey blocks have "stagger relation-

ships" to windows under to avoid overshadowing.

THERMAL INSULATION

TYPES: a. Air cavity. b. Cellular concrete. *Location:* walling. a. External generally.

b. Roof. *Value:* a. $U = .15$. b. $U = .3$.

HEATING AND VENTILATION

HEAT EXCHANGER TYPE: Generally sub-atmospheric heating system with convectors as heating units. (See diagram on opposite page) a. Skirting board convectors. b. Standard convectors. *Location:* a. living rooms and bedrooms. b. In halls. *Criteria temp:* a. Living room 65 deg., bedroom, 52 deg. b. Halls 58 deg. Air change rate 1½. *Comments:* Heating is mainly by steam, operated at sub-atmospheric pressure by means of vacuum pumps, which enable the temperature of heating surfaces to be varied between 150 deg. and 200 deg. F. This is automatically controlled by means of thermostats as external weather conditions vary. A continuous hot water service is also supplied from heat exchangers placed in sub-stations, and distributed to each block by means of circulating pumps.

Steam was adopted as the main heating medium for three reasons: first, there was an existing combined steam and power plant supplying the adjacent group of public halls, swimming baths and wash-houses, with heat, hot water and electric supplies; second, a further boiler plant was not wanted in the centre of the housing site; third, the boilers in the existing plant were getting old and would shortly require renewal. It was therefore decided to lay down a new and larger boiler plant at the central baths, to serve the whole group of buildings, and to retain the old boilers for summer use and as a standby when the new boilers had their annual overhaul. The enlarged central boiler plant is planned to serve the existing public halls, swimming baths, laundry, and the 656 flats and two further laundries placed in central positions in the two

groups of flats, as well as a new junior and infants school erected adjacent to the flats. *Distribution system:* a steam main is taken to centre of each block and rises on to the roof where branches are taken to feed a number of drop pipes. These steam drops then run right through to the ground floor and are drained through traps set in a trench running along the building. All condense is returned by vacuum pumps to the sub-stations from whence a condense pump returns it to the boilers.

BOILER TYPE AND CAPACITY: "Economic" type boiler in public baths serving other buildings, apart from flats and laundries. *Heat load:* approximately 13 million BTUs/hour. *Fuel type:* creosote pitch fuel. *Stoking method, low-pressure oil burners. Reason for choice:* limited space

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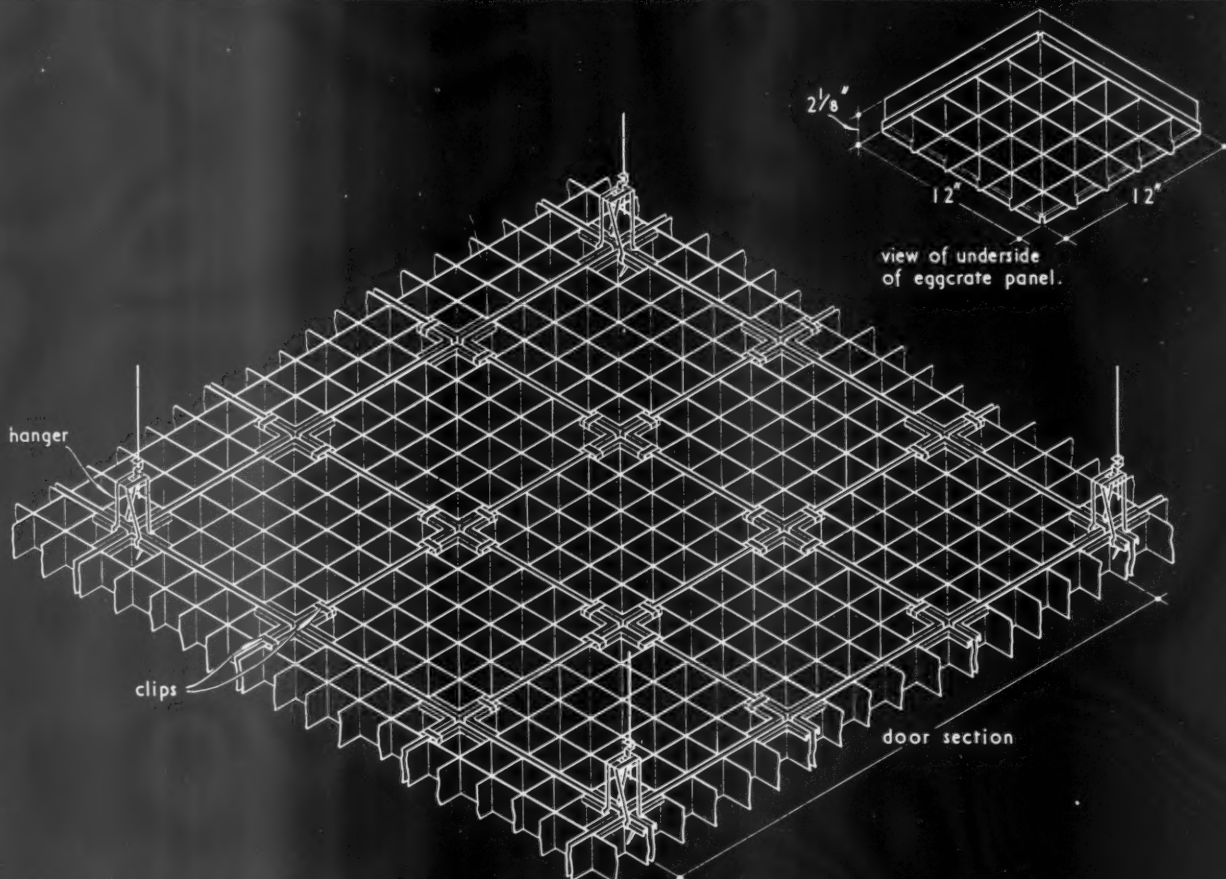
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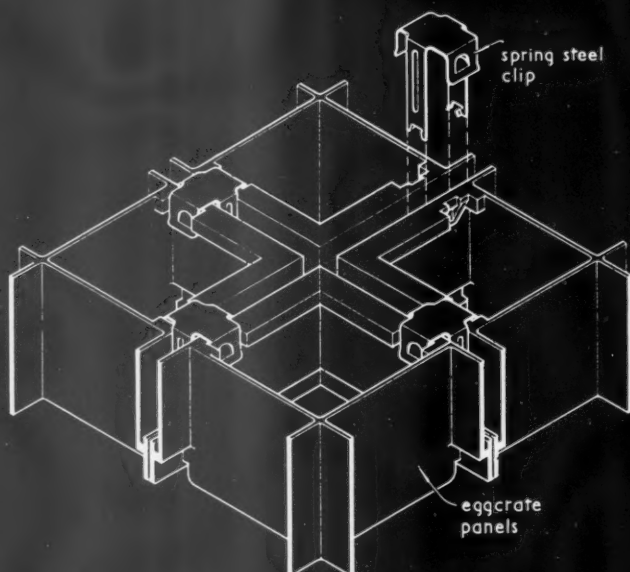
ILLUMINATION | PLASTIC EGGCRATE CEILING

34.ZI 34.ZI

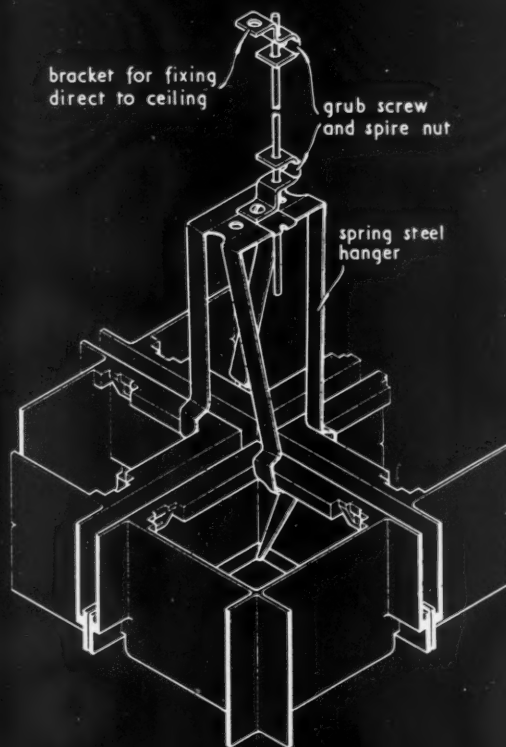
The Architects' Journal Library of Information Sheets 509. Editor: Cotterell Butler, A.R.I.B.A.



GENERAL ASSEMBLY OF COMPONENT PARTS.



DETAIL SHOWING POSITION OF CLIPS.



DETAIL OF HANGER.

34. Z1 ·LUVE-TILE· PLASTIC EGGCRATE CEILING

This Sheet describes Luve-Tile eggcrate panels for lighting the whole or part of a ceiling area. They are made from moulded plastic and therefore possess the advantages of being translucent and light in weight.

General

The Luve-Tile provides an illuminated ceiling which conceals service pipes, sprinklers, and heating and air conditioning systems without impairing their effectiveness.

The tiles are clipped together to form "doors" of a size within the allowable limits. Each door is suspended at the corners by four adjustable patent hangers which permit it to be opened downwards on a hinge principle. This means that access through any part of the ceiling is readily available for cleaning and replacing lighting fittings and maintaining the surface above the ceiling.

Components and Sizes

Tiles: These are of destasticised moulded polystyrene in 12-in. by 12-in. panels, $2\frac{1}{4}$ in. deep and divided into cells $2\frac{1}{4}$ in. square. The maximum size recommended for a "door" section is 9 sq. ft.

Clips: These are of spring steel and are used to join the units together to form the door section.

Hangers: These are of spring steel shaped to hold the door sections as shown in the detail on the face of the Sheet. The $\frac{1}{8}$ -in. rod is supplied 30 in. in length for cutting on the site and may be subsequently adjusted for levelling by means of a grub screw and spire nut.

Weight

Each 12-in. by 12-in. panel weighs 13 oz.

Lighting

If possible the surface over the ceiling should be painted white and the lighting fittings should be bare lamps without reflectors. When calculating the lighting intensity required for any given application, approximately 20 per cent. should be added to make up for losses due to interposing the eggcrates between the source and the area to be lighted.

Fixing

The door sections should be assembled on a flat surface, four clips being placed at intersections and one at each edge junction as shown in the drawing. One hanger carries the four corners of four adjacent doors. One side of the door is snapped into the legs of the two hangers on one side and then it is swung up to engage in the two on the other side.

Edge finishes: Where the edge of the panels coincides with the wall face, half-hangers, made by breaking off the two unwanted legs, should be used either suspended on the rods in the usual way or screwed to the wall by means of an angle bracket supplied by the manufacturer. Where there is a gap between the wall and the panels it may, if desired, be masked by a wood moulding or metal trimming section. The tiles may be easily cut with a hacksaw where odd sizes are required.

Applications

In addition to its wide use for ceilings, Luve-Tile may be effectively used for display purposes in shops and exhibitions. It may be used for illuminated wall displays, panels may be suspended over counters and shop-windows and it may also be used as a counter top on which to stand articles to be lighted from below. Where small cubicles are required to share the general lighting of a larger area, as in hairdressers, etc., they may be covered in with Luve-Tile to improve their appearance and give a greater sense of privacy.

Colours

The colours in which Luve-Tile is available are white, blue, pink and green.

Maintenance

The panels should be taken down at least once a year and washed with detergent. At the same time lighting fittings should be cleaned and the surface above the Luve-Tile washed or painted as necessary.

Compiled from information supplied by:

Harris and Sheldon (Electrical) Ltd.

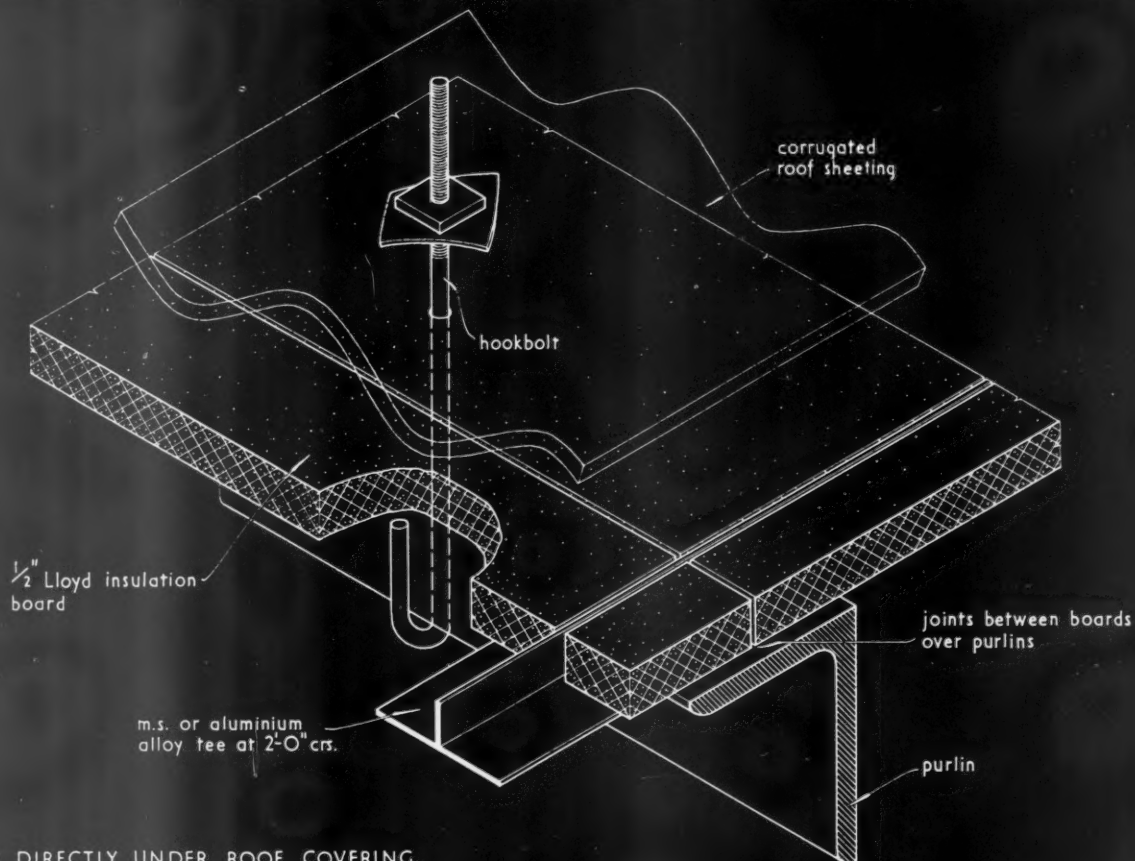
Address: Ryder Street, Birmingham,

Telephone: Birmingham Central 7101.

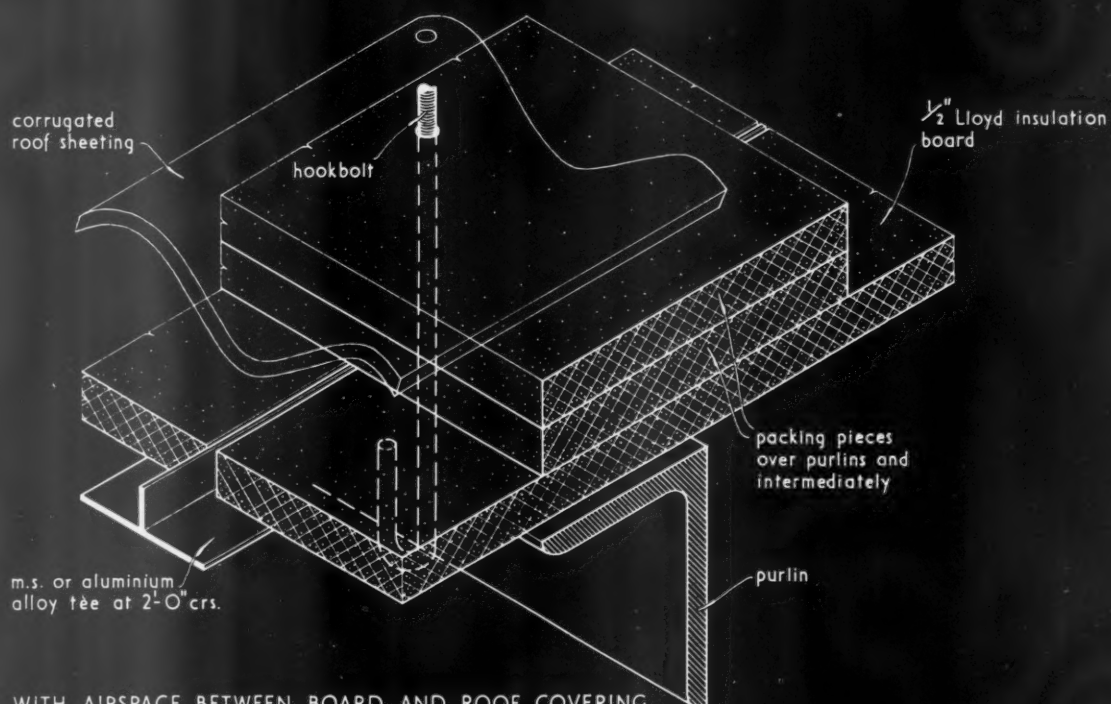
CEILINGS | BUILDING BOARD

22.D4

The Architects' Journal Library of Information Sheets 510. Editor: Cotterell Butler, A.R.I.B.A.



LINING DIRECTLY UNDER ROOF COVERING.



LINING WITH AIRSPACE BETWEEN BOARD AND ROOF COVERING.

22.D4 LLOYD L.P.I. SYSTEM OF BOARD FIXING

This Sheet describes a system of board fixing consisting of Lloyd standard insulation board and supporting members of pressed steel or aluminium-alloy tee section. The board is interposed between the roof sheeting and the purlins and secured by the hookbolts which fix the sheeting. No jointing members are required as the joints in the boards occur over the purlins. This system is suitable on new roofs where it is desirable to leave the roof structure unobscured by a suspended lining.

Main Tees

These are of pressed mild steel or aluminium alloy. The steel tee is $1\frac{1}{2}$ in. by $\frac{1}{2}$ in. by 18 g. and the aluminium-alloy tee, $1\frac{1}{2}$ in. by $\frac{9}{16}$ in. Both are available in lengths from 8 ft. 0 in. to 16 ft. 0 in. in 1 ft. 0 in. increments.

Insulation Boards

Lloyd standard insulation boards, $\frac{1}{2}$ in. thick, 2 ft. 0 in. wide and in lengths from 6 ft. 0 in. to 10 ft. 0 in. in 1 ft. 0 in. increments, are used with this system.

Finish

The steel tees are sherardised and the aluminium-alloy tees are supplied in their natural finish.

Sound Absorption

The $\frac{1}{2}$ -in. insulation board has an average sound absorption coefficient of 0.3.

Thermal Insulation

Thermal resistance: For calculating the U value of $\frac{1}{2}$ -in. Lloyd insulation board the thermal resistance can be taken as 1.43.

Thermal transmittance coefficients (U): The following tables give U values for various constructions with or without Lloyd L.P.I. system of board fixing.

Pitched Roofs

Roof covering	U (unlined)	U (with lining over the purlins)	
		Without packing	With packing
Corrugated asbestos-cement	1.40	0.36	0.32
Corrugated protected metal	0.90	0.31	0.28

External walls

Wall construction	U (unlined)	U (with lining)	
		Without packing	With packing
Corrugated asbestos-cement	1.20	0.34	0.30
Corrugated protected metal	0.82	0.30	0.27

Compiled from information supplied by:

Bowaters Building Boards Limited.

Address: Bowater House, Stratton Street, London, W.1.

Telephone: Grosvenor 4161.

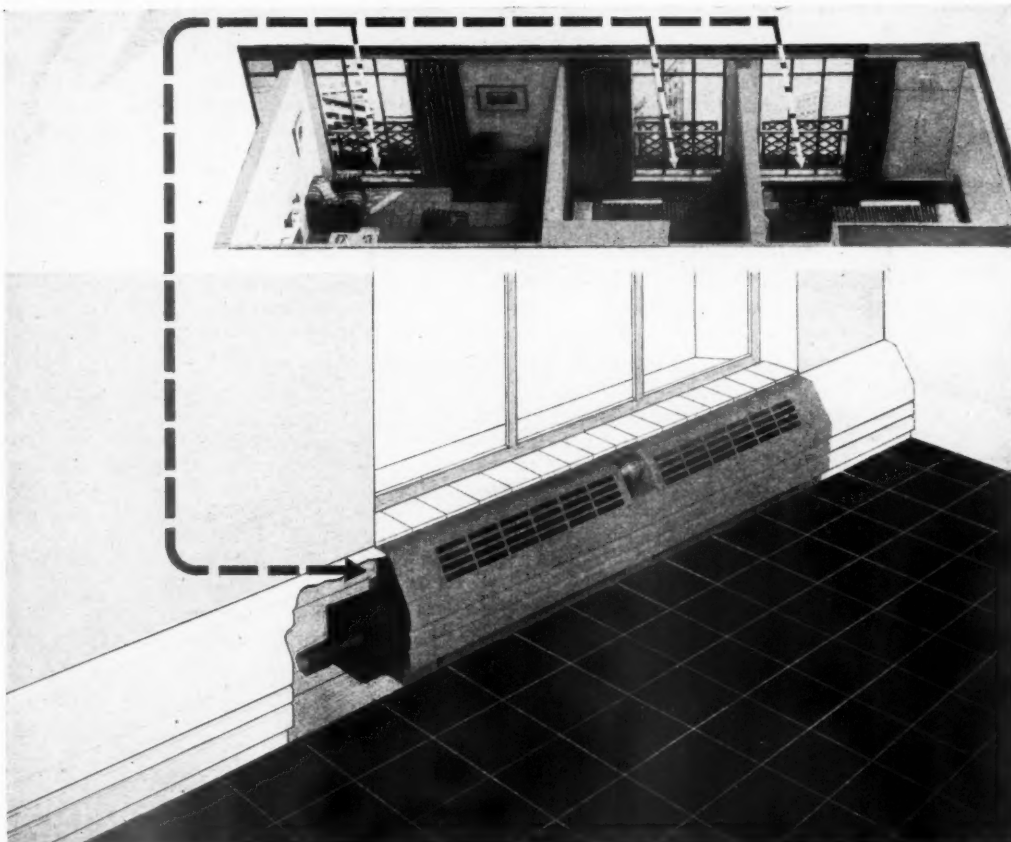


Diagram and view of model (top) showing how heat is supplied to living rooms and bedrooms of 3-room flat through skirting board convectors

available, cleanliness and economy of operation labour.

HOT WATER STORAGE TYPE: Central hot water storage calorifiers. *Location:* sub-stations in a. basement of communal laundry No. 1. b. "Forum": a group of buildings, comprising laundry No. 2, shops, clubroom, etc.

PIPES AND JOINTING TYPES: a. Heating. b. Hot water. *Locations:* a. Internal ducts. b. Generally. *Materials:* a. Steel (with welded and screwed joints). b. Copper with welded and capillary type joints.

COLD WATER STORAGE: Centralised cisterns. *Location:* roof. *Materials:* galvanised steel.

Cisterns, capacity 50 gallons per dwelling for hot and cold combined. *Comments:* One 10-storey block in each contract has additional storage cistern of 2,500 gallons for heating system.

REFUSE DISPOSAL

METHOD: chutes. *Type of refuse:* household materials. *Comments:* chutes for all flats are 15 in. int. dia. glazed earthenware, surrounded by concrete.

Chutes have two pairs of inlets along each access gallery. They discharge at ground floor level into sealed chambers. Ground floor tenants have

direct stair access to first floor chutes. Access balcony is increased in width where refuse chute inlets occur.

SPECIAL ACOUSTICAL TREATMENT

SOUND INSULATION: a. Cork. b. Glass quilt. c. Air cavity walling. *Locations:* a. Around refuse

chutes, which are wrapped in cork layer to prevent noise transmission into flats. b. Floors.

c. Party walls, between dwellings, around the lift shaft, etc.

SOIL, WASTE AND LIFTS

TYPE OF SYSTEM: One pipe system above ground floor. *Location:* internal ducts on gallery access face. *Materials:* Cast iron stack, copper branch wastes.

Comments: Ground floor w.c.s are taken direct to manholes. All fittings are vented. No access is provided to ducts

cast concrete. *Location:* access balcony side of blocks only, all drainage to one side of block.

RAINWATER DISPOSAL TYPE: Combined system. *Location:* vertical internal ducts. *Materials:* cast iron. *Comments:* private balconies to 6-storey blocks drained by overshoots.

tion: a. 10-storey blocks. b. 6-storey blocks. *Capacity and speed:* a. 12,000 lb. or 8 persons. Speed 100 ft. per minute. b. 6,000 lb. or 4 persons. Speed 100 ft. per minute. *Relation to traffic circulation:* Lifts are placed on the centre axis of each block and open directly on to the access balconies. Motor room on roof. Height of superstructure approx. 12 ft.

DRAIN TYPES: Stoneware. Cast iron. Pre-

LIFT TYPES: Automatic power operation. Loca-

FIRE APPARATUS

Dry rising main placed centrally in each 10-storey block. *Means of escape:* a. 10-storey blocks: central stairs and two escape stairs—one

each end of block. b. 6-storey blocks: staircase at each end of block. Structural precautions are based on British Standard Code of practice

CP 114 (1988 Table 14 Thickness of walls and floors for fire-resisting purposes).

COLOURS

PAINT TYPES: Washable distemper to flat interiors variety of colour treatment, example—LR parchment, BR oyster pink, bathrooms dawn grey, K pale blue. Munsell archrome range is to be used for Contract No. 2. Gloss enamel

to joinery, windows, internal and external. Window frames BS No. 633. blue grey. Flat entrance doors maroon. Stone paint, external concrete. Curved entrance hall walls. Munsell ref. 15. Tank room 10-storey—Nigger brown.

Tank room 6-storey BS colour No. 633. blue-grey. Cement paint. Concrete soffits, e.g., to private balconies of 6-storey blocks—pale blue. Distemper—ceilings of all dwellings—white.

TIME SCHEDULE

Contracts signed: 1st contract October 1949. 2nd contract April 1953. Work commenced 1st contract December 1949, 2nd contract April 1953.

Work completed 1st contract December 1953, 2nd contract scheduled for completion December 1955. Type of contract: RIBA form for Local

Authorities with quantities.

SCHEDULE OF ACCOMMODATION

Block No.	Type	No. of storeys	1-room	2-room	3-room	4-room	Totals Dwellings	Rooms
A 1 & 2 (2 blocks)	Balcony Access	10	20	4	38	18	80	214 (each block)
A 1 & 2 (4 blocks)	"	10	—	44	18	18	80	214 (each block)
B 1 & 2 (8 blocks)	"	6	—	10	10	2	22	58 (each block)

ROOM AREAS

Type	2-room	3-room	4-room
LR	160	180	180
DK	85	100	100

FLOOR TO FLOOR HEIGHT

10-storey blocks: 9 ft. 5½ in. 6-storey blocks: 9 ft. 3½ in.

Type	2-room	3-room	4-room
BR 1	140	140	135
BR 2		122	121
BR 3			90

ROOM HEIGHTS (fin to fin) to include ground floor slab.

10-storey blocks: 8 ft. 6 in. 6-storey blocks: 8 ft. 6 in.

ACCOMMODATION STANDARD

Area of site in acres	17.1	Total No. of persons housed	2,362
Area of site available for housing	13.43	Dwellings per acre	48.8
Total No. of dwellings	656	Persons per acre	176
Total No. of rooms	1,748	No. of tenant stores internal	432
No. of persons per flat	3.6	No. of tenant stores external	48

COST ANALYSIS

Information regarding cost is not available at the present time, but the Architects state that

they hope to be able to provide us with a cost analysis at a later date.

TECHNICAL SECTION

This hard winter gives added justification (if more were needed) to an admirable document, "The Cambridge Code of Practice for the Protection of Water Pipes and Fittings against Freezing and Damage by Freezing,"* which has been published by the Cambridge Waterworks Company. This short work is full of uncommon sense. It makes the point, for instance, that lagging, however useful, is no substitute for design, and that the real way to avoid damage in cold weather is to plan the pipe runs so that they avoid "unsafe" places—the roof space, for instance, or the inside of external walls. The Cambridge code draws attention to the fact that the "one-pipe" and "single-stack" systems reduce the risk of freezing, and is definite on the value of polythene tubing for cold water pipes. One interesting point is that experience in Cambridge shows that a large proportion of burst pipes are in bathrooms which have no hot water tank or other heat source, and the code therefore urges some form of heating in the bathroom. Points such as this have so often been made in the technical Press from the point of view of comfort, cheapness or even appearance: it is splendid to have them reiterated by a public spirited water company.

* Obtainable from the Cambridge University and Town Waterworks Company, 4, Bene't Street, Cambridge. Price 1s. 0d.

This week's
special article

14 MATERIALS: CONCRETE cement economy and improved concrete

The number preceding the week's special article or survey indicates the appropriate subject heading of the Information Centre to which the article or survey belongs. The complete list of these headings is printed from time-to-time. To each survey is appended a list of recently-published and relevant Information Centre items. Further and earlier information can be found by referring to the index published free each year.

The MOW has conducted an investigation into problems arising from the design of mix and the quality control of concrete. The results of this investigation are commented on here by our Specialist Editor No. 13, who describes the techniques used by the MOW.*

The main result of the MOW's experiment in concrete work has been the replacement of the old type specification by mix by the new type of specification by performance; by specifying, that is, minimum strength, freedom from surface defects, watertightness, etc., according to the requirements of each

job. This mode of specifying was first introduced by MOW back in 1952 and has now been used for over 60 contracts, all of which have proved successful. This work is considered to be so important that MOW maintains a small section which deals exclusively with concrete control and gives advice to

* Problems of this kind were discussed in the JOURNAL of July 15, 1954.



Fig. 1 (left): the power float. Fig. 2 (right): the vibrating roller.

contractors on the mix proportions to be used in any particular case.

THE RESULTS OBTAINED

In a report to the technical Press the MOW includes a table which gives actual mixes used on eight different sites, and compares these with the corresponding mixes which would have had to be used under the old method. This table is followed by a description of two mechanical aids (photos above) which have been used to get these results; the report concludes by remarking on the opportunity vibrated concrete affords for the early striking of shutters.

The table gives details of mixes used in a number of different contracts where

only be obtained by use of vibrators but similar, though lesser, advantages can be obtained in designing mixes for placing by hand. However, provided a concrete of reasonable quality is required (water/cement ratio below 0.6) it will be found cheaper to use internal vibration. A good type of internal vibrator can consolidate thoroughly over 5 cu. yds. of concrete per hour if the concrete is properly designed. In reinforced concrete where the cover or bar spacing is normally made $\frac{1}{2}$ in. more than the size of the aggregate, it is possible to use a much larger aggregate when using vibration than would otherwise be used.

MECHANICAL AIDS

In the course of the work outlined above a

Fig. 2) on ground slabs up to 8 in. thick and over a wide range of mixes provided the concrete mix is properly designed. Full consolidation throughout the thickness of the slab has been obtained with lean dry concrete of an aggregate cement ratio of 16 : 1 and the crushing strength of 6 in. cubes cut from this slab was over 2,000 lb./sq. in. at 28 days. With aggregate cement ratios of, say, 8 : 1, core strengths of over 5,000 lb./sq. in. at 28 days have been obtained regularly, so that in cases where the strength of concrete is a determining factor, it has been found possible to reduce slab thickness.

EARLY STRIKING OF SHUTTERS

Using a properly designed vibrated concrete it has been found possible to strip shutters at about two hours after placing. Provided the shutters have been suitably designed for this purpose, any shuttering can be stripped at this stage unless there is a pronounced overhang. Advantages to be obtained include surface treatment of the concrete, reduced damage to the concrete, and greater repetitive use of shuttering. If a smooth finish is required it is only necessary to rub down with a wooden or steel float, when a surface equal to a rendered surface can be obtained, whilst if a plastered finish is required for any purpose the surface can be washed off with a fine spray of water giving a perfect key for the plaster without any hacking. Again, it is possible to wash off the surface in such a way as to leave an effective finish by exposing the aggregate.

TABLE 1

Site	Code of Practice mix (by volume)	Spec'd. min. cube strength at 28 days, lb./sq. in.	Mix adopted		W/C ratio	Average cube strength at 28 days, lb./sq. in.	Cement saving, cwts./cu. yd.
			Proportion by weight	Size of agg., ins.			
12	1 : 1 : 2	5,500	1 : 1.74 : 4.87	1	0.45	6,666	3.10
52	1 : 1 : 2	6,000	1 : 1.5 : 3.8	$\frac{3}{4}$	0.38	8,384	2.31
6	1 : 1½ : 3	4,000	1 : 2.25 : 5.78	1½	0.50	5,086	1.79
7	1 : 1½ : 3	4,000	1 : 2.04 : 5.01	1½	0.48	5,285	1.31
21	1 : 1½ : 3	4,000	1 : 2.0 : 6.0	1½	0.45	5,691	1.79
1	1 : 2 : 4	3,000	1 : 2.23 : 6.77	1½	0.54	4,006	0.93
3	1 : 2 : 4	3,000	1 : 2.45 : 6.52	1½	0.51	4,607	0.93
30	1 : 2 : 4	3,000	1 : 2.20 : 6.80	$\frac{3}{4}$	0.56	4,319	0.93

the concrete was vibrated. It will be noticed that in order to allow for variation in the materials and site supervision, the average cube strength needs to be higher than the specified minimum strength. The allowance is varied with the degree of control anticipated on each individual site but in the examples given is never less than 1,000 lb./sq. in. It is not always possible to obtain results as striking as those shown in the table, but savings of 15 to 20 per cent. of cement are normal. Generally the mix which can be used in any particular case is determined by the characteristics of the coarse and fine aggregate available.

Apart from the cement saving, the advantages obtained from the designed mixes are a slight saving in the cost of materials, the production of concretes less liable to frost and shrinkage troubles and often a better workability despite the lower water/cement ratio.

The full advantages of this type of mix can

number of interesting techniques have been investigated which promise material reductions in cost if the work is organized properly. The two most important of these are the power float and the vibrating roller.

The power float (see Fig. 1) was originally used for laying granolithic paving and was calculated to do the work of as many as eight plasterers in a given time.

It can also be used for monolithic-granofinishes where the dry cement-granomixture say, $\frac{1}{2}$ in. or $\frac{3}{4}$ in. thick, is knitted into the previously laid "green" vibrated concrete slab. Later work has shown that the machine can be used for producing a finished surface of any ordinary concrete slab and it has in fact been employed to finish off concrete of which the aggregate was 1½ in. down and the aggregate cement ratio 9 to 1.

The poker vibrator is not suited to the consolidation of thin concrete slabs and a search has been made for more satisfactory methods resulting in the use of a vibrating roller (see

INFORMATION CENTRE

10.123 design: building types LONDON AIRPORT

The Requirements of a Civil Airport as Typified by London Airport. B. E. Willett. (Paper to Inst. Civil Engineers, 11th Jan., 1955.)

Specialist interest. Deals with planning requirements, lighting, fire fighting and services of the airport generally. Buildings
(Continued on page 315)



NEW ELECO "PERSPEX" FITTING FOR INDUSTRIAL CONDUIT LIGHTING

**—Increases Light Output
Ratio 10-15%**

This new Eleco fitting (patent applied for) is efficient, versatile and economical. It can be used either open, or made completely dustproof with a diffuser cover. The reflectors are made in two grades of opal 'Perspex', whilst the covers are obtainable in three grades, including a pinspot pattern "Perspex". This means that a suitable combination can be arranged to control the percentage of upward light and brightness over a considerable area. Thus, units can be selected to give the best lighting effect for your particular installation.

**TOTAL THESE FEATURES —
AND YOU GET TODAY'S
MOST EFFICIENT LIGHTING**

*For further particulars or help on
any lighting problem write to:*



**ENGINEERING & LIGHTING
EQUIPMENT CO. LTD.**

SPHERE WORKS, ST. ALBANS, HERTS.

**For 100 to 500 watt tungsten
Lamps, 80-125 watt MB/V
Mercury.**

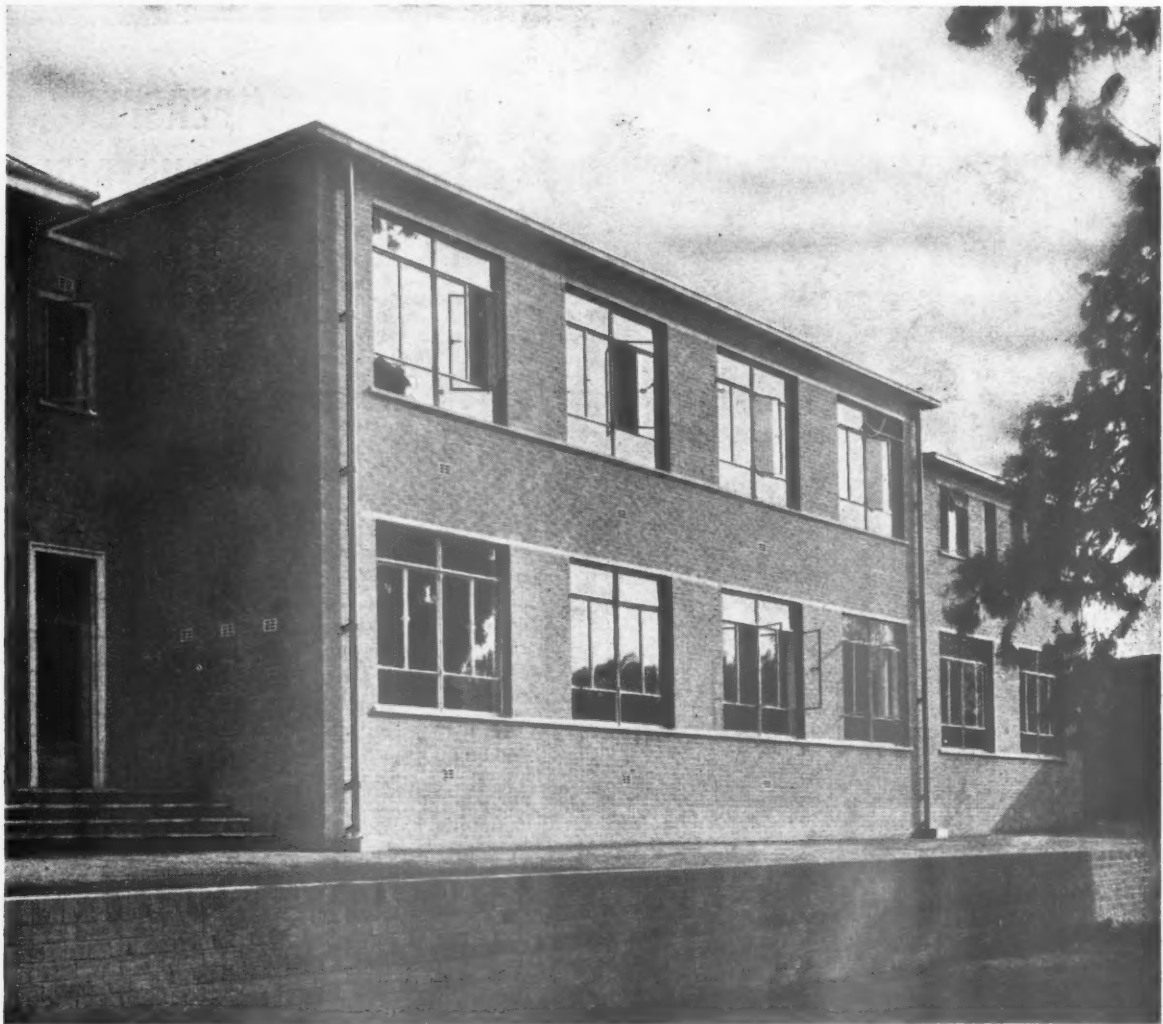
**Lighting output Ratio exceeds
85%. Balanced distribution —
10-25% upward light.**

**High mechanical strength —
Resists corrosion.**

Low initial cost.

Ease of installation.

White stove enamelled interior.



Architect : P. L. Hansen Bay, M.A., A.R.I.B.A.
Contractors : J. L. Glasscocks Successors (Bishop's Stortford) Ltd.

New Classroom Wings

at St. Mary's Convent, Bishop's Stortford

faced with **IBSTOCK GOLDEN-BROWN Sandfaced Wirecuts**

In mingling new building with old, the problem of colour as well as style is added to the designer's task.

The use of Istock Golden-Brown Sandfaced Wirecuts for the facing of these additions to St. Mary's Convent, Bishop's Stortford, provides a welcome note of colour, without undue contrast with the original renderings.

Ibstock

FACINGS for Colour

Owing to present demand, supplies of facings of most types are booked for a long time ahead, and reservations for 1955/56 are now being made.

IBSTOCK BRICK & TILE CO. LTD., Ibstock, near Leicester
London : L.M.R. Goods Depot, Wright's Lane, Kensington, W.8.

Telephone : Ibstock 391 (2 lines)
Telephone : Western 1281 (2 lines)

CURR

Prepar

Contin

JOINER

Plain edge
widths
Tongued
1" double
laid he
compos
Swedish s
European
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Burma te
Softwood
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sections
Extra for

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N.B.—
Standard

CURRENT PRICES FOR MEASURED WORK

Prepared by Davis, Belfield & Everest, chartered quantity surveyors

Continued from last week

JOINER

Floors and Skirtings

(All thicknesses stated are nominal)

Plain edge softwood flooring in batten widths nailed to floor joists	per square	142/-	158/8	190/10
Tongued and grooved ditto	per square	152/2	169/-	202/6
1" double grooved and tongued and grooved wood block floor laid herringbone with two-block border, set in hot mastic composition on prepared screed and wax polished:—				
Swedish softwood	per yard super	29/5		
European beech	per yard super	35/2		
English oak	per yard super	46/9		
European oak	per yard super	39/11		
Burma teak	per yard super	44/8		
Softwood skirtings with splayed or molded top edge, planted on (per inch sectional area)	per foot run	-2 1/4	-2 1/2	
Extra for grounds plugged to brickwork	per foot run	-8		

Windows in Softwood

Rebated and molded softwood fanlights and casement sashes divided into squares for glass	per foot super	1 1/2"	2"	
Extra for hanging	each	6/10	6/10	
Cased frames with 6" x 3" oak sill and 2" molded double hung sashes including pulleys, line and weights	per foot super	—	10/4	

N.B.—The above prices are for purpose made joinery. Standard pattern casement windows and double hung sashes and frames to B.S. 644 are cheaper.

Doors in Softwood

Framed ledged and braced doors filled in with 1" T. & G. and V-jointed boarding and hanging	per foot super	6/6	7/3	7/3
Four-panel door, square both sides and hanging	per foot super	5/4	6/1	6/1
Ditto molded one side	per foot super	5/11	6/7	6/7
Ditto molded both sides	per foot super	6/6	7/3	7/3

N.B.—The above prices are for purpose made doors. Standard panelled doors to B.S. 459 are cheaper.

1 1/2" standard flush doors 2' 6" x 6' 6" internal pattern	each	120/8		
2" ditto external pattern	each	129/5		

Linings, Frames, etc., in Softwood

Window and door linings etc. (per inch in sectional area)	per foot run	Up to 6" 6" to 12"		
Frames wrot all round and framed (ditto)	per foot run	-3 1/2	-2 1/4	
Mullions, transoms and cills (ditto)	per foot run	-3 1/2	-3	
Moldings, architraves, etc. (ditto)	per foot run	2" to 4" 4" to 6"		
6" Window boards with rounded nosings, tongued at back and including bearers	per foot run	-3 1/2	-3 1/2	
9" Ditto	per foot run	1"	1 1/4"	
	per foot run	3/3	3/6	
	per foot run	3/8	4/-	

Shelving and Fittings in Softwood

Shelving of 2" slats spaced 1" apart on bearers (measured separately)	per foot super	2/9	3/1	
Shelving on ditto	per foot super	2/6	3/1 1/2	
Cross tongued shelving on ditto	per foot super	3/1 1/2	3/9	
Shelving 9" wide on ditto	per foot run	1/9	2/2	
2" shelf bearers plugged to walls	per foot run	1/1	1/3	
The following in framed up cupboard fittings:				
T. & G. & V-jointed back	per foot super	2/2	2/6 1/2	
Cross tongued top, bottom shelf or division	per foot super	3/2 1/2	3/9	
1 1/2" flush cupboard doors	per foot super	7/5		
Labour rebate or groove	per foot run	-3 1/4		
Labour cross-grain	per foot run	-4 1/4		
1" x 2" bearers screwed on	per foot run	-6		

N.B.—The above prices are for purpose-made cupboard fittings. Standard pattern kitchen fittings to B.S. 1195 are cheaper.

IRONMONGERY

3" steel butts (medium quality)	per pair	5/3	6/5
4" ditto (ditto)	per pair	6/11	8/6
Double action floor springs and top centres including filling boxes with oil P.C. 149/3	each	182/10	189/1
Overhead check action door springs, P.C. 66/8	each	85/-	88/11
6" barrel bolts. P.C. 5/6	each	7/9	8/3
Cupboard locks. P.C. 8/2	each	12/6	13/8
Norfolk latches. P.C. 5/6	each	10/9	12/4
Cylinder night latch. P.C. 15/11	each	23/4	25/4
Mortice latch. P.C. 9/4	each	14/11	16/6
Rim lock. P.C. 10/-	each	14/6	15/8
Mortice lock. P.C. 15/2	each	22/6	24/6
Door furniture. P.C. 24/-	per set	27/7	27/11
Sash fasteners. P.C. 9/-	each	11/9	12/4
Casement fasteners. P.C. 7/11	each	10/1	10/7
Casements stays. P.C. 11/6	each	14/-	14/6

STEEL AND IRONWORKER

Structural Steelwork

The following prices are for Basic sections only. Prices for other sections vary roughly in proportion to the price of the steel ex mills—see "Current Market Prices of Materials."

R.S.J.—in steel framed structures hoisted and fixed complete	per ton	£ s. d.	
Riveted compound girders including plates and rivets	per ton	60 14 0	
R.S. stanchions including caps, bases, cleats, etc.	per ton	71 4 0	
Riveted compound stanchions ditto	per ton	70 3 0	
Riveted roof trusses with flat and angle members, plates, cleats, etc., 30' span	per ton	75 8 0	
Ditto 40' span	per ton	105 17 0	
	per ton	102 14 0	

Sundries

Simple wrot iron balustrades fixed complete (excluding mortices etc.)	per cwt.	11 10 6	
Bolts with heads, nuts and washers and fixing	per cwt.	11 13 10	

PLASTERER AND TILE FIXER

24 gauge expanded metal lathing and fixing to softwood soffits	per yard super	5/4	
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Lime and Gypsum Plaster

Three coat lime and two coat "Sirapite" or similar gypsum plaster:—		Lime	"Sirapite"
On brick walls and partitions	per yard super	6/4	4/11
On concrete soffits including hacking	per yard super	7/8	7/1
On soffit of E.M.L. (measured separately)	per yard super	6/6	7/9
3/8" Gypsum plasterlath fixed to softwood soffits, in accordance with manufacturer's instructions, finished with setting coat of suitable plaster	per yard super	7/8	
Plaster moulded cornice or cove (per inch in girth)	per foot run	-5	

Cement Rendering

Rendering in Portland cement lime sand (1:1:6) and setting in Keenes cement on brick walls and partitions	per yard super	6/1	
Portland cement and sand (1:3) plain face trowelled smooth on ditto	per yard super	5/7	
Portland cement and sand (1:3) screed for tiling on ditto	per yard super	2/11	

Wall Tiler

6" x 6" x 3/4" standard quality white glazed wall tiles set and jointed on prepared screed	per yard super	39/11	
Ditto eggshell matt or glossy glazed enamelled	per yard super	50/2	

EXTERNAL PLUMBER AND COPPERSMITH AND ZINC WORKER

		Flats	Gutters, Stepped flashings, etc.
Milled sheet lead and labour	per cwt.	213/11	213/11 223/8



*A good plan
is only the beginning . . .*

Many a good plan has been spoilt by lack of attention to detail. Take paint, for instance. For a permanent attractive appearance—a finish that will retain colour and gloss whilst giving maximum protection—only the best is good enough. Such a paint will certainly contain Titanium Oxide, the finest white pigment available, and the basis of all good white and light coloured paints.

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EXTERNAL PLUMBER AND COPPERSMITH AND ZINC WORKER—(continued)

24 S.W.G. sheet copper and labour	per foot super	6/3	6/7	6/10
23 S.W.G. sheet copper and labour	"	6/6	6/10	7/1
14 gauge zinc and labour	"	2/6	2/9	3/-

Rainwater Pipes and Gutters

Cast iron medium section ($\frac{3}{16}$ " metal) R.W. pipes and joining and fixing to walls with pipe nails and distance pieces or holderbats (cutting and pinning holderbats measured separately)	per foot run	3"	4"	
		With holderbats	With nails	With holderbats
		3"	4"	
Pressed steel R.W. pipes and ditto	"	24 G.	20 G.	
Asbestos cement R.W. pipes and ditto	"	3/9	3/1	5/4
Cast iron half round eaves gutter and jointed and fixed with brackets to fascia	"	2/8	—	3/6
Ditto O.G. ditto	"	4"	6"	—
18 Gauge pressed steel half round ditto	"	3/5	3/5	4/3
Ditto O.G. ditto	"	3/4	4/3	4/10
Asbestos cement half round ditto	"	2/9	3/8	
	"	3/5	4/4	
	"	2/6	3/9	

Soil and Ventilating Pipes

Lead soil, waste and ventilating pipes (17 lb. per yard for 3" and 22-8 lb. per yard for 4" diameter) fixed to walls with lead tacks and brass screws	per foot run	3"	4"	
		13/1	18/5	
Medium or heavy section cast iron soil, waste and ventilating pipes with caulked joints, fixed to walls, with pipe nails and distance pieces	"	Heavy $\frac{3}{16}$ "	Med-ium $\frac{3}{16}$ "	Heavy $\frac{3}{16}$ "
	"	5/6	5/-	6/11

INTERNAL PLUMBER*Lead Pipes*

Prices are based upon the following weights per yard.

		$\frac{1}{2}$ " lb.	$\frac{3}{4}$ " lb.	1" lb.	$1\frac{1}{4}$ " lb.
Supply	....	7	11	16	21
Distributing	....	6	9	12-5	16
Flushing and overflow	....	3	5	7	9
Waste and ventilating	....	—	—	—	7
Supply pipe in trench (measured separately)	per foot run	$\frac{1}{2}$ "	$\frac{3}{4}$ "	1"	$1\frac{1}{4}$ "
Ditto fixed to walls and ceilings	"	4/7	6/9	8/9	11/6
Distributing pipe fixed to walls and ceilings	"	4/1	5/9	7/10	10/4
Flushing and overflow pipe ditto	"	2/8	3/10	5/3	7/-
Waste and ventilating pipe ditto	"	—	—	—	6/-
Joints to fittings	each	5/1	6/1	6/7	7/2
Bends	"	—	—	—	2/-
Branch joints	"	6/6	7/6	8/-	9/3

Steel Tubes and Fittings

Galvanized steel tubes to B.S. 1387 Class C with screwed joints in red lead as supply pipe laid in trench (measured separately)	per foot run	2/-	2/3	2/5 $\frac{1}{2}$	3/-
Ditto Class B ditto fixed to walls and ceilings as supply, distributing, waste pipe, etc.	"	1/11 $\frac{1}{2}$	2/2	2/4	2/9 $\frac{1}{2}$
Joints to fittings	each	3/9	4/6 $\frac{1}{2}$	5/3	6/4
Bends	"	—	—	3/11	5/9
Tee, equal or reducing	"	2/2	2/6 $\frac{1}{2}$	3/2	4/4

Copper Tubes and Fittings

Prices are based upon the following gauges:—

		$\frac{1}{8}$ "	$\frac{3}{16}$ "	1"	$1\frac{1}{4}$ "
Supply	....	18	17	16	16
Distributing, waste, etc.	....	19	19	18	18
Copper tubes to B.S. 1386, as supply pipe laid in trench (couplings and trench measured separately)	per foot run	2/1	3/1	4/3	5/5
Ditto to B.S. 659 as distributing, waste pipes, etc., fixed to walls and ceilings. Couplings measured separately	"	2/1	2/8	3/9	4/6

INTERNAL PLUMBER—(continued)

Brass compression type couplings—copper to copper	each	5/1	5/11	8/4	10/7
Ditto bends	"	6/8	7/10	11/4	14/3
Ditto tees	"	8/9	9/11	15/3	22/-

Sanitary Fittings

Fireclay sinks 24" x 18" x 10" including cutting and pinning brackets to tiled wall. P.C. 75/-	each	£ s. d.	
Combined metal sink and drainer 42" x 18" x 8 $\frac{1}{2}$ " to bearers (measured separately). P.C. 330/-	"	18	12 6
Fireclay lavatory basin 25" x 18" with taps and towel rail bracket including screwing brackets to tiled wall. P.C. 138/6	"	8	8 0
Rectangular cast iron porcelain enamelled bath 5' 6" long, with taps, and panels to side and one end fixed to framing (measured separately) P.C. 390/6	"	23	10 3
Fireclay w.c. pan with trap, plastic seat, high level cistern and flush pipe, including screwing pan to floor and cistern brackets to backboard. P.C. 200/-	"	12	13 0
Ditto with low level cistern P.C. 240/-	"	14	18 6

GLAZIER

		To wood	To metal
18 oz. Ordinary quality sheet glass and glazing with putty in squares not exceeding 4 ft. sup.	per foot super	1/0 $\frac{1}{4}$	1/2
24 oz. Ditto and ditto	"	1/2 $\frac{1}{2}$	1/4
32 oz. Ditto and ditto	"	1/8 $\frac{1}{2}$	1/10
$\frac{1}{8}$ " figured, rolled, and cathedral—untinted and ditto	"	1/4	1/5 $\frac{1}{2}$
$\frac{1}{4}$ " rough cast and ditto	"	1/8 $\frac{1}{2}$	1/10
$\frac{1}{4}$ " wired cast and ditto	"	1/11	2/0 $\frac{1}{2}$
$\frac{1}{4}$ " Georgian wired cast and ditto	"	1/11 $\frac{1}{2}$	2/1
$\frac{1}{4}$ " Georgian wired polished plate and ditto	"	6/1 $\frac{1}{2}$	6/3
$\frac{1}{4}$ " polished plate (glazing quality) and ditto	"	6/1 $\frac{1}{2}$	6/3

PAINTER*Whitening, Distemper and Paint on Walls*

Prepare and twice whiten plastered walls and ceilings	per yard super	1/2
Prepare and twice distemper with washable distemper on plastered walls and ceilings	"	1/9
Ditto on brick or concrete	"	2/4
Prepare and paint two coats emulsion paint on plastered walls	"	2/7
Prepare, prime, and paint two coats oil colour on plastered walls and ceilings	"	4/9

Paint on Metal

		Basic price	Add for each additional coat
Prepare, prime, and paint one coat oil colour on general surfaces	per yard super	3/-	1/5
Ditto metal casements	"	4/9	2/1
Ditto members of roof trusses	"	3/10	1/9
Ditto balustrades one side	"	4/9	2/1
Ditto bars, etc., not exceeding 6" girth	per yard run	-/9	-/4
Ditto small pipe	"	-/9	-/4
Ditto large pipe	"	1/7	-/8 $\frac{1}{2}$

Paint on Wood

		Basic price	Add for each additional coat
Knot, prime, stop and paint one coat oil colour on general surfaces of woodwork	per yard super	3/4	1/5
Ditto on skirtings, rails, frames, etc., not exceeding 3" girth	per yard run	-/5	-/2
Ditto ditto for each additional 3" in girth	"	-/4 $\frac{1}{2}$	-/2
Ditto on sash squares one side	per dozen	4/5	1/8
Ditto on large sash squares one side	"	7/11	3/1

Stain and Varnish on Wood

Prepare, size, stain and twice varnish on general surfaces of woodwork	per yard super	3/9
Ditto on skirtings, rails, frames, etc., not exceeding 3" girth	per yard run	-/6
Ditto ditto for each additional 3" in girth	"	-/5

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Contractors: D. B. H. Contractors,
New Malden, Surrey.

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only very briefly referred to. Noise problems discussed at some length and data given on noise level of aircraft in flight and when being tested.

10.124 design: building types HOSPITALS IN ONTARIO

A Guide to Hospital Building in Ontario. Toronto University Press (London: Geoffrey Cumberlege. 80s.)

The guide was originally envisaged as a pamphlet, but the conception changed as it was realized that the increase in the population of Canada, the rising prosperity and the growth of health insurance schemes would give a great stimulus to hospital building. There was obviously a need for collected and authoritative information on hospital planning. It is emphasized, however, that the guide is not to be considered as a government regulation or as a building code, but is intended to provide in one book a distillation of information "applicable to the provincial scene" for the use of architects with a general practice. No attempt is made to produce complete plans of hospitals, as is done, for example, in some of the United States Public Health Service publications, but instead to give lists of accommodation and outline plans for the various departments in a hospital, rather as Mr. Guy Aldis has done in his recent book "Hospital Planning Requirements." Some idea is given as to how these departments fit into the hospital plan as a whole, but only in words. The detailed information throughout refers to the needs of an acute general hospital of 200 beds. Plans for departments or parts of departments are included in the book, clearly drawn in a thorough going and unemotional style. As is to be expected in a book dealing with conditions which are so different from those obtaining in this country, some of the information is not applicable here. It is assumed, for example, that the best method of nursing general medical and surgical cases is in one- and two-bed wards, with the latter predominating. It is now generally conceded here and in Europe that, while a proportion of single-bed wards is essential on medical grounds, nursing is made easier, and building cheaper, if the most acute patients are in four- to six-bed wards.

The advice given throughout the book is generally sound, in so far as it applies to principles of planning; but architects without experience of hospital planning who make use of the book should take care to check the detailed recommendations against the requirements of British practice, and the results of research into hospital function and design being undertaken here.

18.161 construction: theory STEELWORK DESIGN

The Steel Skeleton. Volume I. J. F. Baker. (Cambridge University Press. 1954. 42s.)

Textbook on elastic behaviour and design of steel structure of interest to both architects and engineers.

Professor Baker needs no introduction to readers of the JOURNAL but has perhaps been associated previously only with the development of the plastic design in steel structures in post-war years. Professor

Baker has in fact been intimately concerned with the advancement of design in structural steel over the last 25 years. This volume is concerned with research in this country during that period. It gives an account of the early survey or existing regulations which resulted in the preparation of Code of Practice, 1931, and BS 449 (1932). Professor Baker was Technical Officer to the Steel Structures Research Committee, and his first-hand account of the work which led to the Final Report of that committee is both enlightening and entertaining. While many engineers may be aware of the existence of this report, it is safe to say that few who have entered the profession since 1940 will have read it, and Professor Baker's book will for them fill something of the gap in their education. The Committee's work of tests on an experimental frame and buildings in course of erection, experimental work in the laboratory and theoretical analysis and the recommended design are all discussed. The final chapter deals with the reception of the recommendations and Professor Baker does not conceal his disappointment at the manner in which design, particularly of stanchions, was tending. The last revision of the Code in 1948 did, however, accept the fully rigid design, thus going some way to appease the author. We can only look forward avidly to the second volume of this monumental work, which will deal with the development of the plastic design method.

24.189 lighting NEW APPROACH

A New Approach to Artificial Lighting by J. M. Waldram. (ARCHITECTS' JOURNAL, July 22, 1954).

This article is an important one as it gives a brief statement of the main principles involved, and then shows by a carefully worked out example, a new trend in artificial lighting technique envisaged by a Sub-Committee of the British National Illumination Committee in their report published in September, 1953, entitled "Design of the Visual Field." The author was the Chairman of this Sub-Committee and recognizing that the problem is basically an architectural one he emphasizes at the start the need for long term collaboration by the architect and lighting engineer.

24.190 lighting LUMINOUS CEILINGS

Luminous Ceilings—A Tool for Everyman by Domina Eberle Spencer. (Progressive Architecture, Dec., 1954).

This article is a rather uncritical review of the recent fashion in "artificial lighting in the United States—"the luminous ceiling"—in which the whole area of ceiling, formed of some translucent material, is illuminated from lamps hung above it and becomes in effect the source of light. A number of illustrated examples are given of typical installations. This trend in lighting has undoubtedly been encouraged by the adoption of a corrugated light-weight plastic material known as vinyl, for the ceiling panels. Advantages claimed in the article for corrugated vinyl are:—low cost, light weight, ease of handling and cutting, and non-inflammability. The vinyl is usually supported by some form of rail or fin, either in metal or plastic, to which it is clipped in position. If acoustical correction is required, the fins supporting the plastic panels are sometimes formed in perforated metal enclosing pads of glass wool.

The panels are usually suspended about 12 inches below the lamps.

One reason for the popularity of the luminous ceiling is the ease with which wiring, lamps and control gear, can be hidden out of sight. Access to the lamps for maintenance is obtained by simply sliding the vinyl sheets to one side or by fixing the plastic to hinged metal frames which can be dropped to open. The possibility of discoloration of the vinyl sheeting is discussed. It is mentioned that exposure to direct sunlight will blacken vinyl sheets, but that the ultra-violet radiation from the fluorescent lamps is not sufficient to produce rapid discoloration, provided the lamps are mounted at least six inches above the ceiling.

The idea of a luminous ceiling uncluttered by hanging lamps and fittings is to many an attractive one and there may well be some justification for its use in situations where visual tasks of a particular nature are performed over long periods, but the illustrations give the impression that the large areas of illuminated ceiling may prove distracting if not actually glaring; the ceiling is in fact the best lighted area in the room. There is no direct mention of this aspect of the problem in the article, but limited experience in this country with the indirect lighting of solid ceilings suggests it may be an important consideration. It seems possible, too, that the shadows from the large area of illuminated ceiling will be too soft for tasks demanding clearly defined shadows for judging the shape of objects and textures. The provision of some direct light from supplementary sources would seem one way out of the difficulty in such cases. The suggestion in the paper for combining a luminous wall with a luminous ceiling in television studios to give better modelling of the human face seems to be an indirect admission of the lighting limitations of luminous ceilings.

THE INDUSTRY

From the Industry this week, Brian Grant reports on a new up-and-over garage door, infillings for curtain wall construction, cooking and water heating equipment, a built-in timer switch, a solid fuel heating unit and wall finishes.

GARAGE DOORS

An up-and-over type of garage door, panelled either in exterior grade mahogany plywood or aluminium, has been produced to sell at £15. The door is made to fit a standard opening of 7 ft. 6 in. wide and 6 ft. 3 in. high, and the clear height when opened is 6 ft. 1 in. The top edge of the door carries ball-bearing rollers running in a horizontal light alloy track, and the bottom edge is carried by pivoted arms with counterbalance weights. Fixing is very simple and there is nothing which seems likely to go wrong. The manufacturers also produce complete garages in precast concrete units. (Ernest Bailey Ltd., Holbrooks, Coventry.)

CURTAIN WALLING

For some time the Cape Asbestos Company has been experimenting with the use of Asbestolux as an infilling for curtain wall construction. Two basic systems have been evolved, both of which can be used with either metal framework or concrete transoms and mullions.



Meet Perishin' Fred!

Very fond of a grouse is Fred. Doesn't have to look far either. 'Like the perishin' North Pole in this perishin' factory', growls Fred. But at least he stays on the job; half the girls are away with the sniffles.

Now meet Bert — of the boiler'ouse

'It's no good them coming grouching to me,' glowers Bert, 'radiators are full on (or nearly), and the Guvnor's always bitin' my 'ead off about the fuel bills.'



You know the answer to all their troubles as well as we do. Inter-line that corrugated roof with inexpensive, easily-applied, everlasting Fibreglass heat insulation. Then Fred will stop perishin', Bert will stop beeing and the 'Guvnor' will stop biting. What's more, the installation of Fibreglass will pay for itself in less than three years!

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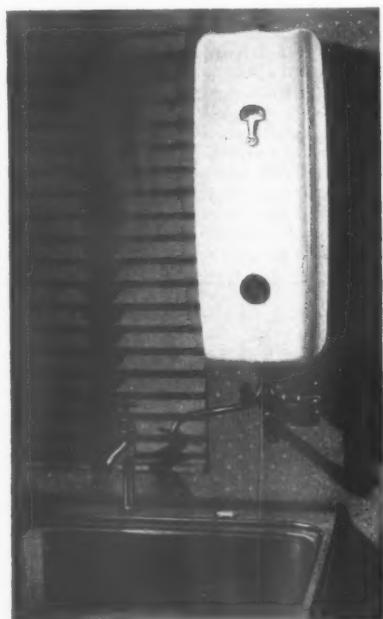
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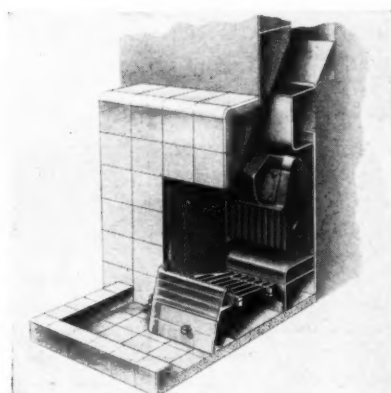
The first method uses a double skin unit of two Asbestolux sheets screwed to both sides of a timber frame and filled with heavy density Rocksil slab. In the other method there are two separate skins, also used with Rocksil insulation, and both methods use kraft paper to form a vapour barrier. Various types of external panel can be used—plain or obscured glass, aluminium or vitreous enamelled steel. The panels may be in sizes up to 4 ft. by 10 ft., but 4 ft. by 4 ft. is the limit for vitreous enamel.

Asbestolux Bridgespan sheets are also used for suspended ceilings and rest on the lower booms of lightweight steel joists spanning between the main beams. The Bridgespan sheets are 4 ft. by 8 ft., and are permanently arched during manufacture to a height of 2 in. across the 4 ft. dimension. When the sheets are installed the rise is only about 1 in., which is scarcely visible. Various other constructional details are set out in a clear and informative booklet. (*The Cape*

Below, the National No. 20 instantaneous sink heater. Bottom, the Cotswold solid fuel heater.



The Simplex timer control for electric cookers.



The Ideal Neofire (No. 10).

Asbestos Co. Ltd., 114-115, Park Street, London, W.1.)

COOKING AND WATER HEATING EQUIPMENT

Flavels of Leamington have just announced two new models which are now being shown at the Ideal Home. The first is the National No. 20 instantaneous sink heater which has an output of half a gallon a minute and is designed for wall mounting. The casing is readily detachable and the heat exchange unit can be unhooked and cleaned in less than five minutes.

The other new model is the Cotswold solid fuel cooker. This has two ovens and three hotplates, and will also provide 100 gallons of hot water per day. The agitator for the grate is constructed so as to keep as much dust as possible from reaching the kitchen, and the grate can be turned completely to dispose of clinker. (Sidney Flavell & Co. Ltd., Eagle Foundry, Leamington Spa.)

TIMER CONTROLS FOR COOKERS

Electric cookers with built-in time switches are generally somewhat expensive, but there are already several timers on the market selling at £10 or less. An electric clock is presumably a desirable fitting in any kitchen, and would cost £2 or more, so that the extra cost of the timing attachment becomes quite reasonable. The latest one is by Simplex, and costs £6 9s. 6d. It can, of course, be placed wherever convenient, but an adaptor plate (1s. 6d. extra) allows it to be fixed to any cooker control unit conforming to B.S. 1833. (*The Simplex Electric Co. Ltd., Broadwell, Oldbury, Birmingham.*)

SOLID FUEL HEATING

There is now a new Ideal Neofire (No. 10) which will provide normal domestic hot water supply via a 20-gallon direct cylinder plus a further 40 sq. ft. of radiation and an average amount of pipe work, all on a fuel consumption of about 2 lb. of coke per hour.

The unit can be fitted into any normal fire place surround with a 16-in. opening, and the boiler has 14 in. flow and return tapings on each side. There is also a large and readily detachable cover plate which allows scale to be easily removed, and the large ash pan needs emptying only once a day. (*Ideal Boilers and Radiators Ltd., Ideal Works, Hull.*)

WALL FINISHES

Sandersons are now selling two new types of wall covering, both of which are reasonably priced. The first is Canotex, a closely woven jute with a "homespun" texture. This is produced in several colours or it

can, if necessary, be painted or distempered. Standard width is 36 in., and the price is 8s. 0d. per yard, tax free.

The other material is Rollywood, which is made of strips of wood veneer, about 1/4 in. wide, plaited together with strong cotton thread. The material can be applied in many ways to almost any surface. The material can be applied to almost any surface, plaster, concrete, wood or metal, with a liquid cement, preferably Boscolyn sealer glue. It may be hung either vertically or horizontally, on flat or curved walls, round columns, or in corners, and it can also be used as a free hanging curtain or as a sun blind. The woods used for the veneers are aspen, walnut, pine and elm and alternative patterns are available with various widths of dark and light woods. Rollywood is supplied in any length and in rolls either 4 ft. or 8 ft. wide at prices varying from 2s. 0d. to 3s. 0d. a sq. ft. Corner and half round mouldings are produced at 4d. and 2 1/2d. per foot. (*Arthur Sanderson & Sons Ltd., 53, Berners Street, London, W.1.*)

INFORMATION CENTRE

INDEX FOR 1954

An alphabetical index covering Information Centre items and special articles published in the Technical Section during the twelve months ended December 31, 1954, is being prepared. Readers who wish to have a copy—it is free of charge—should complete the form below and post it to the Technical Editor, THE ARCHITECTS' JOURNAL, not later than March 7, 1955.

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3.3.55

Buildings Illustrated

Flats on the Hallfield Estate, Bishops Bridge Road, Paddington, London, W.2, for the Paddington Borough Council. (Pages 299-310). Architects: Tecton, Drake & Lasdun, A./F.R.I.B.A., Chief Assistant, Alex Redhouse, A.R.I.B.A., (laundry only) Margaret Rodd, A.R.I.B.A. Consulting Engineers: (Structural), Ove Arup & Partners; (heating, electrical and mechanical equipment), Donald Smith, Seymour & Rooley. Quantity Surveyors: Cyril Sweett & Partners. General Contractors: Walter Lawrence & Son Ltd., and F. G. Minter Ltd. Sub-contractors: piling, Holst & Co. Ltd., and The Franki Compressed Pile Co. Ltd.; steel fixing, L. H. Gale; heating and hot water services, Matthew Hall & Co Ltd.; plumbing and cold water services, Arthur Scull & Son Ltd.; gas supply services, North Thames Gas Board; electric supply services (site work), London Electricity Board; electrical installation, Troughton & Young Ltd.; asphalt and roof felting work, The General Asphalt Co. Ltd.; glazing, Franklin Bros. Ltd.; flooring, Marley Tile Co. Ltd.; metal grilles and railings, Allen & Greaves Ltd.; bricks, Dunbrik Ltd.; windows, Williams & Williams Ltd.; door frames, J. H. Sankey & Son Ltd.; lifts, J. & E. Hall; paint, Leyland Paint & Varnish Co. Ltd., and Duresco Products Ltd.; precast concrete products, Clarincrete Products Ltd.; breeze partition blocks, refuse chute pipes and fittings and sanitary ware, Broads Manufacturing Co. Ltd.; precast stone and concrete facing slabs, Wates Ltd.; street lighting columns, Concrete Utilities Ltd.; bulkhead fittings, General Electric Co. Ltd.; ironmongery, Lockerbie & Wilkinson Ltd.; doors, Gliksten & Co. Ltd.; joinery, J. C. James Ltd.; bituminous waterproofing, Tretol Ltd.; heating convectors, Dunham Ltd.; plaster, Gyproc Products Ltd.; steel rods, Twistee Reinforcement Ltd.; road expansion joints, Cawood & Co. Ltd.

Announcements PROFESSIONAL

Mr. Graham Pegg, A.R.I.B.A., has resigned his post in the Schools Architect's Department, Great Yarmouth, and has commenced private practice at Woodlands, High Street, Gorleston, Norfolk, where he will be pleased to receive trade catalogues.

Messrs. Clifford Tee & Gale have taken into partnership Mr. S. F. Peck, A.R.I.B.A., and Mr. R. E. M. Slater, A.R.I.B.A. The name of the firm will remain unchanged.

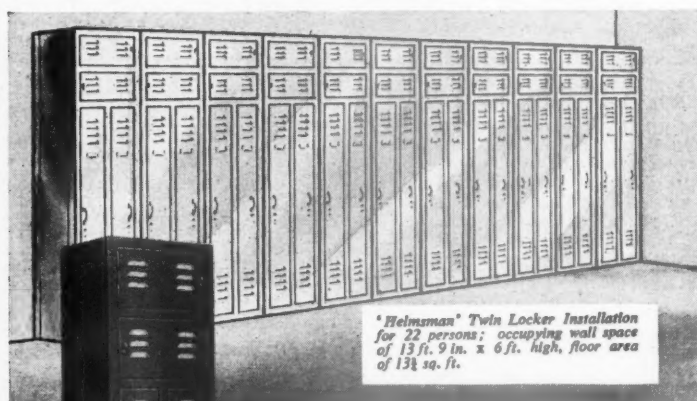
Messrs. Murray, Delves, Murray & Atkins and Robert W. Pite have pleasure in announcing that they have merged their practices. The joint practice will in future be known as Messrs. Murray, Delves, Atkins & Robert Pite and will be conducted from 14, Chantry House, Buckingham Palace Road, London, S.W.1, and 13, Enys Road, Eastbourne. The partners are Colin Hay Murray, F.R.I.B.A., Robert William Pite, F.R.I.B.A., H. Kent Atkins, F.R.I.C.S., L.R.I.B.A., and R. Mercer Atkins, F.R.I.C.S., M.INST.R.A.

Messrs. Walker Harwood & Cranswick, F./A.R.I.B.A., A.M.T.P.I., have transferred their offices from 21, Suffolk Street, S.W.1, to 36, Sackville Street, W.1. Telephone REGent 7605/6.

Messrs. T. G. Jones & J. R. Evans, A./A.R.I.B.A., have moved to new offices at 18, Park Place, Cardiff, South Wales (telephone 32501), where they will be pleased to receive trade catalogues.

Mr. Ewan Blackledge, B.A.R.C.H., A.R.I.B.A., has commenced practice on his own account at 8, Rodney Street, Liverpool 1, where he will be pleased to receive trade catalogues.

Mr. Francis A. Kerr, D.A. (EDIN.), A.R.I.B.A., has moved his offices from 97, Bridge Street, Manchester, to 134, Deansgate, Manchester 3.



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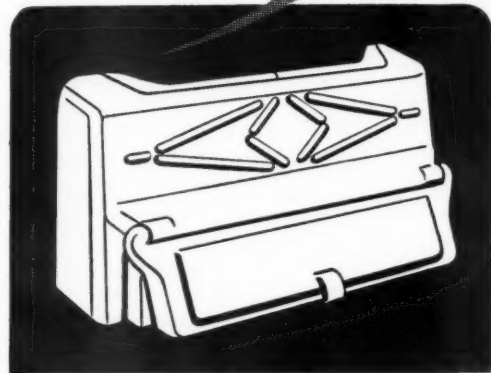
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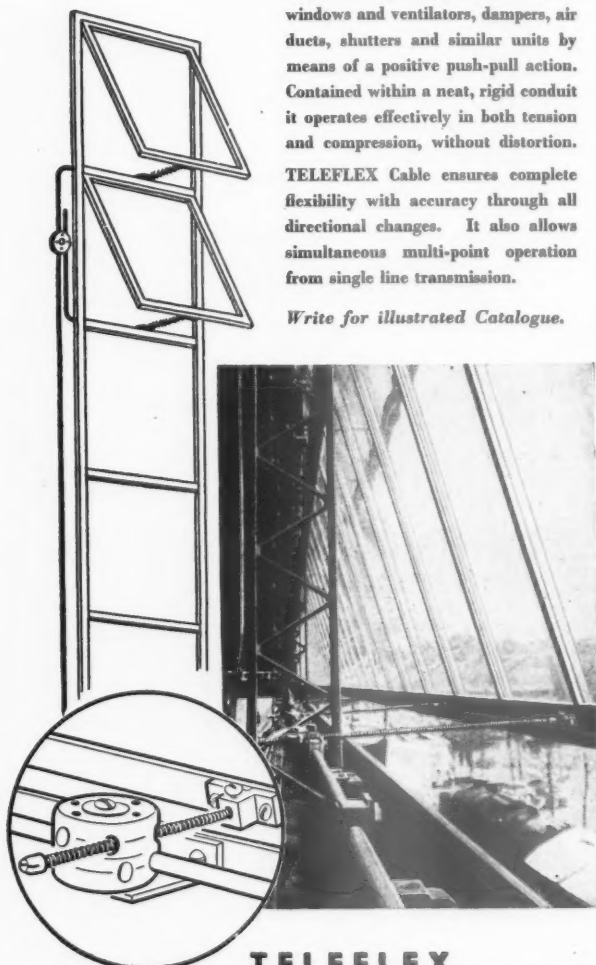
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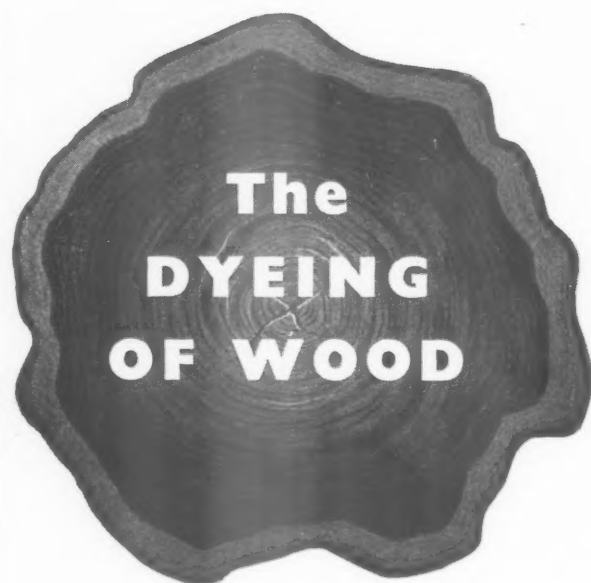
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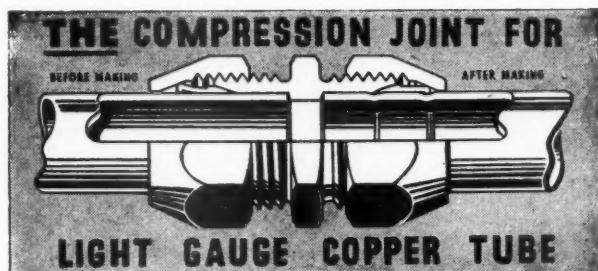
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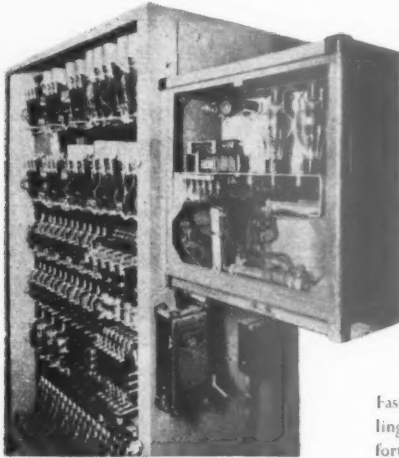
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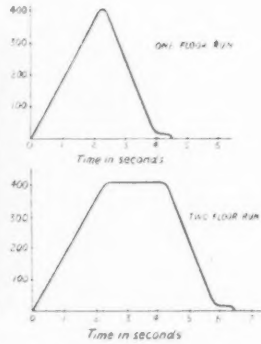
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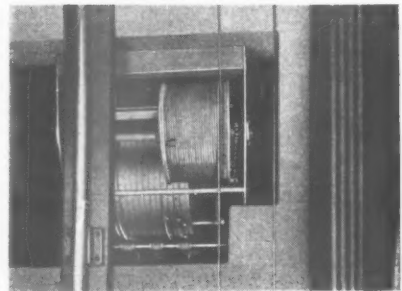
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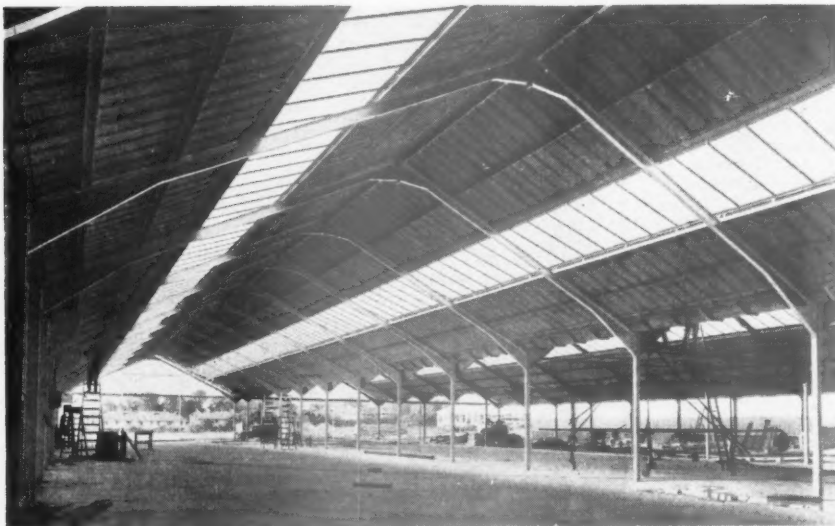


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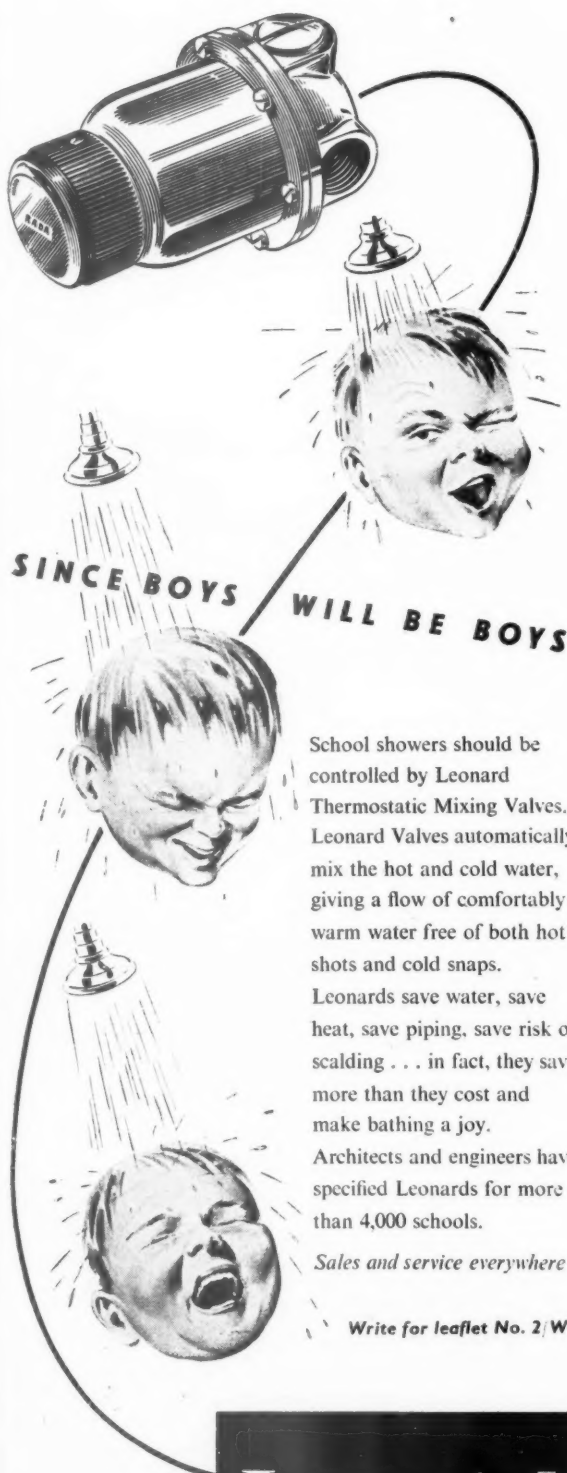
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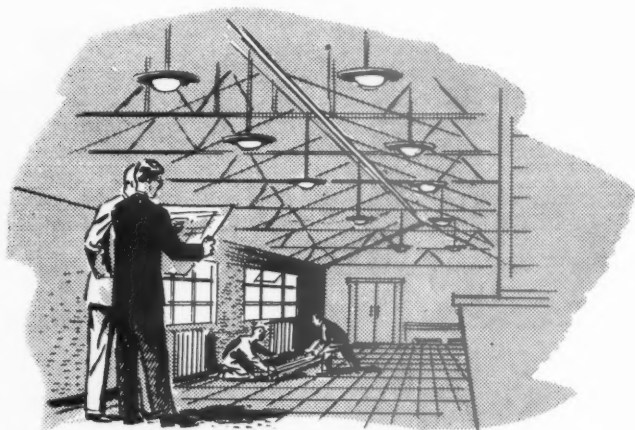
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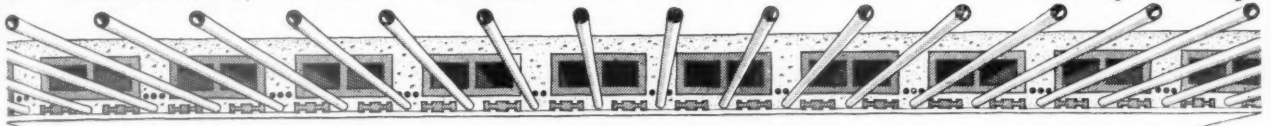
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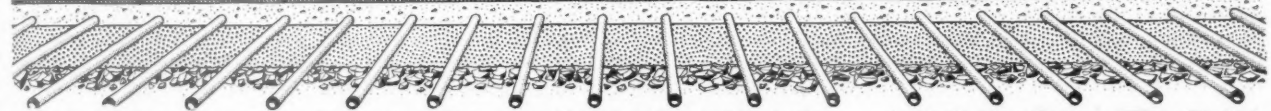
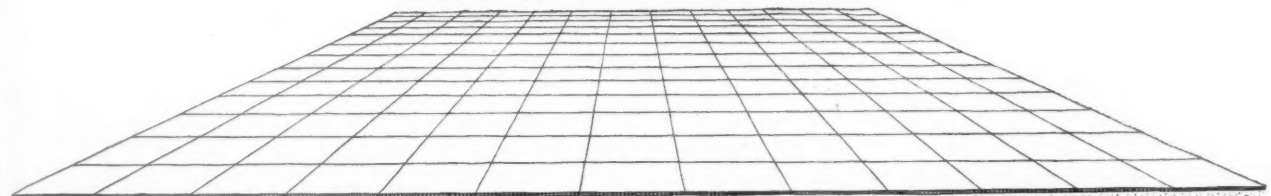
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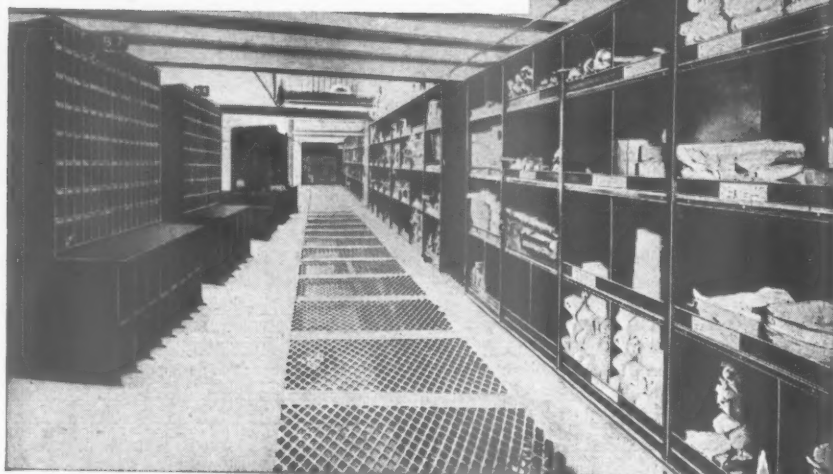
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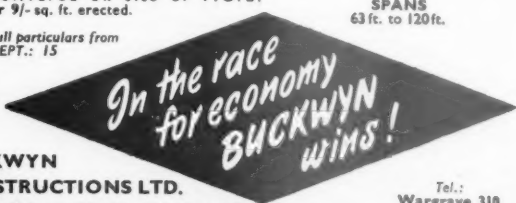
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managing director, Mr. R. B. Moon, had a check made on the difference caused by this insulation. The total fuel bill for the factory—now double its former size—was £741, and the winter temperature was kept at a comfortable level. Thus, allowing for the additional comfort provided for employees the cost of heating was almost halved. Moreover, the condensation problem was solved. Total cost of insulating the factory was nearly £2,000, so this should be recovered in three winters. The question of capital cost is not, however, nearly so great a problem as might appear at first glance, for the Ministry of Fuel and Power has a special fund for the promotion of fuel saving. From this, a firm may obtain a loan to cover the cost of insulation. The loan is interest free for the first two years, and normal commercial rates of interest are charged for the balance of the period of the loan.

With acknowledgement to "Business"



Photograph shows section of Moon Bros. factory with Hollway insulation installed.

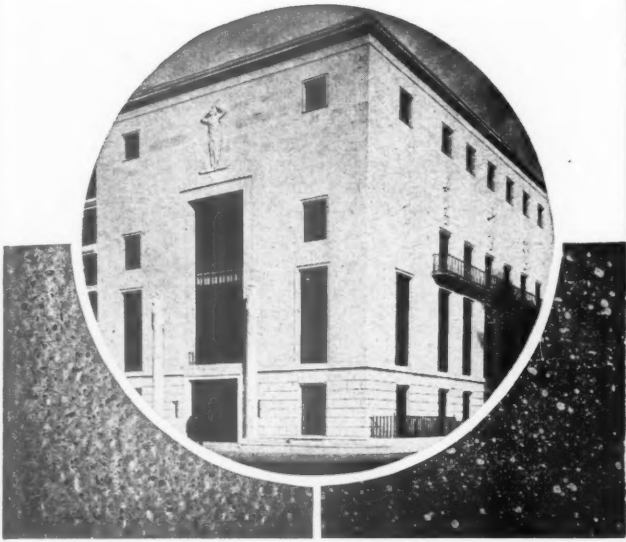
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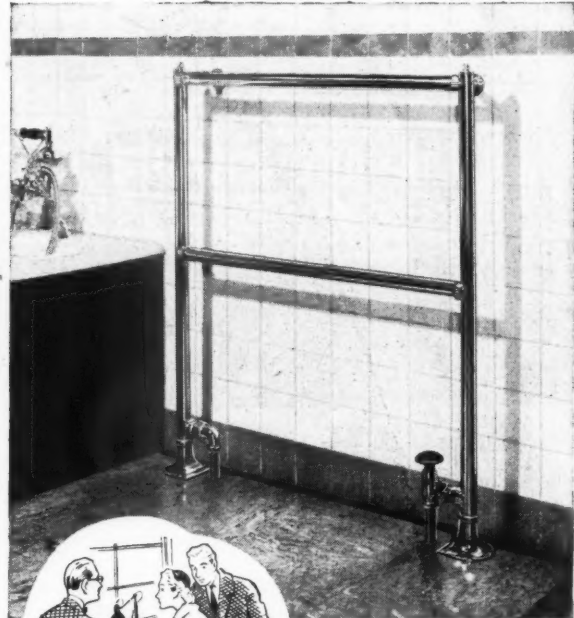
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THIS BOOK IS ABOUT the design, planning and planting of the Modern Garden. It will interest all those who design and plan gardens, professionals and amateurs alike, and indeed all who have any love for gardens and gardening. Its author is a practising landscape architect, as well as an architect of buildings and a town planner. All the gardens illustrated are modern in two senses: first, all have been created during the past twenty-five years; second, all are inspired by the ideas, practical and aesthetic, of the present day and have an affinity with contemporary architecture. They owe something to the practical needs of today—to the need for saving labour, for example, or for withstanding the wear and tear of public use; but they owe even more to the aesthetic ideal, which they share with modern architecture, of sympathetic understanding of the nature of materials; for the landscape architect these are not only the wood, stone, steel and concrete of which buildings are made, but also the great world of living plants.

The author has drawn his examples from all over the world; from Belgium, Brazil, Denmark, England, France, Italy, Sweden, Switzerland and the U.S.A.; they vary from the little twenty-foot-square garden at the back of a London East-end terrace house to the several square miles of Stockholm's famous public parks, and

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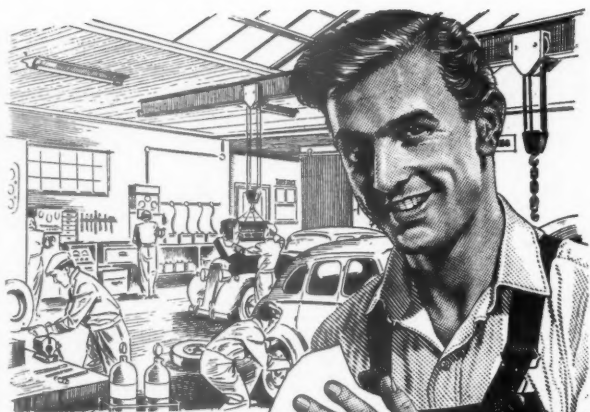


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include examples of roof gardens, indoor gardens, long narrow town gardens, large country gardens set in woodland, and gardens in the desert and by the seashore. He provides numerous plans of the gardens and whenever possible gives details of the material used in the construction of paths, walls, terraces, pergolas, etc., and the names of the plants which are grown.

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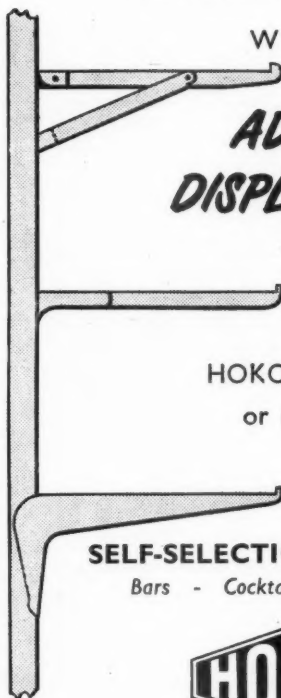
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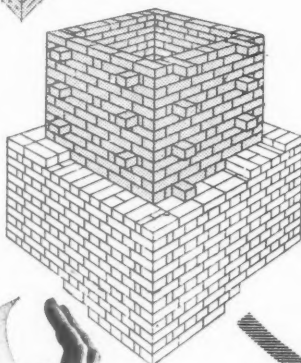
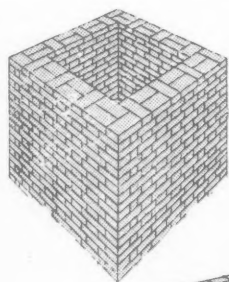
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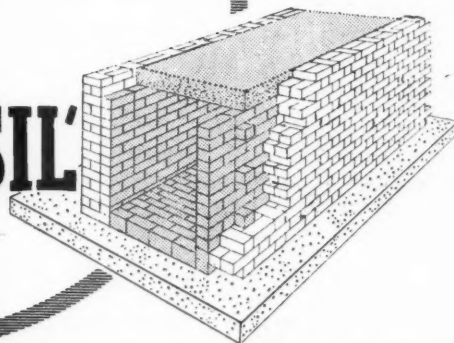
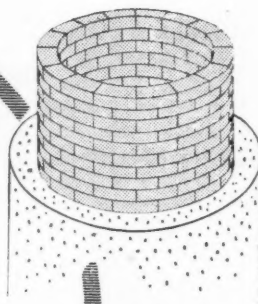
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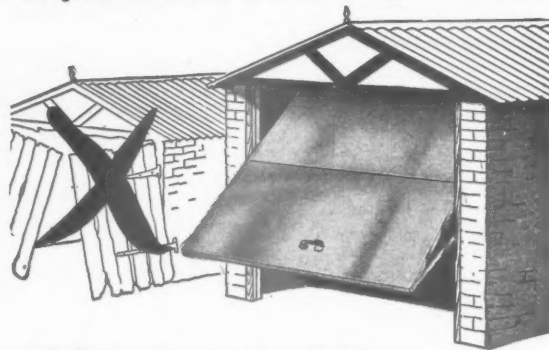
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CLASSIFIED ADVERTISEMENTS

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

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

Public and Official Announcements

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

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

OFFICE OF THE RECEIVER FOR THE METROPOLITAN POLICE DISTRICT.
Applications are invited for unestablished appointments as LEADING ARCHITECTURAL ASSISTANTS in the Architect and Surveyor's Department. The work is concerned with the design and construction of police dwellings and buildings, and candidates will be required to work in the Westminster area.
Rates of Pay* (Men):—£665 × £20—£725 × £25—£780.

Women:—£580 × £20—£640 × £25—£665.

*The scales quoted are subject to an increase of approximately 3 per cent., while a 454-hour week is being worked and also to the addition of a Pay Supplement of £25 or £30 per annum, according to the point reached on the scale.
Conditioned hours:—44 per week.
Annual Leave:—24 days.

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

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

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

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

EAST ANGLIAN REGIONAL HOSPITAL BOARD.

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

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

JUNIOR (Male).—The person appointed will be required for squaring dimensions, abstracting and giving general assistance to technical staff of the section. Salary £170 (at age 18)—£370 (at age 25). Applications, stating age, qualifications, experience and full details of present position, with names of three referees, to Secretary of Board, 117, Chesterton Road, Cambridge, by 11th March, 1955. 8738

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

BOROUGH OF WALTHAMSTOW.

SENIOR ASSISTANT ARCHITECT.
Applications are invited for the above appointment in the Borough Architect, Engineer & Surveyor's Department (F. G. Southgate, A.R.I.B.A., M.I.Mun.E., A.M.T.P.I., Borough Architect, Engineer & Surveyor) at a salary in accordance with A.P.T. Grade V (£780—£930, inclusive of London Weighting), with the commencing salary according to experience.

Applicants must be Registered Architects. Applications, with names of two persons for reference, should be received by the undersigned not later than noon on Friday, 18th March, endorsed "Senior Assistant Architect."

G. A. BLAKELEY,
Town Clerk.
Town Hall,
Forest Road,
Walthamstow, E.17. 8834

COUNTY BOROUGH OF BARNSELY.
BOROUGH ENGINEER & SURVEYOR & PLANNING OFFICER'S DEPARTMENT.
Applications are invited for the following appointments:—

(a) TEMPORARY ASSISTANT ARCHITECT, A.P.T. Grade III (£560—£725 per annum).

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

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

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

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

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

Canvassing will disqualify.
A. E. GILFILLAN,
Town Clerk.

Town Hall, Barnsley.
February, 1955. 8684

BOROUGH OF WREXHAM.
Applications are invited for the following appointments:—

(a) ARCHITECTURAL ASSISTANT.—Salary £550 × £25 to £775.

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

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

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

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

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

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

PHILIP J. WALTERS,
Town Clerk.
Guildhall, Wrexham.
February, 1955. 8707

BOROUGH OF ILFORD.
APPOINTMENT OF TWO ASSISTANT ARCHITECTS.

TWO ASSISTANT ARCHITECTS, A.P.T. II/III. Candidates must be members of the R.I.B.A. and have a thorough knowledge of architectural works, particularly in the design and development of public buildings of all types. Salary £560—£725 p.a., plus London Weighting, point of entry being fixed having regard to qualifications and experience, but not exceeding £620 p.a., plus London Weighting.

Appointments superannuable and subject to medical examination.

The Council is prepared to consider, if necessary, the provision of Housing Accommodation in connection with these appointments.

Application forms obtainable from the Town Clerk, Town Hall, Ilford, Essex, upon receipt of stamped addressed envelope, should be returned not later than 19th March.

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

S.V. 371.—ARCHITECTS, Grade II; and S.V. 372.—QUANTITY SURVEYORS, Grade II. Salary scale £500 × £25—£650 × £30—£900. Candidates must have passed the final examination of the appropriate professional body and have had not less than 1 year's subsequent practical experience.

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

S.V. 374.—QUANTITY SURVEYORS' ASSISTANTS, Grade I. Salary scale £425 × £25—£550 (exceptionally to £800). Candidates should preferably have passed the Intermediate examinations of the appropriate professional body and have had not less than 3 years' subsequent practical experience.

Applications, stating age, education, qualifications, present appointment and salary, should be submitted, within 14 days of publication, to: The Secretary, National Coal Board, East Midlands Division, Sherwood Lodge, Arnold, Notts. Envelopes and applications should be marked with the appropriate "S.V." reference and original testimonials should not be sent. 8739

LONDON COUNTY COUNCIL.
Grade III ENGINEERS (salary up to £892 10s.) and SURVEYING ASSISTANTS (up to £739 10s.) required in District Surveyor's Service. Qualifications A.R.I.B.A., A.M.I.Str.E., or A.R.I.C.S.; structural knowledge essential. Particulars and application forms from Architect (AR/EK/DS/2), County Hall, S.E.1. (1025). 3511

LONDON COUNTY COUNCIL.
Architects and surveyors required for safety regulations of theatres and special buildings, and for general building regulation work. Salaries up to £992 10s., according to experience. A.R.I.B.A. or A.R.I.C.S. essential. Particulars and application form from Architect (AR/EK/TBR/3), The County Hall, S.E.1. (848). 3487

SOUTHAMPTON C.B.C.

requires under N.J.C. service conditions:

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

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

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

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

CORPORATION OF DUNDEE.

CITY ARCHITECT'S DEPARTMENT.
Applications are invited for several appointments in the City Architect's Department.

Applicants should have undergone a sound training in the profession, have a good knowledge of design and be capable of preparing complete working drawings for any project which may be undertaken by the Department.

Salaries will be in accordance with the experience and qualifications of the successful applicants.

The housing needs of applicants will be considered if required.

Applications giving full information as to training, experience, qualifications, if any, along with the names of two professional referees, to be lodged with the Town Clerk, City Chambers, Dundee, on or before Friday, 18th March, 1955.

ROBERT LYLE,
Town Clerk.

City Chambers,
Dundee.
23rd February, 1955. 8832

COUNTY COUNCIL OF ESSEX.

Required on the established staff:—

(a) SENIOR ASSISTANT ARCHITECTS, Grade V, A.P.T.D. salary not exceeding £900. Candidates must be members of the R.I.B.A.

(b) ARCHITECTURAL ASSISTANTS, Grade II, A.P.T.D. salaries not exceeding £640.

The appointments offer opportunities for design and supervision on a variety of buildings—colleges, libraries, day and boarding schools, police and fire stations and health buildings—and successful candidates will have much responsibility within the group system.

The commencing salary for each appointment will be fixed according to experience and qualifications.

Application forms from H. Conolly, F.R.I.B.A., County Architect, County Hall Chelmsford (State post for which form is required) to be returned with copies of three testimonials by 18th March, 1955.

Canvassing disqualifies. 8863

BOROUGH OF ROWLEY REGIS.

APPOINTMENT OF ASSISTANT QUANTITY SURVEYOR.

Applications are invited for the above appointment in the Building Department at a salary in accordance with Grade A.P.T. II to III (£560—£725), according to qualifications and experience. Applicants must be experienced in preparing estimates, bills of quantities, checking interim and final accounts, etc., and must also possess a recognised technical qualification.

The provision of housing accommodation will be considered.

Applications, stating age, qualifications and experience, together with the names of two referees, should be sent to the undersigned not later than Monday, the 14th March, 1955.

R. HEGAN,
Town Clerk.

Municipal Buildings,
Old Hill, Staffs.
18th February, 1955. 8862

COUNTY BOROUGH OF READING.

Applications are invited for the appointment of three ARCHITECTURAL ASSISTANTS in Grade A.P.T. I (£500—£580), commencing salary according to qualifications and experience. The posts are permanent within the establishment. Appointment subject to candidates having passed the R.I.B.A. Intermediate examination or equivalent and had experience in architect's office. Application forms to be returned not later than Wednesday, March 16th, obtainable from Borough Architect, Town Hall, Reading. 8857

ROXBURGH COUNTY COUNCIL.
COUNTY ARCHITECT'S DEPARTMENT.
Applications are invited for the appointment of ASSISTANT ARCHITECT (2). Salary scale Grades V(a) to VII, with placing within that scale according to qualifications and experience. Candidates must be registered architects and preferably members of the Royal Institute of British Architects.

The appointments are subject to the Local Government Superannuation (Scotland) Act, 1937, and to satisfactory medical examination.

Applications, accompanied by one copy each of three recent testimonials, should be lodged with the undersigned not later than 12th March, 1955.

Canvassing, directly or indirectly, in connection with the appointment will disqualify.

JAMES R. HUME,
County Clerk.

County Offices,
Newtown St. Boswells.
16th February, 1955. 8860

CITY OF CHESTER—DEPARTMENT OF CITY ENGINEER.

Applications invited for:—

(1) SENIOR ARCHITECTURAL ASSISTANT. Salary, new A.P.T. Grade IV, namely, £675-£825 per annum. Candidates should have had good training and experience, particularly in school design and should be Associates of the R.I.B.A. or hold a University degree in Architecture.

(2) QUANTITY SURVEYING ASSISTANT. Salary, new A.P.T. Grade IV, as above. Candidates should be suitably qualified and fully experienced in the preparation of Bills of Quantities and settlement of interim and final accounts in connection with construction of Houses, Schools and other buildings.

(3) ARCHITECTURAL DRAUGHTSMAN. Salary, Miscellaneous Grade IV, namely, £465-£545 per annum. Candidates should be able draughtsmen with experience of building construction.

Applications, with two testimonials, should reach the City Engineer, 43, Northgate Street, Chester, by Friday 11th March, 1955. Canvassing directly or indirectly will disqualify and relationship with any member or officer of the Council must be disclosed. 8861

HARLOW DEVELOPMENT CORPORATION.
Applications are invited for the following posts in the Architect's Department:—

(a) JUNIOR ASSISTANT ARCHITECT (General). Experience required: Design ability and working drawings.

(b) JUNIOR ASSISTANT ARCHITECT (Planning). Experience in Town Planning essential. Salary for both appointments commencing at £565 per annum, rising by annual increments of £50 to a maximum of £715 per annum.

Housing accommodation. Applications giving full details, and the names of two referees, should be forwarded to reach the undersigned within seven days.

W. ERIC ADAMS,
General Manager.

"Terlings,"
Gilston, Harlow, Essex. 8859

COUNTY COUNCIL OF NORTHUMBERLAND.
COUNTY ARCHITECT'S DEPARTMENT.

Applications are invited for the post of ASSISTANT QUANTITY SURVEYOR on the permanent staff of this Department. Salary within A.P.T. Grade II, £560, rising to a maximum of £640 per annum.

Applicants should have experience in abstracting, billing and measurement of work on site and preference will be given to those who have passed the Intermediate Examination of the Royal Institute of Chartered Surveyors.

The appointment will be subject to the provisions of the Local Government Superannuation Acts and the successful candidate will be required to pass a medical examination.

Applications in writing stating age, qualifications and previous experience, together with the names and addresses of two referees to whom reference can be made, to be forwarded to the County Architect, County Hall, Newcastle-upon-Tyne, 1, not later than Monday, 14th March, 1955. 8837

GOLD COAST LOCAL CIVIL SERVICE.
TOWN PLANNING OFFICERS.

Vacancies for TOWN PLANNING OFFICERS exist in the Local Civil Service of the Gold Coast. Appointments are on contract for two tours of 18-24 months each in the salary scale £1,190 to £2,020 per annum gross, point of entry determined by qualifications and approved experience. A gratuity of £37 10s. for each completed three months' satisfactory service also payable.

Free first-class passages are provided for the officer, his wife and children up to three in number under the age of 13. Government quarters, if available, are provided at a rental of £75 to £90 per annum. Leave is granted at the rate of seven days for each month of resident service after a tour of eighteen to twenty-four months.

Candidates, who should be under 45, must hold (1) the qualifications of A.M.T.P.I. (or a recognised exempting qualification) and (2) either A.R.I.B.A., A.M.I.C.E., A.R.I.C.S., or A.M.I.Mun.E., and (3) have had at least three years' experience in the Planning Office of a Public Body or Planning Consultants.

Apply in writing to the Director of Recruitment, Colonial Office, Great Smith Street, London, S.W.1, giving briefly age, qualifications and experience. Mention the reference No. BCD 163/13/03. 8775

NORTH WEST METROPOLITAN REGIONAL HOSPITAL BOARD.

ASSISTANT ARCHITECT required. Applicants must be associated members of R.I.B.A. and be experienced in design and construction preferably in new hospitals and associated buildings. Salary scale: £625 x £25 (7) x £30 (3)-£890 plus London Weighting, £20-£40. Commencing salary above minimum may be paid subject to certain conditions.

ARCHITECTURAL ASSISTANT required. Applicants must have passed intermediate examination of R.I.B.A. Person appointed will give technical assistance to professional officers. Salary scale: £465 x £25 (1) x £20 (8)-£650 plus £20-£30 London Weighting. Commencing salary up to £550 plus weighting may be paid subject to certain conditions.

Apply giving age, qualifications (with dates) and experience with names of two referees to Secretary, North West Metropolitan Regional Hospital Board, 11a Portland Place, W.1, by 16th March. 8858

BOROUGH OF MALDEN AND COOMBE.
BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

APPOINTMENT OF CHIEF ARCHITECTURAL ASSISTANT.

Applications are invited for the above permanent appointment from persons with good architectural experience, preferably in a municipal office, and who are Associates of the Royal Institute of British Architects.

The salary will be in accordance with Grade A.P.T. IV of the National Scale of Salaries, i.e., £675 rising, subject to satisfactory service, by annual increments of £30 to £825 per annum, plus London weighting, the commencing salary to be dependent upon the successful candidate's experience and qualifications. A car allowance, at present £50 per annum, will be paid to the person appointed for the use of his private car on official business.

Applications, on forms to be obtained from John Apse, A.M.I.C.E., Borough Engineer and Surveyor, Municipal Offices, New Malden, Surrey, should be returned, endorsed "Chief Architectural Assistant," to the undersigned not later than the 14th March, 1955.

Canvassing, directly or indirectly, will disqualify.

HAROLD E. BARRETT,
Town Clerk.

Municipal Offices,
New Malden, Surrey. 8864

DERBYSHIRE COUNTY COUNCIL.
COUNTY ARCHITECT'S DEPARTMENT.

Applications invited for ASSISTANT QUANTITY SURVEYORS:—

(a) A.P.T. Grade I-£500 x £20-£580 per annum.

(b) A.P.T. Grade IV-£675 x £30-£825 per annum.

N.J.C. Conditions of Service. Pensionable post. Canvassing disqualifies.

Application forms and further particulars to be obtained from The County Architect, County Offices, St. Mary's Gate, Derby. 8800

COUNTY BOROUGH OF WEST HARTLEPOOL.
BOROUGH ARCHITECT'S DEPARTMENT.

APPOINTMENT OF ASSISTANT ARCHITECT. Applications are invited for the position of ASSISTANT ARCHITECT in the Borough Architect's Department on Grade A.P.T. IV (£675-£825).

Applicants should be associates of the Royal Institute of British Architects and should have considerable experience of Local Authority architectural work, particularly in connection with housing and new schools.

The appointment is subject to the Scheme of Conditions of Service for the National Joint Council for Local Authorities' Administrative, Technical and Clerical Services and the Local Government Superannuation Acts, 1937. The successful candidate will be recommended to pass a medical examination.

Applications giving details of age, experience and qualifications, together with copies of not more than three testimonials, should be addressed to the Borough Architect, Municipal Buildings, West Hartlepool. The last day for the receipt of applications is Monday, 14th March, 1955.

The Council is prepared to provide housing accommodation, if required, to the successful applicant.

ERIC J. WAGGOTT,
Town Clerk.

8802

WORCESTERSHIRE COUNTY COUNCIL.

Applications are invited for two architectural assistants on the new Grade IV at an appropriate point within the salary scale £675-£825 per annum, on the permanent staff. Forms of application may be obtained from L. C. Lomas, F.R.I.B.A., County Architect, 14, Castle Street, Worcester. (V.210) 8803

HOLLAND (LINCOLNSHIRE) COUNTY COUNCIL.

COUNTY ARCHITECT'S DEPARTMENT.

Applications are invited for the undermentioned appointment.

ELECTRICAL ENGINEER—A.P.T. Grade IV, £675-£825 per annum. Qualifications required: Institute of Electrical Engineers Parts A and B. Forms of application and conditions of service from the undersigned. Closing date, 21st March, 1955.

H. A. H. WALTER,
Clerk of the County Council.

County Hall,
Boston, Lincs. 8779

BOROUGH OF LEYTON.
APPOINTMENT OF ARCHITECTURAL ASSISTANT.

Applications are invited for the above permanent appointment on A.P.T. Grade I (£500-£580 per annum plus London Weighting Allowance according to age which at 26 is at maximum of £30).

Previous Local Government experience is not necessary.

The appointment is subject to the National Scheme of Conditions of Service, the provisions of the Local Government Superannuation Acts and the passing of a medical examination.

Canvassing will disqualify and candidates must disclose whether they are related to any member or senior officer of the Council.

Applications stating age, qualifications and experience, together with names of three referees, should be delivered to the Borough Engineer and Surveyor, Town Hall, Leyton, E.10, by 11th March, 1955.

D. J. OSBORNE,
Town Clerk.

Town Hall,
Leyton, E.10. 8806

WARWICKSHIRE COUNTY COUNCIL.
ARCHITECT'S DEPARTMENT.

Applications are invited for the following appointments:—

(a) ARCHITECTURAL ASSISTANT—Grade A.P.T. II, commencing salary £560 rising to £640 per annum. Applicants should have passed the intermediate examination of the Royal Institute of British Architects.

(b) ASSISTANT ARCHITECT, commencing salary £550, rising to £775 per annum. Applicants should have passed the final examination of the Royal Institute of British Architects and have had at least five years' experience, including period spent in training.

(c) CLERKS OF WORKS (resident) to supervise the erection of new schools at Hartshill near Nuneaton and Leamington Spa. Experience with reinforced concrete buildings an advantage. Salary £12 per week.

(d) CLERK OF WORKS to supervise the erection of Police houses throughout the County. Car provided. Salary £12 per week.

Appointments (a) and (b) are on the Established staff, and (c) and (d) on the Temporary staff. All are subject to the provisions of the Local Government Superannuation Act, 1937-53.

Application to be made on a form which can be obtained from G. R. BARNLEY, F.R.I.B.A., County Architect, Shire Hall, Warwick.

L. EDGAR STEPHENS,
Clerk of the Council.

Shire Hall,
Warwick. 8804

COUNTY BOROUGH OF BLACKBURN.
ARCHITECTURAL ASSISTANT GRADE IV

(£675-£825).

Applications for this established appointment are invited to be sent to the Borough Engineer, Town Hall, Blackburn, by March 7th, stating age, qualifications, experience and present and past appointments and accompanied by testimonials.

Candidates should be registered Architects and experienced in the design and construction of Educational and Municipal Buildings. Preference given to Associates of the R.I.B.A.

Commencing salary according to experience. Housing accommodation available if required.

CHAS. S. ROBINSON,
Town Clerk.

8773

CARDIGANSHIRE COUNTY COUNCIL.
APPOINTMENT OF ASSISTANT ARCHITECTS.

Applications are invited for the following appointments:—

(a) TWO ASSISTANT ARCHITECTS on A.P.T. IV, £675-£825.

(b) ONE ARCHITECTURAL ASSISTANT on A.P.T. III, £560-£725.

(c) ONE ARCHITECTURAL ASSISTANT on A.P.T. II, £550-£610.

(d) ONE ARCHITECTURAL ASSISTANT on A.P.T. I-II, £500-£640.

Applicants for (a) should be members of the R.I.B.A., applicants for (b) and (c) should have passed the R.I.B.A. Intermediate examination, and applicants for (d) should preferably be students R.I.B.A.

Commencing salary will be according to qualifications and experience.

The appointments are in the County Architect's Department, County Hall, Aberystwyth.

Application forms can be obtained from the County Architect and these must be returned to the undersigned not later than 19th March, 1955.

J. E. R. CARSON,
Clerk of the Cardiganshire County Council.

Swyddfa'r Sir, Aberystwyth, Cards. 8772

COUNTY COUNCIL OF DURHAM.
COUNTY PLANNING DEPARTMENT.

Applications are invited for the following appointment:—

DRAUGHTSMAN, GRADE I, A.P.T.—£500-£580. (The commencing salary will be at the minimum.)

Post superannuable and subject to medical examination. Canvassing will disqualify. Apply with full particulars and names of two referees, to the County Planning Officer, 10, Church Street, Durham, by Wednesday, 16th March 1955.

J. K. HOPE,
Clerk of the County Council.

Shire Hall, Durham.
24th February, 1955. 8836

COUNTY BOROUGH OF CARLISLE.

Applications are invited for the following posts in the City Surveyor's Department:—

- (a) SENIOR ASSISTANT ARCHITECT, A.P.T. IV (£675—£825).
(b) ASSISTANT QUANTITY SURVEYOR, A.P.T. III (£600—£725).
(c) BUILDING SURVEYOR, A.P.T. III (£600—£725).

Appointment (a) is an additional post to cater for an augmented Educational Building Programme. Candidates should be A.R.I.B.A.

Appointment (b) is also additional to deal with the increased work of the Department which includes Housing, Schools and general municipal work. The successful candidate will be engaged on taking off, site measurement, etc., and will be required to possess the appropriate academic qualifications.

Appointment (c) is a new post and is primarily intended to relieve the Architects of minor building work, e.g., alterations, additions, etc. Candidates should possess appropriate R.I.C.S. (Building) or equivalent qualification.

Forms may be obtained from and are returnable to the City Surveyor, 18, Fisher Street. Closing date 22nd March, 1955.

H. D. A. ROBERTSON,
Town Clerk. 8774

Second Advertisement.

BOROUGH OF THORNABY-ON-TEES.
BOROUGH ENGINEER'S DEPARTMENT.
APPOINTMENT OF ARCHITECTURAL ASSISTANT.

Applications are invited for the appointment of an ARCHITECTURAL ASSISTANT at a salary in accordance with the revised Grade A.P.T. II (£560 × £20—£640). The appointment will be subject to the Scheme of Conditions of Service, Local Government Superannuation Acts, medical examination and to one month's notice on either side.

Candidates should have passed the intermediate examination of the R.I.B.A.
Application forms may be obtained from the Borough Engineer, Town Hall, Thornaby-on-Tees, and should be returned to him in a plain sealed envelope endorsed "Architectural Assistant" not later than 14th March, 1955. Canvassing will disqualify.

A. STOCKWELL,
Town Clerk. 8808

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

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

The appointment will be subject to:—
(1) The National Scheme of Conditions of Service.

(2) The Local Government Superannuation Acts.

(3) A Medical Examination.

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

Forms of application may be obtained from Mr. J. H. Parker, A.R.I.B.A., Architect to the Council, 82, Great North Road, Hatfield, and must be returned not later than 14th March, 1955.

EDGAR F. CULL,
Clerk to the Council. 8711

LONDON COUNTY COUNCIL.
ARCHITECT'S DEPARTMENT.

(a) PLANNING OFFICERS, Grade III (up to £892 10s.).

(b) PLANNING ASSISTANTS (up to £739 10s.). Professional qualifications: A.R.I.B.A., A.R.I.C.S. and/or A.M.T.P.I. required. Application forms and particulars from Architect (AB/EK/P/4), County Hall, S.E.1. 3420

COUNTY OF LEICESTER.

ASSISTANT ARCHITECT. £650—£775.

Applicants must be registered architects experienced in preparation of working drawings from sketches and taking charge of smaller contracts. Apply by 11th March, 1955 on form obtainable from County Architect (b), 123, London Road, Leicester. 8805

COUNTY BOROUGH OF GREAT YARMOUTH.
SCHOOLS' ARCHITECT'S DEPARTMENT.

Applications are invited from Associate Members of the R.I.B.A. to fill the vacancy for a SENIOR ASSISTANT ARCHITECT, within A.P.T. Grade IV (Amended) (£675—£825).

Candidates should have a knowledge of modern school design and construction.

Housing Accommodation will be made available if required.

Applications, stating age, qualifications, experience and giving details of present and past appointments, together with the names of two referees, should reach the Schools' Architect, 22, Euston Road, Great Yarmouth, by the 12th March, 1955.

D. G. FARROW,
Chief Education Officer. 8812

LANCASHIRE COUNTY COUNCIL—

PLANNING DEPARTMENT.

SENIOR PLANNING ASSISTANT (ARCHITECTURAL) A.P.T. Grades III—IV (£600—£825) required at Preston. Candidates should be qualified architects, knowledge of civic design an advantage. Salary according to qualifications and experience. Duties include the preparation of layouts for housing estates and redevelopment schemes and constructional drawings for houses and ancillary buildings. Applications giving age, qualifications, experience, salary, and two referees to County Planning Officer, East Cliff County Offices, Preston, by the 14th March, 1955. 8783

HOLLAND (LINCOLNSHIRE) COUNTY COUNCIL.

COUNTY ARCHITECT'S DEPARTMENT.

Applications are invited for the undermentioned appointments. The department has a large programme of varied and interesting works.

ASSISTANT ARCHITECTS (3)—A.P.T. Grade V, £750—£900 per annum. Qualifications required: R.I.B.A. Final.

ARCHITECTURAL ASSISTANTS (3)—A.P.T. Grade II—III, £560—£725 per annum. Qualifications required: R.I.B.A. Intermediate.

Forms of application and conditions of service from the undersigned. Closing date, 21st March, 1955.

H. A. H. WALTER,
Clerk of the County Council.

County Hall,
Boston, Lincs. 8778

NORTH RIDING EDUCATION COMMITTEE,
vacancy for ASSISTANT ARCHITECT in the

Education Architect's Department Grade A.P.T. II, salary £560 × £20—£640. Candidates must have passed the R.I.B.A. Intermediate. Previous experience may be taken into account in fixing commencing salary. Local Government Superannuation Act. Form and further particulars from the undersigned. Closing date for applications, 25th March, 1955. Canvassing disqualifies. F. BARRACLOUGH, County Hall, Northallerton. 8776

HOLLAND (LINCOLNSHIRE) COUNTY COUNCIL.

COUNTY ARCHITECT'S DEPARTMENT.

Applications are invited for the undermentioned appointments.

QUANTITY SURVEYOR—A.P.T. Grade V, £750—£900 per annum. Qualifications required: F.I.C.S. Quantity Surveying Sub-division.

QUANTITY SURVEYOR'S ASSISTANTS (3)—A.P.T. Grade II—III, £560—£725 per annum. Qualifications required: F.I.C.S. Intermediate Quantity Surveying Sub-division.

Forms of application and conditions of service from the undersigned. Closing date, 21st March, 1955.

H. A. H. WALTER,
Clerk of the County Council.

County Hall,
Boston, Lincs. 8777

CORPORATION OF GLASGOW.
ARCHITECTURAL AND PLANNING DEPARTMENT.

ASSISTANT ARCHITECTS.

PLANNING ASSISTANTS.

ASSISTANT QUANTITY SURVEYORS.

ASSISTANT CIVIL ENGINEERS.

ASSISTANT HEATING AND VENTILATING ENGINEERS.

Applications are invited from suitably qualified persons, salary on a scale £532 10s.—£892 10s. with placing according to age, qualifications and experience. The posts are superannuable subject to Medical Examination. Forms of Application may be obtained from the Principal Administrative Officer, 20, Trongate, Glasgow, C.1.

A. G. JURY,
City Architect and Planning Officer. 8780

WEST SUFFOLK COUNTY COUNCIL.

QUANTITY SURVEYOR (in control of Quantity Section). N.J.C. service conditions. Salary £750 × £30—£900 (A.P.T. Grade V). Post pensionable; medical examination. Applicants to be Associates of the Royal Institution of Chartered Surveyors (Quantities Division).

Application forms, obtainable from the County Architect, Westgate House, 13, Westgate Street, Bury St. Edmunds, to be returned by 21st March, 1955. 8801

STEPNEY M.B.C. require TEMPORARY ARCHITECTURAL ASSISTANT for work on Council's housing programme. £650 p.a. plus London Weighting Allowance. Apply Borough Engineer and Surveyor, 227, Commercial Road, E.1. 8589

BOROUGH OF ILKESTON.

ARCHITECTURAL ASSISTANT—General Division to A.P.T. II. Previous experience in design and construction of Local Authority housing essential.

Commencing salary within the above scale will be determined at the interview according to qualification and experience.

N.J.C. Conditions. Housing Accommodation Available.

Application forms obtainable from A. O. Marshall, M.I.Mun.E., M.I.Struct.E., F.I.A.A., Borough Surveyor & Water Engineer, Town Hall, Ilkeston, to whom they are to be returned by Monday, 14th March, 1955.

Canvassing disqualifies.

J. YATES,
Town Clerk. 8828

BOROUGH OF DARTFORD.

ARCHITECTURAL ASSISTANT.

Applications are invited for the appointment of ARCHITECTURAL ASSISTANT in the Borough Surveyor's Department, the salary to be in accordance with the National Joint Council's Scheme of Conditions of Service, Grade A.P.T. II (£560—£640).

Candidates should have passed the intermediate examination of the R.I.B.A.: experience in Local Authority Housing Work would be an advantage.

The Council will provide housing accommodation to married applicants, if required.

The appointment is subject to the Local Government Superannuation Acts, 1937 and 1953, and the successful candidate will be required to pass a medical examination.

Applications, stating age, training, qualifications and experience of present and previous appointments, with copies of three recent testimonials, must be received by me not later than 19th March, 1955.

THOMAS ARMSTRONG,
Town Clerk. 8835

Council Offices,
Dartford,
Kent.

COUNTY BOROUGH OF SOUTHEAST-ON-SEA.
BOROUGH ARCHITECT'S DEPARTMENT.

Applications are invited for the following established posts:

ASSISTANT ARCHITECTS—

- (a) Assistant Architect (£650 × £25—£775).
(b) Assistant Architect (£675 × £30—£825).
(c) Architectural Assistant (female) (£560 × £20—£640).

(Applicants should be Associate Members of the Royal Institute of British Architects for appointments (a) and (b).)

ASSISTANT QUANTITY SURVEYORS—

- (a) Assistant Quantity Surveyors (£650 × £25—£775).
(b) Assistant Quantity Surveyors (£675 × £30—£825).

(Applicants should be Associate Members of the Royal Institute of Chartered Surveyors.)

The appointments will be subject to the provisions of the Local Government Superannuation Act 1937 and the N.J.C. Scheme of Conditions of Service. Medical examination.

Applications stating age, qualifications and experience, with the names of two persons to whom reference can be made, should be submitted to the Borough Architect, 30, Alexandra Street, Southend-on-Sea, forthwith.

ARCHIBALD GLEN, Town Clerk. 8871

BOROUGH OF KETTERING.

BOROUGH ENGINEER AND

SURVEYOR'S DEPARTMENT.

APPOINTMENT OF SENIOR ARCHITECTURAL ASSISTANT.

Applications are invited for the above appointment at a salary either in accordance with A.P.T. Grade II (£560—£640) or in accordance with the Special Scale applicable to Architectural Assistants (£650—£775) according to qualifications and experience. Housing accommodation will be available if required. Applications with the names of three referees to be sent not later than 19th March, 1955, to the Town Clerk, Town Clerk's Office, Kettering.

D. DUNSFORD PRICE,
Town Clerk. 8868.

COUNTY BOROUGH OF BOLTON.

ASSISTANT QUANTITY SURVEYOR.

Applications are invited for the appointment of ASSISTANT QUANTITY SURVEYOR in the office of the Borough Engineer and Surveyor.

The salary offered is within Grade A.P.T. IV of the National Scale of Salaries (£705 to £825 per annum). The commencing salary will be fixed according to qualifications and experience.

Preference will be given to candidates having passed the Final Examination of the Royal Institute of Chartered Surveyors.

The appointment will be subject to the provisions of the Local Government Superannuation Acts, and to the passing of a medical examination.

Application forms may be obtained from the undersigned to whom they should be returned not later than Monday, 14th March, 1955, in envelopes endorsed "Quantity Surveyor."

PHILIP S. RENNISON,
Town Clerk. 8869

Town Hall, Bolton.

BOROUGH OF WEMBLEY.

BOROUGH ENGINEER AND SURVEYOR'S

DEPARTMENT.

APPOINTMENT OF SENIOR ASSISTANT

ARCHITECT.

Salary: Grade A.P.T. IV (£675 × £30—£825) plus London weighting allowance.

Applicants must have passed the R.I.B.A. examination or possess an equivalent qualification and have had considerable experience in the design and construction of houses, flats and municipal buildings.

Applications, disclosing any relationship to a Member or Senior Officer of the Council, giving the names and addresses of three referees and quoting reference B must reach the Borough Engineer and Surveyor, Town Hall, Wembley, by the 18th March, 1955.

Canvassing disqualifies: housing accommodation not provided.

8867

**BRITISH ELECTRICITY AUTHORITY.
EASTERN DIVISION.**

Applications are invited for the following superannuable post in the Generation (Construction) Department at Divisional Headquarters in North London:—

SENIOR DRAUGHTSMAN (ARCHITECTURAL), Grade 4, £787 x £20-£892 per annum. The commencing salary will depend upon experience and qualifications.

Candidates should have had experience in the design, construction and detailing of industrial type buildings.

Applications giving age, details of qualifications and experience to the Controller, British Electricity Authority, Eastern Division, Nortmet House, Southgate, N.14, to arrive by 19th March, 1955.

W. N. C. CLINCH,

Controller.

8870

**BEESTON AND STAPLEFORD URBAN
DISTRICT COUNCIL.**

SENIOR ARCHITECTURAL ASSISTANT.

GRADE IV (£675-£825).

Applications are invited for the above appointment with commencing salary within the scale according to qualifications and experience. Experience in modern Swimming Pool design and construction would be an advantage.

Applications, naming two referees, to the Surveyor, Town Hall, Beeston, Nottingham, by 10th March, 1955.

H. D. JEFFRIES,

Clerk of the Council.

Town Hall,

Beeston, Nottingham.

8865

LONDON COUNTY COUNCIL.

ARCHITECT'S DEPARTMENT.

Applications are invited for appointment as a FURNITURE DESIGNER. Technical knowledge and experience essential. Salary up to £739 10s. Particulars and application forms returnable by 1st April from Architect (AR/EK/P&D/2), The County Hall, London, S.E.1. (258) 8875

Architectural Appointments Vacant

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

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

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

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

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

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

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

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

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

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

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

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

SENIOR and INTERMEDIATE ARCHITECTURAL ASSISTANTS required. 5-day week. Write or telephone giving full particulars, including age and salary, to Hasker & Hall, Architects, 13, Welbeck Street, W.1. (WELBECK 0051). 8507

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

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

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

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

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

Box 8564.

ARCHITECTS.—SENIOR ARCHITECTURAL ASSISTANTS required immediately for a wide variety of work. Salary range £700-£976 per annum. Superannuation scheme.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

JUNIOR ARCHITECT'S ASSISTANT with 3-4 years' office experience, required by Ipswich Architects. Four-day week for examination students. Box 8653.

ARCHITECTURAL ASSISTANT or BUILDING DRAUGHTSMAN age up to 35, required for work on industrial buildings. Preference given to candidates with Inter R.I.B.A. but this not essential, although O.N.C. in building is the minimum acceptable qualification. Applicants should have experience in foundation work, drainage and factory buildings. Permanent position and attractive salary. Assistance with housing given if necessary. Write in confidence to Personnel Manager, Michelin Tyre Co. Ltd., Stoke-on-Trent, Staffs.; giving all relevant information. 8659

REQUIRED for Architects' office, Central London area, young qualified **ASSISTANTS** interested in design and construction. Write, stating experience and salary required. Box 4325.

CLIFFORD TEE & GALE, F.R.I.B.A., require **SENIOR and JUNIOR ASSISTANTS** in their Westminster Office on Research Laboratories and other interesting projects. Please apply to 5, Buckingham Palace Gardens, S.W.1. (S.Oane 2296). Five-day week. 8660

NORMAN and DAWBARN require **ARCHITECTURAL ASSISTANTS** at or about R.I.B.A. Intermediate standard with from three to six years' office experience at salaries in the range £400-£650, according to experience. Applications stating age and details of career should be made in writing to 5, Gower Street, London, W.C.1. 8663

ASSISTANTS required for extensive general practice. One with substantial experience and one junior. Martindale and Jackson, F.A.R.I.B.A., Cathedral Chambers, Castle Street, Carlisle. 8667

ARCHITECTURAL ASSISTANT required with a minimum qualification of Intermediate R.I.B.A. Preference will be given to applicants having several years of general experience in the design of industrial buildings and housing. Write, stating age and full particulars, to:—Staff Officer, Handley Page Ltd., Cricklewood, London, N.W.2. 8823

AMENDED ADVERTISEMENT

ESTIMATOR: Scottish Special Housing Association Limited, invite applications for this superannuable appointment in the Direct Labour Organisation. Applicants should possess a wide experience of estimating in connection with building work of all types and in all trades, and with Civil engineering work. Salary scale £385-£1,070 per annum. Applicants requiring a house may receive assistance. Forms of application with full particulars of the post are obtainable from the Secretary, 15-21, Palmerston Place, Edinburgh, 12. Applications should be submitted within 10 days of the appearance of this advertisement. (Previous applicants do not require to re-apply.) 8825

SALES DIVISION of Large Aluminium Co. requires **TECHNICAL ASSISTANT** at Head Office (London, West End) having knowledge of building industry and ability to take off quantities. Candidates in age range 40-50 would be considered. Salary in accordance with age and experience. Box AJ 199, L.P.E., 65, St. Martin's Lane, London, W.C.2. 8813

W. H. WATKINS, GRAY, F.R.I.B.A., & **H. PARTNERS** require **ARCHITECTURAL ASSISTANTS** of Intermediate standard for Bristol Office. Applicants should preferably have passed R.I.B.A. Intermediate and be studying for Final. Must be good draughtsmen and have good practical experience. Contributory pension scheme in operation. Apply in writing, giving age, experience and salary required, to 1, Clare Street, Bristol, 1. 8821

ARCHITECT'S ASSISTANT of Inter. Standard required immediately at Chelmsford Office. Must be neat and accurate draughtsman with office experience. Varied and interesting work mainly agricultural and housing. 5-day week. Apply giving full particulars of age, experience, and salary required, to The Architect, Messrs. Strutt & Parker, Coval Hall, Chelmsford, Essex. 8522

ARCHITECTURAL ASSISTANTS required for Staff Architect Department at Head Office of Dolcis Shoe Co. Qualifications, Inter. R.I.B.A. Keen interest in contemporary store design and enthusiasm for hard work. Apply to Dolcis Shoe Co., 7-13, Great Dover Street, S.E.1. 8816

NORFOLK Architect requires **ASSISTANT** Intermediate standard; competent Surveyor; car driver. Reply, with particulars of experience and salary required, to Box 8809.

BERTRAM CARTER requires an **ARCHITECTURAL ASSISTANT**, Intermediate or Final Standard. Telephone Museum 3536/7 for appointment. 8818

ARCHITECTURAL ASSISTANTS required by BBC in London for work on design of studio, transmitter and office premises. Candidates should be up to Intermediate or Final R.I.B.A. standard and have had some design office experience. Salary in scales £545 to £755 or £645 to £880 according to qualifications and experience. Requests for application forms to Engineering Establishment Officer, Broadcasting House, London, W.1, within seven days, quoting ref. E.22. A.J. 8819

ARCHITECT'S ASSISTANT for small West End office. Must be clean, neat draughtsman with contemporary outlook varied work, housing, industrial and commercial. Opportunity for advancement for keen young man. Salary to start £550-£600 p.a. Write giving full particulars to Box 8815.

DRAUGHTSMAN, URGENTLY REQUIRED by manufacturers of Metal Windows. Roof Glazing, Lantern Lights, etc., also Reinforced Concrete Pavement Lights, Roof Lights. 5-day week; excellent prospects; canteen. Write giving full details to the Secretary, Luxfer Ltd., Wadlow Road, Harleiden, N.W.10. 8814

ASSISTANT required. Salary about £700. Write brief details: Eric Lyons, F.R.I.B.A., M.S.I.A., Mill House, Bridge Road, Hampton Court, Surrey. 8852

WANTED in Oxfordshire office, ARCHITECTURAL ASSISTANT, male or female, approx. Inter. standard. One who has some knowledge of and is interested in traditional and restoration work. Good prospects and scope for the right applicant, who must be keen and conscientious. Apply stating salary required. Box 8820.

ARCHITECTURAL ASSISTANT required for Head Office of large Building Contractors operating in Nigeria. Applicants should have Intermediate or Final R.I.B.A., Drawing Office experience and have a sound knowledge of Building Construction. Tour of 18 months with probable opportunity of renewal followed by three months' paid leave. No married accommodation available. Age about 22-25. Salary in region of £1,150 p.a. Apply in writing giving full details of experience to Box 8831.

ARCHITECTURAL ASSISTANT (Inter. to Final Standard) urgently required for small West Kent Architects' office engaged in school and hospital work. Write, stating full particulars and salary required, to Box 8829.

ARCHITECTURAL DRAUGHTSMEN with a good basic experience, and ARCHITECTURAL ASSISTANTS of Intermediate standard, required for practice with excellent scope for varied experience and advancement and use of own initiative. Apply in first instance in own handwriting with full particulars of education, recent experience, salary required, and stating when available. Applications should be addressed to: H. Anthony Clark, F. C. Roberts & Partners, Chartered Architects, 41, Regent Street, Wrexham. 8827

D. C. DENTON-SMITH & PARTNERS, Chartered Architects, Surveyors, require additional experienced ARCHITECTURAL ASSISTANTS at 40, Regent Street, Cambridge, and 5, Lynn Road, Ely. Excellent opportunities in varied practice covering a very wide area. Salaries, by arrangement, according to capabilities. Written applications, giving full details, may be sent to either of the above addresses. Box 8838.

ARCHITECTURAL ASSISTANT with office experience required for busy small West End practice. Varied and interesting work. Salary in accordance with age and experience. Apply Shaw & Lloyd, 74, Gt. Russell Street, W.C.1 Museum 9293. 8839

TWO ASSISTANTS required in Architect's office in South Kensington, one to be fully qualified with, say, two years' practical experience, the other at Intermediate stage. Good draughtsmanship essential. Five-day week. Box 8841.

ARCHITECTURAL ASSISTANT required in small general practice. Intermediate to Final standard, with some office experience. David A. Wilkie, 45, Chancery Lane, W.C.2. Holborn 1550. 8844

MOST urgently required in City office with a wide and comprehensive range of commissions, two experienced ARCHITECTURAL DRAUGHTSMEN. Salary range £403-£689, depending on experience. Box 8845.

ARCHITECTURAL ASSISTANT, Inter. or Final standard, required in Architect's London Office, for interesting contemporary work. Salary £500-£600 p.a. according to ability. Telephone EUSTON 8175. 8846

ARCHITECTURAL ASSISTANT required immediately for office in Colswold area. Five-day week. Applications, stating age, experience and salary required, Eric Cole & Partners, F.F.R.I.B.A., Dyer Street House, Cirencester, Glos. 8847

QUALIFIED ARCHITECTURAL ASSISTANT for busy general practice. Salary up to £600 p.a. according to experience. Apply H. N. Jepson & Partners, Midland Bank Chambers, Nuneaton. 8816

TWO ARCHITECTS' ASSISTANTS required for private office in London, E.C., with widely varied practice. One must be Associate R.I.B.A., and preferably with not less than three years' practical office experience. The other must have passed Intermediate R.I.B.A. Reply giving age, full particulars of qualifications and experience, and stating salary required. Box 8833.

DRAUGHTSMAN required for Architectural Department of leading Merseyside commercial organisation undertaking extensive development programme. Must be able to prepare sketch plans and working drawings and have had experience of Stores and commercial buildings. Preferably Inter. R.I.B.A. standard. Permanent position offering exceptional scope, attractive commencing salary and sound Pension Scheme to a keen man not over 35 years of age. Five-day week. Apply, giving age and full particulars, to Box 8856.

MANUFACTURERS of buildings for export require two ASSISTANTS in the office of their Staff Architect. The successful applicants must be not below Final standard and capable of devising simple methods of prefabrication and applying them to a variety of problems. Rapid, accurate draughtsmanship and an instinctive knowledge of building construction are essential qualifications. Applications to Staff Architect, W. J. Simms, Sons & Cooke, Ltd., Sherwood, Nottingham. 8848

ASSISTANTS required in Architect's Office from Intermediate and Final standards, full details, Box 8851.

ENTHUSIASTIC ARCHITECTURAL ASSISTANT of Intermediate standard required, good draughtsmanship and detailer with contemporary outlook essential. A. R. Dannatt & Son, L.A.R.I.B.A., Chartered Architects, Surveyors, Prudential Buildings, 65a, Duke Street, Chelmsford, Essex. 8849

ARCHITECTURAL ASSISTANTS required in busy Coventry office, handling wide variety of work. All standards up to Intermediate or equivalent considered. Salaries £400/£500, dependent on capabilities. Reviewed annually. Traveling expenses paid to applicants selected for interview. Pension Scheme available. W. S. Hattrell & Partners, 1, Queens Road, Coventry. 8850

WEST END Architects require for general practice an Associate R.I.B.A., with few years' office experience since qualifying. Age about 30-35. Salary up to £1,000 according to experience. Saturdays free. Reply to Box 8853.

SENIOR ASSISTANT required, able to prepare working and detail drawings and supervise works; must be good draughtsman; experience in cinema work would be an advantage. State salary and experience. Box 8891.

REQUIRED at Company's Head Office, Guildford, ARCHITECTURAL ASSISTANT, A.R.I.B.A., varied work mainly factory. Five-day week. Salary by arrangement. Box 8868.

EDINBURGH Office of David Carr & Stuart Matthews requires SENIOR and JUNIOR ASSISTANTS. Seniors must have considerable experience in running contracts, general design, planning and construction. Juniors should have good practical office experience and/or school qualifications. For interview write, giving brief particulars and salary required, to above firm at 14, Lynedoch Place, Edinburgh. 8114

ARCHITECTURAL ASSISTANTS required, INTERMEDIATE and SENIOR. Experience in commercial/industrial, hospital or educational work desirable. Interesting work, excellent prospects. Superannuation scheme. S. N. Cooke and Partners, Chartered Architects, 34, Harborne Road, Birmingham 15. 8627

SENIOR DRAUGHTSMAN required in Croydon firm of Architects. Applicants should have had good experience in preparing working drawings and details and specifications. Write stating particulars of training and experience and salary required Box 8631.

ARCHITECTURAL ASSISTANT of not less than Intermediate standard, required for interesting contemporary work of varied nature. Please write or telephone for appointment.—Leonard J. Multon, F.R.I.B.A., 6, Greenfield Crescent, Edgbaston, Birmingham. EDGBASTON 4188. 8633

ARCHITECTURAL ASSISTANT with good all-round experience required in West End office. One able to take charge of jobs from sketch plan stage to completion. Reply giving age, experience and salary required, to Box 8636.

ARCHITECTURAL ASSISTANTS, Intermediate standard, required immediately. More senior applicant would be considered for one position. Salaries dependent on ability. Box 8652.

ARCHITECTURAL ASSISTANT required in the West End Offices of Percy Bilton Ltd. Salary about £500-£600 according to experience. Work would entail preparation of drawings, details and specifications for wide range of buildings including houses, flats and offices. Write giving experience and other useful information to Staff Architect, Percy Bilton Ltd., 113, Park Street, W.1. 8292

QUALIFIED or experienced ASSISTANT required in Architect Department of Multiple Company in the Midlands, conversant with design, alterations and maintenance of retail shop premises, working drawings, specifications and surveys. Salary according to ability. Five-day week and pension scheme in operation. Applicants are requested to furnish details of training, age, experience, to Box 8642.

ARCHITECTURAL DRAUGHTSMAN required with experience in industrial buildings, offices, welfare and canteen buildings, for drawing office of works on N. East coast. Age 25 or upwards. Nominal hours, 38 per week. Payment for overtime and superannuation scheme in operation. Reply, stating qualifications, experience, salary expected, and when at liberty to Box 8700.

THERE are vacancies for ARCHITECTURAL ASSISTANTS of varying standards in a busy office near Victoria Station. Salary for suitable male or female applicants will be based on ability and experience. The positions will give those interested in schemes designed and constructed in a contemporary manner opportunities to work through all stages from the preliminary design presentation to contract completion. Please write Box 8696.

ARCHITECTURAL ASSISTANT required in small private office. Intermediate to Final standard. Write, stating experience and salary required, to:—A. F. Bennett, 35, Queen's Gate Mews, London, S.W.7. 8866

OLD-ESTABLISHED Mutual Life Assurance House wants a few men of initiative and integrity to act as AGENTS. Architects and Surveyors have the necessary knowledge and contacts to make business most profitable to us and them. Further details from Box 1857.

WEST END Architects require Intermediate and Pre-Intermediate standard ASSISTANTS. Box 8768.

ARCHITECTURAL ASSISTANTS required for work in Carlisle and Cumberland. Apply stating age, qualifications, salary required, with names of referees. Graham & Roy, 6, Paternoster Row, Carlisle. 8754

HORSHAM (Sussex) firm of Architects require immediately. One ARCHITECTURAL ASSISTANT qualified, and two ASSISTANTS, Intermediate standard. Reply stating experience and salary required to Godman & Kay, F.F.R.I.B.A., 13, North Parade, Horsham, Sussex. 8761

PLYMOUTH—Alec F. French & Partners require first-class ASSISTANTS who can use their own initiative and adapt themselves to most varied and interesting type of work covering Devon and Cornwall. Full details to Pearl Assurance House, Royal Parade. 8762

ARCHITECTURAL ASSISTANTS: Applications are invited from qualified persons for permanent and progressive positions in the Architect's Department of the Royal Arsenal Co-operative Society, Ltd., Woolwich. Sound knowledge of construction, and experience in surveys and preparation of working drawings for shop, office and industrial buildings, shopfittings, etc., essential. Apply, giving age, full details of qualifications, experience, and salary required, to:—The Staff Manager, 71, Powis Street, Woolwich, S.E.18. 8764

ARCHITECTURAL ASSISTANT required for a general practice. Able to work on own initiative. Varied and interesting work. Salary by arrangement. Eley & Rickford, 83/5, Powis Street, Woolwich. Telephone: WOO. 0346. 8763

WESTWOOD, SONS & HARRISON, F.F.R.I.B.A., require ARCHITECTURAL ASSISTANTS, A.R.I.B.A. standard, with office experience. Apply in writing to 46, Baker Street, W.1. 8767

ECCLIASTICAL ARCHITECT working in East Midland Counties requires ASSISTANT with genuine interest in preservation work as well as new. Box 8769.

ARCHITECTURAL ASSISTANT required, intermediate stage or above, some office experience. Write for interview. Box 8770.

ARCHITECTS' ASSISTANTS required by a large Chain Store organisation. Salary based on previous experience. Subsidised Staff Canteen. Staff Pension and Life Assurance Scheme. Write, giving details of past experience, age, etc., to Box AJ 189, L.P.E., 55, St. Martin's Lane, London, W.C.2. 8784

SAMUEL MORRISON & PARTNERS require an assistant who will specialise in the preparation of perspectives and models, and assist in the writing of articles. Full details and salary required to 103, Belper Road, Derby. 8785

ARCHITECTURAL STAFF, all grades. Wanted, interesting and varied work of contemporary character; light and airy offices. Apply J. Seymour Harris & Partners, 4, Greenfield Crescent, Edgbaston, Birmingham, 15. 8786

DESIGN Research Unit require qualified ARCHITECTURAL ASSISTANTS. Good design sense and detailing ability essential. Some office experience. Commencing salary £500-£600. Write, giving age and experience to D.R.U., 37, Park Street, London, W.1. 8421

ASSISTANT ARCHITECT required. Salary £500 p.a. or thereabouts according to experience. Apply by letter giving full particulars to Frederick Gibberd, 8, Percy Street, W.1. 8760

MESSRS. NORTH & PARTNERS are seeking an ASSISTANT with general experience in surveys of existing properties and building sites. As the practice extends throughout the whole of Gt. Britain the successful applicant must be prepared to travel. Ability to assist generally in the drawing office would be an added advantage. Salary according to experience. Reply to North & Partners, Maidenhead. 8807

ARCHITECT'S ASSISTANT required by small Westminster Office. Must be about Intermediate standard R.I.B.A. Able to prepare working drawings and have some knowledge of surveying. Write, stating salary required, Box 8758.

AMBITIOUS man who has completed two years University study of any technical subject. Between 26/33 years of age to specialise in growing and uncrowded field in which this Company holds a leading world position. Appointment offers splendid future, excellent remuneration and superannuation for man with real technical ability, drive and a capacity to organise. Write, giving full particulars of technical qualifications and career to date to the Technical Director, Celotex Limited, North Circular Road, Stonebridge Park, N.W.10. 8757

ASSISTANT DESIGNER for DISPLAYS and Exhibition design, must have good design sense and detailing abilities, capable carrying out first class coloured visuals and working drawings. Graphic abilities and working knowledge of typography essential. Good prospects and interesting work for keen imaginative man. Phone Mrs. Robinson, c/o W. M. de Majo, Fla. 6816. 8755

ARCHITECTURAL ASSISTANTS required for large Industrial Development Luton district. Good salaries for suitable men, preferably Intermediate to Final R.I.B.A. Standard. Write, giving details of experience and salary required, Howard Souster & Fairbairn, 81, Piccadilly. 8756

ASSISTANT between Inter. and Final required in growing country practice. Conscientious attention to detail essential. Permanent position with increasing responsibility offered to right type after a probationary period. Salary according to ability. Write to Alec H. Joy, A.R.I.B.A., Northville Road, Kingsbridge, Devon. 8799

ARCHITECTURAL ASSISTANTS required in the Architect's Department of Reckitt & Colman, Ltd., Norwich. Large interesting programme, work guaranteed for at least three years, if satisfactory. Must be about Intermediate Standard R.I.B.A., neat and expeditious draughtsmen, able to survey and level and prepare working drawings and details under supervision. Apply, stating age, qualifications, experience and salary required, to Joint Secretary, Carrow Works, Norwich. 8798

SENIOR ARCHITECTURAL ASSISTANT required for general and commercial practice. Apply stating age, experience, qualifications and salary required to Duncan Clark & Beckett, F/L.R.I.B.A., F/R.I.C.S. Architects & Surveyors, 7, West Stockwell Street, Colchester. 8797

ARCHITECTURAL ASSISTANT required for work in Architect's section of a modern chemical manufacturing company, Birmingham area. Preference given to man working for Inter. R.I.B.A. Excellent opportunity for young man in permanent and progressive appointment. Staff pension scheme in operation. Five-day week. Please reply, with full details, to Box 8796.

ARCHITECTURAL ASSISTANT required of R.I.B.A. Intermediate or Final standard. Give details of qualifications, age, experience and salary required, to R. & D. Hall, Architects, Masonic Buildings, Bangor, N. Wales. 8794

ARCHITECTURAL ASSISTANT required for Multiple Shop Company for interesting and varied work, 5-day week, Pension Scheme. Write, stating age, qualifications, salary required, to Box 8795.

SIR JOHN BURNET, TAIT & PARTNERS require **SENIOR ASSISTANTS** experienced in contemporary design and construction details of multi-storey buildings, including flats, hospitals, offices, etc. Write giving full particulars to 10, Bedford Square, W.C.1. 8792

ARCHITECTS with extensive London and Provincial Practice, covering all classes of industrial, commercial and domestic work, require **ASSISTANTS**. Write giving details of experience, etc., to Box 8791.

WELL ESTABLISHED firm of London architects urgently require first class **ASSISTANTS**, qualified or unqualified. Write, stating particulars of training and experience. Box 8789.

BUSY FIRM of London architects require **SENIOR QUALIFIED ASSISTANT** interested and experienced in job management and site supervision, to take charge of a large contract in the Home Counties. Apply giving particulars of experience and salary required. Box 8790.

ARCHITECTURAL ASSISTANT, at least intermediate standard, required for interesting and varied work. Salary £600 or thereabouts, depending upon experience. Good prospects. Reply to Watkin, Willis & Cooper, National Provincial Bank Chambers, Burslem, Stoke-on-Trent. 8783

ARCHITECTURAL DRAUGHTSMAN required. Applicants must have had suitable training including three years' technical experience in architectural drawing. Salary £380 (age 21 and over) × £20(3) × £25(2) × £20(4) = £570 plus London weighting, £20 = £590. Commencing salary at minimum of scale. Apply giving age, qualifications and experience, with names of two referees, to Secretary, North West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1. by 21st March. 8782

CHARTERED ARCHITECT, 23 years' private practice, London area, offers appointment with prospect of partnership to young A.R.I.B.A. who has completed National Service. Knowledge of London Building Bye-laws essential. Must be keen and energetic and willing to take responsibility. State age, experience and salary required. Box 8801.

TWO ASSISTANTS required for busy general practice 10 miles from London. Applicants must have had some office experience and preference will be given to those of R.I.B.A. intermediate standard. Some experience of either housing or hospital work will be an advantage. Apply by letter giving age, experience and salary required to Tooley & Foster, Chartered Architects, Midland Bank Chambers, Buckhurst Hill, Essex. 8872

LONDON ARCHITECTS with large general practice in all parts of the country have vacancies for **ARCHITECTURAL ASSISTANTS** of both Senior and Intermediate R.I.B.A. Standard. Excellent opportunities offered Assistants to gain experience and to take responsibility. Varied and interesting work. Pension scheme. Particulars of experience, qualifications, age and salary required, to Box 8873

ARCHITECT'S ASSISTANTS required. Good draughtsmen. Salary according to ability. Five-day week. Telephone CITY 4086. 8876

ASSISTANT, about R.I.B.A. Intermediate, urgently required Truro Office. One day per week allowed off for preparing Intermediate exam. Varied and interesting practice. Box 8877.

ASSISTANT wanted, capable of good detailing and interested in good design to work with Architect in small city office. Salary £550-£700 p.a., according to ability. Ring CENTRAL 5766 or write Box 8878.

A QUALIFIED ARCHITECT is required by a Public Company with a multiple Factory Organisation in the United Kingdom and British Commonwealth territories. The appointment will entail complete responsibility for building maintenance of the Company's Factories and houses. It will also involve control of all stages of design and contracts relating to factory alterations and building extensions. Applicants must possess previous practical experience of factory building and cost estimating, as well as a flair for achieving good appearance with economy. The appointment is permanent and pensionable and the Company's Design Office is situated in the N.W. Kent area. Please state age, full details of career to date, and salary expected. Reply to Box 8874.

SOUTH COAST office requires **ARCHITECTURAL ASSISTANT**, with previous office experience, for general practice. Intermediate standard or above. Particulars of experience, salary, etc., to Egerton W. Owen, Chartered Architect, 34, Beach Road, Littlehampton, Sussex. 8782

HELLBERG AND HARRIS, F/A.R.I.B.A., require qualified **SENIOR ASSISTANTS** for school, industrial and commercial work. Successful applicants will be given responsibility. Apply stating experience and salary required to 13, Queen Victoria Road, Coventry. Tel. 40521-3. 8879

ARCHITECTURAL ASSISTANTS. Senior and Junior, required in busy office for varied and interesting work. Please write stating age, experience and salary required to Martin & Martin & W. H. Ward, F/A.R.I.B.A., 106, Colmore Row, Birmingham, 3. 8880

Architectural Appointments Wanted

SENIOR ARCHITECT desires permanent responsible appointment with commercial firm or multiple company. Accustomed to taking full control of office. Salary not less than £2,000 per annum. Box 8787.

BUILDING SURVEYOR (F.F.A.S.) virtually Architect, seeks **SALARIED PARTNERSHIP**, London, S.W., not less than £1,000 p.a. plus expenses, but willing to "plough-back" £200 p.a. for five years. Taking special exam. when has time to spare. Over 20 years' experience most branches joint professions. Would transfer own clients. Insists on full authority for jobs under his wing, and own brick-bats and bouquets. Up-to-date, but not "Contemporary-Crazy." Not interested in John-and-Mary organisations, prefers older partner. Box 8867.

BIRMINGHAM SCHOOL TRAINED. Position required anywhere, August 25; car; no N.S. to do; 6 years evening school, 5 private practice, 1 Council, 2 full-time school. Qualifying this year with luck. Box 8788.

SCOT, 23, school-trained, with vocational experience, qualifying Dip.Arch. June, enquires for in or near London appointment with good arch. opportunities, well paid, preferably with chance of travelling abroad occasionally. Box 8749.

ARCHITECT (35), 15 years' experience in all types of industrial, commercial and domestic work. Desires change and seeks a position in the Merseyside area. Car owner. Box 8750.

ARCHITECT, A.R.I.B.A., Dip.Arch. (32), eight years' office experience, contemporary, schools, industrial, domestic, hotels, etc., seeks temporary or part-time appointment in Glasgow area. Box 8855.

INTERIOR DESIGN STUDENT, high recommendations, with first-class accounting qualifications and business experience. Box 8854.

ASSISTANT (23), six years' office experience, taking Intermediate this year, seeks post for large Project work. Salary required: £475 p.a. Box 8811.

2ND YEAR ARCHITECTURAL STUDENT wishes to work with an experienced architect in Central London, during week-ends, with a view to improving draughtsmanship and knowledge of construction. No pay required. Box 8830.

Other Appointments Vacant

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