THE ARCHITECTS' JOURNAL

No. 3028] [VOL. 117

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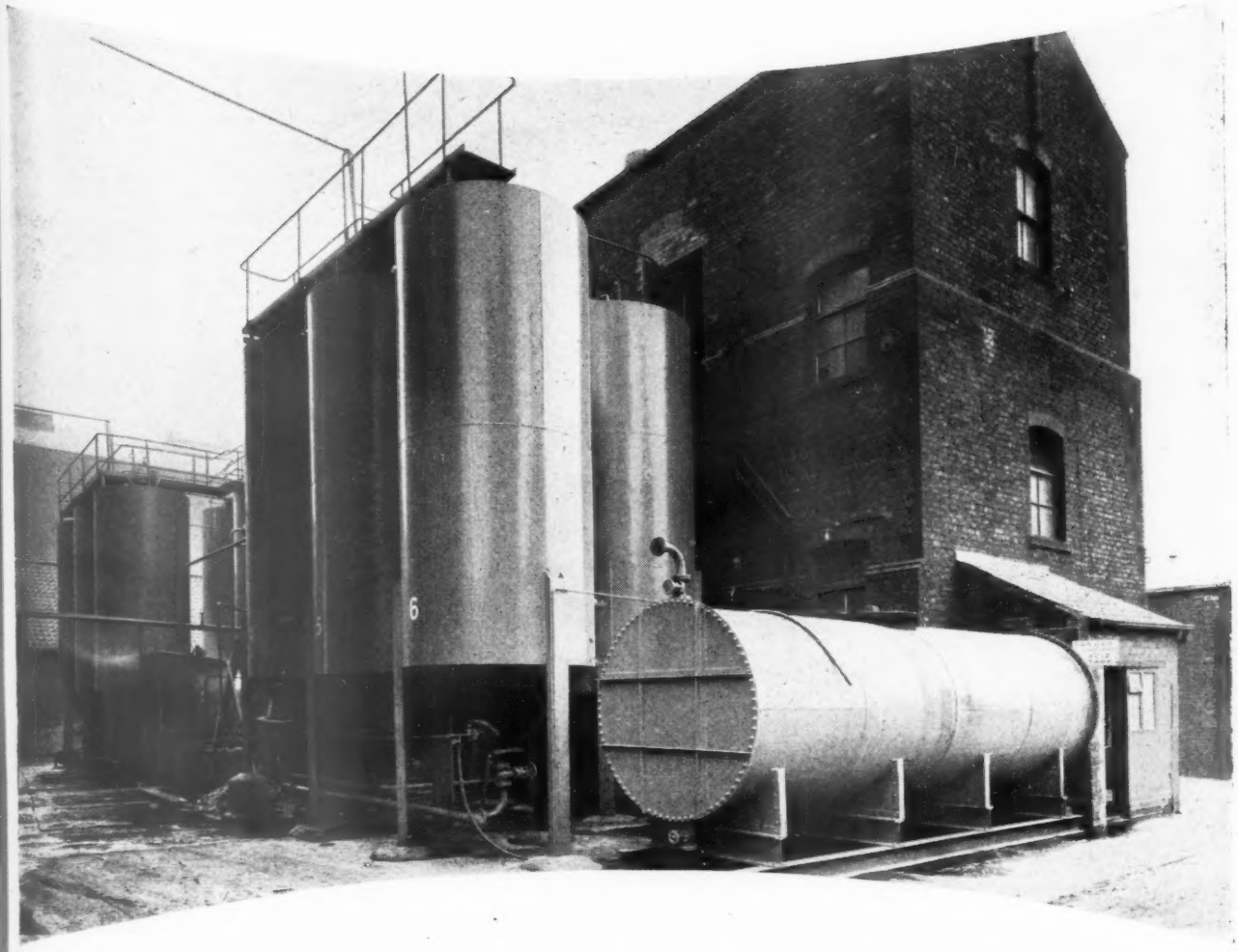
Registered as a Newspaper.

★ 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. 75, Eaton Place, S.W.1.	Sloane 3158/1601
IIBD	Incorporated Institute of British Decorators. 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
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
IWA	Inland Waterways Association. 14, Great James' Street, W.C.2.	Chancery 7718
LIDC	Lead Industries Development Council. Eagle House, Jermyn Street, S.W.1.	Whitehall 7264/4175
LMBA	London Master Builders' Association. 47, Bedford Square, W.C.1.	Museum 3891
MARS	Modern Architectural Research Group (English Branch of CIAM) Secretary : Gontran Goulden, Building Centre, 26, Store Street, W.C.1.	Museum 5400
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, Saville 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. 37, Onslow Gardens, S.W.7.	Kensington 8161
NCBMP	National Council of Building Material Producers, 10, Princes Street, 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
NHBRC	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. 14, 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.	Whitehall 9936
RIAS	Royal Incorporation of Architects in Scotland. 15, Rutland Square, Edinburgh.	Edinburgh 20396
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
SIA	Society of Industrial Artists. 7, Woburn Square, W.C.1.	Langham 1984
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

EVC



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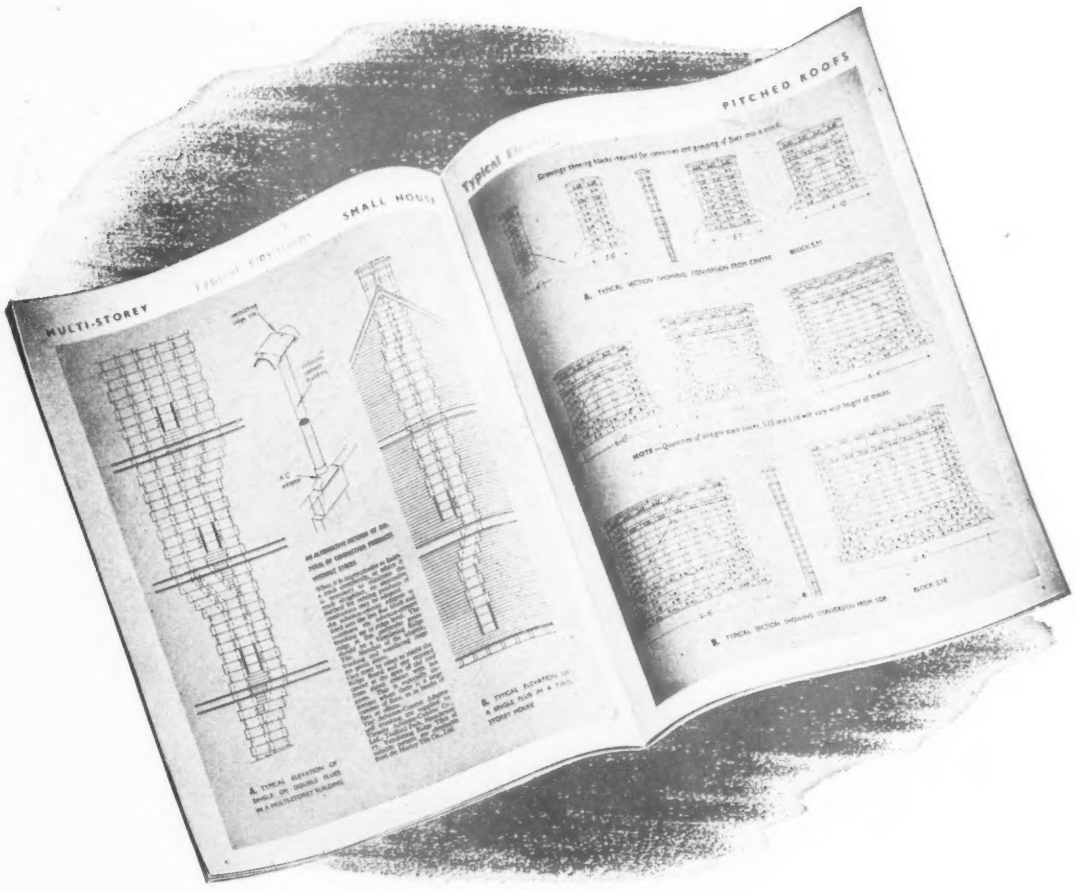

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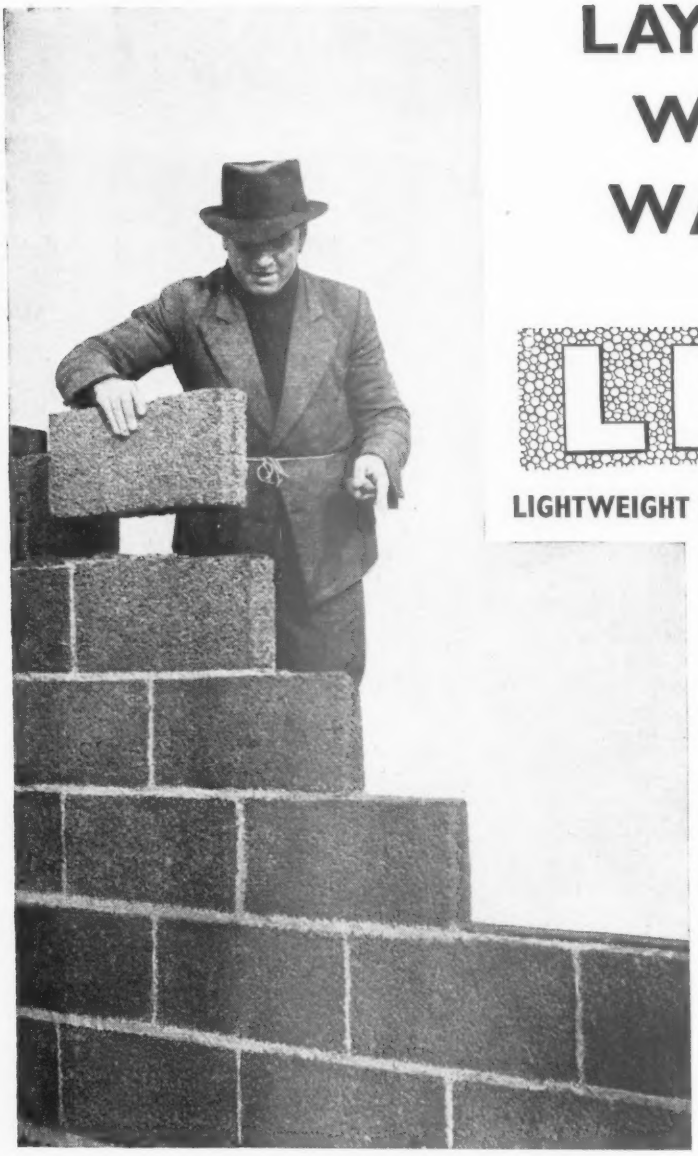

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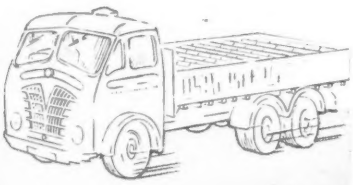

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3 LINTOL

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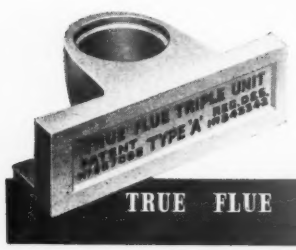

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Wet Steaming Oven with six independently controlled steaming compartments

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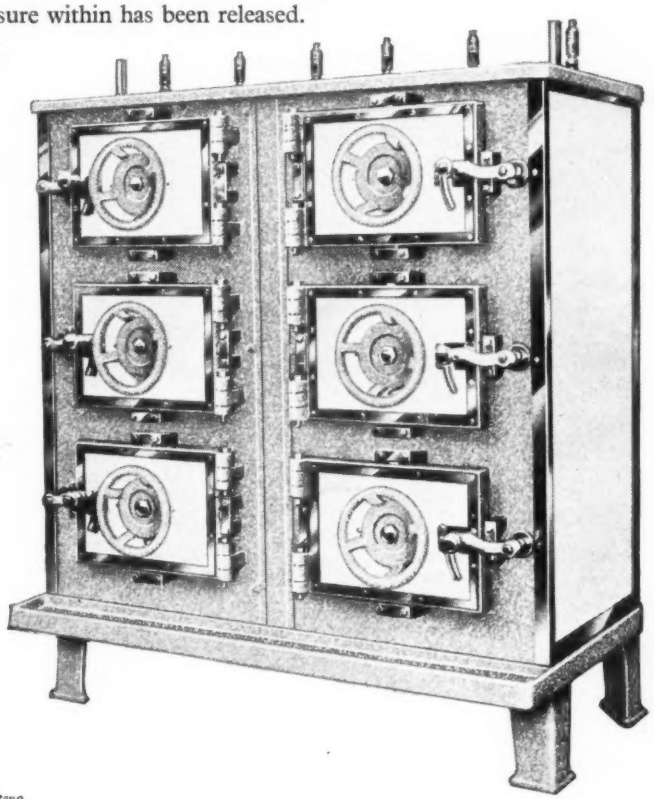
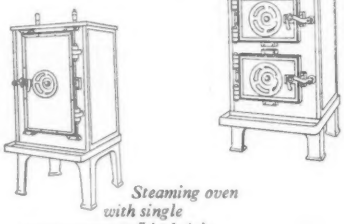
Each compartment is independently controlled and is fitted with a safety device to prevent doors being opened until pressure within has been released.

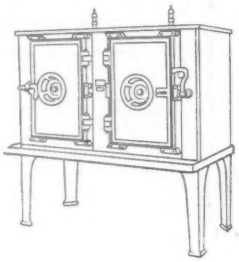
The oven is mounted on a vitreous-enamelled cast-iron stand. Other combinations of 12″ or 18″ high compartments, in single or multiple tiers, can be supplied to suit special requirements. Alternate designs with ovens 30″ high also available.





Battery of 3 compartments.

Steaming oven with single compartment 30″ in height.



Battery with two 30″ high compartments.

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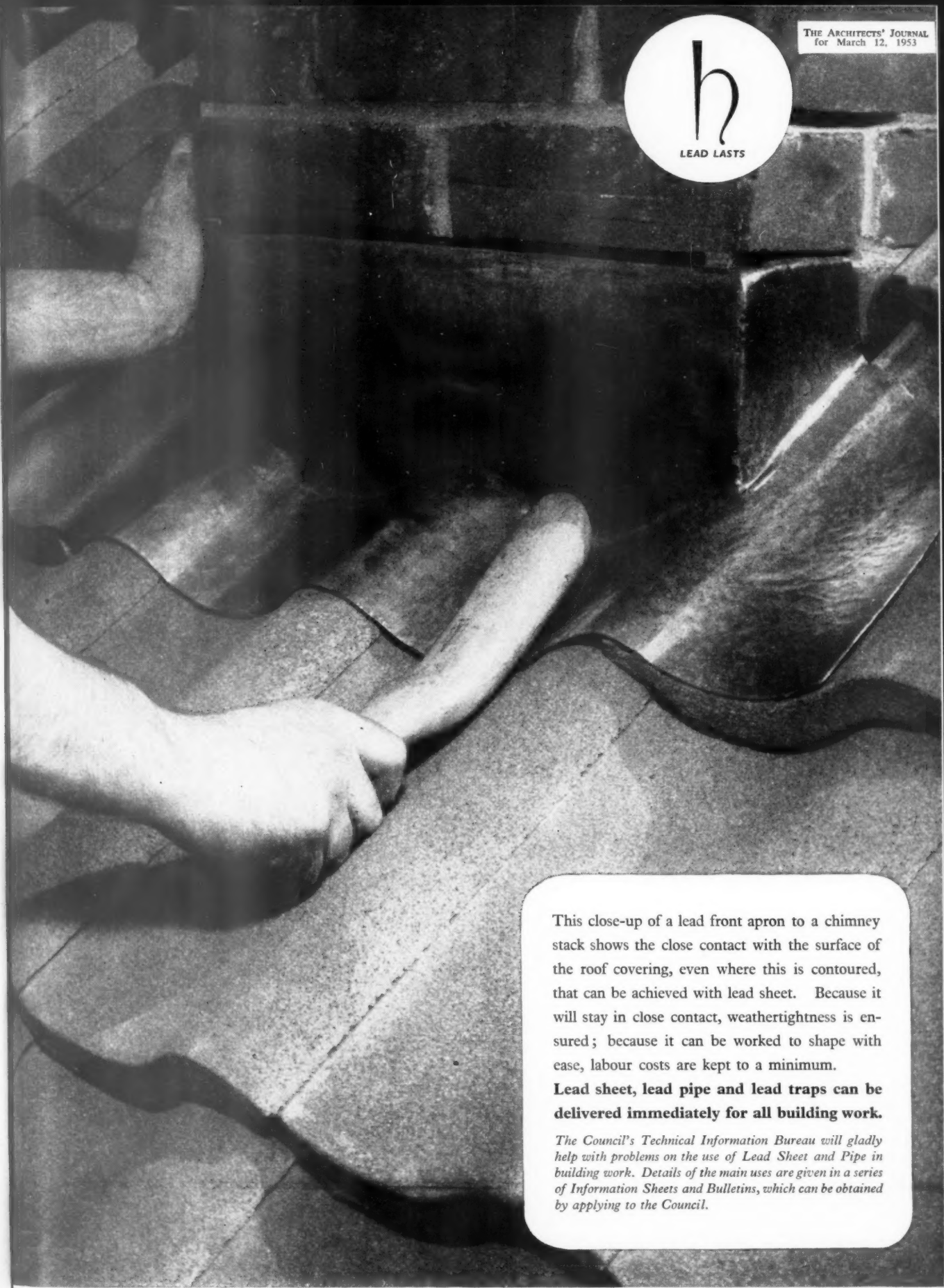

This close-up of a lead front apron to a chimney stack shows the close contact with the surface of the roof covering, even where this is contoured, that can be achieved with lead sheet. Because it will stay in close contact, weathertightness is ensured; because it can be worked to shape with ease, labour costs are kept to a minimum.

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LEAD INDUSTRIES DEVELOPMENT COUNCIL, EAGLE HOUSE, JERMYN STREET, LONDON, S.W.1

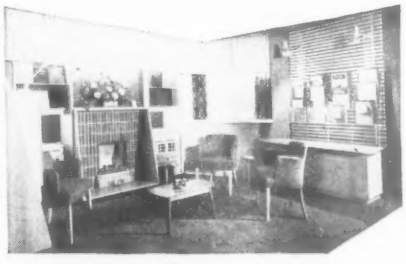
Information

Gas in the design for living

The new enlarged gas and coke exhibit at the London Building Centre is now open. In it visitors will find the latest information on the use of gas and coke, mainly for domestic, but also for commercial purposes. Also shown are approved methods of gas and coke installation in contemporary housing. There is a sectional display of the latest gas and coke equipment, together with examples of commercial appliances. A technical representative is available to answer queries and there is a comprehensive reference library. Visits from individuals or parties are welcomed, (prior notice of a visit from an organised party will be appreciated).

Exhibit designed by Montague Reed, M.S.I.A. Contractors: David Esdaile & Co., Ltd.

Kitchen

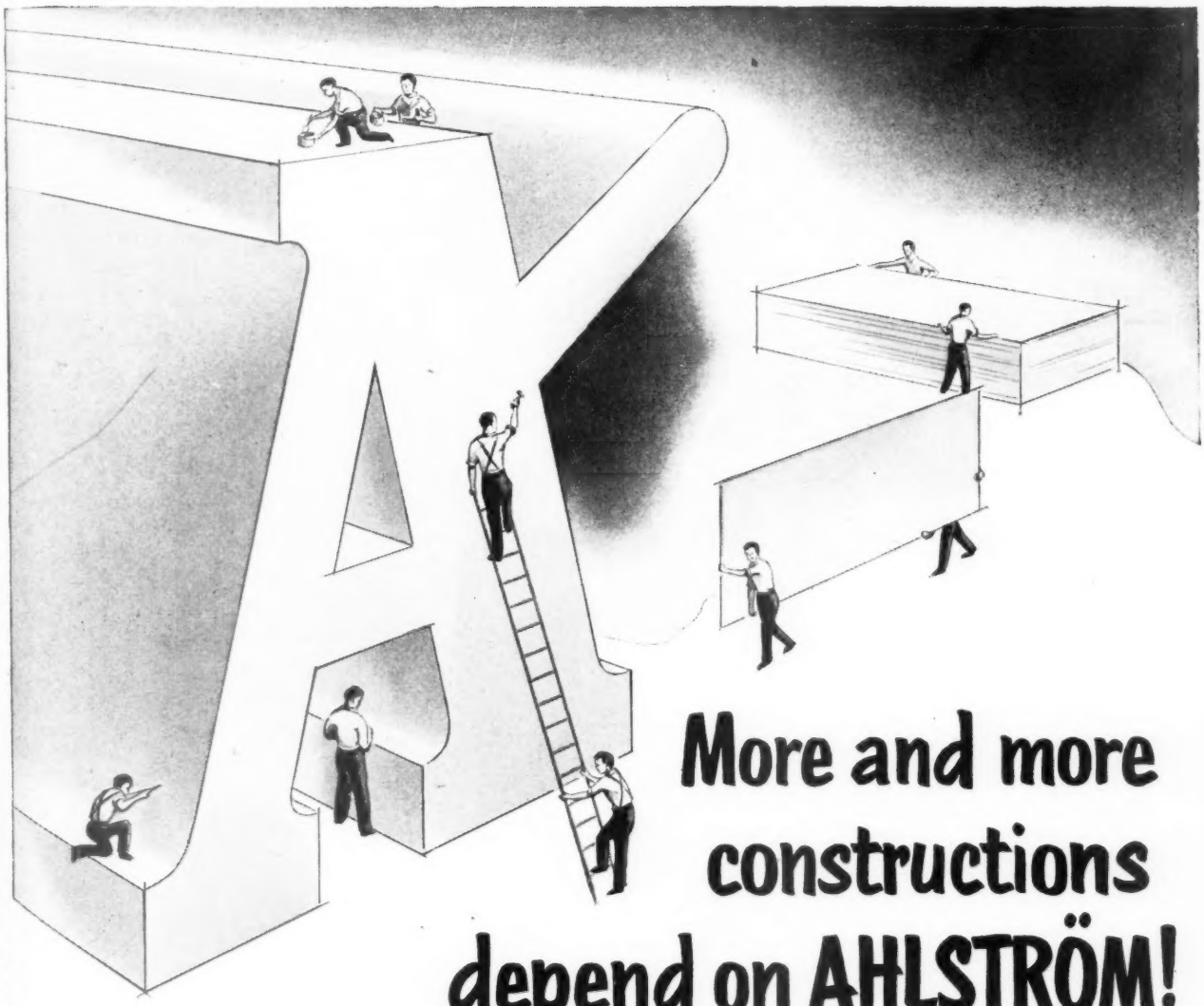


Lounge

Utility room

ISSUED BY THE GAS COUNCIL, 1 GROSVENOR PLACE, LONDON, S.W.1. TELEPHONE: SLOANE 4554

GC. 18



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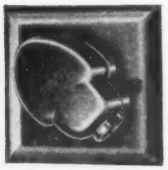

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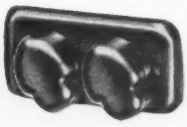
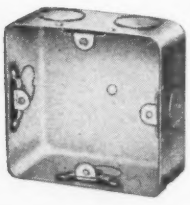
"Rocker" 13 amp switch socket

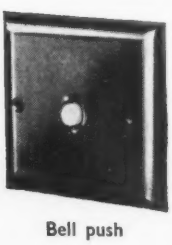
"Fireside" Triple Socket



"Twin Two" Double Socket



Conduit Box with sliding lugs



Bell push

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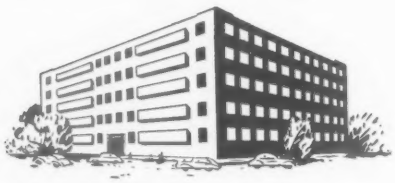

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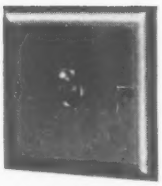
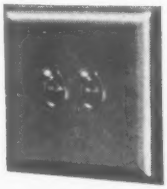
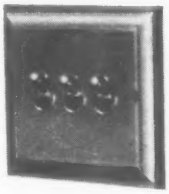


Single Micro-Gap Tumbler Switch



Double Micro-Gap Tumbler Switch



Triple Micro-Gap Tumbler Switch

Architrave Micro-Gap Tumbler Switch

Neon Pilot Control Switch

Neon Pilot Control Switch Flush Mounted

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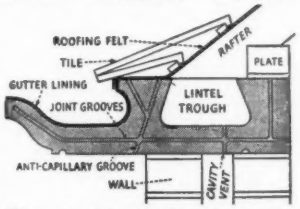

This sectional drawing shows the system in detail and illustrates the ways in which FINLOCK saves approx. 5 yards of brickwork, 80 ft. of rafter, 40 ft. of normal guttering, 40 ft. of fascia, 40 ft. of soffit and 80 ft. super of roof tiling per single house. Painting is eliminated and a reduction in down pipes and drainage is obtained. The complete eaves for a building, with all fittings, can be fixed in one day. Some typical FINLOCK units are shown on the right :—

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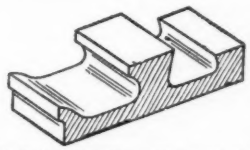
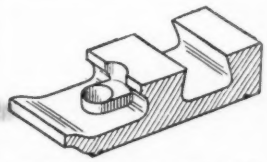
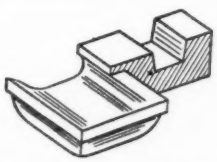


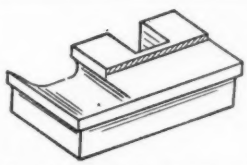
Finlock "N" Type Gutter block enabling lintels to be cast *in situ* if required.



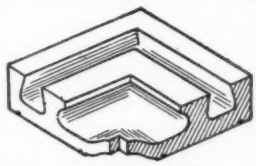
Finlock "G" Type Gutter block enabling lintels to be cast *in situ* if required, but illustrating soil vent.



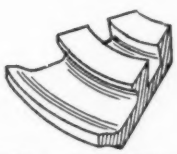
A typical standard stopped end for use on gable end walls, available for all type Gutters.



Illustrating a flush stopped end where this is also made with moulded return, available for all type Gutters.



Illustrates the typical internal angle for use with all Gutters. External angles also available.



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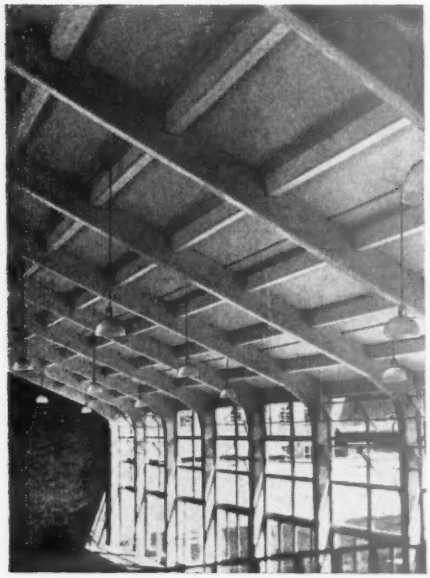

Illustration shows use of STRAMIT Roof Decking supported on reinforced concrete purlins at 4ft. centres, trusses being at 8ft. 3in. centres (Bow Road Open Air School, Architects: Farquharson & McMorran).

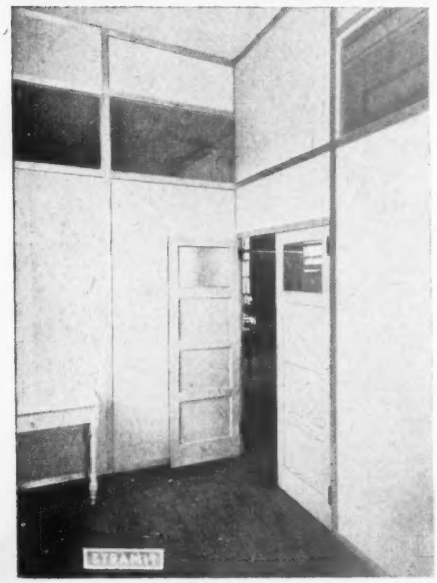

Illustration shows a typical STRAMIT partitioning in a large hospital in the North of England. In this case the STRAMIT is supported in standard aluminium sections. Note the ease with which borrowed lights can be furnished and provision made for doorways of varying widths.

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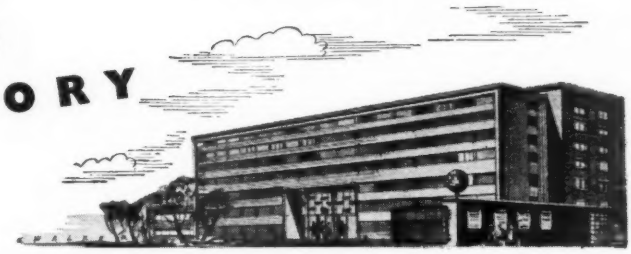

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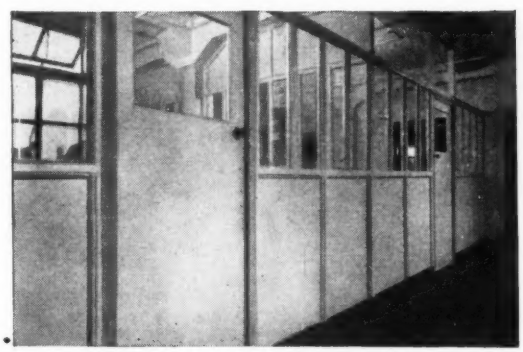

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BY JOHN NASH R.A.

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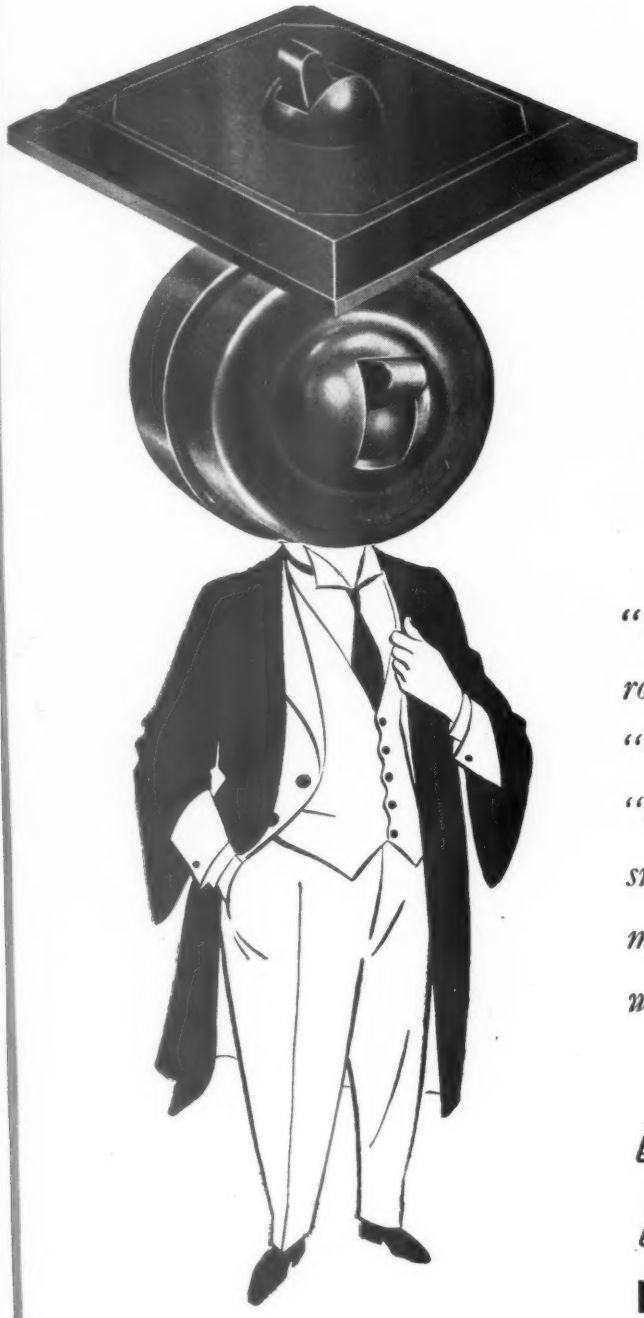

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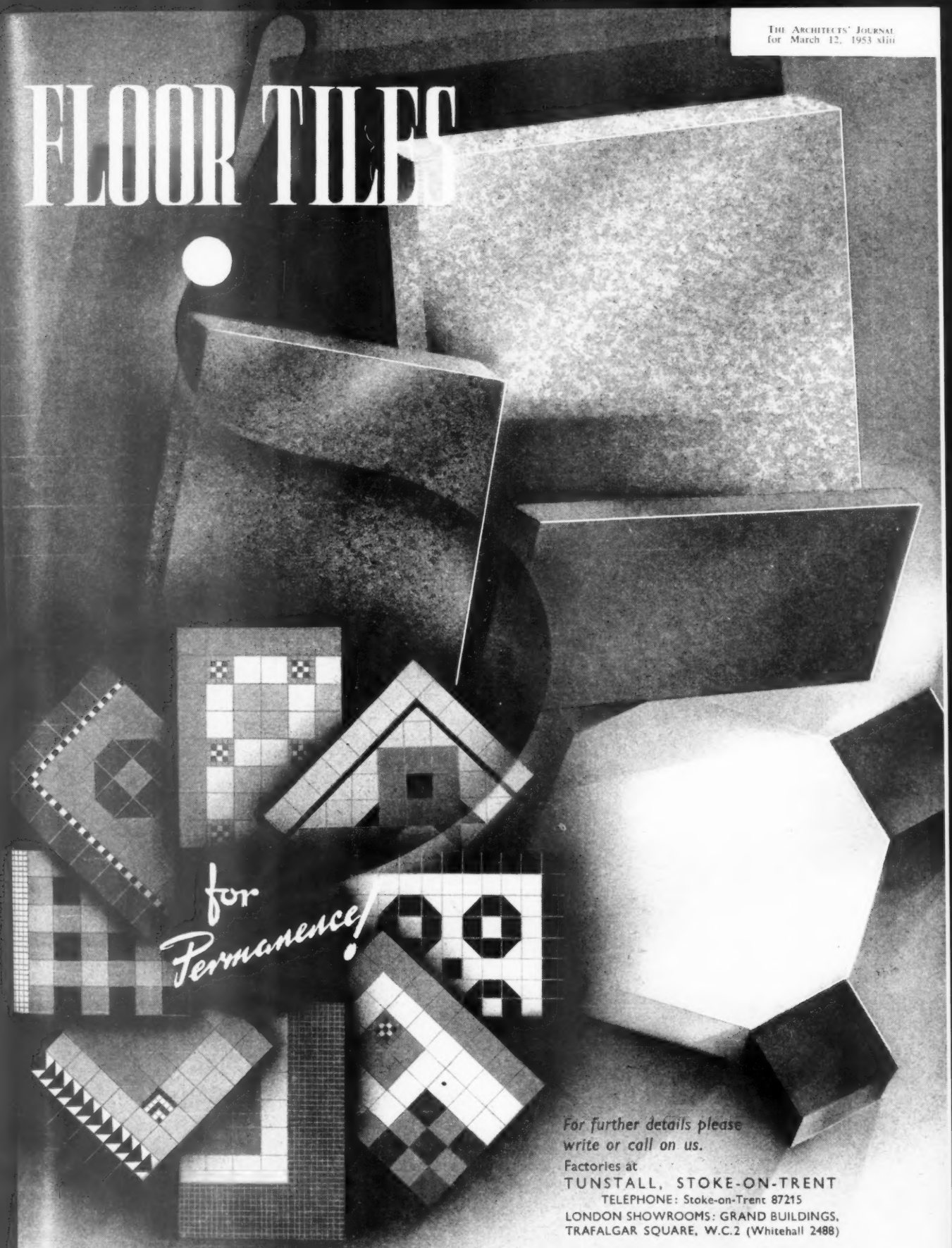

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The Great Khan would have been the first to welcome a complete and balanced range of equipment with no weak links in the standard of its component parts.

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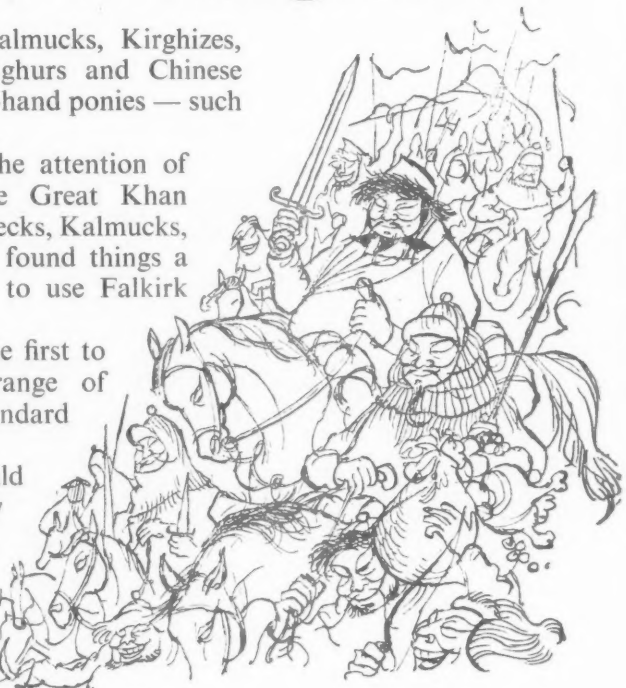

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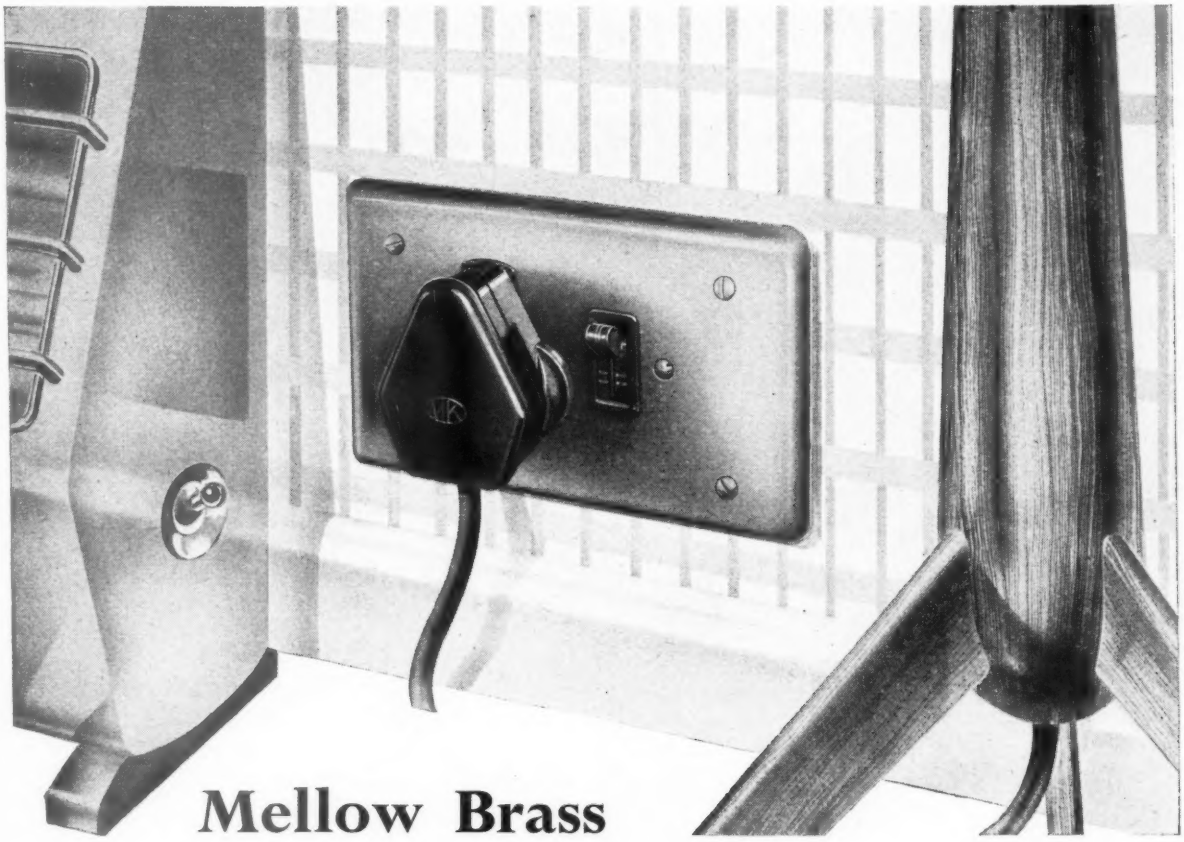

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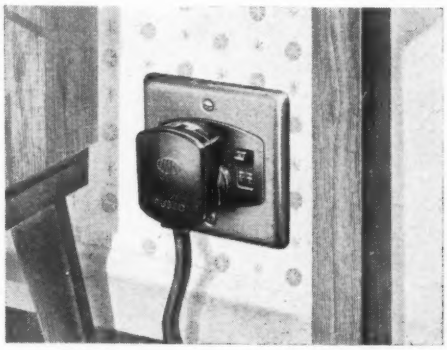

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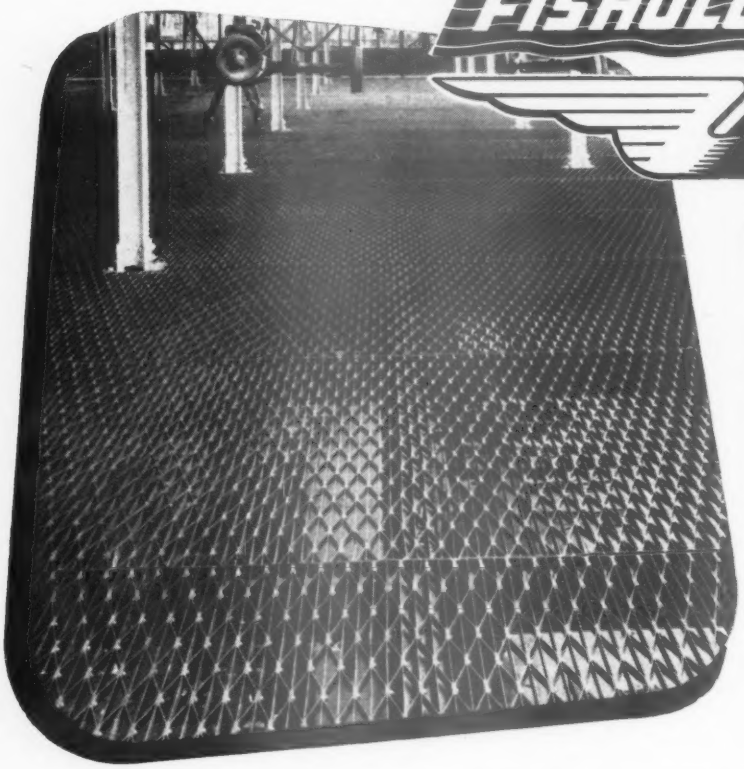

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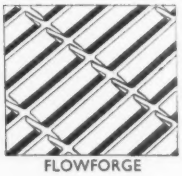

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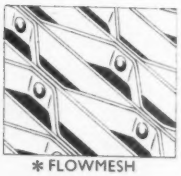

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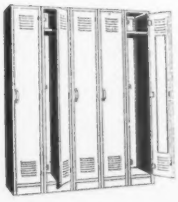

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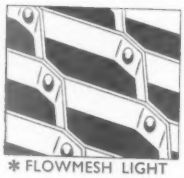

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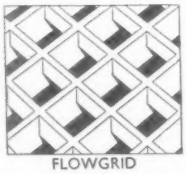

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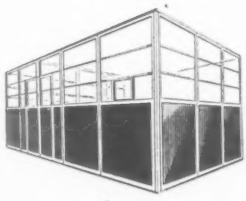

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Extract from "The Sunday Times"

'Cut Building Costs' Appeal by Mr. Eccles

MR. DAVID ECCLES, Minister of Works, declaring that the time has come for the building industry to take more active steps to reduce costs and review contracting arrangements, has appealed to the Royal Institute of British Architects to provide a lead in these matters.

In a letter to the Institute he pointed out that, though there had been a marked improvement in the output of building in the past 12 months, there was widespread concern about the level of building costs. There had also been criticism of the contracting methods employed by the industry and apprehension about the existence of restrictive practices.

"These circumstances," said the Minister, "constitute at once a challenge and an opportunity. With the assurance of plenty of work to come, there is every reason for developing contracting arrangements which on the one hand will encourage the proper pre-

"I assure you of the warm encouragement and support of Her Majesty's Government in the steps you are taking. You may also be assured that my own good offices and those of the Ministry under my control will be at your service."

Mr. Howard Robertson: President of the Royal Institute of British Architects, replied: "We shall be very happy to take the lead in this important matter."

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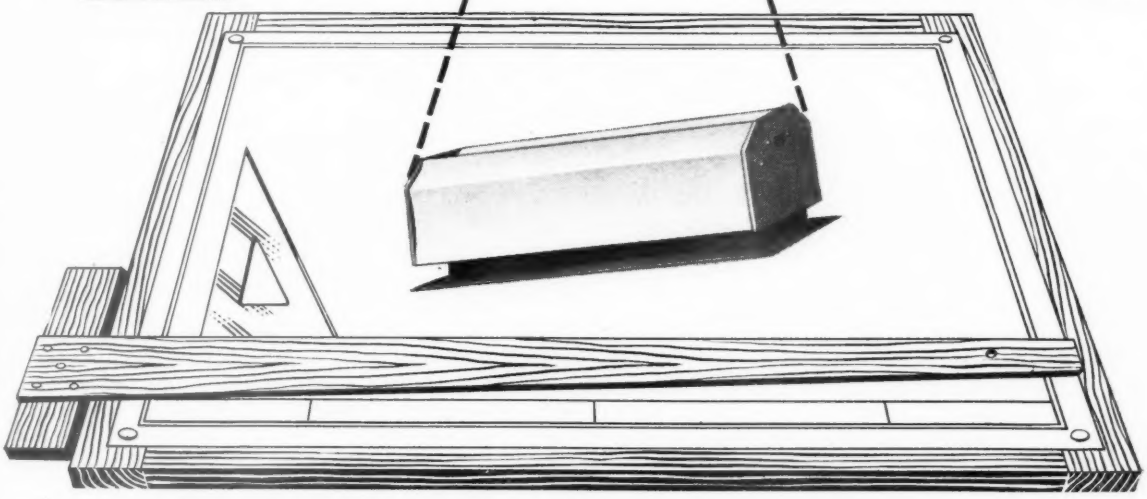

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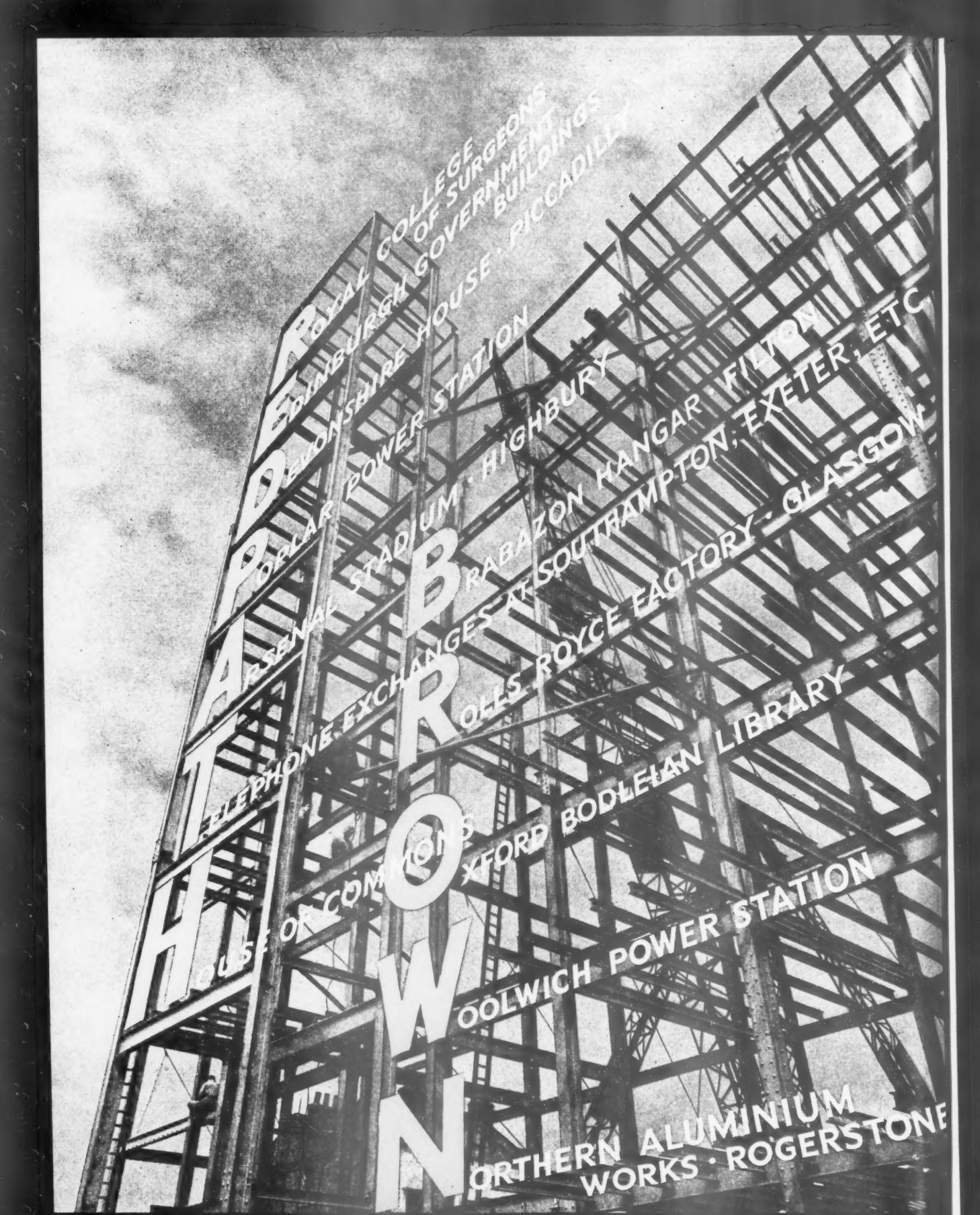

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THE ARCHITECTS' JOURNAL

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NATIONAL THEATRE

As you have probably heard, the site of the National Theatre is to be moved from its present position near Waterloo Bridge to a new site near County Hall. Every architect — even poor Mr. O'Rorke, who presumably starts again —will applaud this decision, which has been made possible by the decision of MOW to keep clear of the South Bank and to permit the whole area to be planned afresh. The problems arising from jamming two great auditoria side by side were almost insoluble. The opportunities now presented are splendid.

THE CITY'S TEN MILLION

A week or two ago Mr. Eccles announced that the government were going to issue £10 million worth of licences for central area reconstruction, and that most of it was going to the City of London.

*

Few decisions—however arbitrary and, indeed, whimsical they may appear—could be more welcome. For eight post-war years the City has had to do without reconstruction in any real sense, though it has had plans ready—big and small—for five years; and the ill-effects on the country's "head office district" of assuming that economic life comprises factories and consumers only have become too obvious to need repetition. The £10 million would allow a good beginning to be made with rebuilding—provided that it is well allocated and not too much attention is paid to the wildly inaccurate figures which were flying about the House of Commons during the recent debate.

*

ASTRAGAL hopes that three factors will be given great attention when the decision is being made as to which shall be the lucky buildings: (1) The buildings should set a pattern for central redevelopment, in block form, access, lighting, sound protection and ease of subdivision—in the ways which have been thoroughly worked out and never put into practice. (2) The licenses should be spread as widely as is reasonable over the ten to twenty projects which have had schemes on these lines prepared for five or six years. (3) Most buildings should be in places where they can be seen, so that the City may be able to point out to visitors, among the ruins and the willow-herb, new buildings which may be few but are the best of their kind.

In short, Mr. Eccles and Mr. Macmillan should realize that if the £10 million produces a second crop of Lessor schemes, they are likely to run into a lot of criticism.

SCHOOLS EXHIBITION

Those who heard Robert Jordan talking on the radio about the Building Centre's schools exhibition may have thought him over-kind, since between his generous praise—"the best schools in the world"—and the very depressing article in *The Times* for March 3 on "the growing plight of the Primary Schools" there seems to be a gap that needs explaining. The fact is, of course, that Jordan was talking in qualitative terms about a highly selective exhibition, while *The Times* correspondent was looking at the very black educational picture as a whole—and both were right. Architecturally we are beginning to know the answer, more or less, to the schools problem; socially and administratively we are still miles from it.

*

The exhibition at the Building Centre may help. But ASTRAGAL, as he walked round, found himself getting just a little irritated. The Building Centre is a big show nowadays and might have given us an adequate follow-up to the 1948 RIBA exhibition. But this exhibition is not quite what one hoped for. Pretty models, shown at all sorts of levels, and an inadequate display of furniture and equipment are the only things that supplement the photographs —Gerald Holton's textiles excepted.

*

But the real trouble is that the whole affair is too much mixed up with sanitary fittings and bits of Queensland

Maple that have overflowed from other sections of the Building Centre. Now that the Centre is well established in its spacious headquarters in Store Street, can it not give us a *real* exhibition gallery?

IDEAL HOMES

How splendidly Olympia fills this particular bill compared with more recently designed exhibition buildings. James Gardner—unerring as always with the sense of scale and of the popular touch—is again in charge of presentation for the Ideal Home Exhibition; his model Coronation coach and attendants (designed and made by many of his old South Bank collaborators) beneath its towering canopy is really quite a *tour de force*. Elsewhere the mixture is much as usual—bedroom suites and dream gardens on the ground floor, gadgets in the gallery. But there is one important difference.

*

The public can now buy houses almost over the counter. Why, then, have only three private enterprise firms chosen to exhibit? A matter of space, perhaps? But then a fair proportion of the village is given over to shops. And ASTRAGAL had always suspected that the shopping street was introduced because builders saw no point in showing houses which the public could not buy. It's possible, of course, that with licence freedom barely three months old the spec. builders had little time to make plans, and anyway there is always—one fears—another year.

*

One thing that caught my attention at the exhibition was the price of furnishing a complete house. Most of the houses on view have been furnished with considerable skill and reasonable economy, but, nevertheless, total costs (round about £500 in the COID examples, excluding such things as sheets, blankets and pillows) are formidable.

*

It is strange—isn't it?—that if we are to judge by the *News Chronicle* competition, standard furnishing items today include television sets and cocktail cabinets. ASTRAGAL is beginning to think that he knows all the Wrong People.

WESTMINSTER ABBEY

How many readers of the *Observer* let pass that little remark about the Abbey, now crammed with scaffolding, looking much as it did when it was being built. Was the Abbey in fact—apart from scrapings, restorations and earlier coronations—ever full of scaffolding? All evidence available, including the Van Eyck drawing of St. Barbara, with site work going on the background, is fairly conclusive. Mediæval builders laid their stones "over-hand," standing on the inner skin of the wall, with a few winches and derricks to aid them and—of course, centring for the vault; but this last was only from the springing upward, only for the ribs and only for one bay at a time. Carpentry and haulage were too difficult ever to have admitted of much else. Everyone knows that it was all a major problem for Brunelleschi in the Duomo, and that he went to the very limit of his ingenuity to avoid scaffolding.

*

How will the Abbey really look in three months time? Goodden's Abbey tapestries will, almost certainly, be good in themselves; but will the real afflatus be there; is it possible in this Age? The last men to rise to the occasion with that blend of pomp and art that takes one to the edge of the ridiculous without quite touching it were, surely, David and Isabey. For the coronation of 1804, it will be remembered, Notre Dame was hung with yellow stitched in gold (the usual bees and Imperial monograms) and hung, moreover, from the springing of the high vault to the floor. Neither Mr. Eccles nor the Earl Marshal have managed to run to that degree of magic—though Joan Hassall's charming Abbey invitation card hints at soft hearts beneath the coronets of Belgrave Square, and, after all, Isabey and David had a master who, for all his faults and his greatness, was also a Romantic.

MORE MODULAR

The newly-formed Modular Society now has 185 members and the larger proportion, ASTRAGAL suspects, are bee-bonneted. The second meeting was held last week, out of the four principal speakers only one, S. A. W. Johnson-Marshall (chief architect, MOE) made a concrete proposal—that a representative selection of the many buildings designed on a module since the war should be examined in order to learn what actual savings were made and what the *potential* advantages were—to the user (liable to be neglected by this kind of society) and to the architect.

*

In the discussion which followed, only five speakers supported Johnson-Marshall. The majority were content to argue the merits of small and large modules. If this society is going to achieve anything, however, it has only one course before it: to commission a research team to study the problem as it exists today and to report potentially worth-while lines of research. Such an action needs funds, of course, and if there are no members who can put up the many thousands of pounds necessary might not BRS be asked to undertake the whole job? Thus leaving the Modular Society the more reasonable rôle of a debating society and disseminator of information.

*

Which raises the question: What is the BRS attitude to the problem of modular co-ordination, and can it, in the face of recent economy-cuts, take on additional work anyway?

TPI DINNER

At the annual dinner of the TPI, last week, four speakers produced sentences which stuck (roughly) in ASTRAGAL'S mind. The Dean of St. Pauls said "when I see Bankside Power Station I feel no one would have put it there but a very high town planner indeed."

*

Professor Sir William Holford, referring to reconstruction east of St. Pauls commented: "I feel elation at seeing something going up."

*

Harold Macmillan most solemnly said: "Planning is to make certain that development takes place in the right place and way in a manner to preserve the beauty of our inheritance . . . and create a better life in the widest sense."

*

And TPI President S. L. G. Beaufoy announced: "The Institute has decided to award a gold medal for outstanding achievements in the field of planning . . . and the first gold medal is to be awarded to Sir George Pepler."

ASTRAGAL

Ideal Homes, 1953

These photographs, which were both taken at the 1953 Ideal Home Exhibition (social historians, please explain), show the extremes in furniture manufactured today. Between these extremes of honest-to-goodness exuberant eclecticism and good new designs lies the too-familiar assortment of crude neo-Contemporary and neo-Antique pieces. Top, the stand of Jordan & Cook; bottom, newly-designed furniture on Heal's stand.

Executive Editor: D. A. C. A. Boyne

WANTED: INFORMATION FROM YOU

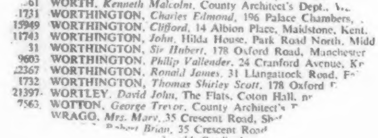
WITHIN the past few days some hundreds of registered architects have been asked to co-operate in a new survey of the profession which is being conducted by the JOURNAL's Guest Editor, Professor Ian Bowen. Our study of the profession now enters a new phase, in which we hope to discover the past and present *prospects* of the architect. The results of the survey will not be known for some weeks. In the mean time Professor Bowen will conclude his present series of articles which are based on existing available data.

Many who are reading this JOURNAL will have already received our request for information and a copy of Professor Bowen's questionnaire. *It is essential to the success of this venture that there should be a complete response from all who have received a questionnaire.* Each completed questionnaire increases the accuracy of the conclusions which can be drawn, so we beg all those who have received one to acknowledge their responsibility to themselves, and to their fellow-architects, by filling it in, right away, and sending it to Professor Bowen, Department of Economics and Commerce, University College, Hull.

Many readers will not have received a questionnaire, for it has been sent only to a true cross-section of the profession. *Nevertheless, you can help.* The questionnaire has also been printed overleaf, and every one filled in and sent to Professor Bowen will serve as a valuable check to the sample results, and, as Professor Bowen states below, will *receive the same confidential care* as those from the sample survey itself.

Before filling in the questionnaire please read Professor Bowen's article below. In it he explains the reasons for, and the methods of conducting, this special survey. In next week's issue Professor Bowen and Martyn Webb (senior member of the research team assisting Professor Bowen) will put before you further questions they *did not* ask in the first questionnaire, but to which answers are vitally needed.

FOCUS ON


. William, 7 Friars
. Pearson, 20 Lowndes St
..nn Victor, Calton-Lees, High
..illiam Alfred, Architect & Surveyor
...C, William Sidney, 5 Westville Road, Cardi
WORTH, John William, City Architect's Dept., 10 Lo
..61 WORTH, Kenneth Malcolm, County Architect's Dept., W
.1731 WORTHINGTON, Charles Edmond, 196 Palace Chambers,
15949 WORTHINGTON, Clifford, 14 Albion Place, Maidstone, Kent.
11743 WORTHINGTON, John, Hilda House, Park Road North, Midd
31 WORTHINGTON, Sir Hubert, 178 Oxford Road, Manchester
9603 WORTHINGTON, Philip Vallender, 24 Cranford Avenue, Kn
.2367 WORTHINGTON, Ronald James, 31 Llangattock Road, F
1732 WORTHINGTON, Thomas Shirley Scott, 178 Oxford R
21397 WORTLEY, David John, The Flats, Coton Hall, nr
7563 WOTTON, George Trevor, County Architect's
WRAGO, Mrs. Mary, 35 Crescent Road, Sh
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YOU

Professor Bowen and Martyn Webb introduce a questionnaire, printed overleaf, which readers are asked to complete and send to him.

Guest Editor:
Professor IAN BOWEN

A New Survey

Sample surveys, quizzes, opinion polls and other methods designed to discover and measure social phenomena have become of increasing importance within recent years and are a sign of the increasingly diverse nature of our society. No longer can we make generalizations about any particular class of society, branch of the professions, or, if it comes to that, of any particular political party. Surprising as it may seem, in view of the spread of mass communication, it is probable that our individual knowledge about our neighbours' life and work is less than it used to be, so specialized and particular are our everyday occupations becoming. The architectural profession is no exception to this rule. It is our hope, therefore, that in instigating this new survey we will provide the profession with information about itself and its prospects not previously available, which will be used toward a better understanding of the conditions which face it today.

Not all of you will have received a copy of the questionnaire. We would, nevertheless, like you to join with us by completing the questionnaire which is printed in this week's JOURNAL. You may keep it by your side; it will provide you with a summary of your own professional progress, which you could then compare with the "average" results which we obtain. Or (and this we hope) you might like to send it in: it will be of great value as a check to the survey results and will receive the same confidential care as those from the sample survey itself.

EXPLANATION OF THE QUESTIONS

The first part of the questionnaire (section A) is based upon a similar question put to the profession by the RIBA in the inquiry conducted in 1949 for the Percy Thomas report. This has been included in order to ascertain whether the movement toward salaried appointments in local and central government has continued over the past few years. An additional column (marked A) is included in order to discover, firstly, whether the movement from those private to public practice occurred suddenly, or as a steady drift, and, secondly, the various sections of the profession chosen by those who have qualified since 1938. It will also show how many in the sample have left the profession for other occupations over the past 15 years.

Section B is a general section which applies to all those attempting the questionnaire. It sets out to provide information as to the age structure of the profession (an essential if we are to estimate the retirement rate); the scholastic qualifications of its

The title piece, above, is reproduced from a page chosen at random from the Architects Register, and the names have no direct connection with the article.

members; the effect of two World Wars upon service in the profession, and, finally, the numbers of persons who came late in life, as it were, to the profession. In the section following, section C, we would like to ascertain the relative importance of the various methods of entering the profession and the changes, if any, in the methods preferred in pre-war and post-war years. It will also show the comparative time taken by the various methods to achieve registration. How long does it take, for example, to qualify by a "learn whilst you earn" method compared with a full-time course at a recognized school? It will also, of course, provide information as to the average age of becoming a registered architect. All of which are of importance if we are going to calculate the stage in an architect's career when he can begin to compete for posts as an Architect in the fullest sense of the word. Finally, it will help to establish whether, since public practice is now so important, the public service has assumed wider responsibilities for assisting the training of young architects than was disclosed by the RIBA report.

The five sections which follow (sections D, E, F, G and H) have been so arranged as to cover the main trends of employment after qualification and, except in very special cases, it is only necessary to complete one of these sections; for example, those who have been in private practice throughout their career, need only answer section D. What we shall try to discover here is how rapidly architects advance in the profession after qualifying. We would like to know, for example, how long it takes to achieve one's own practice or a partnership. You will be able to see from the remaining questions the points we are interested in.

However, the most important aspect of our survey lies in comparison and correlation between answers to questions found in different sections. This is perhaps the most interesting and fruitful—and often the most difficult—aspect of any survey and one which we look forward to describing. We should then be able to throw a great deal of light upon certain much debated questions. Is it better, for example, judged in terms of progress, to qualify *via* full- or part-time study? That is, does his initial lack of experience at the time of qualifying handicap the full-time trainee? And if so, for how long? We'd like those who answer this questionnaire to comment on this point. So also with school qualifications; is a higher scholastic attainment an asset to one's career as an architect; or does it prove more profitable to commence one's architectural training at the earliest possible moment? There are many other aspects which you might be able to discern for your own interest, but one of the most important is the question of comparative rates of progress in private, public and commercial practice. In which of these three main avenues of professional activity is the fastest progress to be found; judged not by one person's experience, but from a study of hundreds of individual cases?

These notes on the questionnaire are intended to explain in some detail its purpose, and to describe the information we can expect to derive from it. Next week we will provide you with a second questionnaire, in which we will ask for vital information on salaries, unemployment, *under* employment, and the numbers and status of that little known, but very important, factor in the make-up of the profession: the *unqualified* assistant.

A SURVEY OF REGISTERED ARCHITECTS:
QUESTIONNAIRE

This questionnaire is designed to obtain information about progress and advancement in the architectural profession in the light of the experience of its members. Readers are asked to complete it and send it to Professor Bowen, Department of Economics and Commerce, University College, Hull, not later than March 23, 1953. All information will be treated as confidential. Nearly all the following questions can be answered in one or two words or by a date (giving year only) but should you feel that such an answer might be misleading to the investigators, or that it requires amplification, you are free to make your own comments. Any additional remarks you might wish to give about training, progress and prospects in the profession which you consider, in the light of your own experience or knowledge, to be of importance, would be appreciated.

SECTION A (applicable to all Registered Architects. Please write any comment in margin below).

Write X in columns Y and/or Z against the lines which describe your employment on the two dates, AND in column A, indicate the year of commencement of your present employment if you were NOT employed in architecture in 1938 OR give the year in which you changed your employment if you have changed it since that date.

Type of Employment	Y *January* 1938	Z *January* 1953	A *Year of change,* OR *of commencement if not employed in* 1938
1. Private practice			
2. Central government			

Cut along this line

SECTION A—(*continued*)

Type of Employment	Y *January* 1938	Z *January* 1953	A *Year of change,* OR *of commencement if not employed in* 1938
3. Local government (excluding New Towns)			
4. National Boards (NCB,BTC,BEA, Hospitals, etc.). Same heading applies for 1938			
5. New Towns Development Corporations			
6. Commercial and Industrial firms with architectural offices (see question 7)			
7. Estate management and estate agency			
8. Consulting engineers (civil, structural heating, lighting, etc.)			
9. Teaching—Full time			
10. Teaching—Part time. (Please note your other occupation against relevant line)			
11. In employment other than architecture, state type of employment in the relevant column			

Cut along this line

SECTION B (applicable to all Registered Architects. Please write any comment in margin below).

1. Year of birth .....

2. Year of leaving school .....

3. Do you possess any of the following qualifications ? (Answer YES or NO)

(*a*) School certificate .....

(*b*) Higher school certificate .....

(*c*) University degree (state subject) .....

4. Do you possess any other NON-ARCHITECTURAL qualifications? (Please state nature of these qualifications) .....

5. War Service

(*a*) World War I, from ..... to .....

(*b*) World War II, from ..... to .....

6. Did you, to all intents and purposes, enter the architectural profession or architectural training direct from school or university? (Answer YES or NO) .....

7. If you have answered NO to the above question, what was your occupation prior to entering the profession or taking up architectural training? .....

SECTION C (applicable to all Registered Architects. Please write any comment in margin below).

1. What are your architectural qualifications? (Write X against the lines which apply)

(*a*) R.I.B.A. finals .....

(*b*) L.R.I.B.A. .....

(*c*) Diploma .....

(*d*) Degree .....

(*e*) Other (state type) .....

2. If the above qualification(s) were achieved through FULL-TIME STUDY, please answer the following:

(*a*) Year of commencement .....

(*b*) Year passed finals .....

(*c*) Whether your education was financed by (write X against the lines which apply):

(i) private means .....

(ii) scholarships or awards .....

(iii) by both .....

3. If your qualification(s) were achieved through PART-TIME STUDY please answer the following:

(*a*) Year of commencement .....

(*b*) Year passed intermediate .....

(*c*) Year passed finals .....

(*d*) Was your employer (write X against the lines which apply):

(i) a private architect? .....

(ii) a public architect? .....

(iii) not in architecture? .....

(*e*) Were you released for study by your employer? (Answer YES or NO) .....

(*f*) Did you make use of (write X against the lines which apply):

(i) evening classes? .....

(ii) correspondence courses? .....

(iii) or both? .....

Cut along this line

SECTION C—(*continued*)

4. If your qualifications were obtained through ARTICLES or other forms of INDENTURE please answer the following:

(*a*) Year of signing such indentures .....

(*b*) Duration (in years) .....

(*c*) Did this include any formal training at a school of architecture? (Answer YES or NO) .....

5. Have you any additional comments to make about methods of architectural training? .....

SECTION D (applicable only to Registered Architects whose careers have been entirely or almost entirely in PRIVATE PRACTICE. Please write any comment in margin below).

1. If you had a family connection with the profession and joined the family practice, please answer the following:

(*a*) in what year did you join? .....

(*b*) Have you yet succeeded to either ownership or partnership? (Answer YES or NO) .....

(*c*) If so, when did you succeed? (Year only) .....

2. If the above question does not apply, please answer the following:

(*a*) When did you commence employment in the architectural profession? (Year) .....

(*b*) When did you become a salaried assistant? (Year only) .....

(*c*) When did you become either a principal or a partner on your own account? (Year) .....

(*d*) If you are still a salaried assistant, please indicate your present seniority (*e.g.*, head of section or office) .....

3. What best describes your present activity?

(*a*) Execution of architectural design .....

(*b*) Administration and approval of architectural design .....

4. Have you any other comments about progress in private practice and the opportunities offered for advancement? .....

Cut along this line

Cut along this line

SECTION E (applicable only to those Registered Architects whose careers have been entirely or almost entirely in PUBLIC or COMMERCIAL PRACTICE. Please write any comment in margin below).

1. Which of the following best describes the field in which you have spent the most important parts of your career? (Write X against the line which applies):

(*a*) Central Government .....

(*b*) Local Government .....

(*c*) Nationalised industries or undertakings (or the private concerns that preceded them (including hospitals) .....

(*d*) Estate management .....

(*e*) Commercial or industrial firms with architectural offices .....

2. When did you first enter the profession? (Year) .....

3. When did you become a salaried assistant? (Year) .....

4. When did you become principal or chief architect? .....

5. If you are still a salaried assistant architect, what is your present status? (*e.g.*, senior, head of section, etc.) .....

6. What best describes your present activity?

(*a*) Execution of architectural design .....

(*b*) Administration and approval of architectural design .....

7. Have you any other comments to make about progress in either public or commercial offices? .....

Cut along this line

SECTION F (applicable only to those Registered Architects whose careers have changed from private to public practice or vice versa. Please write any comment in margin below).

1. What was your original employment? (Write X against the line which applies):

(*a*) In private practice .....

(*b*) In public or official practice .....

2. What was your status on changing employment?

(*a*) Salaried assistant .....

(*b*) Head of department .....

(*c*) Principal or partner .....

SECTION F—(*continued*)

3. What is your present status?

(*a*) Head of department .....

(*b*) Principal or partner .....

(*c*) If still a salaried assistant, please state your present seniority (*e.g.*, head of section, etc.) .....

4. Have you any further comments to make about the problems involved in changing from one form of architectural practice to another and how this might affect progress and how prospects compare? .....

SECTION G (applicable only to those Registered Architects whose careers have been mainly concerned with the TEACHING OF ARCHITECTURE. Please write any comment in margin below).

1. When did you become an assistant lecturer? .....

2. When did you become a senior lecturer? .....

3. When did you become principal or head of department? .....

4. Have you any other comments to make about progress in the teaching profession which you feel might be of use or about problems of architectural training? .....

SECTION H (applicable only to those Registered Architects WHO ARE NOW ENGAGED IN WORK OTHER THAN ARCHITECTURE (e.g.: journalism. Please write any comment in margin below).

1. When did you leave the architectural profession? (Year) .....

2. What was your status on leaving?

(*a*) Salaried assistant .....

(*b*) Principal or partner on own account .....

(*c*) Head of department .....

3. Were you in

(*a*) Private practice? .....

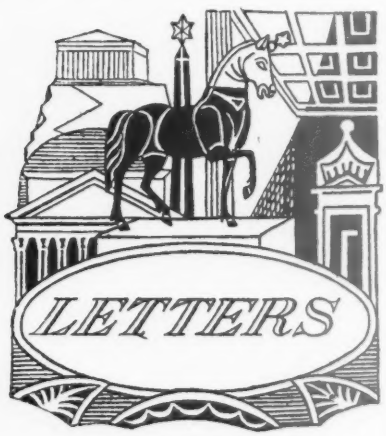
(*b*) Public practice? .....

4. Have you any comments to make about progress in the architectural profession which you feel might be of help in this survey? .....

We hope that you have completed this questionnaire. Now please cut it out and send it to Professor Bowen, Department of Economics and Commerce, University College, Hull, **not later than** March 23.

Cut along this line

Cut along this line



Anthony M. S. Forrest D.A.(EDIN.), A.R.I.B.A.

V. G. Bartholomew, A.R.I.B.A.

Kenneth S. Long, Student R.I.B.A.

C. R. Barker

Eric de Mare, A.R.I.B.A.

Anthony D. C. Smith (Chairman, The Hardwood Flooring Manufacturers' Association).

"Focus on You"

SIR,—Every architect must welcome this investigation and report on, if one may so call it, "The State of the Union," and it is fairly obvious that it will be widely read in the profession. That it will do much good cannot be gainsaid and, indeed, it may well go far towards solving some of the outstanding problems as they affect architects in their relations towards each other.

However, the unfortunate fact is that, outside the profession, very few people ever read the architectural magazines. The client or prospective client—and that, one hopes, will include a majority of the public—regards such publications as being manifestations of a proper but unintelligible technical erudition unfit for his untrained mind. This is on the whole true of magazines like the *Architectural Review* as well as the more formal journals of the learned Societies. Where these are read outside the profession then one may assume that the readers are already architect-conscious and have already employed an architect or, alternatively, will do so if and when they build.

It may, I submit, be postulated that this question, of the practical ignorance of the vast majority of the people who may one day initiate a building project, of the functions of the architect, is one of the root causes of the evil doldrums in which so many architects now find themselves becalmed. We do not wish to advertise directly, such a change would, could, only be deplorable, but some better form of Public Relations than that which now obtains must be found if we are to save the Private Practitioner from extinction. Your new investigation will "take care" of the profession itself, that may be confidently assumed, but what can be done about the wider question of public ignorance or apathy?

Can we not emulate our medical brothers, who have attempted to heal themselves of many similar ills to ours, by the production of a family type monthly produced for general sale and devoted to the amusement of and careful education of its readers?

ANTHONY M. S. FORREST.

Crawley, Sussex.

Revision of Qualifications

SIR,—I agree entirely with Mr. Trollope that there is a need for a designation indicative of a certain minimum length of professional experience, in addition to a minimum basic academic qualification, but I consider that the proposal made by Mr. Trollope would gain very little support from the profession and would in no way clarify the position to the general public.

There is, of course, already a class of membership of the RIBA—namely the fellowsh.p—which indicates usually at least ten years' professional experience. The reason why many associates do not apply for the fellowship as soon as they are eligible is, in my opinion, because *prima facie* and to the general public there is no distinction between the fellowship *via* associateship and the fellowship *via* licentiateship, and the associate therefore loses his identity as a member fully qualified by a high standard of examination.

The short answer to this would be the cessation of transfers from licentiateship to fellowship, but obviously this would take at least a generation to become effective.

I suggest that a better solution would be to extend the present requirement of 12 months' experience, before completing the final examination and subsequent election to Associateship, to four years. Ten years, I consider is excessive, even the medical profession do not make such a requirement, and surely the necessity for an unmistakable indication of qualification and ability in that profession is more vital even than in architecture.

V. G. BARTHOLOMEW.

London.

. . . . and of Education

SIR,—I have spent five years in full-time training for the architectural profession and I never saw Mr. Carton's "blood, sweat and tears," or Mr. Woodhead's five years' "fierce working" with "little respite." The architectural student's life, generally, is too easy—most of the time is spent in discussing Mies van der Rohe's latest design, inciting rebellion against the RIBA, or organizing jazz sessions.

Most students today think only in terms of large areas of glass, prestressed concrete, plastics, and South German rubber plants, yet I doubt whether the majority of them know the price of a brick, which is the most common building unit. Mr. Trollope is evidently a shrewd man, and his views receive my wholehearted support. It is certainly not economical to employ such persons as architects.

The solution is obvious. Instead of spending the summer vacation in Italy or making a pilgrimage to the Unite d'habitation, wandering about in brightly coloured shirts and wearing dark spectacles—get on to a building site and learn how to handle materials. Such practical experience is an essential part of an architect's training, and should be compulsory.

KENNETH S. LONG.

Surrey.

Avoid Architects

SIR,—There is always something unnatural and usually half-baked about houses illustrated in the JOURNAL.

This week (February 26) a house with the usual internal bare bricks—how on earth are they kept clean? And if one should slip on the stairs, what abrasions might be sustained from them!

The staircase open to the public waiting space, so that all the family's callers (to the *back* door, note) are in full sight and sound, and all the family or visitors using the stairs are in public view. Kitchen sounds and smells and family shouts must travel down pretty well.

Presumably the architects and the various clients think they like these open houses, but pity their poor wives and old-fashioned visitors.

Incidentally, the "garage"—in my humble opinion—is merely a "car park." In my garage I can store tools, petrol, and all imaginable materials *and* the car under lock and key, and could keep them all and myself warm instead of standing in a howling draught.

I also note the larder on a south-west wall.

But the whole issue is that all your illustrated individual houses point to one moral: avoid architects; they are all mad!

C. R. BARKER.

Christleton, nr. Chester.

Cocoon-Bound

SIR,—ASTRAGAL should not discourage architects discussing life at their meetings. In this unstable, unhealthy, confused, but nevertheless promising, civilization of ours, architecture is the last thing they should now discuss. That AA students are daring to talk about how to live is a cheering sign. In doing that, why should they necessarily be telling other people how their lives should be organized?

The main thing now, especially for architecture's sake, is to find out what people really want from life in order to be healthy and happy. That can be done partly by introversion, *i.e.*, what do *I* want? To a very great extent we all want the same things, but at present we are not sure what they are. Until we know a great deal more clearly what we want, what is the use of any expertize? Technique is a means, not an end.

The expert, *as* expert, can never see the wood because he too rarely explores beyond his own small plantation. That is why he is always wrong. The physicist produces the atom bomb; the economist tries to plan poverty in the midst of abundance; the architect—well, just look. All because, so tightly wrapped in our isolated cocoons, we no longer desire and pursue the whole.

ERIC DE MARE.

London.

Under-Floor Heating

SIR,—In you issue of February 19 you described (on page 242) the conversion of Box Cottage, Blockley, Gloucestershire, and the use of under-floor heating. You made reference to the fact that wood was not used as a floor finish "because the behaviour of the wood available at the time of building could not be guaranteed under the action of heat."

The date when the building of this home was carried out was not given, but I would like the opportunity of correcting any impression in the minds of your readers that hardwood floors are not suitable for use over under-floor heating.

The Hardwood Flooring Manufacturers' Association has always been fully alive to the need for special treatment in the manufacture and laying of hardwood floors over under-floor heating, and is in constant touch with other interested bodies (The Invisible Panel Warming Association and the TDA) so that it may try to solve any new problems arising from fresh developments in this field.

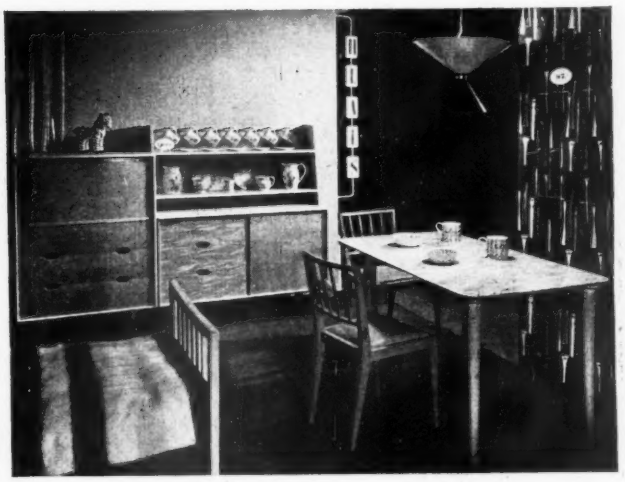
There was a period immediately after the war when a serious shortage of suitable flooring timbers existed, and it may be that the rebuilding of the Blockley cottages took place at that time.

I wish to state, however, that members of this association have the supplies and experience to provide a suitable hardwood floor over any form of under-floor heating now being used.

ANTHONY D. C. SMITH.

London.

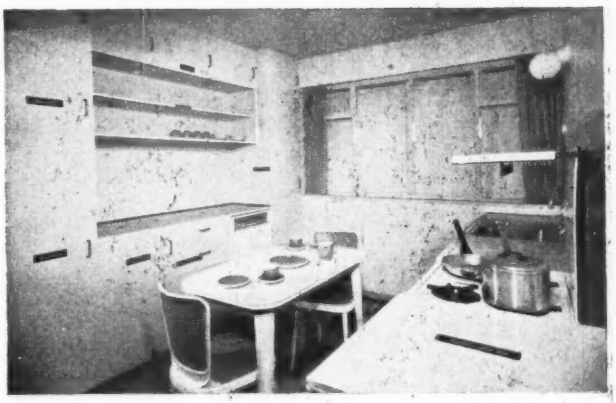
THREE STANDS AT THE IDEAL HOME EXHIBITION



At the Ideal Home Exhibition, which opened last week, Heal and Son once again exhibited a complete new range of furniture, designed by Christopher Heal and A. J. Milne, with printed fabrics by Lucienne Day. Above right, nursery furniture, to a standard width of 4 ft., in Persian ramin; doors and drawers are faced with flame birch. *(See also page 328.)*

Part of Dunn's stand (above) is devoted to recently designed unit furniture in walnut; the standard width is 2 ft. 6 in.

The Thomas De La Rue and Company's stand exhibits a full size mock-up of the first prize winning design in the "Coronation kitchen" competition; the design is by Percival Howells, Kenneth G. Dines and Peter J. Ball.



LCC

National Theatre Site

The site of the National Theatre is now to be between the County Hall and Hungerford Bridge, along the river front. This was announced at a meeting of the LCC council last week. I. J. Hayward, leader of the council said: "The abandonment by the MOW of their proposed lease of the part of the site upstream of Hungerford Bridge has enabled the planning of the whole area to be considered afresh, and the Trustees of the National Theatre have been consulted on the effect of this opportunity on their proposals.

"As they were encountering difficulties in planning their building on the site, already agreed, adjoining Waterloo Bridge, they have been glad to take advantage of the replanning of the area and agreement in principle has been reached on the use of the site with river frontage adjoining the County Hall.

"The Queen Mother has been pleased to give her approval to the proposed change. The Royal Fine Art Commission, who also favour the proposal, are being consulted on the proposed design of the building in relation to the general development of the area. A report on the detailed proposals for the whole area will be presented to the council as soon as possible."

COMPETITION

Furniture for the Homes

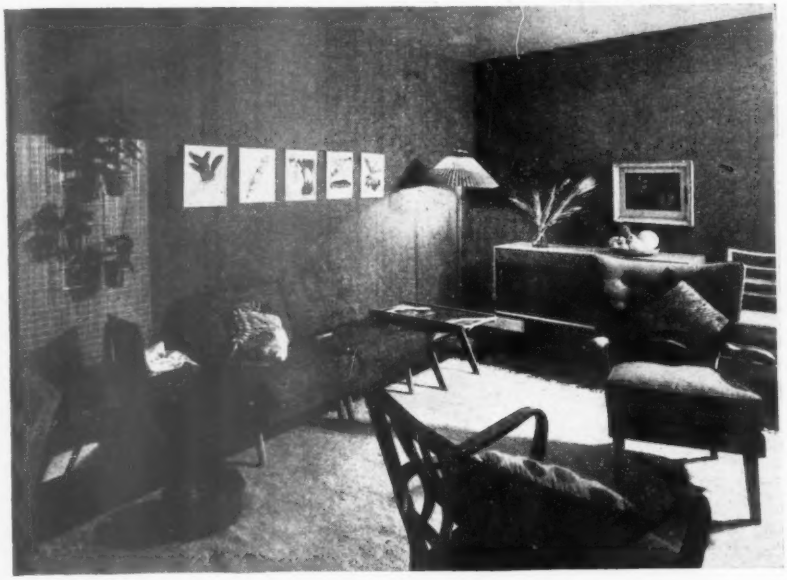
The Furniture Makers' Guild is holding a competition for the design of various pieces of furniture which may be required by a married couple whose accommodation for bedroom, lounge and dining room is con-

Right part of the "Britain Builds for Education" exhibition on the fourth floor of the Building Centre in Store Street, W.C.1. This is the first time that the new exhibition stands, designed by Mrs. Conder, have been used. Open until March 28. *See Astragal's note on page 325.*

MOHLG HOUSES AT THE IDEAL HOME EXHIBITION: INTERIOR

The MOHLG exhibits at the Ideal Home exhibition include three houses built to People's House plans (see AJ *for November* 13, 1952)*; these narrow-frontage designs are claimed to effect savings of approximately £25 per house. The terrace type three-bedroom house (above) has a frontage of* 18 *ft.; the two-bedroom house is* 15 *ft.* 9 *in. wide; the two-storey flats, not shown, have an average floor area of* 657 *sq. ft. The interiors, which are meant to be neither cheap nor luxurious, were decorated and furnished by women architects for the COID. On the right are the three living rooms; top, the two-storey flat as designed by Lady Casson (floor area of* 176 *sq. ft.); centre, the three-bedroom house, by Mrs. Phoebe De Syllas (*235 *sq. ft.); bottom, the two-bedroom house by Mrs. Joyce Pattrick (*181 *sq. ft.). (See* ASTRAGAL'S *note on page* 327)

DESIGNS COMMISSIONED BY COID



tained within an overall floor area not exceeding 750 sq. ft. The prizes, which are to be presented by the *Cabinet Maker*, total £500 and consist of £300 for first prize, £150 for second prize, £50 for third prize. The closing date for submission of completed work is Monday, April 20.

The planning and division of the rooms or living spaces within this total area is left entirely to the discretion of the competitor. For the purpose of this competition no allowance should be made for children's furniture or other requirements, and it is assumed that the married couple only entertain four people at any one time, *i.e.*, six including themselves.

All furniture designs submitted must be original and suitable for commercial production at a reasonable price. The furniture to be provided must be essentially practical and free from undue extravagance; but, subject to this important requirement, the judges will take into careful consideration novelty and ingenuity. The design of the bedroom furniture must allow for sleeping accommodation for two persons, ample storage furniture to give accommodation for clothing, some form of dressing-table or equivalent, and seating accommodation.

Lounge furniture must be provided to allow for the varied activities of the home including entertaining. Dining furniture must include a table, seating for six, some form of sideboard or equivalent, and a trolley-table, side table or other piece to serve a like purpose. Application for entry forms should be made in writing to the Clerk to the Furniture Makers' Guild, Seymour D. Plummer, The Rectory, 29, Martin Lane, Cannon Street, E.C.4.

In addition, Guild certificates may be awarded for designs which are highly commended by the judges.

TPI

Annual County Meeting

The twenty-seventh annual county meeting will be held in Brighton in conjunction with the South-east of England Branch from May 8 to 10, under the chairmanship of the president, S. L. G. Beaufoy. Papers will be read and discussed on the Friday and the Institute dinner will take place in the evening. Applications for attendance must be received by March 16.

NFBTE

Keeping Building Costs Down

Wilfred Horsfall, the president of the NFBTE, speaking at the annual dinner of the Yorkshire Federation of Building Trades Employers, at the Assembly Rooms, York, on March 4, had this to say about keeping building costs down:

"At a time of high labour and materials costs and high interest rates it is essential that builders are paid promptly for the work they do. Last year Mr. Macmillan advised local authorities of the manner in which slow payment by them for work done was acting as a brake on building output through lack of funds and he emphasized that maximum sums due from time to time under the contract should be paid promptly and certainly within the period named in the contract.

"I would urge local authorities to bear this point in mind, for today a builder counts himself lucky if his final account is settled within twelve months of the completion of the job; in most cases payment is withheld for eighteen months or two years and this

is simply not good enough when builders and contractors are making every effort to reduce the proportion of total building costs for which they are responsible. It has been estimated that the total sum owing to the building industry for work done is over £100 million. A positive effort to reduce this sum could have a marked effect on subsequent building costs and output."

NEWS CHRONICLE

Coronation House

Last week the *News Chronicle* announced the names of the five architects it had commissioned to design five "Coronation" houses. They are G. Grenfell Baines, Henry Braddock, John Grey, Judith G. Ledeboer, and Brian Peake. As a result of readers' preferences (45 per cent. prefer single-storey houses; 55 per cent. prefer two storey) two architects will produce plans for single-storey houses, the other three for two-storey houses. These plans as well as the five winning designs of the competition (see AJ for February 26) will be published in the *News Chronicle* in April.

EXHIBITION

Judges Appointed

Amongst the judges, representing the general public, for the Coronation Year Exhibition of the Institute of British Photographers are Eric Bird, editor of the *RIBA Journal*, and A. B. E. Fairclough, photographic librarian of the COID.

DIARY

C.V.E. School Exhibitions on Architecture and Design. Exhibition at London County Hall (Room 153), Westminster Bridge, S.E.1. Weekdays: 10 a.m.-5 p.m.
UNTIL MARCH 14

The Effect of Housing Subsidies. Henry Brooke, MP. At The Royal Institution of Chartered Surveyors, 12, Great George Street, S.W.1. 5.30 p.m. MARCH 16

Successes and Failures of New Techniques. Howard V. Lobb. At RIBA, 66, Portland Place, W.1. 6 p.m. MARCH 17

Special Joint Meeting on the Work of the Diploma Students of the Department of Town Planning, London University. At Housing Centre, 13, Suffolk Street, S.W.1. 6 p.m. MARCH 17

Work of Frank Lloyd Wright and Alden B. Dow. Kodachromes. Bruce Douglas. At AA, 34-46, Bedford Square, W.C.1. 6 p.m. MARCH 18

Historical and Climatic Influences on Landscape Design. Maria T. Shephard. At Student Planning Group, 28, King Street, W.C.2. 6.30 p.m. MARCH 19

Compare and Choose. Exhibition at Charing Cross Underground Station, W.C.2. (Sponsor: DIA.) Weekdays, 10 a.m.-8 p.m.
UNTIL MARCH 21

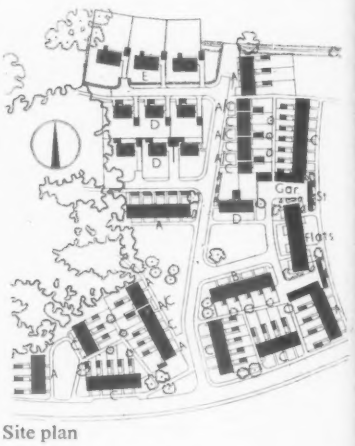
Furnished Rooms. Exhibition at Peter Jones, Sloane Square, S.W.1. (In conjunction with *House and Garden*.)
UNTIL MARCH 23

Building in the Netherlands. At RIBA, 66, Portland Place, W.1. Weekdays: 10 a.m.-7 p.m.; Saturdays: 10 a.m.-5 p.m.
UNTIL MARCH 28

Britain Builds for Education. Exhibition at Building Centre, Store Street, Tottenham Court Road, W.C.1. Weekdays: 9.30 a.m.-5 p.m.; Saturdays: to 1 p.m.
UNTIL MARCH 28

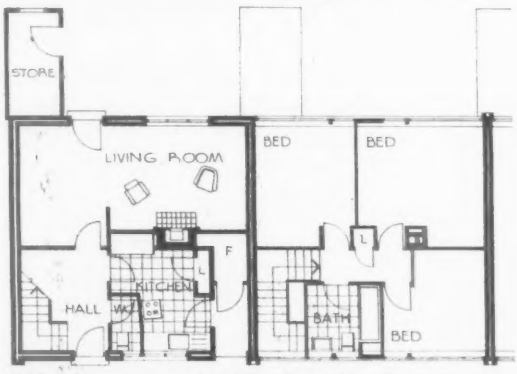
Ideal Home Exhibition. Olympia. Weekdays: 9.30 a.m.-9.30 p.m.
UNTIL MARCH 28

HOUSING AT MARK HALL



Site plan

The houses illustrated on this page and opposite are at Cook's Spinney, Area 12, Mark Hall South, Harlow, and were designed by H. T. Cadbury-Brown for the Harlow Development Corporation. Above and above right, opposite, are photographs of the type A/C houses, which have tunnel access to the rear of the houses; below are type B houses; centre, opposite, are type D houses and bottom, opposite, are type A terrace houses and type D semi-detached houses beyond. The site is L-shaped, enclosing a wood in the interior angle, and there is a gentle slope to the north. Most of the houses are in terraces, with 2- and 3-bedroom houses facing east, south and west, and 3-bedroom houses facing north. Construction is 11-in cavity exterior walls, the outer skin of Sussex stock facing bricks and the inner skin of

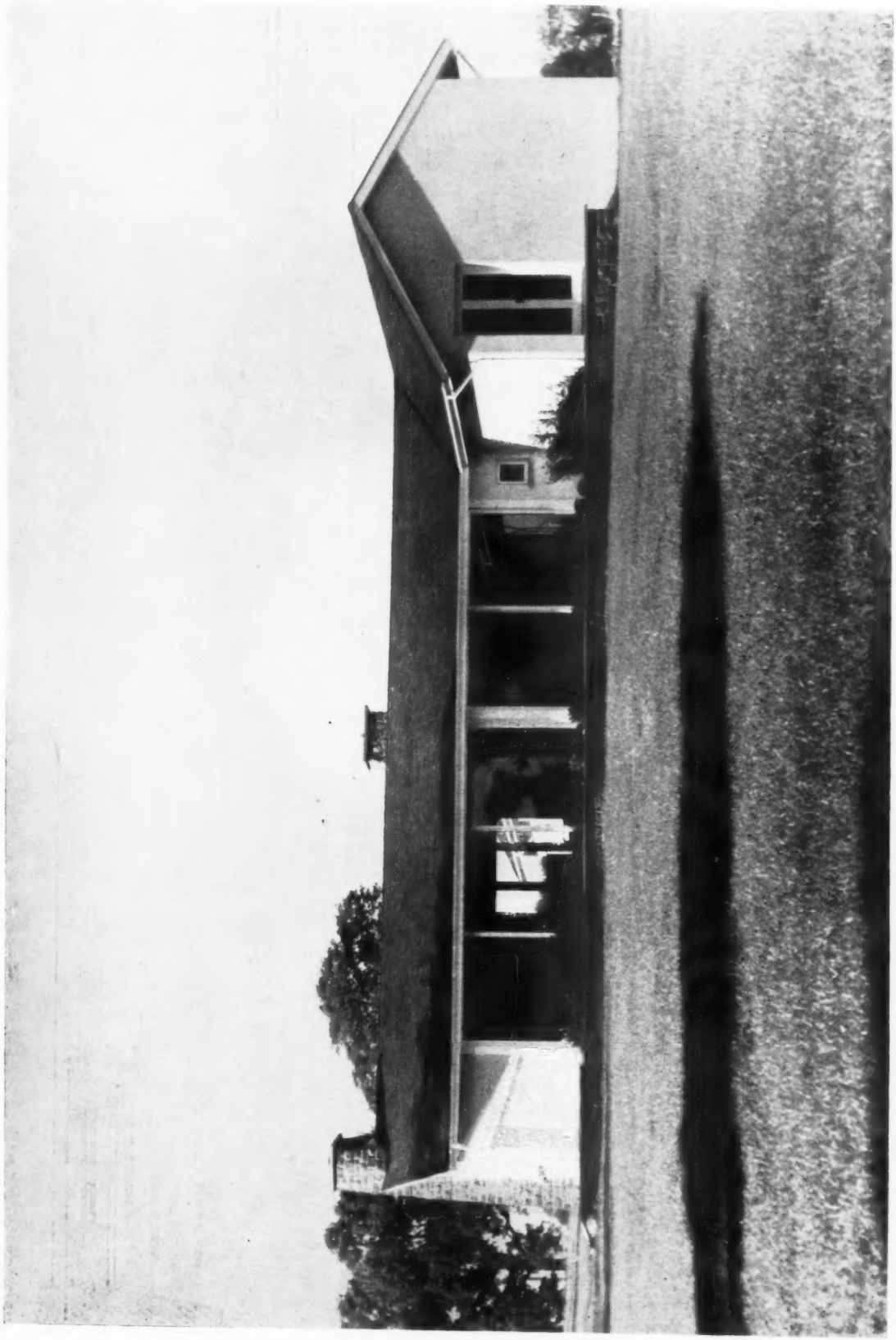


B-Type houses, ground and first floor plans [Scale: $\frac{1}{8}$" = 1' 0"]

WORKING DETAIL

GLAZED SLIDING DOORS: HOUSE IN GORTNAMONEY, N. IRELAND

E. Waite Beaumont and T. Anthony Houston, architects

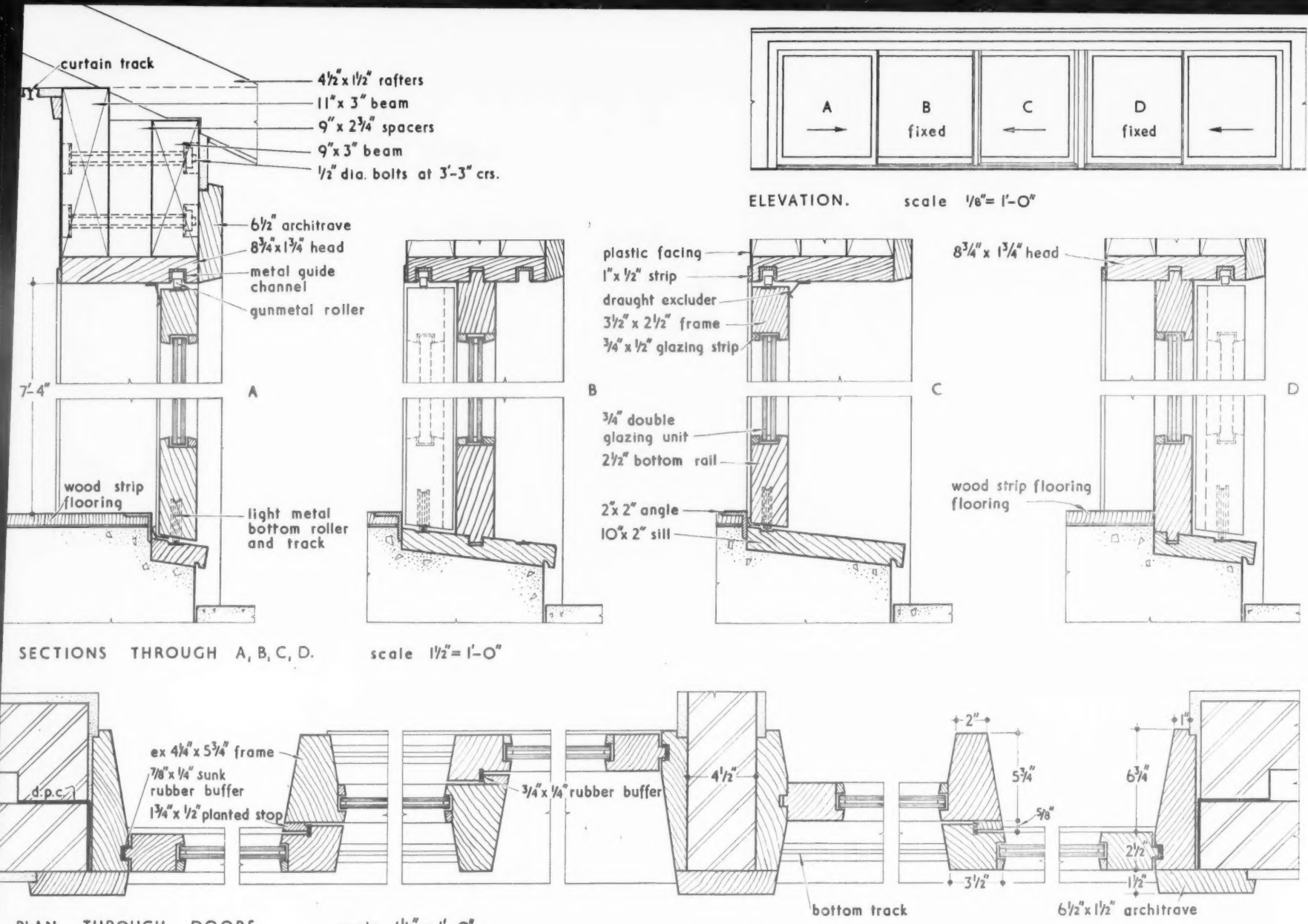


The doors have double-glazed panels and metal draught strips above and below: there are rubber buffers at all points where sliding members come into contact with fixed ones

WORKING DETAIL

GLAZED SLIDING DOORS: HOUSE IN GORTNAMONEY, N. IRELAND

E. Waite Beaumont and T. Anthony Houston, architects



WORKING DETAIL **MISCELLANEOUS: 2**

EXPANSION JOINT: FLATS AT ILFORD, ESSEX

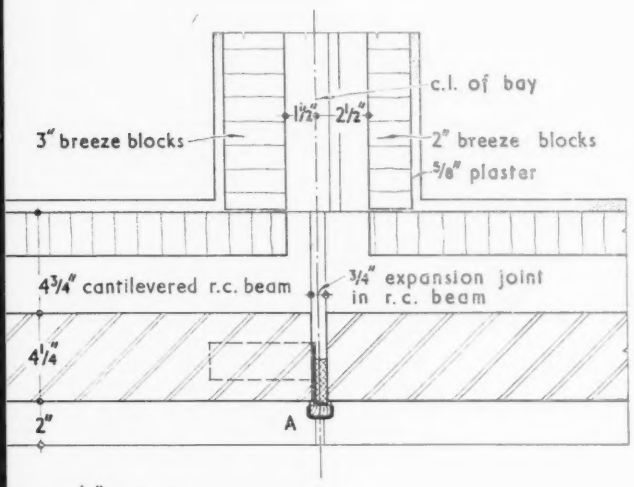
L. E. J. Reynolds, Borough Engineer and Surveyor : H. B. N. Nixon, senior assistant architect : R. C. Edleston, assistant architect in-charge

The expansion joint is clearly visible in the brickwork between the windows and continues through the mullion

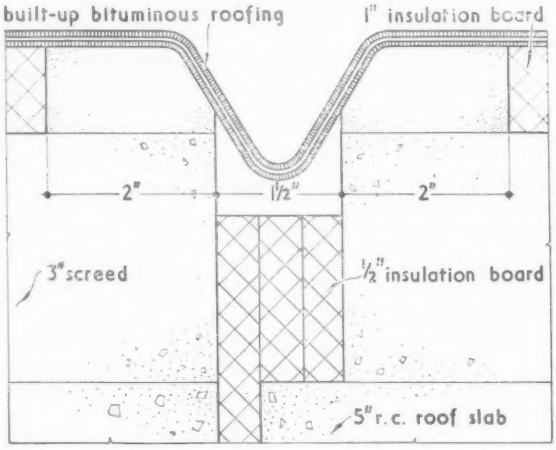
WORKING DETAIL

EXPANSION JOINT: FLATS AT ILFORD, ESSEX

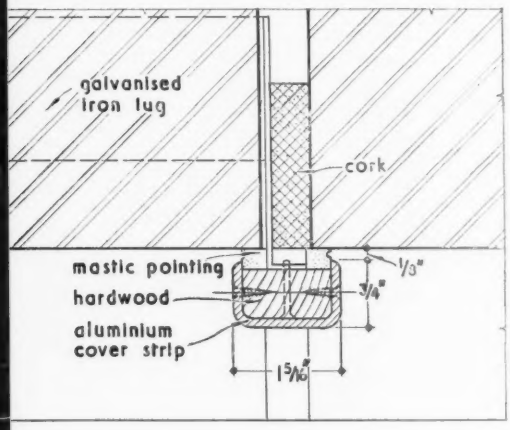
L. E. J. Reynolds, Borough Engineer and Surveyor : H. B. N. Nixon, senior assistant architect : R. C. Edleston, assistant architect in-charge



scale 1½" = 1'-0"

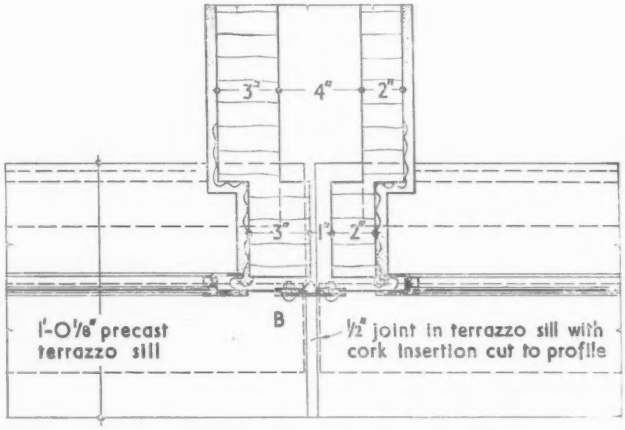


DETAIL AT ROOF. scale ½ full size

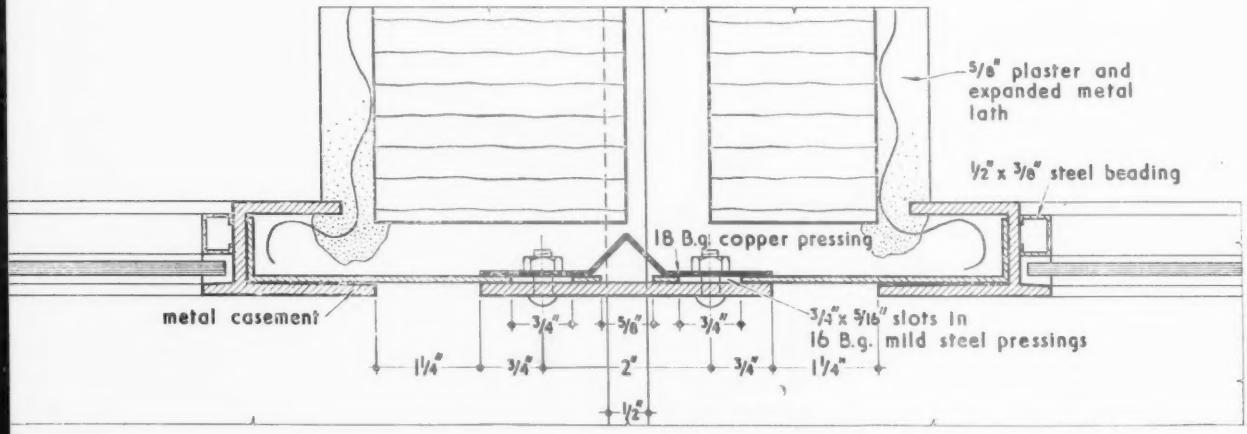


detail at A scale ½ full size

EXPANSION JOINT AT WALL PANEL.



scale 1½" = 1'-0"



detail at B scale ½ full size

EXPANSION JOINT AT MULLION.

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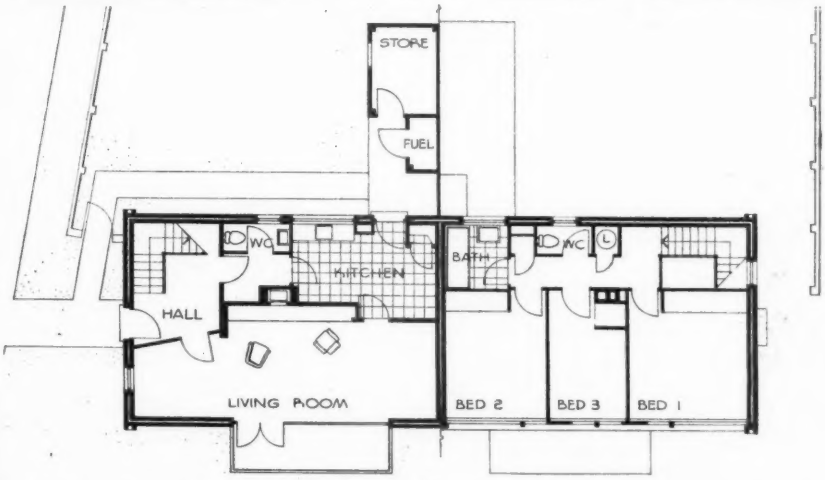
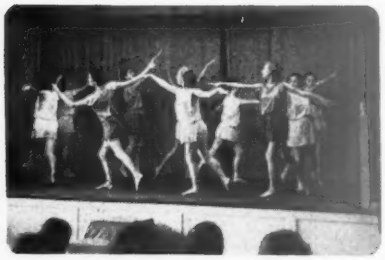
SOUTH, HARROW NEW TOWN, ESSEX

4½-in. hollow clay blocks. Partywalls are similar but with two skins of hollow clay blocks. Timber roof trusses—33° pitch—are finished with double roman tiles. Contract price was £116,267. The general contractors were George Wimpey & Co., Ltd. For sub-contractors see page 354.



B Type houses, ground and first floor plans [Scale : ⅛" = 1' 0"]

SCHOOL ACTIVITIES: 1*



Secondary Modern School children learn through the natural development of their own interests. Indoor and outdoor teaching is related, both in mental and physical activities.

* Whilst it is possible to photograph the building during erection, illustrations of school activities must necessarily be borrowed from other secondary modern schools. They are used here to give a literal impression of the kind of activity that will take place at Wokingham. They illustrate mainly outdoor and practical work, since recent interest in this part of the curriculum has most affected the buildings.

Wokingham is as much an experiment in education as in building technique; the success of each cannot be judged alone. In their fourth article on the Wokingham experiment, Stillman and Eastwick-Field turn from technical matters and deal instead with the new concept of education for which Wokingham will provide the physical environment. They deal with the problem of briefing the architect and conclude with a controversial plea to build today for the needs of tomorrow.

MOE DEVELOPMENT WORK: WOKINGHAM: 4

By John Stillman and John Eastwick-Field*

AN ADVENTURE IN EDUCATION

THERE are many occasions on which architects are able to obtain only half-hearted collaboration from their clients. This may result in buildings which, judged by purely architectural criteria, are applauded in the architectural Press, but which in fact never satisfy properly the functions which are required of them. It is rarely possible for critics to "experience" a building, in the sense that one can experience one's home or office. Yet one of the most important principles of modern architecture is that buildings shall be designed to suit as nearly as possible their use. Naturally, perfection is impossible, since change and adaptability—even of the user to the building—preclude a static solution. Nevertheless, buildings vary widely in the degree of success achieved in this respect and, whilst their suitability or otherwise is probably criticized by their occupier, architectural critics rarely touch upon this subject.

It is the positive attempt to synthesize the aspirations of the client—in this instance an educationalist—with the architect, which, amongst other things, makes the Wokingham school exceptional.

AN INTENSE INFORMALITY

From a conventional "architectural" point of view, the plan of the school is, at first glance, not particularly compact or orderly, nor does the arrangement appear to be governed principally, as it is in so many other buildings, by the architect's desire to make a unified composition out of the parts of the building. Both the plan and the disposition of the blocks of differing heights are conceived primarily so as to satisfy the user, and are designed, as it were, from the inside outwards.

This has resulted in a reduction in scale and an intense informality (despite the grid), which are faithfully expressed in the exterior appearance; if there is such a thing as modern monumentality, and if such monumentality is of any value to modern secondary school children or their teachers, it is not to be found at Wokingham. The extent to which this is a good thing is a matter to which we shall return in a later article; for the moment, however, we want to describe how the client has helped the architect and in what way his contribution has influenced the design.

THE GROUP CLIENT

In designing a school an architect is usually confronted by a group of people who together constitute "the client," and who often have conflicting requirements. In the first place there may be the local education committee advised by the local education officer and his appointed specialists; and there may even be an appointed headmaster. The scheme must, of course, satisfy the county education committee and its chief education officer, together with his specialists. There are also HM inspectors, with whom the education officers may wish to discuss their problems and whose opinions may well influence the design. The approval of MOE need now be obtained only for cost and compliance with the building regulations.

Even a number of conferences attended by all these parties is unlikely to produce a solution which meets what are often numerous and conflicting opinions, and the architect is often left to make decisions which may eventually affect the administration of the school and even educational policy. This is expressed in the bulletin on Wokingham* as follows:—

"In an attempt to base the design of the plan and the system of construction on as thorough an understanding of the educational needs as possible, there was a close association between architects and educators—both teachers and administrators—throughout the process of development. It is worth noting here that whilst invaluable contributions can be made by specialists in various aspects of education, their indi-

* Messrs. Stillman and Eastwick-Field wish to acknowledge the kind help and facilities given them by MOE.

* MOE Building Bulletin No. 8 (HMSO).

vidual requirements often appear to conflict. If the architect is left to sort them out on his own, he inevitably becomes the arbiter of educational issues. The difficulty can be overcome, as it was in the Ministry's Development Group, if there is a senior educational adviser who works continuously with him. An educator so placed can make a constructive contribution to economy in planning: he can explain to the architect not only recent developments in teaching, but the ideas behind them; he can talk in terms not of sizes of rooms, but of how they will be used; he can consider how far the organization of a school can benefit from more versatile design."

Every architect would probably agree with this provided he did not thereby lose his status and independence of thought; at least his briefing would consist of more than a typed list of rooms with their respective areas. But such a person as is envisaged is rarely available in an authority's administration, and demands of the individual a rather different background and outlook from that possessed by the majority of Education Officers, whose official duties are unfortunately so often looked upon as being merely administrative.

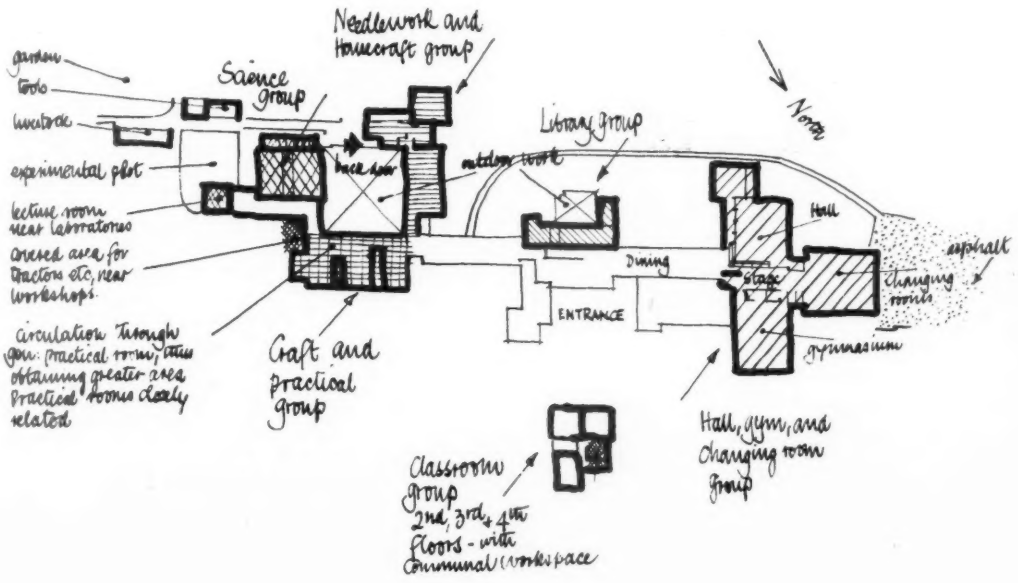
A GOOD CLIENT

The ministry architects were fortunate in their "client"—W. F. Herbert (CEO, Berks. Education Committee)—who stated his requirements in broad terms and who made his education advisors available for consultation. They are also fortunate in having at the ministry a senior inspector permanently associated with them, whose concern it is to see that the needs of education are properly served by the Architects and Buildings Branch.

While the architects discussed the educational requirements of Wokingham with many specialists, it was the responsibility of L. F. Gibbon (a senior education advisor) to co-ordinate and synthesize the different points of

A typical school classroom arranged for the kind of formal teaching that is now not encouraged, except for certain subjects. As can be seen, one of the difficulties of informal teaching is the lack of space when the numbers of children in each class are as great as they are at present.

Informal teaching going on in a classroom. In this classroom, the class is divided into several groups, each of which is studying some aspect of transport.



Right, the plan drawn to show the major groupings of rooms so as to illustrate the points discussed in the text.

SCHOOL ACTIVITIES: 2

Knowledge is to be found in books in the library. Skills are acquired in the workshops. Each is equally exciting to children, given the responsibility of finding out for themselves.

view expressed in an endeavour to ensure that the resulting pattern would make a contribution to secondary modern education.

Educational requirements are, therefore, the prime factor in the control of the design. There is no part of it, however small, which has not some educational purpose, or which is the whim of an architect who, being unable to find out what is required, falls back on precedent or on his own judgment of matters which are not properly within his sphere. The relationship appears to have been akin to that of an architect with an intelligent and informed client, for whom he is, say, designing a house. Such a client will take a critical interest in the design and will accept responsibility for the influences on his way of life which the design of the house may exert. It is healthier for an architect to work with a client who is prepared to understand the architect's method of thought, and is willing to make decisions, than it is for him to be left in uncertainty, as so often happens in an administration which depends upon the resolutions of numerous committees.

To us, it seems that, if schools are to be built without waste, the means by which the architect obtains his briefing and the character of that briefing must in the first place be much improved.

The briefing given to the ministry's architects was undoubtedly clear and complete, in terms of what the client wanted to do—to the extent that it was possible for the *educationalist* concerned to describe in detail how every part of the building is to be used to serve the ends in mind, and why it was to be designed in a particular way. One is aware, by contrast, of many buildings in which parts of the plan could be explained possibly by the architect, or by the education officer, but certainly not by both—and it would not be unheard of for each to be rather scathing about the other's explanations.

THE SECONDARY MODERN SCHOOL

Because of the close co-operation that has existed between the educationalist and the architect, the buildings at Wokingham do, so far as can be seen at this stage, successfully provide the circulation, the disposition of teaching spaces, the character and the atmosphere required for the particular kind of school which has been envisaged.

The Wokingham school is a secondary modern school, and whilst everybody is familiar with the term, not everybody has a very clear picture of what is now meant by it. There may also be those who, thinking that they do know, or being familiar at least with a number of existing secondary school buildings, may be surprised at the Wokingham plan.

Since it would be presumptuous of us to attempt to expound educational theories, and we would not raise the subject at all were it not, first, of great interest and, second, of importance in understanding Wokingham, we may be forgiven for giving some long quotations which give an idea of what has been in educationalists' minds when thinking of the secondary modern school.

"What are the particular features of secondary modern school education which give it character and status of its own? It should be recognized at once that the modern school is a growing tree with strong roots, but so far rather a limited number of branches. There are, in fact, very few schools of this type in this country that represent, in conditions, buildings and general curriculum, the standard which all must reach as soon as possible. . . .

"Perhaps the main difference between a modern school and other types of secondary schools is its very broad outlook and objective. It has to provide a series of courses for children of widely differing ability, aptitude and social background. . . . To quote the Spens Report†: 'By no means all who succeed in commerce or industry are of the type which benefits at all obviously from an academic and scientific education, and it is very probable that many such men would have gained more from the curriculum of a modern school, especially if, as might well have been the case, they were more attracted by such a curriculum and more industrious in pursuing it.

"The aim of the modern school is to provide a good all-round secondary education, not focused primarily on the traditional subjects of the school curriculum, but developing out of the interests of the children.'"*

DEVELOPING THE CHILD'S OWN INTERESTS

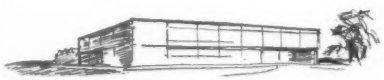
As will be obvious from the notes we give of the various rooms, and their relationship one to another, and to the school as a whole, the emphasis given to the development of the child's own interest in the subjects which are being taught is of supreme importance.

"A recent writer has described three schools of education something like this. In the first place there is the 'jug and mug' technique: the child is the mug (I speak in metaphors!) and the teacher is the jug. The jug tips its contents into the mug and that's that. What was in the teacher's mind is now in the child's, or rather, in ninety-nine cases out of a hundred, it is not. The second method can be called the 'potter and clay' approach. The teacher is the potter and the child the clay. The potter has decided what he wants the clay to become and he moulds it and shapes it to his own particular pattern, and eventually the clay becomes what the potter wants it to be. The difficulty here is that the potters have some queer ideas about design; they are not always very skilled at their job and the clay—if it could speak—might want to be something quite different. And thirdly there is the 'garden and the plant' analogy: the teacher is the gardener and the child the plant. The plant has certain common characteristics with all other plants, some peculiar to its own species and some quite individual to itself. Moreover, it is growing, whether the gardener likes it or not, according to the laws of its being. The job of the gardener is to water where necessary, manure when necessary, prune when necessary, transplant when

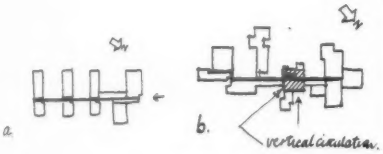
† Report of the Consultative Committee on Secondary Education with special reference to Grammar Schools and Technical High Schools. (HMSO, 1938.)

* From *The New Secondary Education*. MOE Pamphlet No. 9. (HMSO.)

Urban comprehensive secondary school. Restricted sites and large numbers of places lead to vertical compact planning and an "architectural" rather than educational solution. The scheme may be dominated by the "structure" and it may be difficult to express the very different activities carried out in various parts of the school.



Semi-urban secondary modern school. The desire to reduce circulation space, and simplify buildings and services in interest of economy, leads to schools planned within simple rectangular shapes. The teaching rooms are placed at first floor level and are grouped round the hall and gymnasium. Below are service rooms and open and enclosed circulation areas. Though reminiscent of older plans, the hall is here isolated from the teaching rooms.



Rural secondary modern school. Wokingham takes a stage farther the "exploded" plan, correcting its faults rather than abandoning it altogether. The advantages of ample light, ventilation and isolation from sound nuisance, and the linear circulation of the now condemned "finger point" plan (a) are retained, but the circulation axis now serves for cloaks, dining and even teaching space, and the wings become compressed so that corridors are virtually eliminated. Further, the grouping of rooms is more carefully considered, and the bulk of the classrooms are contained in a four-storey block (b).

necessary or, in other words, to help the plant to grow, but not to try and turn it into something else or to interfere with its normal and proper development. . . .

"The Modern School is still at an experimental stage, but already its future is assured; not only because it provides the secondary education of 75 per cent. of the population, but because some of the best minds in English education are being attracted to its service. Its greatest danger is to try and emulate the Grammar School by providing a watered-down version of the traditional curriculum, forgetting its unique advantage—freedom from the restrictive effects of external examination. Given the tools for the job the Modern School can design an education to meet the varying needs of its pupils, and it will be judged by their quality rather than by certificates and diplomas."*

One of the first things one learns about Wokingham is that opportunity exists for the education to be related to market gardening—a local industry. The encouragement of local interests is, in fact, regarded as being an important feature of any secondary modern school, and the school building regulations have recently been amended so as to allow enough flexibility for this to be possible within the prescribed areas and limitations of cost.

AN ATMOSPHERE OF INFORMALITY

It will be seen at once from the accompanying diagrams that the plan of the school differs in several important aspects from the orthodox, and that these give the school certain very definite characteristics.

There is an atmosphere of *informality*, and the buildings are in no way institutional in character. On the contrary, the scale is reduced so as to be more nearly domestic and thus more suitable for children. Because the groups of rooms are related to outside spaces where the children can continue their activities, there is no feeling of confinement. Above all, the whole of the school is devoted to the children, and there are no forbidden entrances or foyers designed only for the benefit of visitors.

This approach to planning leads, inevitably, to an irregular pattern of external walls—a form in contrast to the type of development in secondary school design that is taking place in urban areas, where the aim is to contain most of the complex organism of school life within a building of a simple rectangular shape. These latter buildings are more economical because there is less external walling, less heat loss, simpler service layouts, less foundations, and less site coverage. Although people are horrified at the thought of such arrangements, it is by no means certain that the liberal and informal education which is advocated cannot grow in the environment created by such a conception, just as well as at Wokingham. A far greater articulation can be obtained in the very compact school than is normally imagined, and the interplay of spaces and the use of sheltered circulation gives a breadth of feeling and a sense of spaciousness which is not so apparent at Wokingham and which need not necessarily be institutional.

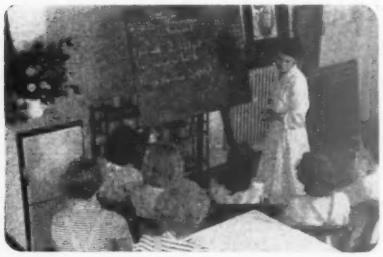
One notices on going round Wokingham that large areas of asphalt are divorced from the immediate surroundings of the school, and it is, in fact, intended that children shall go into the

* *The Child at School*. J. H. Newsom. (Pelican Books.)

SCHOOL ACTIVITIES: 3

The children express themselves artistically in crafts such as pottery and weaving, as well as in drawing and painting; and the heavy crafts such as metalwork are not divorced from the arts.

SCHOOL ACTIVITIES: 4



School is life, the make-believe of the infant school merges into typical forms of adult work. Housecraft teaches the three R's by practical application.

school on arrival—the "parade ground" no longer imposes itself on the school, but hard paved areas are provided for their proper use, *i.e.*, for games that need organization. Also, equipment and books are not to be locked away and, in general, a high degree of responsibility is to be vested in the children, whose behaviour will be governed by their own interest in the opportunities which present themselves, and not by a rigid rule of law.

THE EFFECTS OF THE 1949 CUTS

The impact of the economic restrictions at the end of 1949 made it necessary that the cost of secondary schools should not exceed £240 per place and, as a consequence of this, the ministry examined the building regulations which were then in force, to see in what way at least the same standard of education could be provided, but in schools that were less costly. One of the outcomes was that more compact planning was recommended (Building Bulletin No. 2), a measure which, as it happened, encouraged the thinking out of new designs, which would be suited to the kind of teaching which the educationalists favoured.* Thus at Wokingham we find:

i. *Circulation:*—a general reduction in corridor space, which gives rise, for instance, to links through the general practical workshop to the science rooms; through the needlework room to the housecraft rooms; and across the stage to the changing rooms. Part of the circulation space near the entrance has been enlarged to form a dining space. On each of the teaching floors of the four-storey block, the circulation has again been enlarged to provide a workspace.

ii. *Hall and Gym Group:*—a close grouping of the hall and the gymnasium with the changing rooms and, as already mentioned, the use of the stage as circulation space. The simple character of the stage and its equipment, which is considered more suitable educationally than would be a more elaborate stage, makes this device seem quite natural in practice.

iii. *Classrooms:*—a four-storey block of classrooms in which rigid orientation to the south-east is no longer regarded as necessary, and in which on each of three floors there is a common workroom, where children from the classrooms can pursue their own practical activities, such as model making. As in each of the other zones in the school, lavatory accommodation is provided.

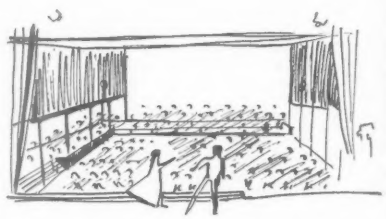
iv. *Practical Rooms:*—practical rooms designed in groups of needlework and housecraft, workshops and crafts, and science rooms. These groups are in turn arranged so that the relationships that exist between the work which goes on in them is expressed in the relationship of the buildings. The planning results in a yard which is partly paved, and where, in summer, work can be done outside. Outside work has for long been an ideal in school planning, but has not hitherto succeeded entirely because there has been inadequate shelter and too much interference between classes.

The general practical room links the metal and woodwork rooms and the craft room, and is convenient for, say, "a few pupils from the adjacent science block wishing to assemble a piece of equipment, or from the garden to mend a tool."

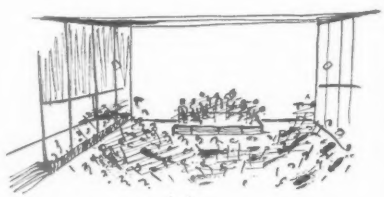
The fact that the practical room will be used as circulation for the science block will, it is thought, be of no inconvenience, since classes normally change all together and, when doing practical work, only at break periods or the end of school.

v. *Housecraft:*—a housecraft section equipped to provide both an orthodox teaching room and a number of smaller rooms, comprising gas, electric and solid-fuel kitchens, a utility room, a bathroom, and a bed-sitting room. The exit door is purposely planned to simulate a "back door" to which tradesmen will deliver provisions.

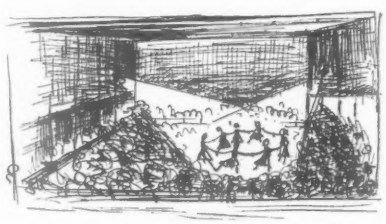
vi. *Science Rooms:*—rooms, in which the science taught is of a simple kind, and in which it has been thought unnecessary to provide fixed island benches and elaborate equipment. Connected to these rooms is a long, narrow glasshouse, which, incidentally, counts as a teaching space, and which will be very



Drama—side aisle and platform units used for audience at side and rear of hall.



Orchestra—at rear of hall, on platform units forming stage. Rear wall acts as reflector.



Dancing—centre of hall used as arena stage

* A plan of the Wokingham school appeared in the first article of this series. (JOURNAL for Oct. 16, 1953, p. 472.)

valuable in this school where the emphasis is on horticulture. Outside the glasshouse are the experimental garden Plots, store sheds and livestock shelter. The science group includes a classroom which can function as a science lecture room. "Lecturing" will not, therefore, have to take place in the laboratories, which can, at such times, be put to their proper use.

vii. *Library:*—a library with a classroom adjoining it, and also a small study room for senior pupils. This group of rooms is intended to be used by the children for individual study and informal group work and to be a stimulus to the children to discover things for themselves. It has been placed in the centre of the school, opening on to a South terrace.

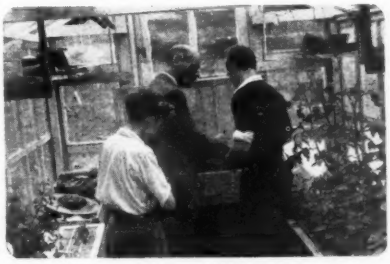
viii. *Gymnasium:*—a gymnasium which is 60 ft. × 47 ft., and which is shorter and wider than is required by the building regulations. It is purposely designed so as to provide for a "wider range of use in the general organization of physical education." It is notable that there will be fewer wall bars than are usual (15 bars instead of 30), and on one side only. This is indicative of the swing away from the Swedish influence in physical education.

ix. *Hall:*—a hall (with small hall adjoining which is largely to be used for music), which is designed for multi-purpose use, and is a working compromise between a number of conflicting uses: *viz.*, assembly, social functions, physical education, drama and music. No complete solution is possible, but the inclusion of a raised side aisle, and movable platform units and steps, has provided a degree of flexibility which should go most of the way towards meeting the various requirements. Three possible arrangements are shown in the sketches on the left.

As recommended in *Building Bulletin No. 2*, two halls are provided, instead of one large hall, in spite of the fact that only 450 children can be seated in the body of the larger of the two halls. Some of the advantages of this arrangement are that it allows more intensive use of the permitted floor area, and avoids the difficulties of making the stage visible from too great a distance. It also avoids the need for children to speak in front of too large an audience. It is now supposed even to be physiologically injurious for a child to throw its voice more than about 40 or 50 ft.

Having read all this, there will, no doubt, be many who will be sceptical of so liberal an education—thinking perhaps of their own schooldays. One should bear in mind that the whole school system is being re-designed so as to give children a greater sense of responsibility from their nursery school days onwards. It is now recognized that informal teaching demands more of the teacher, and extra large classes would be a handicap. It so happens, however, that Wokingham will probably not have more than 600 boys and girls, which is its proper complement, so that it will not suffer, as many schools are suffering, from the temporary increase in numbers. But this must not be used as an argument for not designing schools now for the time when classes will be smaller and when the newer ideas in teaching will be more universally adopted. Wokingham is designed to lead teachers in the way education is going.

SCHOOL ACTIVITIES: 5



Teaching goes out of the building and is related to local interests. The children learn to enjoy responsible work. Tool sheds, a glasshouse, and an animal shelter are found at Wokingham, where market gardening is a local industry.

PRESERVATION

Extracts from Osbert Lancaster's Recent Paper to the RIBA

When a building has survived its original functional usefulness there are three grounds on which we are logically entitled to press for its preservation: its intrinsic æsthetic merit, *pietas*, or its scenic usefulness.

Of these it is the first upon which agreement is most difficult to reach. For no yardstick of æsthetic judgment is of universal validity; time and distance both produce the strangest reversals. No educated person would today contemplate the destruction of Chartres with equanimity, but in the 18th century many would have regarded it as a welcome deliverance.

However, the consciousness that all judgments on such matters are relative does not absolve us from making them. Moreover, we are now, thanks largely to cheap printing and photography, in a far better position than ever before to reach some measure of agreement—at least on works of a reasonable antiquity; to those of the last 150 years individual reactions will continue to be unpredictable. Perfect harmony of views on the preservation of, say, a church by Street is unlikely to be achieved by Dr. Gropius and Mr. Betjeman, and while many regarded Mackintosh's tea-rooms as the fairest jewel in Glasgow's crown their disappearance left others comparatively unmoved.

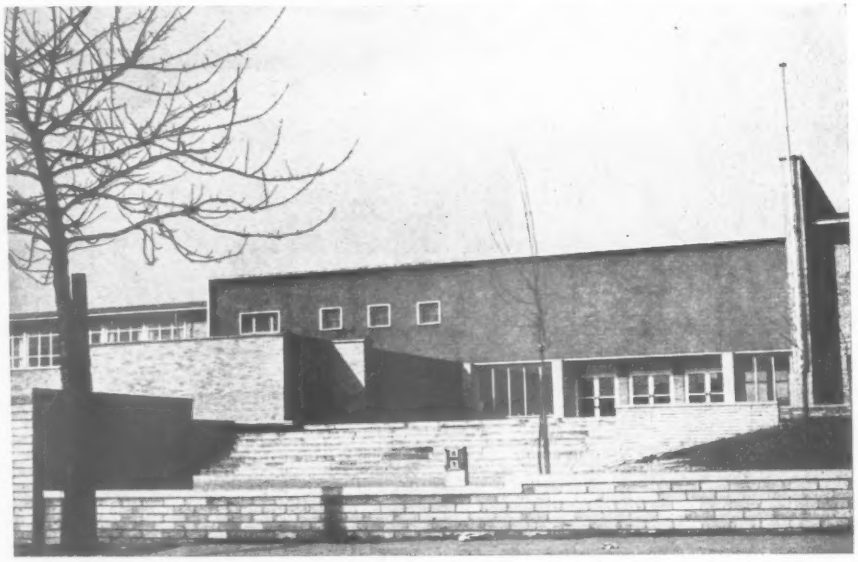
We must, therefore, bear in mind that there are degrees of value, and economic necessity frequently imposes a choice. Before we set up a howl in defence of some admirable but far from unique group of cottages or a Queen Anne rectory, let us always reflect whether or not our action is going to prejudice our chances of stopping the demolition of some acknowledged masterpiece threatened at a later date.

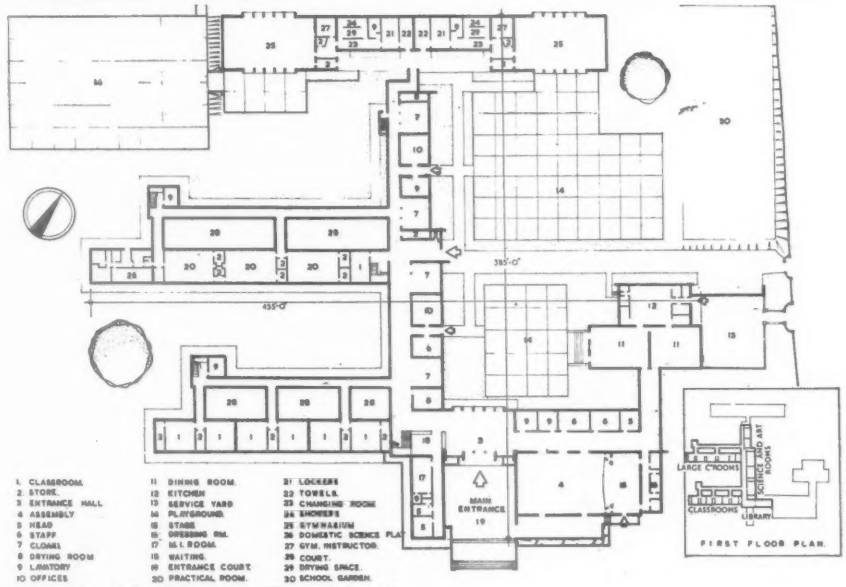
Architecture, unlike painting and to a certain extent sculpture, exists in time. It suffers the effect of wind and weather, and the additions and alterations of man. And this process is by no means invariably a disadvantage, and its operation should always be foreseen by architects; for at a certain point in time even the greatest architecture ceases to be completely architecture and becomes partially landscape. It follows logically, therefore, that any attempt to arrest this process is to go against the natural order, and that preservation should aim at doing no more than maintaining a building in a state in which it is still capable of being subject to this long transformation.

Attempts to "stop the clock" are usually on the specious plea of "restoring a building to its original state." Quite apart from the virtual impossibility of ever achieving this goal, in striving to do so we risk in almost all cases the total destruction of its existing contemporary value. Once it fulfils no function save the purely æsthetic, a virtue goes out of it and the sooner it becomes landscape, that is, falls into ruin, the better. Take the question of our country houses. Apart from the very tiny minority which, with or without the aid of the National Trust, can continue to fulfil their original function, how far can their value survive conversion into schools, lunatic asylums or government offices? In so far as their interiors are concerned, hardly at all. Inclusion in a museum may be the kiss of death, but it is only a death of the spirit. Conversion into a reform school means physical annihilation as well. They must depend, therefore, for their survival upon the merits of their exteriors and their value in the landscape. So long as these can be preserved, do what you will with the interiors; if they cannot, remove the roof and let them fall into ruin.

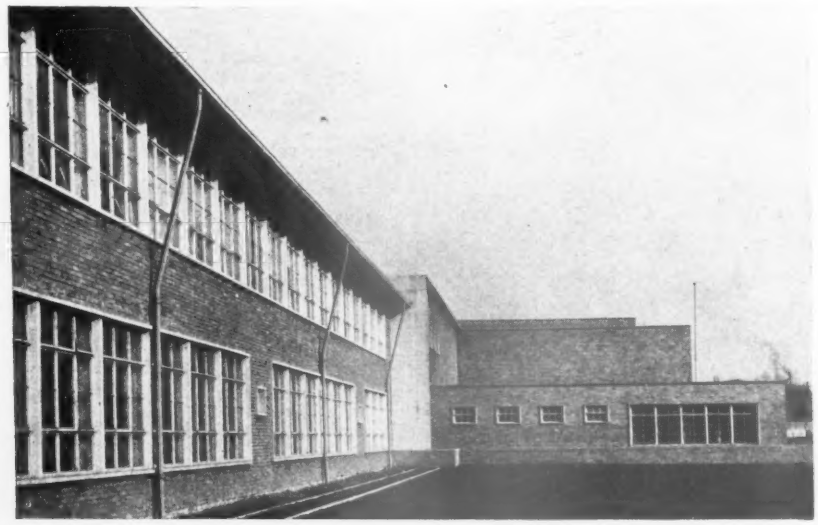
SECONDARY MODERN SCHOOL, DROYLSDEN, LANCS.

The Droylsden Secondary Modern School for Girls, for which the 1952 *RIBA Bronze Medal in the area of the Manchester Society of Architects was awarded to G. Noel Hill, county architect, was designed for the Lancashire County Council and accommodates* 680 *pupils. The architects responsible under the county architect were A. N. Guy, C. H. Simmons, S. G. B. Roberts and C. C. Bowring. The main school buildings are to the north-east of the site, which has an area of* 17½ *acres, and there is a slope down towards the main access road and the boundary to the north. The photograph, right, shows the main entrance from the south-east and below is a view of the classroom wing, with the administrative wing and the end wall of the assembly hall beyond. The building is steel framed, except for the gymnasium, classroom corridors, assembly hall, kitchen and dining room, which have load-bearing brick walls. Floors and flat roofs are of concrete and pitched roofs are of wood-wool insulation on steel purlins, finished with green mineralized felt. Floors are finished with terrazzo in lava-*



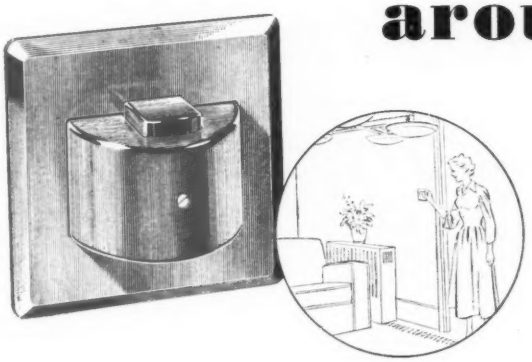


Ground and first floor plans [Scale : $\frac{1}{128}$" = 1']



tories, w.c.'s and on stairs, hardwood strips on wood joists in gymnasia. Elsewhere there are wood blocks. Suspended ceilings in classrooms are of fibre board, and ceilings to gymnasia, foyer and assembly hall are plaster on metal lathing. The general contractors were W. Townson & Sons, Ltd. For sub-contractors see page 354.

SWITCHING around the house



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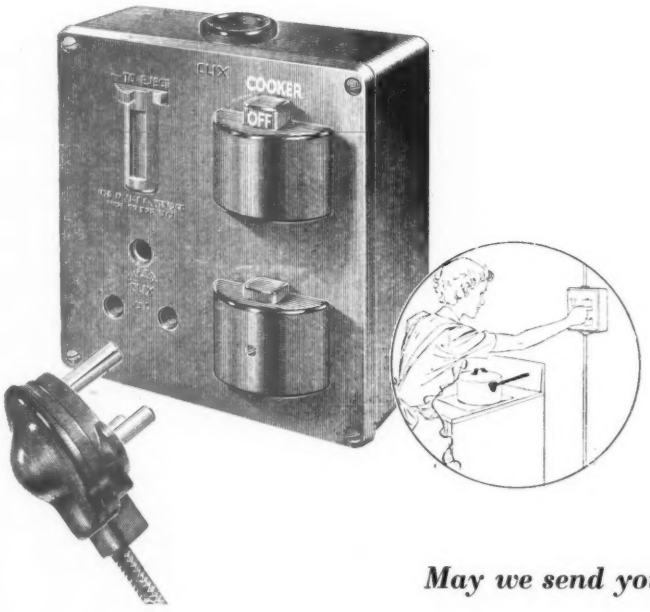

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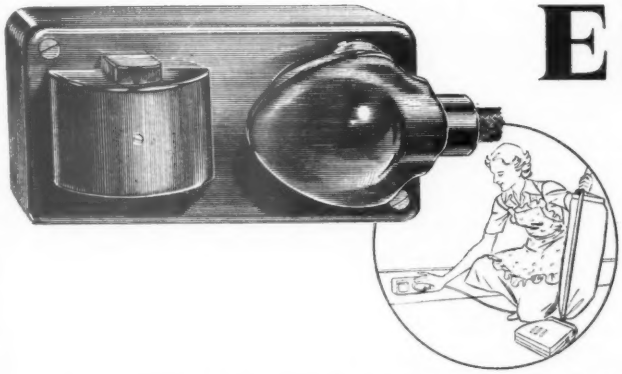

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E13

TECHNICAL SECTION

The importance of considering " planning " and " structure " together right from one's first conception of a building has always been appreciated—if not acted upon. To forget the latter until after the former has been settled leads to uneconomical structures ; the converse leads, at the best, to unimaginative building and, at the worst, to buildings which fail to satisfy their functional requirements.

Among architects, it is the structural aspects of buildings that tend to be neglected, partly through an aversion to modifying a design in order to simplify the construction or make it more economical, even when the modifications suggested by the engineer are minor ones.

How the average architect will react, therefore, to the conclusions that Specialist Editor No. 14 (Structural Engineering) reaches in his article, below, on continuity in prestressed concrete is difficult to anticipate. Apparently, in order to reap the economic benefits of continuity with prestressed concrete (and remember, too, that continuous structures have the greatest resistance to bombing), the engineer will make detailed requests such as that there should be an uneven number of spans or that large bays should alternate with small bays. Will many architects be willing to go as far as this to meet their engineers' needs ? Or should the engineers think again ?

This week's special article

18 CONSTRUCTION : THEORY
continuity in prestressed 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 each free year

Last December, O. J. Masterman presented an interesting paper on prestressed concrete to the RIBA (see JOURNAL *for Jan. 8, 1953); a week previously, M. Guyon presented a more technical paper on the same subject to the ICE. Specialist Editor No. 14 (Structural Engineering) refers to this paper in his article, below, on continuity in prestressed concrete.*

Continuity in reinforced concrete and welded steel buildings invariably leads to sounder and cheaper structures. There is a reduction in the free-span bending moment, which allows the use of smaller members and causes smaller deflections, and these points are sufficiently widely appreciated to avoid further elaboration here. It is, perhaps, because of this appreciation that the average reader will have been surprised to find that continuity in prestressed concrete has not yet had a very wide application. The main reason is that in prestressed concrete the continuous member is not always more economical; it requires more skill in its design and its construction than

the statically-determinate member.

The analysis of the external loading system presents exactly the same problem as in reinforced concrete structures, but difficulties arise when fixing the position of the cable and the cable force. If the cable is placed arbitrarily in the redundant structure, the tensioning of the cable causes the structure to deflect and this deflection induces secondary moments. This is demonstrated in simple form in Fig. 1. With the cable as shown and the beam resting on support "B," there is a tendency on applying the cable force to lift the beam "AC" upwards at "B." To retain the beam in position at "B," a force is introduced at the centre of beam "AC," and the secondary moment due to this force is of the well-known triangular shape. Combining the initial and secondary moments provides a diagram which obviously no longer fulfils the original requirements. This may be expressed another way by saying that the line of pressure—the line along which the prestressing force acts—no longer coincides with the line of the cable as it would in the statically-determinate structure. In beams there are two ways of dealing with this problem; one is to calculate the secondary moments and vary the cable force and trace until the best solution is obtained; the other is to avoid secondary moments by predetermining the points of contraflexure and designing for a series of double cantilevers at the supports with suspended determinate beams filling the gaps. A third solution would be the use of prestressed planks in place of the usual mild-steel reinforcement.

THE USE OF PRECAST UNITS

Considering this last point first and applying it to slabs, we find that there are several proprietary units on the market, usually in the form of an inverted "T," so that in-filling pots may be used; an *in situ* screed completing the floor. By using mild-steel reinforcement or prestressed planks over the support, continuity can be obtained. Taking the reduced prestress required in the unit, but allowing for the extra propping to the unit during construction, the resultant saving may only be small, but the main value of the solid type of floor is attained. The use of prestressed planks as reinforcement in beams is just a straightforward replacement of mild steel by prestressed concrete and its limitation is only a constructional one.

THE USE OF STRESSED CABLES

These solutions are based on Hoyer-type units and are, therefore, limited in their application. Turning to the stressed cable there are several solutions, but they are all based on three main ideas (Fig. 2): the undulating cable in the straight member, the straight cable in the undulating member, and the member in which cap cables are added at the support. The first is subject to friction losses, which, even allowing for jacking at both ends, may amount to 8 per cent. of the cable force. The last has the disadvantage that it involves short cables, and the usual losses in the anchorage over these short lengths could be as high as 20 per cent. To these losses must be added some further loss in economy due to dealing with the secondary stresses, and it is not surprising, therefore, to find equally divided opinion as to the value of this type of prestressing. In addition, the prestressed continuous beam is more vulnerable to sinking of the supports—there is first the effect of the applied loading, then the effect of the prestress.

SAVINGS ARE SMALL

In his paper to the ICE, M. Guyon, who has given great thought to the problem of continuity, gave comparisons of materials required in various structures which have been designed both as statically determinate and indeterminate systems. The conclusion to be drawn from these comparisons is that any saving will be small and will apply mainly to the steel. M. Guyon cites some of the reasons for this apparently illogical conclusion. Readers conversant with the expression "prestressed concrete carries its own weight," will appreciate that, when determining the cable eccentricity with a given cable force, only a further small increase in eccentricity is required to carry the dead weight. This leads to the conclusion that, if the span remains within a certain limit and only elastic behaviour is considered, it is not the maximum total bending moment which must be taken into account but the variation of live-load bending moment.

If the beam is composed of equal symmetrical spans uniformly loaded, the variation of moment at mid-span is the same as that for a simply supported span $\left(\frac{wl^2}{8}\right)$ and, therefore, continuity will save neither concrete nor steel. Structures of small or medium spans will produce a similar effect. Turning to the cable trace, a rigid design, of more or less straight lengths, will require an increase of prestress of anything up to 30 per cent. to cater for the bending moment peaks at the supports and troughs at the centre. Finally, if there are difficulties, both in the drawing office and on the site, costs will inevitably rise and, to make an overall saving, a much greater saving in materials than those quoted in M. Guyon's examples would be required.

GREATEST ADVANTAGE WITH LONG SPANS

M. Guyon then examined these points to see whether a satisfactory solution could be obtained without difficulty. Referring to the variation in bending moments, his calculations showed that, when using parabolic cables, or straight cables and parabolic median lines to the beam, the permanent load that can be carried without increasing the total load is 2½ times greater for the continuous beams than for the simply supported beam. There is great scope for the beam with the parabolic median line—even when the permanent load cannot be completely compensated, the fraction which has to be carried in addition to the variation of load is smaller for the continuous beam than for the simply-supported beam. Permanent load will vary with the span; thus the problem will be one of span (always assuming equal spans). There is no advantage for short beams with large loads, which means buildings in general and light structures, but there is an advantage in long-span bridges with heavy dead loads.

Referring to the cable trace, again there is more scope for positioning the cable in the long-span large member than the type which would be encountered in building work. The errors of cable position in the small member would be more serious.

What, then, is to be done to counter these problems in building work? It would appear that the architect must

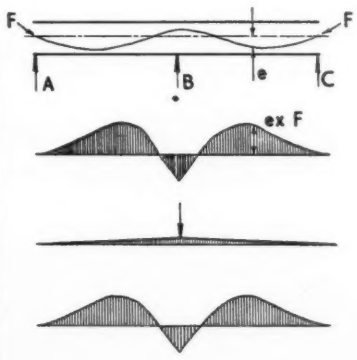


Fig. 1

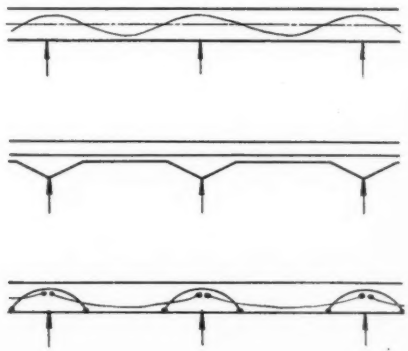


Fig. 2

consider the use of prestressed concrete at the design stage if the maximum advantage is to be obtained from it. M. Guyon gave the results for an investigation into continuous beams of parabolic soffit with alternating short and long spans, and the following conclusions may be accepted:—The nearer the conditions are to fixity, the cheaper the structure will be; fixity at both ends will always be better than one end hinged, one end fixed. The use of alternating long and short spans has a damping effect which prevents the passage of moments from a loaded to an unloaded span and is, therefore, nearer to the fixed condition. For example, it is better in a three-span bridge to have two short and rigid spans at the side than one at the middle. The latter case shows little saving, as one end would be hinged and one fixed, but the double support in the centre is obviously much better than a single support. Generally speaking, for a number of spans, it is better to provide short spans at the ends and uneven numbers are better than even. In the same way, portals are generally more economical than beams, provided the legs are not too long.*

Summing up the position, it appears that the benefits to building work of continuous prestressed structures will only be in the soundness of the structure, unless the architect is prepared to adjust spans and shapes to suit his engineer's recommendations.

* Portals also lend themselves to continuous construction, as the corners provide an excellent position for anchoring the cables, where the axis of the member turns through a right-angle.

The mechanical float recently introduced on to the British market, is an item of builders equipment as important to the architect as it is to the builder, since it will facilitate the use of "no slump" concrete, and thereby lead to economy in the use of cement.*

DURABLE CONCRETE FOR FLOORS

It is a startling fact that, whereas the permissible total variation allowed by British Standards in the tensile strength of mild steel is 13 per cent., the crushing strength of cubes made from concrete on any one job, where no particular attention has been paid to quality control, may have a total variation from the mean of 100 per cent. or more. Crushing strength gives a measure of density, and density is a measure of durability. With recent advances made in the science of concrete technology and the advent of the mechanical float, comes the possibility of turning out a concrete for floors of a far greater strength and consistency than has been usual in the past.

The sub-floor of concrete, which in the past has been made to serve as a foundation for hard wearing layers of topping, may in the future itself prove to be equal to the task of resisting wear as well as carrying the load. Immense prospects exist at the present time of simplifying the laying of jointless floors and of saving large sums of money, not only on initial cost but on the cost of repair and maintenance.

For the benefit of the architect who may be unfamiliar with the tremendous advances that have taken place in the quality control of concrete, let it be said that there are now available a number of published works on the subject containing new knowledge vital to the wording of specifications, as for example Road Note No. 4.†

The material broadly classified as concrete consists of a slumpy agglomeration of cement, sand and aggregate in ill-defined proportions, the ingredients of which when laid and finished by hand are prone to segregation—the heavier particles sinking to the bottom of the mass and the finer particles rising to the surface in a pool of water. The evaporation of this excess moisture, in its turn creating shrinkage (a contributory cause of curling), leaves the whole honeycombed with voids. In the course of time, despite surface dressing with chemical hardeners, the finer particles give rise to dust and subsequent disintegration of the aggregates underneath.

Modern concrete has virtually no slump; composed of mathematically-graded fine and coarse aggregate batched by weight, having a low water-cement ratio, mixed in drums with internal rotating blades, it will sustain a uniform density when properly placed in position and will give a high compressive strength under test. Such concrete is not popular with builders, owing to its low degree of workability. The builder's attitude is certain to be changed now that he is presented with the opportunity of manipulating no-slump concrete with a mechanical float.

The power float has a 24-in. dia. circular floating disc made of cast nickel steel. The whole of the superimposed load of motor, etc., is transferred to the concrete through this disc. The petrol model weighs 225 lb. and the electric model, 210 lb. The present-day prices of the two models are £179 and £198 respectively. Attachable wheels, included in the prices quoted, are provided for ease of transport where ground permits. Provision has been made for lifting by hand if necessary. A 1½-hp, single-phase, fifty-cycle motor, available in a range of voltages, is standard for the electric model, and a cable winder is available as an extra. The 3½-hp petrol engine has a tank capacity large enough for the working day of 8 hrs.

A useful feature common to both models is the "deadman's" handle which throws the floating disc out of gear when released. The steering is extremely simple and sensitive; the machine has a natural tendency to veer towards the operator, motion in any direction is achieved by displacing slightly the pressure on the handlebar. The operator is able to manipulate the float with the expenditure of very little of his own energy. Man and machine are capable of very high outputs.

The power float can be used at any stage in the process of laying floors; for base slabs or topping layers or for slabs designed to perform the function of both as intimated above. Flooring specialists are advised to consider the advantages of bagged aggregate for maintaining the grading in the essential proportions. The procedure using the new technique would be to shovel or rake the no-slump concrete into place, screed and tamp in the usual manner, machine float and finish. If a superlative finish is required, a hand trowel should be run lightly over the surface. In adopting this procedure, no time lapse is required between laying and finishing, and the concreting of floors may be developed into a continuous process from commencement to completion. Further tests of the compacting value of the float are contemplated which may result in the elimination of tamping, although this seems unlikely in view of the standard practice which is being followed in America.

* The "Dixon" Power Float, manufactured by the Columbus Dixon Organisation Ltd.

† *Design of Concrete Mixes.* DSIR (HMSO).

Floor made of no-slump concrete being screeded with mechanical float (petrol-driven model). No great physical effort is required of the operative, and the finish is good enough to receive flooring direct.

INFORMATION CENTRE

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

10.103 design: building types
HOSPITAL PLANNING

Background to Hospital Planning. H. W. C. Vines. (Faber & Faber, 1952. 30s.)

Experts often disagree in their ideas on hospital planning, but the author of this book makes a balanced contribution to the subject by giving a *background* picture which will be extremely useful to any but the most experienced of hospital architects.

Not all the ideas suggested in the book are yet commonly accepted, but they are clearly the result of wide study of hospital practice in this country and abroad. The book is, as its title says, one which deals with background and the author does not attempt to deal in great detail with the requirements of any particular part of the hospital. Details must be determined by the actual requirements of each hospital team. Nevertheless, the information should be most helpful in assisting architects to get a better "briefing."

As chairman of the Charing Cross Hospital Planning Committee, the author has had an unusually good opportunity of studying the subject of hospital planning, and to know what background information should be of most value to architects. In this book he makes a valuable record of his observations and thoughts.

13.101 materials: timber
QUALITY FOR JOINERY

Quality of Timber and Workmanship in Joinery, Part 1. Quality of Timber. BS 1186: Part 1: 1952. (British Standards Institution, 4s.)

A revision to "Grading of Softwood Joinery" (1944). A useful guide, intended for houses and similar structures, covering moisture content, rate of growth, grain, sapwood, etc., for ordinary timber and plywood. An appendix lists softwoods and light- and medium-hardwoods considered suitable, and there is a useful table giving a very brief general note on each timber and an indication of its suitability for a number of internal and external joinery uses. A very helpful specification.

13.102 materials: timber
SEASONING

Kiln Operator's Handbook. W. C. Stevens and G. H. Pratt. (HMSO, 1952. 10s. 6d.)

138 pp. specialized book on kiln seasoning of timber. Of considerable importance to timber merchants and kiln operators.

17.90 construction: general
ELEMENTARY CONSTRUCTION

Building Construction Illustrated. Denzil Nield. (E. & F. N. Spon Ltd. 1952. 21s.)

Intended chiefly as an introduction to building construction for technical students, this book may serve a useful purpose in giving specialist tradesmen a general knowledge of building sufficient to help them to relate their own work to that of other trades. For architects, it hardly goes far enough to meet the needs of any but junior students, though what is covered is clearly written in simple language and very well illustrated by good line drawings.

18.121 construction: theory
BRICK PANELS

Studies in Composite Construction. Part 1. Research Paper No. 13. R. H. Wood. (HMSO, 1952. 2s.)

Investigation into the composite action of brick panel walls supported on reinforced concrete beams, of interest to both architects and engineers.

BRS is studying composite construction and this paper is concerned with the stiffening effects of brick walls. Further papers will be published dealing with the stiffening effects of floors, the benefits of ductility, and other factors affecting the behaviour of composite buildings.

It has been usual in designing buildings to consider the framework as bearing all the loads and stresses of the building; the stiffening effect of the completed structure being neglected. The investigations prove this effect increases the strength value of the structure, and various recommendations are made for the design of simple beams supporting brick panels.

As one would expect, openings in the brickwork produce quite different stress patterns when compared with solid panels, and the application of superimposed loads is important, as a point load applied near the bottom of the wall may require a mechanical shear connection between wall and beam, while a superimposed load high up the wall has a negligible effect. It is suggested that the present practice of designing lintels and beams to support a triangular weight of brickwork is very uneconomical where the superimposed load is high. Bending moments in the supporting beam of W1/50, when there are openings near the supports, or W1/100, when openings are near the centre, are recommended. ("W" represents the total load of the panel.) It will be appreciated here that when using these values the report is describing permanent walls and, in practice, one does not necessarily regard brickwork as permanent, particularly when it appears to be entirely supported by a concrete beam.

This report is extremely interesting and should be of great value in building, provided it is not applied indiscriminately.

20.216 construction: complete structure
REINFORCED CONCRETE

Spa Green Estate. (Cement & Concrete Association. 1952.)

Interesting booklet describing the structure of the Roseberry Avenue flats for the Borough of Finsbury.

The structure is of the box type, consisting of solid R.C. thin-section walls and floors. The spans of the floors correspond to the principal room widths, so that the walls and ceilings of the flats are flat—there being no beams or columns. The high degree of structural rigidity helps to reduce the problem of transmitted sound. Slenderness reduction factors were adopted for the walls; they were treated as R.C. columns. Compression stress in the concrete, due to direct loading, was limited to 470 lb./sq. in. generally, and to 560 lb./sq. in. at points of local bending. The floor slabs were designed to a compressive stress of 950 lb./sq. in., and 27,000-lb./sq. in. square twisted bars were used for reinforcement.

This structure was mentioned in an article in the Technical Section for June 5, 1952; the Danish shuttering mentioned in the article and its application to the Roseberry Avenue scheme is described in some detail in this booklet, which is well illustrated and provides a complete reference to the whole structural scheme.

25.90 water supply and sanitation
HOSPITAL PLUMBING

Plumbing for Hospitals. The Use of Lead Pipe. (Lead Industries Development Council. 1952.)

General information. Lead pipe claimed as advantageous because of its flexibility. For hospitals this characteristic is very useful. Recommendations on jointing and fixing methods. Illustrations of some typical plumbing lay-outs for the ancillary rooms to hospital wards.

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

Buildings Illustrated

Housing at Cook's Spinney, Area 12, Mark Hall South, Harlow New Town, Essex (Pages 340-341.) Architect: H. T. Cadbury-Brown, A.R.I.B.A.; Consultants: (Landscaping), Sylvia Crowe, F.I.L.A.; (Heating), Henry Goddard, D.S.O., D.F.C., A.F.C., M.A., F.R.I.B.A. Quantity surveyors: Oswald Parratt, F.R.I.C.S. General contractor: George Wimpey & Co. Ltd. Sub-contractors: Concrete eaves and gutters, Finlock Gutters Ltd.; reinforced concrete, Diespeker & Co. Ltd.; bricks, R. Y. Ames; tiles, Colthurst, Symons & Co. Ltd.; hollow clay partition blocks, London Brick Co. Ltd.; asphalt and tile flooring, The Marley Tile Co. Ltd.; domestic open fires and tiled surrounds, Rownson Drew & Clydesdale Ltd.; gasfitting, Eastern Gas Board; electrical wiring, Bective Electrical Co. Ltd.; plumbing, Newman & Watson Ltd.; sanitary fittings, Ashley Brandon (Kensington) Ltd.; door furniture, Lockerbie & Wilkinson (Birmingham) Ltd.; plaster T. F. Rooney & Sons Ltd.; metalwork, Scaffolding (Gt. Britain) Ltd.; joinery, Walter Lawrence & Sons Ltd.; tiling, W. M. Walker & Co. Ltd.; furniture, Kitchen Units, Sharpe Bros. & Knight Ltd.; shrubs and trees, J. Cheal & Sons Ltd.

Droylsden Secondary Modern School for the Lancashire County Council. (Page 348.) Architects: G. Noel Hill, F.R.I.B.A., M.T.P.I., County Architect, R. N. Guy, A.R.I.B.A., C. H. Simmons, A.R.I.B.A., S. G. B. Roberts, A.R.I.B.A., C. C. Bowring, A.R.I.B.A. Clerk of Works, D. R. Ollerton. General contractors: W. Townson & Sons Ltd. Sub-contractors: structural steelwork, Robinson & Kershaw Ltd.; hollow tile floors and roofs, precast concrete units, Matthews & Mumby Ltd.; insulated panel roofs, felt roofs and d.p. membrane, The Ruberoid Co. Ltd.; precast concrete windows, J. A. King & Co. Ltd.; "Sika" waterproofing, W. J. Harris Ltd.; anti-condensation treatment, Decorators (Liverpool) Ltd., Turners Asbestos Cement Co. Ltd.; suspended ceilings, Building Insulation Contractors Ltd., Tentest Fibre Board Co. Ltd.; sanitary goods, Associated Clay Industries Ltd.; lantern lights, Crittall Manufacturing Co. Ltd.; fabric reinforcement, Ferrocon Engineering Co.; ironmongery, Laidlaw & Thomson Ltd., J. Gibbons Ltd., and P. C. Henderson Ltd.; boundary and ornamental railings, etc., Wm. Gratrix & Sons Ltd.; staircases, balustrades, etc., W. & R. Leggott Ltd.; piling, Pressure Piling (Northern) Ltd.; metal windows, Rea Metal Casements (1932) Ltd.; glass domes, Pilkington Bros. Ltd.; cement glaze, Robbs Cement Enamel Finishes Ltd.; metal faced doors, Venesta Ltd.; acoustic tiles, Wm. Beardmore & Co. Ltd.; metal door frames, Henry Hope & Sons Ltd.; cloakroom equipment, Cloakroom Equipment Ltd.; steel doors, J. Booth & Sons (Bolton) Ltd.; lightning conductors, W. J. Furse & Co. Ltd.; plastic lettering, The Lettering Centre; aluminium fascias, John Thompson Beacon Windows Ltd.; terrazzo floors, w.c. partitions, etc., Conways (Tiles & Terrazzo) Ltd.; wood block floors, J. Gerrard & Sons Ltd.; fire fighting equipment, Mather & Platt Ltd., J. E. Mercer; gymnasia equipment, Neils Larsen & Son Ltd.; steel shelving, P. S. Runnals & Son Ltd.; fittings, J. Gerrard & Sons Ltd.; W. Fearnley & Sons Ltd.; furniture, Southern Bros., H. J. Berry & Sons Ltd.; Motique Industries Ltd., Story & Co. Ltd., and Educational Supply Association Ltd.; heating installation, Hopes Heating & Engineering Co. Ltd.; electrical installation, W. Townson & Sons Ltd.; broadcast equipment, Communications Systems Ltd.; bells and master clock system, Gent & Co. Ltd.; stage lighting, The Stage Electrical Equipment Ltd.; stage equipment, Watts & Cory Ltd.; playing fields development, Bradshaw Bros. Ltd.; tennis courts, Bituminous Surfacing Ltd.; lawns and shrubberies, Maxwell M. Hart (Glasgow) Ltd.

Booking Hall and Entrance Hall Re-decoration for Thos. Cook & Son Ltd., at 45, Berkeley Street, London, W.1. (JOURNAL for March 5.) Architect: Dennis Lennon, M.C., A.R.I.B.A. Heating consultant: F. C. Foreman, A.M.I.H.V.E. General contractor: Roffe Ltd. Sub-contractors: Convector heaters, Richard Crittall & Co. Ltd.; electric wiring, E.S.I. Ltd.; electric light fixtures, Merchant Adventurers of London Ltd. (double reflectors), Troughton & Young (Lighting) Ltd., and Courtney Pope (Electrical) Ltd. (recessed lights in ceiling); Venetian blinds, L. C. Brothers; fibrous plaster ceiling, Roffe Ltd.; metalwork, E. Pollard & Co. Ltd.; joinery, Courtney Pope (Electrical) Ltd., and E. Pollard & Co. Ltd.; marble flooring, J. Whitehead & Sons Ltd.; wallpaper, Arthur Sanderson & Sons Ltd.; enquiry counter, Courtney Pope (Electrical) Ltd.; metal flower boxes, Else Lennon; shop fittings, Roffe Ltd. (showcases flanking lift), E. Pollard & Co. Ltd. (showcases entrance hall), Courtney Pope (Electrical) Ltd. (poster screens); lift gates, Aldous & Campbell Ltd.; hanging signs, Universal Metal Furring and Lathing Co. Ltd.

Announcements

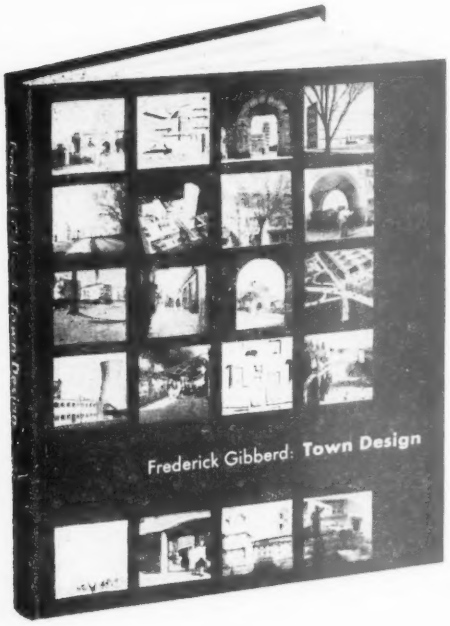
With the issue of the tenth number of *Plan*, its editors (at the School of Architecture, Margaret Street, Birmingham) have decided to end publication. A large number of copies of numbers nine and ten remain after distribution to regular readers. These may be obtained from the above address.

Barnes, Challen & Cross, Architects & Engineers, have moved to permanent premises at 96, Gloucester Place, W.1. (Tel.: WELbeck 4851.)

TOWN DESIGN

by Frederick Gibberd, F.R.I.B.A., M.T.P.I., F.S.I.A.; Member of the Royal Fine Art Commission, Member of the Central Housing Advisory Committee, Past Principal of the A.A. School of Architecture; Author of *The Architecture of England* and (with F. R. S. Yorke) *The Modern Flat.*

With this new book Mr. Gibberd fills a gap in existing town-planning literature by providing the first major work to deal, in a comprehensive and thoroughly practical way, with town design as an art. In addition to the original contribution it makes to the subject, this book will be found indispensable as a reference book by architects, engineers, surveyors, town planners, local authorities and all who have any interest in, or influence over, the appearance of the urban scene. It is arranged in four parts dealing with (1) DESIGN OF THE COMPLETE TOWN; (2) CENTRAL AREAS; (3) INDUSTRY; (4) HOUSING. Each part is illustrated by plans, diagrams and photographs, and is followed by a section in which are analysed in detail typical building groups from all over the world.



C O N T E N T S

Part one DESIGN OF THE COMPLETE TOWN: The Town and its Raw Materials. The Master Plan. *Analyses:* Guildford Master Plan (G. A. Jellicoe); Exeter Master Plan (Thomas Sharp); Harlow New Town Master Plan (Frederick Gibberd); Crawley New Town Master Plan (Anthony Minoprio).

Part two CENTRAL AREAS: The Town Centre. Civic Spaces. Shopping Centres. *Analyses:* Pisa, Piazza Del Duomo; Venice, Piazza and Piazzetta San Marco: Florence, Piazza Della Signoria; Florence, Piazza Annunziata; Ciboure, the Church Square; Taormina, Sicily, Piazza San Agostino; Lansing, Michigan, State Capitol (Smith, Hinchman and Grylls); Harlow New Town, Civic Centre (Frederick Gibberd); Amsterdam, Kalver Straat; Poplar, Lansbury Market; Linda Vista, California, Shopping Centre (Earl F. Giberson and Whitney R. Smith); Coventry, Central Square and Shopping Centre (Donald E. E. Gibson); Nuneaton Town Centre (R. C. Moon and Frederick Gibberd).

Part three INDUSTRY: Industrial Buildings and their Siting. Light Industrial Estates. Workshop and Service Areas. *Analyses:* County Durham, Team Valley Trading Estate (consulting architect, Prof. W. G. Holford); Knutsford Industrial Estate (Yorke, Rosenberg & Mardall); Crawley New Town Industrial Estate (A. G. Sheppard Fidler).

Part four HOUSING: The Neighbourhood. Layout with Houses. Layout with Flats. Dwellings on Steep Sites. Mixed Housing Development. *Analyses:* Bath, Queen Square, The Circus and the Crescent (John Wood the elder, and John Wood the younger); Bath, Landsdown Crescent (John Palmer); Hampstead Garden Suburb (Barry Parker and Raymond Unwin in consultation with Edwin Lutyens); Sidmouth, Mixed Housing Development; Hackney, The Somerford Estate (Frederick Gibberd in association with G. L. Downing, Borough Engineer and Surveyor); Zürich, Katzenbach Estate (Sauter and Dirler); Harlow New Town, Mark Hall Neighbourhood (Neighbourhood plan: Frederick Gibberd and Frank Booth; Housing Units: Area 1, Harlow Design Unit; Area 2, Fry, Drew and Partners; Area 3, Frederick Gibberd); Stockholm, flats at Grondal (Backström and Reinius).

The size of the book is 11 in. by 8¾ in. It contains 300 pages very thoroughly illustrated with over 720 half-tone and line illustrations, most of which have been specially prepared for the book. Price £3. 13s. 6d. net, it is published by THE ARCHITECTURAL PRESS, 9-13 Queen Anne's Gate, S.W.1.

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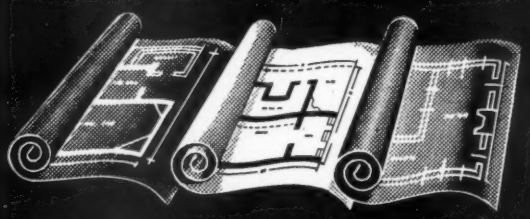

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Replies to Box Numbers should be addressed care of "The Architects' Journal," at the address given above.

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Starting Salary Scale: £804 by £45 to £1,074 by £120 to £1,194 by £48 to £1,482 p.a.

Actual starting point determined by experience since qualification on basis one step each completed year up to maximum four steps.

Allowances: £50 p.a. marriage, £60 p.a. first, £24 p.a. each other dependant child.

Application forms and further details from Secretary, Rhodesia House, 429, Strand, London, W.C.2. Completed forms to be returned by March 31. 8337

STOKE NEWINGTON BOROUGH COUNCIL require a temporary ARCHITECTURAL ASSISTANT in the Borough Engineer & Surveyor's Department, for a period of two years. Grade A.P.T. III (£525—£570) plus London Weighting according to age. Appointment subject to N.J.C. Conditions and medical examination. Applicants should be good draughtsmen and experience in the design of public laundries would be an advantage. Application form obtainable from Town Clerk, Town Hall, Stoke Newington Church Street, N.16, returnable by 30th March, 1953. 8338

COUNTY BOROUGH OF WOLVERHAMPTON.
ARCHITECTURAL ASSISTANT.

Architectural Assistant required in Borough Engineer's Department. Salary, A.P.T. IV, £555 to £600, or A.P.T. V, £595 to £645, according to qualifications.

Appointment subject to one month's notice on either side, and to provisions of Local Government Superannuation Act, 1937. Medical examination. N.J.C. service conditions.

Applications stating age, qualifications, present position and full details of experience, with copies of three recent testimonials to the Borough Engineer, Town Hall, Wolverhampton, by Wednesday, 25th March. Endorse envelope "Architectural Assistant."

J. BROCK ALLON,
Town Clerk.

Town Hall, Wolverhampton. 8339

COUNTY OF LEICESTER.

ASSISTANT ARCHITECT, A.P.T., Grade V. Salary: £595-£645. Preference given Associate Members of R.I.B.A. N.J.C. Service Conditions. Medical examination necessary. Post pensionable. Consideration given to Registered Disabled Persons. Apply by 30th March on forms obtainable from County Architect, 123, London Road, Leicester. 8343

CITY OF STOKE-ON-TRENT.
CITY ARCHITECT'S DEPARTMENT.

Applications are invited from suitably qualified persons for the following appointments:—

(*a*) ASSISTANT ARCHITECTS: Salary A.P.T. Div. Grade VII, £710—£785.

(*b*) ASSISTANT ARCHITECTS: Salary A.P.T. Div. Grade VI, £670—£735.

(*c*) ASSISTANT ARCHITECT: Salary A.P.T. Div. Grade V, £595—£645.

(*d*) SPECIALIST CLERK OF WORKS (Heating Installations): Salary A.P.T. Div. Grade IV, £555—£600.

(*e*) ASSISTANT QUANTITY SURVEYORS: Salary A.P.T. Div. Grade VIII, £760—£835.

(*f*) ASSISTANT QUANTITY SURVEYOR: Salary A.P.T. Div. Grade V, £595—£645.

(*g*) QUANTITY SURVEYORS' CLERKS: Salary General Division (Male), £160—£450, according to age.

Note.—Suitable Housing Accommodation may be made available to successful candidates for appointments (*a*) and (*e*).

The selected applicants will be required to pass a medical examination and the appointments will be subject to the provisions of the Local Government Superannuation Act, 1937.

Applications, giving date of birth, particulars of training, experience, etc., with copies of two recent testimonials should be received by J. R. Piggott, F.R.I.B.A., City Architect, Kingsway, Stoke-on-Trent, Staffs., endorsed with the title of the appointment applied for, not later than Wednesday, 25th March, 1953.

HARRY TAYLOR,
Town Clerk.

8340

LONDON COUNTY COUNCIL.
ARCHITECT'S DEPARTMENT.

Vacancies for ARCHITECTS (A.R.I.B.A.), (up to £696). Particulars with application forms, returnable by 10th April, from Architect. AR/EK/A/2, County Hall, S.E.1. (212). 8335

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

Applications are invited for the appointment of ARCHITECTURAL ASSISTANT, A.P.T. Grade V, £595—£645 per annum.

Applicants for the appointment should have had considerable experience in housing work, including Quantity Surveying, and preference will be given to candidates with an Architectural qualification.

The appointment will be subject to one month's notice in writing, the provisions of the Local Government Superannuation Act, 1937, and the passing of a medical examination.

Applications, stating age, qualifications and experience, accompanied by copies of two recent testimonials, should be received by the undersigned not later than 10 a.m. on 17th March, 1953.

FRANK ROBERTS,
Clerk of the Council.

Council Offices,
Irlam, Nr. Manchester.
6th March, 1953. 8332

COUNTY BOROUGH OF BURNLEY.
BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

Applications are invited for the appointment of a QUANTITY ASSISTANT at a salary in accordance with Grade II of the National Scales (£495—£540 per annum).

Applicants should have a good knowledge of Building Construction and some experience in the preparation of Bills of Quantities and measurement of work is essential.

Forms of application and conditions of appointment may be obtained from the Borough Engineer and Surveyor, 22-24, Nicholas Street, Burnley, to whom applications should be returned not later than 9 a.m. on Saturday, 21st March, 1953.

C. V. THORNLEY,
Town Clerk.

8319

BOROUGH OF SLOUGH.

ASSISTANT ARCHITECT, Grade A.P.T. V. For further particulars apply Borough Engineer, Town Hall, Slough, Bucks. Tel.: Slough 23881. 8320

CROWN AGENTS FOR THE COLONIES.

ARCHITECTURAL ASSISTANTS required by the Government of Kenya, for one tour of thirty-six months in the first instance. Commencing salary according to age and experience in scale £670 rising to £840 a year. Outfit allowance £30. Gratuity equal to 13½ per cent. of total substantive salary earned, payable on satisfactory completion of service. Free passages. Liberal leave on full salary. Candidates, not over 40 years of age, must be capable of working up sketch designs and preparing full working drawings for various types of Government buildings. Actual experience in an architect's office, and a sound knowledge of building construction are essential. Apply at once by letter, stating age, full names in block letters, and full particulars of qualifications and experience, and mentioning this paper to the Crown Agents for the Colonies, 4, Millbank, London, S.W.1, quoting on letter M.29843.D. The Crown Agents cannot undertake to acknowledge all applications and will communicate only with applicants selected for further consideration. 8331

WARWICKSHIRE COUNTY COUNCIL.
COUNTY PLANNING DEPARTMENT.

Applications are invited for the following appointment.

PLANNING ASSISTANT, Grade IV (£555—£600 per annum).

The person appointed will be stationed at Warwick and will be engaged on the County Development Plan.

Applicants should hold an intermediate professional qualification, preferably that of the Town Planning Institute, and should have had several years practical experience.

The appointment is subject to the provisions of the Local Government Superannuation Act, 1937, and the National Scheme of Conditions of Service.

Applications, together with the names and addresses of two persons to whom reference may be made, should be sent to J. J. Brooks, M.I.Mun.E., M.T.P.I., County Planning Officer, Northgate, Warwick, not later than Thursday, the 19th March, 1953.

Canvassing directly or indirectly will be a disqualification.

L. EDGAR STEPHENS,
Clerk of the Council.

Shire Hall, Warwick.
2nd March, 1953. 8347

NORTHUMBERLAND COUNTY COUNCIL.
COUNTY PLANNING DEPARTMENT.

Applications are invited for the following appointments:—

(*a*) ARCHITECT/PLANNER, at a salary in accordance with A.P.T. Grade VI or VII, of the National Joint Council's scale of salaries (£670-£785 a year). Applicants must be Associates of the Royal Institute of British Architects, and membership of the Town Planning Institute would be an advantage. Experience on the design and grouping of buildings, housing layouts, elevational control, etc., is required.

(*b*) PLANNING ASSISTANT, at a salary in accordance with A.P.T., Grade VI (£670-£735 a year). Applicants should possess a professional qualification or a University degree, and should have extensive experience of work in a Planning Office. The successful applicant will be engaged on Development Plan work.

(*c*) PLANNING ASSISTANT, at a salary in accordance with A.P.T., Grade III (£525-£570 a year). Applicants should possess the Intermediate Examination of the Town Planning Institute, or other professional Institution, and should have experience of work in a Planning Office.

(*d*) ADMINISTRATIVE OFFICER, at a salary in accordance with A.P.T., Grade VI (£670-£735 a year). Applicants should possess the Diploma of Public Administration or equivalent, and should have had considerable experience of administrative work in local government. A knowledge of the general work of the planning department of a County Council would be a particular advantage.

The appointments (which are whole-time ones at offices in Newcastle-upon-Tyne) will be subject to the National Scheme of Conditions of Service, to the provisions of the Local Government Superannuation Act, 1937, and to one month's notice on either side, and the successful candidates will be required to pass a medical examination to the Council's satisfaction.

Applications, on forms to be obtained from the undersigned, must be submitted not later than 24th March, 1953.

E. P. HARVEY,
Clerk of the County Council.

County Hall, Newcastle-upon-Tyne, 1. 8342

BOROUGH OF BLYTH.
BOROUGH ENGINEER'S DEPARTMENT.

Applications are invited for the appointment of a JUNIOR ARCHITECTURAL ASSISTANT. The salary for the appointment will be Grade II of the A.P.T. Division, £495 per annum to £540 per annum by annual increments of £15.

Candidates should hold the Intermediate Examination of the R.I.B.A.

The appointment is subject to the Local Government Superannuation Act, 1937, the Scheme of Conditions of Service of the National Joint Council, one month's notice on either side, and the passing of a medical examination.

Applications, endorsed "Junior Architectural Assistant," stating age, qualifications, training and experience, must be delivered to the undersigned, with copies of three recent testimonials, not later than 21st March, 1953.

Canvassing will disqualify, and applicants should disclose relationship with any member or official of the Council.

EDWIN W. CARTER,
Town Clerk.

"Dinsdale," Marine Terrace, Blyth,
Northumberland. 8344

Architectural Appointments Vacant

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

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

ARCHITECTURAL ASSISTANT, fully qualified and capable of taking charge of Plymouth drawing office and outside supervision. Car driver preferred. Reply, stating details of experience and salary required. Box 8300.

ARCHITECTURAL ASSISTANT, competent, required in office, West End of London. Not less than Intermediate standard. Experienced in commercial work. Neat and quick draughtsman essential. Salary according to ability. Box 8270.

ARCHITECTURAL ASSISTANT required for Architect's Department of large Maidstone Brewery. Applicants, who should be aged 30-40, must be good draughtsmen, with a sound knowledge of construction. Previous experience in the Licensed Trade not essential. The appointment is pensionable, and salary will be according to qualifications and experience. Reply with full details to Box 8248.

ARCHITECTURAL ASSISTANTS, with experience of design and working drawings, required in private practitioner's office, Glasgow. Good salary and conditions to suitable applicant. Box 8318.

URGENT.—Sheffield A.R.I.B.A. A.M.T.P.I., with small but rapidly growing practice, wishes to contact similar in area for mutual assistance and view of later Partnership. High standard. Capable contemporary design required. Box 8304.

SENIOR ASSISTANT, with adequate office experience, required for London. Capable of office administration, contracts, specifications and accounts. R.I.B.A. or Surveyor's Institute qualifications necessary. State age, experience, salary, to Box 8321.

ARCHITECTS' office requires ASSISTANT. Age 27-35 years. Applicants must be experienced in alteration work, including site and building surveys, working drawings, specifications, site supervision. Write, stating experience and salary required, to Tomei & Maxwell, 24, Dean Street, W.1. 8328

ASSISTANT required for general private practice. Must have good experience of Architects' and Surveyors' office. Apply, giving full particulars, to Manning & Steel, 3, George Street West, Luton, Beds. 8324

SENIOR ARCHITECTURAL ASSISTANT required in West End office, age about 35. Must have thorough experience of working drawings, specifications, and site works. Interesting and varied practice. Salary £800. Box 8323.

ASSISTANT required in London office for the preparation of Working Drawings for schemes abroad. Good draughtsmanship and experience essential. Salary: £10-£12. Box 8307.

VACANCY in June for Architectural Assistant, intermediate standard, for general country practice. Must be capable of developing working drawings and details from sketches. Previous office experience essential. Salary according to ability. Write with copies of recent testimonials to Sutton, Griffin & Sweetnam, F./A./A.R.I.B.A., 87, Northbrook Street, Newbury, Berks. 8341

SENIOR ARCHITECTURAL ASSISTANT required for work on large Institutional Buildings, including design and specification. Generous salary will be paid to a suitably experienced applicant. Applications stating age, experience, qualifications and date available for duty should be addressed to Messrs. W. & M. Given, 1, Waterside, Co.eraine, N. Ireland. 8350

ASSISTANTS having minimum of one year's experience required for contemporary practice with group working. Applicants must be capable of accepting responsibility. Salary £450—£600, according to experience. S. Morrison, A.R.I.B.A., Derwent House, Full Street, Derby. 8349

Architectural Appointments Wanted

FELLOW R.I.B.A., with wide experience, available as SENIOR ASSISTANT or JUNIOR PARTNER in London or district office. Capital available. Box 657.

ASSISTANT Architect (age 36), 17 years' experience, neat, accurate, quick draughtsman, desires engagement with first-class firm or company in the London area. Minimum salary £1,040 p.a. Write Box 672.

TEMPORARY or part-time employment required by ASSISTANT, with sound knowledge of building construction, structural design, and surveying and levelling for building works. Box 8322.

SENIOR ARCHITECT, considerable experience, particularly industrial and housing, able take complete charge of large contracts and supervision, seeks responsible position in London as Architect or Chief Assistant. Box 8325.

A.R.I.B.A., Dip.Arch. Dist., completed T.P.I. Final course, A.P.R.R. School of Planning, London (single, 27, own car). Position required with progressive organisation relating to Architecture, Town Planning, or Industrial Design. Manchester area. Box 671.

SENIOR ARCHITECT, A.R.I.B.A. (37), with wide experience in private practice as Chief Assistant, seeks responsible post, in similar capacity, with prospects. Box 675.

JUNIOR ARCHITECTURAL ASSISTANT (22), R.I.B.A., Inter. standard, school trained, 3 months' office experience, requires post immediately. Box 666.

QUALIFIED ASSISTANT seeks temporary position, London area, urgently. School trained, 4 years' general experience, moderate salary. Box 8351.

ASSISTANT, A.R.I.B.A., Dip.Arch.(U.C.L.), single (28), seeks post London/Home Counties. 1½ years' varied experience including specifications, site supervision, sketch plans, accounts. Box 674.

ARCHITECTURAL ASSISTANT (23, Dutch). Experience England and abroad, housing and industrial. Designing, construction, surveying, levelling, languages and driving offered, seeks post. Box 675.

Other Appointments Vacant

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

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

PART TIME experienced ARCHITECT'S SECRETARY AND SHORTHAND-TYPIST required, five half days or three full days, in small Chancery Lane office. Please apply, stating full particulars. Box 8295.

DRAUGHTSMAN required to assist Designer engaged in design and production of church, schools and domestic furniture and interiors. Apply, stating age, experience and salary, etc., to Walter-Symondson, Ltd., Braintree Road, Ruislip. 8346

DESIGNER DRAUGHTSMAN for executive position which allows for advancement and scope for working on own initiative. Experience in all aspects of High Class Storefront and Interior layout and coloured perspectives. Present staff notified. Write stating age, salary and experience to Box 8348.

EMPLOYERS requiring Overseas Staff and Employees seeking posts abroad are invited to contact the Overseas Technical Service. Capable hardworking staff are at present required as follows:—

ASSISTANT ARCHITECT, for rapidly expanding practice, NORTHERN RHODESIA. Preference applicant with flair for design; limited office experience accepted. Salary between £620-£780 p.a., with substantial annual increments. Free passage on initial 3-year contract. Quote Box 56/2.

ASSISTANT QUANTITY SURVEYOR, for professional office, DAR-ES-SALAAM, Tanganyika. Thorough experience all aspects of profession. 3-year initial contract, with passages. Salary by agreement. Quote Box 55/1.

R.C. ENGINEER, for Architect's office in Nairobi. Qualified man preferred; experience of framed structures essential. Free passage, salary and bonus, leave scheme. Quote Box 17/5.

ARCHITECTURAL DRAUGHTSMAN or DRAUGHTSWOMAN, for hill station in TANGANYIKA. Some experience required. Salary by arrangement, passage out paid. Quote Box 42/4.

SENIOR ARCHITECTURAL ASSISTANT, for leading office in NAIROBI. At least five years' post-qualifying experience. Free passage, salary and bonus, leave scheme. Quote Box 17/6.

Write, giving brief personal and professional details, and quoting appropriate Box No., to OVERSEAS TECHNICAL SERVICE, 5, Welldon Crescent, Harrow. 8345

Services Offered

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

SENIOR EXECUTIVE seeks responsible sales and administrative position in progressive company. Extensive personal connections with architects, Government departments, and local authorities. Excellent references. Box 7880.

SURVEYING and Levelling of Sites, Bills of Quantities, Variation Accounts, Survey of Buildings and Reports. Qualified Surveyor. LIV. 1839. Box 8195.

SURVEYING and Levelling of Building Sites and Measured Drawings undertaken by experienced Surveyor at moderate charges. Box 6583.

PART-TIME.—Perspectives, Dilapidations Reports, Ancient Buildings. Edward Lewis, A.R.I.B.A., A.A. Diploma. 29A, Belsize Avenue, N.W.3. 8330

For Sale or Wanted

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

RECONDITIONED EX-ARMY HUTS, and manufactured buildings. Timber, Asbestos, Nissen type, Hall type, etc. All sizes and prices. Write, call, or telephone, Universal Supplies (Belvedere), Ltd., Dept. 25, Crabtree Manorway, Belvedere, Kent. Tel.: Erith 2948. 6803

PROFESSIONAL couple urgently require unfurnished Flat or Rooms, London area. Quiet, responsible tenants. Max. rent £3 10s. p.w. No premium, but redecoration considered. Box 8333.

ARCHITECT, building own house near Bromley, Kent, offers adjoining site for sale; £700. Box 8327.

WANTED, "Architectural Review," November, 1952, edition. 10s. for copy in good condition. 'Phone Grimsdyke 119. 8329

Miscellaneous

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

A. J. BINNS, LTD., Specialists in the supply and fixing of all types of Fencing, Gates and Cloakroom Equipment. Harvest Works, 96/107, St. Paul's Road, N.1. Canonbury 2061.

STEEL WINDOWS and Doors, Glazing Bars, p/metal sections, steel hinges. All from Stock. Illus. lists from "New" Services, 46, Westfield Road, Birmingham, 15. Phone EDG. 3723. 8117

SPANISH TILES.—8 in. by 8 in. Red Floor and 6 in. by 6 in. White Enamelled Wall Tiles. Immediate delivery from London stock. For prices and particulars apply local Builders' Merchants, or sole importers, Fairways, Ltd., 102, Westferry Road, London, E.14. Telephone EAST 3811. 8326

Educational Announcements

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

R.I.C.S., I.A.A.S., and I.Q.S. Exams.—Postal Courses conducted by the Ellis School (Principal: A. B. Waters, M.B.E., G.M., F.R.I.B.A.), 103B, Old Brompton Road, S.W.7. KEN. 4477/8/9. Descriptive Booklet on request. 7020

R.I.B.A. and T.P.I. EXAMS.—Stuart Stanley (Tuton Sch. of Arch., Lon. Univ.) and G. A. Crockett, M.A./B.A., F./A.R.I.B.A., M./A.M.T.P.I. (Prof. Sir Patrick Abercrombie in assn.), prepare Students by correspondence tuition. 10, Adelaide Street, Strand, W.C.2. TEM. 1603/4.

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FLATS AT SULIVAN COURT, FULHAM

For the Metropolitan Borough of Fulham

This estate is planned to provide 430 flats of varying sizes in 19 blocks of heights from three to eight storeys and will include shops and a community centre.

Architect: *Director of Housing and Public Buildings, Fulham, J. Pritchard Lovell*, L.R.I.B.A., P.P.I.Hsg., F.I.Arb.

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